# Orange County

# Community Health

# Assessment

**Submitted to the North Carolina**
**Department of Health and Human Services,**
**Division of Public Health,**
**Office of Healthy Carolinians**

**By the Orange County Health Department**
**And Healthy Carolinians of Orange County**

**12/01/03**

# Dedication

To the residents of Orange County
who are aware of their community health strengths and needs and were willing to share their thoughts and opinions with the Orange County Community Health Assessment Team

May the ideas, projects and solutions that evolve from this process be driven by and for members of the Orange County community

# Acknowledgements

A huge thank you to the Community Health Assessment Team members and all of the Healthy Carolinians partners and member agencies who helped to guide and make the assessment a true *community* assessment by being involved and involving others from all over Orange County in this amazing process. Without the dedication of this team, the community assessment could not have been a reality for Orange County. (For a full list of members and volunteers, see appendices A, C and L)

This report was compiled and edited by Maria Hitt, Healthy Carolinians Coordinator and Senior Public Health Educator for the Orange County Health Department and Amy Sommer, Research Assistant and Data Analyst for the Orange County Community Health Assessment. A huge thank you to Amy Sommer for her dedication to this project, brilliance in analyzing and sorting all of the data and helping to incorporate all of the wonderful and amazing community feedback that was gathered into this report, without her the project would have been impossible.

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## Executive Summary

The following document represents the results of a year-long effort to assess the health needs of Orange County. Hundreds of people were involved in the completion of this assessment that includes both secondary data related to health and issues that impact health, as well as extensive primary data collected from individuals in the community related to their perspectives on the health of Orange County.

We have made every attempt to be as inclusive as possible in all areas and to represent a broad range of opinions, ideas and secondary data about health issues that affect Orange County. We recognize that there may still be areas that are not included in this report, but feel that this report represents the opinions of the vast majority of community members and health care providers and affiliates.

**Community Perspectives**
Based on the results of focus groups and interviews including 300 community members and a subsequent survey completed by over 700 people, we have arrived at the priority areas of focus for the next four years by Healthy Carolinians of Orange County, the Orange County Health Department and our many partners.

The community clearly stated that the number one issue for Orange County is the fact that "many people who live here cannot afford the costs of living and the costs of staying healthy in this community". The community assessment team has chosen this as the overarching issue to address and inform the other work that will be done as a result of the assessment process. While Orange County is overall an extremely healthy community compared to the rest of North Carolina, and most residents enjoy a high quality of life and standard of health, it is undeniable that there still remain many disparities related to health and quality of life for a portion of the population.

The current economic situation in our state and nation may worsen this situation over the next few years and therefore much effort will need to be made to attempt to reduce disparities and raise the standard of living for low-income residents of Orange County. The quality of life chapter of this document clearly reflects the differences that exist between higher income and lower income residents related to access to health insurance and health care, housing, hunger, and crime.

In addition to the overarching theme about the cost of living, the community has selected the following six areas from the prioritization survey for focus in the coming years:

1. Many people don't have health insurance or are uninsured.
2. Barriers such as transportation, lack of insurance, and knowing about services keep people from using preventive health services and education, causing health conditions to become worse before seeking treatment.
3. Overweight, obesity and related health conditions are of concern to all ages.
4. Substance abuse is a problem in our community, and we need more ways of preventing it and treating those who are addicted.

5. Mental health services are either too expensive or the waiting lists are too long.
6. There is not enough dental care for low-income adults and those without dental insurance.

Through community forums in October and November 2003, first steps were made to involve community members in developing plans to address these issues. Additional meetings will be held in December 2003 and January 2004 to finalize community action plans to determine how we will address these issues as a community.

**Health Issues Based on Secondary Data**

This report also presents a wealth of secondary data related to health indicators. The priority issues chosen by the community are backed up by the data collected. Fifteen percent of Orange County residents are uninsured. Many portions of the county do not have adequate transportation systems and people are uniformed about all of the health care opportunities in the county. Close to 50% of the population is overweight. An estimated 14,000-20,000 people are in need of mental health services and 5,600-11,000 in need of substance abuse treatment services. Based on the data from the various mental health and substance abuse services in the county, we know that nowhere near this many people are currently receiving treatment. The rate of substance abuse among adolescents is high and the suicide rate for Orange County is also higher than for the state as a whole, reflecting further need for mental health services. The few dental clinics that serve low-income, Medicaid eligible, and uninsured individuals are beyond capacity, with waiting lists of several months in many cases.

In addition, there are areas that emerged through the secondary data analysis that are of concern. Some relate to the priority areas and some do not. In the area of chronic disease, Orange County shows a higher death rate from cancer than the state average, and the racial disparities that still exist related to the number of deaths due to all chronic diseases are extremely broad. The chronic disease death rates of men are much higher than those of women and the death rates for minorities are higher than for whites. The work that will emerge to address the issue of overweight will hopefully impact many of these areas of chronic disease over time, but changing behavior to ultimately change death rates is a decades-long process.

Another area of concern is in injuries. Orange County has a higher rate of other unintentional injuries (non motor vehicle related injuries) such as falls, than the state. Data from the Youth Risk Behavior Survey suggest that the use of bicycle helmets and seat belts by our young people is low. Even though the Orange County rate of unintentional injuries is higher than the NC rate, the total number of injuries is still relatively low and this may be a reason that it was not reflected in the community responses. Also our rates of domestic violence, child abuse and sexual assault are comparable to the state rates, but there does remain concern in the community about these issues, although it is not fully reflected in the community prioritization process. Individuals working in the areas of domestic violence, sexual assault and child abuse are aware that these incidents often go unreported.

As mentioned earlier, much of the data reflects the fact that overall, Orange County residents are healthier than others in the state, and for this we should be proud. The biggest issues faced by county residents in terms of health still remain the high rate of deaths and illness related to chronic disease, the disparities that exist between minority and majority race community members, and those that exist between higher and lower income residents.

**Emerging Issues**

Each section of the document includes emerging issues, but some of the ones that stand out overall include the increasing number of foreign immigrants in the community, predominately of Hispanic origin, but also from Asia and many other parts of the world. There will need to be more culturally diverse services made available to help these new residents remain healthy in our community.

Another emerging issue that will impact all of us is the growth in the older adult population. As the baby boomers age and many more people choose Orange County as a place to retire, the older adult population is expected to grow exponentially and will create a demand for additional services to address the needs of this population.

Finally, upcoming changes in the provision of mental health services will undoubtedly change the way that individuals access and receive these services, and while there are concerns about the effects this will have on the community, it is also seen as a possible opportunity for changes that may improve the provision of services.

# Chapter 1: The Community Health Assessment Process

## Purpose

Local Health Departments are required by the NC Department of Health and Human Services to conduct a community health assessment every four years. The ultimate purpose of the community assessment is to involve the community in determining the health issues that most need addressing and to involve the community in that process from start to finish. The Health Department together with Healthy Carolinians of Orange County, and the 50 member agencies that make up Healthy Carolinians, set out to conduct an assessment that would be useful to all sectors of the community. The process has involved hundreds of people in determining what the community perspective is on health and what issues the community considers to be the most important to address in the coming few years. In addition, numerous local agencies have participated by sharing data from their programs, participating in interviews and focus groups and helping to organize the data collection process.

## Overview of the Assessment Process

The Community Health Assessment process began in January of 2003 with the formation of a committee made up of interested agency and community representatives. See Appendix A for a list of the community assessment team members. The committee met to determine its major tasks, develop a timeline, and form subcommittees for data collection development, forum planning, and publicity. The committee met approximately monthly during the spring and summer. During the spring, the data collection subcommittee met to determine potential focus groups, interviewees, and question guides. Focus groups and interviews based on their guidance were conducted between the beginning of May and the end of August. During July and August, Health Department staff met to write the prioritization survey, which was also shaped by the input of the data collection subcommittee. In September and October, the forum planning committee met to determine possible formats, locations, and times for the community forums. In October and November, three community forums were held to begin forming the community action plans. After the publication of this report, the publicity committee will meet to determine the best ways to disseminate the information we have collected to the public and interested stake-holders.

## This Chapter contains the following sections:

### Data Collection Methodology

- **Primary Data Collection**
- **Primary Data Analysis**
- **Prioritization Survey**
- **Community Forums**
- **Secondary Data Collection**

### How the Document is Organized

## Data Collection Methodology

This report was created using both primary and secondary data sources. Focus groups and key informant interviews were used to collect primary qualitative data, and a community survey was used to gauge interest in, and prioritize, the topics generated from primary data collection. Data from the focus groups and interviews, as well as from action-oriented community forums, was used to determine community priorities. Quantitative secondary data from sources such as the State Center for Health Statistics, the Department of Public Instruction, The North Carolina Child Advocacy Institute, the 2000 Census, and many others was used to add emphasis to priorities and to provide objective data on each of the topics included in the report.

### Primary Data Collection

Over 260 county residents participated in 33 focus groups conducted between mid-May and mid-August, 2003. Of 230 focus group participants who provided demographic information, 61.7% were female (N = 142) and 38.3% were male (N = 88). With regard to race or ethnicity, 47.4% of participants were white (N = 109), 34.8% were African-American (N = 80), 9.6% were Latino (N = 22), 7.4% were Asian (N = 17), and less than 1% of participants were multi-racial (N = 2). Participants either lived in the county, provided health-related services in the county, or used a health-related service here. Of those participants who reported their zip code, 47% came from Chapel Hill and Carrboro (N = 95), 28.2% came from other parts of the county (N = 57), and 11.9% came from outside the county (N = 24). A list of focus groups is included in Appendix B.

Each focus group was led by a facilitator who attended a four-hour training, conducted by Karen Moore, field project coordinator from the UNC School of Public Health, Department of Health Behavior and Health Education. Ms. Moore is experienced in conducting focus groups in a variety of settings. A list of the focus group facilitators is included in Appendix C. Training materials are included in Appendix D. Focus group facilitators were given a discussion guide that was developed by a subcommittee of the Orange County Health Assessment team. A copy of the discussion guide is included in Appendix E in English and Appendix F in Spanish. Focus group participants were recruited by members of the Assessment Team, and were held during times most appropriate for each group. In addition to a facilitator, a scribe attended each group. Scribes were given written instructions (see Appendix D), and did not record verbatim. Instead, scribe notes and a tape-recording of each group session was given to a data analyst.

Key informant interviews were conducted with twenty-one service providers and eight community leaders. A list of possible informants was generated by the Task Force, who then volunteered to interview key informants as they were available. Interviewers were given a question guide; the separate guides for service providers and community key informants are included in Appendices G and H. The service providers interviewed are leaders in such health and health-related areas as child abuse and neglect, mental health, housing and homelessness, public safety, domestic violence, health care providers, education, and commerce. Community informants came from different parts of the county and represented various racial, ethnic, and socioeconomic groups. In

order to protect their confidentiality, their names are not listed. Interview notes were taken by the interviewer in all but a few cases. As with focus group notes, these were not verbatim recordings. When informants agreed, a tape of the interview was provided to the data analyst along with the interview notes.

**Primary Data Analysis**

Primary data was analyzed by a single analyst during and after the course of data collection. The tape and notes of each group or interview were used to transcribe the entire content into discrete phrases. Each phrase was then coded for its content for easy sorting and retrieval. Codes for the discrete phrases were generated using both deductive and inductive coding. Deductive codes are those that derive directly from the topics in the question guide. For example, the focus group guide asked participants to define what a healthy community would look like to them; phrases including a statement about what a healthy community would look like were marked with that code. Inductive codes are those that are added during analysis in order to reflect the content of responses. Often, these were sub-categories of deductive codes. For example, access to healthcare was a deductive code based on a question about accessing care, while under-insurance and un-insurance were mentioned often in the responses, and thus became inductive codes and were used to mark text segments. Codes were also developed to mark text relating to issues specific to families with young children, teens, and senior citizens. After all text segments had been marked with up to four codes, they were re-grouped using spreadsheet software so that all the phrases marked with a particular code were grouped together on one sheet. The set of text phrases within each sheet were then reviewed to generate themes. Themes are short, declarative statements that capture the meaning of multiple phrases. For example, the text strings, “air pollution is a problem”, “there’s too much air pollution here”, and “I think this county has too much air pollution” could all be captured by the theme, “There is too much air pollution in Orange County.”

Themes should be both necessary and sufficient. A theme is necessary if it encompasses a number of text strings that have not yet been categorized. If a theme captures the essence of only one text string, it is not a necessary theme. A theme is sufficiently specific if it captures text strings that are clearly related. A theme such as “Health is important” is not a sufficiently specific theme because, although it would capture the essence of many text strings, the strings ‘captured’ under that very general theme would not create a clear semantic picture for the person reading it. Themes were tested for necessity and specificity by counting the number of text strings that could be incorporated into each. Those themes that accounted for less than three or four text strings were re-examined to see if they could be combined to create a more useful theme. Using the air pollution example above, those three text strings would create a necessary theme. If there had only been two text strings related to air pollution, the data would have been re-examined to see whether combining those statements with statements about water pollution could create a coherent theme about environmental pollution. On examination, if there had been, for example, an overwhelming number of themes related to water pollution but only two related to air pollution, those related to water pollution would have comprised their own theme, and those related to air pollution

would not have emerged as a theme. To test for specificity – in other words, to make sure that themes were not too general – color-coding was used to separate text strings into themes. Those themes that encompassed a large number of text strings were re-examined to make sure that the theme was not encompassing text strings that were not really related. Going back to the environmental health example, if the theme "There is too much pollution in the environment in Orange County" had been generated to encompass all text strings relating to pollution, and fifty text strings had been included, the data would have been re-examined to determine whether two themes, one accounting for twenty text strings related to air pollution, and the other accounting for thirty text strings related to water pollution, might not have been more useful. The set of themes developed from this process is included in Appendix I.

**Prioritization Survey**

Once the set of themes had been generated, those with the highest number of text strings were incorporated into a fourteen-item prioritization survey. The Task Force subcommittee charged with planning community forums decided that prioritizing themes prior to holding the action-oriented forums would allow more time at the forums for participants to generate actions and ideas. Because the survey was designed to produce action topics, those themes closely related in action were combined to create one item in the survey. A copy of the survey is included in English in Appendix J and in Spanish in Appendix K. The survey was distributed in Spanish and English at various community locations such as the Health Department and DSS waiting areas, Piedmont Health Services, SHAC, WIC clinic, public libraries, tax office, and private provider offices. It was also disseminated by email to providers and members of all the Healthy Carolinians committees. The survey was publicized via a newspaper column, e-mail, Chamber of Commerce E-newsletter and word of mouth. The survey was also available on-line via a link from the Orange County website. Survey participants were asked to provide their demographic information (age, race, and gender) and to specify whether they lived in Orange County, worked in Orange County, or used services in Orange County. Those respondents who did not answer 'yes' to any of those three questions were not included in the analysis of survey results. Respondents were then asked to read the fourteen items and to rank from one to five those five items that, "are the most important for us to work on as a community". The survey was available in hard-copy and online from September 8$^{th}$ through September 26$^{th}$, 2003. 455 people responded in hard-copy and 246 people responded online before the deadline.

Of 701 survey respondents, 519 were female (75.2%) and 177 were male (25.2%). Respondents were asked to report their race; of 689 respondents who reported it, 467 (66.6%) said they were Caucasian, 148 (21.1%) said they were African-American, 18 (2.6%) said they were Asian, 9 (1.3%) said they were Native American, and 47 (6.7%) said they were multiple races or of another race. In addition, respondents were asked to indicate whether they were of Hispanic origin; 66 respondents, or 9.4%, said that they were; respondents could indicate that they were Hispanic in combination with any race, although most marked either "Caucasian" or "Other". Over 500 high school students completed surveys, but only 100 were included in our analysis due to concerns about biasing the sample. Taking this adjustment into account, 252 respondents (35.9%) were

under age 30, 273 (38.9%) were between ages 30 and 50, and 166 (23.7%) were over 50. Respondents ranged in age from 14 to 87. Respondents were asked to report their zip code and, based on that information, 421 respondents (61.2%) lived in the Chapel Hill-Carrboro area, 144 (20.1%) lived in the greater Orange County area, and 123 (17.9%) lived outside the county but either worked or used services within the county.

Although the survey instructions asked respondents to rank five items from one to five, some respondents did not do so. Those respondents who ranked less than five items were still included. Respondents who ranked more than five items were not included. Respondents who marked five items but did not prioritize them from one to five were included. During analysis, ranks were converted to points so that each item could receive a score. Responses marked "1" by respondents were therefore given five points; responses marked "2" were given four points, etc. Responses marked with an "x" but not ranked were all given the median point value of three points. Therefore, someone who ranked five items would add a total of fifteen points to the survey, as would someone who marked five items that each got three points. Respondents who marked more than five items were dropped just as those who ranked more than five items were.

Based on their total scores, the top six issues were determined for work during community forums. The six top issues were, in order:

- Many people who live here cannot afford the costs of living and the costs of staying healthy in this community.
- Many people don't have health insurance or are underinsured
- Barriers such as transportation, lack of insurance, and knowing about services keep people from using preventive health services and education, causing health conditions to become worse before seeking treatment
- Overweight, obesity, and related health conditions are of concern to all ages
- Substance abuse is a problem in our community, and we need more ways of preventing it and treating those who are addicted
- Mental health services are either too expensive or the waiting lists are too long

Because the first statement was so broad, it was decided by the Assessment Team and the Healthy Carolinians Council to be an overarching theme and the sixth ranking issue, mental health was used as issue number five for the forums.

Responses to the survey were analyzed to determine whether weighting the responses to accurately reflect community demographics would affect the outcomes of the survey. This analysis found that the top four issues remained constant regardless of which demographic groups were responding. However, this analysis found that mental health was prioritized much more highly by women, who were over-represented in our sample, than it was by men. Had our survey been equally weighted to represent men and women, dental health would have likely overtaken mental health in the prioritization process. On the other hand, mental health was highly prioritized by White respondents, who were actually under-represented in our sample compared to their representation in

the latest census figures. Because differences were slight and because accurate weighting was not possible on all variables, the priorities that emerged from an un-weighted sample were used in the community forums. In addition, when those who completed the survey that lived outside of Chapel Hill and Carrboro were counted separately, they ranked the disparities between the Northern and Southern parts of the county as number six.

**Community Forums**

The themes ranked most important by the prioritization survey were then taken to three community forums held during the months of October and November; forums were scheduled in Cedar Grove (10/23), Hillsborough (10/27), and Carrboro (11/5). Only one community member attended the Cedar Grove forum so it was not conducted; that individual agreed to come the following week to the Hillsborough forum. Ten community members participated in the Hillsborough forum and 15 in the Carrboro forum. Thirty people volunteered to help with the forums to provide facilitation, childcare and translation. Of those volunteers, 19 people were trained as facilitators to use the force field analysis model. See Appendix L for a list of the facilitators and volunteers. At each forum a brief overview of the community assessment process was presented through a power point presentation, to inform participants of the process to that point and how the top five priority issues had been chosen. Participants were then asked to select one of the five issue areas for discussion. Small groups were formed and two co-facilitators were assigned to each group. Each small group was then asked to conduct a force field analysis on that issue and develop an achievable goal with action steps (see Appendix M for an overview of the force field analysis process). The large group then reconvened and each small group presented their results. Details of the forum results can be seen in Chapter 12.

**Secondary Data Collection**

Secondary data was gathered from a wide range of sources and each specific source is cited within the document. Major sources of data include websites such as the NC State Center for Health Statistics, the 2000 Census, accessed through LINC (Log Into North Carolina), The North Carolina Child Advocacy Institute, NC Department of Environmental Health and Natural Resources, The NC Department of Health and Human Services, the Sheps Center for Health Services Research, The State Bureau of Investigation and the Department of Public Instruction. Publications used as secondary data sources included: *State of the Environment 2002, Healthy Carolinians 2010, North Carolina's Plan for Health and Safety,* and *The Orange County Master Aging Plan.* Two surveys were used extensively for local data; The Behavioral Risk Factor Surveillance Survey (BRFSS) conducted by the State Center for Health Statistics in 2002 for Orange County, and the Youth Risk Behavior Survey (YRBS) conducted in the county's two school systems during the 2000-2001 school year. Secondary data was also gathered from local sources such as OPC Mental Health, UNC Hospitals, Orange County Health Department, Chapel Hill-Carrboro City Schools, Orange County Schools, The Department on Aging, the Interfaith Council, Orange Congregations in Mission, the ARC of Orange County, and Piedmont Health Services.

**Secondary Data Analysis**
Where available Orange County age-adjusted rates were compared to North Carolina age-adjusted rates based on the 2000 census. When significant, data was compared to previous years. Every attempt was made to compare comparable data sets and to use rates whenever possible. Disparities were analyzed by comparing data by race, gender and age from the State Center for Health Statistics data. Disparities were also analyzed by comparing age, race, gender, income and education from the BRFSS and census data.

**How the document is organized**
The document is organized by chapters that reflect key health issue areas such as: quality of life, physical health, mental health and environmental health. In Chapters 4 through 11, for each topic area, there are sections that address the Healthy Carolinians 2010 objectives, impact, contributing factors, data, disparities, residents concerns, resources, gaps and unmet needs and emerging issues. Orange County is a resource-rich community, and many of the most significant resources related to specific topics are included. By no means do the resource sections include all resources in Orange County. For a complete and up-to-date listing of Orange County resources, call the Triangle United Way 211 resource referral and information line or visit the website www.unitedwaytriangle.org. There are also chapters that reflect the community process that was undertaken to develop the key issue areas and what the results of that process were. Citations are provided as footnotes on each page. The goal was to publish a report that would be easy to navigate and that would enable the reader to quickly go to the section of interest for them and gather useful information on that topic area for their specific purposes.

It should be noted that the Healthy Carolinians 2010 Objectives that are presented in this document are those that were created by the State Office of Healthy Carolinians and the Governor's Task Force on Healthy Carolinians in the year 2000 to represent the entire state. In some instances, Orange County's current rates are already lower than the 2010 objectives. In other instances, there is no data available, or that could be found, to measure the objectives set by Healthy Carolinians 2010 on the local level. There are also some topic areas which do not have objectives set for them at this time. Whenever possible, these objectives have been presented with the local data for the purposes of comparison.

# Chapter 2: Community Profile

## Introduction

Orange County is a great place to live for the majority of its residents. There are many services and opportunities available to community members, the median income is high, unemployment is low, and the public schools and University are considered to be some of the best in the nation. There is a rich agricultural heritage, a diverse population, beautiful land, open space and excellent public services. Health overall is better than the state average but disparities do exist between minority and majority group members and lower income and higher income residents.

## This chapter contains the following sections:

- **Geography**
- **History**
- **Land Use**
- **Faith and Spirituality**
- **Demographics**
    - **Population**
    - **Households**
    - **Education**
    - **International population**

## Geography

Orange County covers 398 square miles of rolling hills with an average elevation of 470 feet above sea level. The County is comprised of three incorporated municipalities, a portion of Mebane (which is mostly in Alamance County) and about 24 other communities (hamlets or crossroads). Chapel Hill is the largest incorporated town with a population of 48,715 as of the 2000 Census. Carrboro, adjacent to Chapel Hill, has a population of 16,782; and Hillsborough, the county seat, 5,446. The other communities include Blackwood Station, Buckhorn, Caldwell, Calvander, Carr, Cedar Grove, Cheeks Crossroads, Dodsons Crossroads, Efland, Eubanks, Fairview, Kennedy, McDade, Miles, Mountain View, New Hope, Oaks, Orange Grove, Schley, Teer, University Station, West Hillsborough and White Cross.[1]

## History

On September 9, 1752 Orange County was born. At the time it spanned the area from present-day Greensboro to present-day Durham, from the Virginia line to the Uwharrie Mountains. On that day, Orange County became a reality as its first colonial court of Common Pleas and Quarter Sessions was held at Grayfields along the Eno River.

Originally inhabited by the Occaneechi/Saponi nation and other native American tribes, the new county encompassed a land area of 3,500 square miles, including all of present day Alamance, Caswell, Person, Durham and Chatham counties as well as parts of Wake, Lee, Randolph, Guildford and Rockingham counties[2]. For more information on Orange County's history visit the website: http://www.co.orange.nc.us/ecodev/index.htm

## Land Use

A major portion of Orange County's land, 47%, is still in forest, followed by farmland at 29% and urban and suburban development at 17%. According to a recent report by the Commission for the Environment, in the 15 years between 1982 and 1997 the amount of urban land had increased by 87% while forests had decreased by 13% and farmland had decreased by 4%. According to this report, sprawl is an increasing problem in our county with the Triangle area rated as the third most sprawling area in the nation. The amount of developed acres per person in 1997 was 31%.[3]

Citizens participating in this health assessment noted that, while our traffic and traffic pollution problems are not as bad as those in some urban areas, they are getting worse and deserve our attention. In addition, residents feel that land use must be an area of ever-increasing attention as our population continues to grow rapidly. Residents hope that, with careful land planning, we can increase transportation access to all parts of the county while maintaining both an emphasis on rural lifestyles and opportunities for development of affordable housing. Developing our land resources without increasing

[1] Orange County Economic Development Commission
[2] Ibid
[3] The State of the Environment 2002, published by the Orange County Commission for the Environment

levels of traffic pollution or placing too great a burden on well water supplies is a priority for many of our residents.
(See Chapter 11, Environmental Health, for more on this topic.)

## Faith and Spirituality

There are 165 established churches, synagogues and other faith organizations located in Orange County. These institutions provide a source of spiritual nourishment and also provide community support and resources to the residents of Orange County. As residents face the challenge of trying to stay connected to their community in an area where the population is growing and changing quickly, their spiritual homes become sources of social interaction, information exchange, and even health care.

## Demographics

### Population

The population of Orange County has doubled in the past 30 years from 57,567 in 1970 to 118,227 in the year 2000. Growth is projected to continue and the current population is expected to increase to almost 130,000 by the year 2006[4]. Just over half of the population is in the 20-49 year age range, with 27% under age 20 and 8% are 65 or older.

| Age Group | Males | Females | Total | Percent |
|---|---|---|---|---|
| **Under 5** | **2,958** | **2,896** | **5,854** | **5%** |
| **5-9** | **3,601** | **3,340** | **6,941** | **5.9%** |
| **10-19** | **8,839** | **10,318** | **19,157** | **16.1%** |
| **20-34** | **16,623** | **18,169** | **34,792** | **29.4%** |
| **35-49** | **12,598** | **13,638** | **26,236** | **22.1%** |
| **50-64** | **7,432** | **7,884** | **15,316** | **13%** |
| **65-79** | **3,238** | **4,162** | **7,400** | **6.3%** |
| **80 +** | **749** | **1,782** | **2,531** | **2.1%** |
| **Total** | **56,038** | **62,189** | **118,227** | **99.9%** |

Table 2A. Population by age and sex, Orange County NC, Census 2000[5]

In terms of where people reside, slightly more than half of Orange County residents, (approximately 60,000), live in the southern "urban" areas of Chapel Hill and Carrboro with the remaining population scattered throughout the county.

As the population grows, the diversity of the population within the community is also growing, a trend that is occurring across the country. The number of Asian residents has doubled since 1990 and the number of residents of Hispanic origin has quadrupled. The Asian and Hispanic population groups in Orange County each make up almost 5% of the total population with 4,865 Asian or Pacific Islanders counted in the 2000 census

[4] 2000 Census from LINC, Log Into North Carolina, URL: http://linc.state.nc.us/
[5] Census 2000, Summary File 1: Persons by Race, Age, Sex; Households and Families by Race and by Type - Orange County, NC

and 5,273 residents of Hispanic origin counted[6]. The Hispanic population has historically been undercounted in census figures because of the fear of deportation if identified. The organization Faith Action prepares an estimate each year of the Hispanic population in each of North Carolina's 100 counties. The estimates are based on census, birth and other data to arrive at a more accurate figure for the Hispanic population. The Faith Action estimate of Hispanics residing in Orange County in 2002 was 7,676[7]. The addition of the "two or more races" classification in the 2000 census has altered percentages somewhat and may account for the drop in the African-American population from15.9% in 1990 to 13.8% in 2000. Table 2B below shows the comparison of population by race between 1990 and 2000. (Hispanic origin is classified as ethnicity and is therefore not represented in Table 2B comparing population by race.)

| Race | 1990 | | 2000 | |
|---|---|---|---|---|
| | Total # | % | Total # | % |
| White | 75,806 | 80.7% | 92,272 | 78% |
| African-American | 14,900 | 15.9% | 16,298 | 13.8% |
| Asian/Pacific Islander | 2,311 | 2.5% | 4,865 | 4.1% |
| Native American | 404 | .45% | 457 | .39% |
| Two or more races | N/C | | 2,023 | 1.7% |
| Other | 430 | .45% | 2,312 | 2% |
| Total | 93,851 | 100% | 118,227 | 100 % |

Table 2B. Orange County Population by Race, 1990 and 2000 Census[8]

**Households**

The total number of households reported in the 2000 census in Orange County was 45,863. Of this number, 13,765 households were made up of families with children under 18, and of these, 9,996 were married family households, 3,022 were female-only headed households and 747 were male-only headed households. There were 12,361 family households with no children under 18 and an additional 19,610 non-family households with no children under 18.[9]

**Education**

The University of North Carolina at Chapel Hill was the first state university in America, chartered in 1789. It is consistently ranked as one of the nation's finest public universities. UNC-CH has produced 10 Rhodes Scholars since 1980 and 33 overall, including the first black female Rhodes Scholar. The University has 43 Graduate and

[6] Ibid
[7] Faith Action and the International House, 2002 Hispanic Population Estimates for North Carolina Counties.
[8] 1990 Census of Population and Housing - Summary Tape File 3. Population: Race, Hispanic Origin, and Veteran Status. Orange County, NC and Census 2000, Summary File 1: Persons by Race, Age, Sex; Households and Families by Race and by Type - Orange County, NC
[9] Ibid

Undergraduate programs ranked among the top 10 in the nation by US News & World Report, 2001.[10]

The educational level in the county is high, primarily due to the University of North Carolina campus; nearly half of the residents possess a bachelor's degree or higher, compared to only 20% nationally who have a secondary degree. The majority of those represented in Figure 2A below, who have not completed their secondary degree, are in the 18-24 age group and are representative of the large number of students enrolled at UNC Chapel Hill. The 2000 census counted 24,674 individuals in Orange County enrolled in college or graduate school with 18,325 of those being in the 18-24 age group[11].

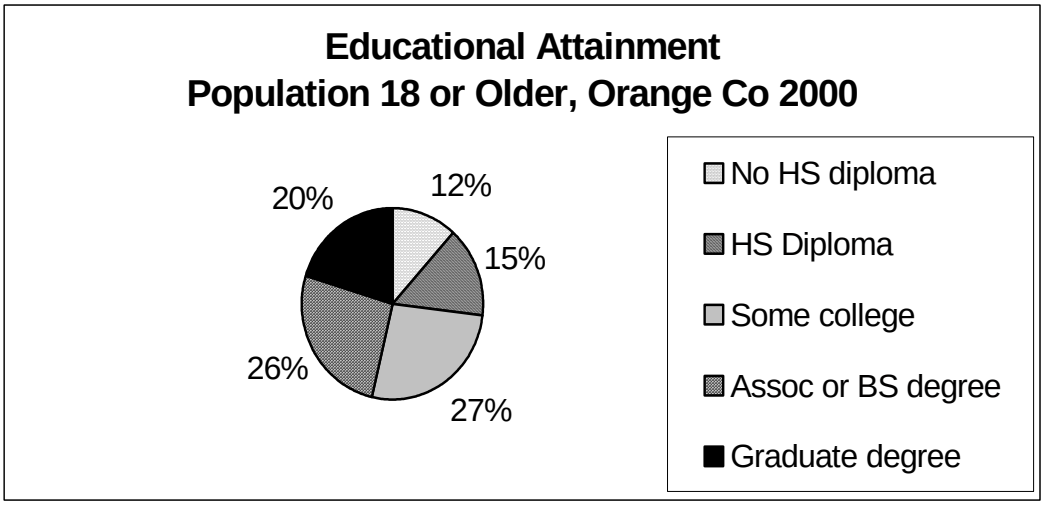


Figure 2A. Educational Attainment for the population 18 and older, 2000, Orange County, NC[12]

There is also strong local support for education, with 49% of the county general fund devoted to supporting public education. There are two public school systems in the county with 26 schools serving almost 17,000 students. The Chapel Hill-Carrboro City Schools also run an alternative school, Phoenix Academy, and a school at UNC Hospital for children who are hospitalized. There are also three charter schools and ten private schools located in the county. Residents felt that a strong educational system was an essential part of a healthy community and felt fortunate to live in a community where education is valued and supported.

The drop out rate for students in grades 7-12 in the Chapel Hill-Carrboro City Schools is low with only .88 percent, (41 students), that dropped out during the 2001-2002 school year. In the Orange County School system the number is higher, with 80 students

[10] Orange County Economic Development Commission
[11] 2000 Census: Detailed Attainment and Enrollment; Education & Employment: Orange County, NC
[12] Ibid

grades 7-12 who dropped out during the 2001-2002 school year or 2.85% of students. The statewide average drop out rate is 3.52%.[13]

In addition to concerns about the drop out rate, parents in the county are concerned about disparities that exist within the educational system. A number of parents noted that the proposed merger of the county's two school systems may benefit those who currently attend the county school system, which, compared to Chapel Hill-Carrboro City Schools, tends to have poorer facilities and lower indicators of educational achievement. Parents were also concerned about the educational opportunities afforded to those children who do not plan to attend a college or university. In particular, residents are concerned that the intense focus in our school system on preparation for college may limit the options and instructional services available to those who choose not to go to college or whose abilities or financial resources prevent them from doing so immediately after high school. Increasing the vocational and 'life skills' opportunities for our young people is a priority of many parents whose children need to secure employment after graduation. There was also concern among parents in the community that the high expectations for school performance may result in an undue amount of stress being placed on young people to excel academically. (See Chapter 10, Mental Health, for more on stress in our young population)

**International population**

As mentioned earlier in the population section, there are an increasing number of Latinos and Asians moving into Orange County. In addition, we have residents from all over the world. Many are here through ties to the University, but more and more new people are moving into the area from around the world. Most residents consider this to be an asset that increases our multicultural awareness and provides opportunities for a rich diversity of cultural knowledge.

The Chapel Hill-Carrboro City School System (CHCCS) serves English Language Learners (ELL) of over 58 languages. The fastest growing language population among ELLs is Spanish. The top five languages in the school district among ELLs are 1)Spanish, 2)Chinese, 3) Korean, 4) Japanese, and 5) Russian. Over the past ten years, the ELL population has grown almost 800%.[14] As of November 2003, there were 822 students enrolled in the CHCCS ELL program.[15]

In the Orange County School System as of November 2003 there were 202 children enrolled in the English as a Second Language program with 192 who were Spanish speakers. The other children were from Iran, China, Germany and France.[16]

[13] Department of Public Instruction, Public School Drop-out and Retention Data URL: http://www.ncpublicschools.org/fbs/stats/StatProfile03.pdf
[14] Chapel Hill–Carrboro City Schools website http://www.chccs.k12.nc.us/esl.asp
[15] Personal Communication, Maria Rosa Rangel, CHCCS ESL Program Director, 11/19/03
[16] Personal Communication, Mercedes Almodovar, OCS ESL Program Director, 11/19/03

## Chapter 3: Health Profile

The contents of this chapter serve as a brief overview of the leading health indicators. Please see additional chapters for more detail on most issues included here.

## This Chapter contains the following sections:

- **Leading Causes of Death in Orange County**
- **Leading Causes of Hospitalization in Orange County**

## Leading Causes of Death in Orange County

The following table presents the ten leading causes of death for Orange County including the total number of deaths and the age-adjusted death rates compared to North Carolina for the three-year period from 1999-2001[17].

| Rank | Cause of death | Total # of deaths 1999-2001 Orange County | Age-adjusted death rates per 100,000 | |
|---|---|---|---|---|
| | | | NC | OC |
| 1 | All Cancers | 558 | 198.2 | 210 |
| 2 | Heart Disease | 475 | 246 | 187.1 |
| 3 | Cerebrovascular Disease | 163 | 72.3 | 64.9 |
| 4 | Chronic Respiratory Disease | 93 | 45.7 | 37 |
| 5 | Other Unintentional Injuries | 85 | 22.3 | 29.4 |
| 6 | Pneumonia and Influenza | 66 | 24.4 | 26.3 |
| 7 | Alzheimer's Disease | 58 | 22 | 23.8 |
| 8 | Diabetes | 50 | 26.5 | 18.5 |
| 9 | Motor Vehicle Injuries | 53 | 19.6 | 14.6 |
| 10 | Suicide | 44 | 11.5 | 12.7 |

Table 3A. Leading Causes of Death 1999-2001 Orange County and NC[18]

Table 3A illustrates that for heart disease, cerebrovascular disease, chronic respiratory disease, diabetes and motor vehicle injuries, Orange County has lower rates of death than the state on average. It is also shown that for cancer, other unintentional injuries, pneumonia/influenza, Alzheimer's and suicide, Orange County's death rates are higher than the state average.

The leading causes of death for the state, ranked from 1st to 10th are:

1. Heart Disease
2. Cancer
3. Cerebrovascular Disease
4. Chronic respiratory Disease
5. Diabetes
6. Pneumonia and Influenza
7. Other Unintentional Injuries
8. Motor Vehicle Injuries
9. Nephritis
10. Septicemia

Please refer to specific chapters for greater detail on these leading causes of death for Orange County.

[17] NC Vital Statistics Volume 2, Leading Causes of Death-2001 accessed at: www.schs.state.nc.us/SCHS/healthstats/death/lcd2001/
[18] Ibid

## Leading Causes of Hospitalization in Orange County

The following table presents the leading causes of hospitalization for Orange County residents by total number of individuals hospitalized in 2001 compared with hospitalization for the whole state.

| Cause of Hospitalization OC | # cases | Cause of Hospitalization NC | # cases |
|---|---|---|---|
| All heart related conditions* | 2299 | All heart related conditions* | 327,404 |
| Pregnancy and childbirth | 1416 | Pregnancy and childbirth | 124,361 |
| Other diagnoses** | 1322 | Digestive system diseases | 88,903 |
| Injuries and poisoning | 736 | Respiratory disease | 88,448 |
| Digestive system diseases | 716 | Other diagnoses** | 75,526 |
| All cancers and neoplasms | 701 | Injuries and poisoning | 71,088 |
| Respiratory disease | 601 | All cancers and neoplasms | 64,004 |
| Musculoskeletal system | 407 | Symptoms and signs*** | 57,948 |
| Genitourinary disease | 340 | Genitourinary disease | 45,016 |
| Endocrine, metabolic, nutritional | 283 | Musculoskeletal system | 44,494 |

* Includes cardiovascular, circulatory, heart and cerebrovascular diseases
**Includes mental disorders
***Symptoms, signs and ill-defined conditions
Table 3B. Inpatient hospitalization by principal diagnosis, Orange County and NC, 2001.[19]

Looking at the number of cases alone, the leading causes of hospitalization in Orange County vary somewhat from those in the state overall. It is difficult to draw any definite conclusions about hospitalization compared to the state based on these numbers alone. The total number of hospitalizations for Orange County in 2001 was 8,451 at a discharge rate of 69.9 per 1,000. This can be compared to the 917,673 hospitalizations reported statewide at a discharge rate of 112.1 per 1,000 suggesting a much higher hospitalization rate statewide than in Orange County.[20]

See remaining chapters for specifics on causes and rates of illness and injury in Orange County as well as information on access to health care systems.

[19] Inpatient hospitalization utilization and charges by principal diagnosis and county of rsidence, North Carolina, 2001. State Center for Health Statistics
[20] Ibid

# Chapter 4 Quality of Life/Impacts on Health

The diversity that exists in the population of Orange County, in the people, their lifestyles, and their experiences, serves to enrich the county in many ways. It also creates a complex array of factors that converge to impact on residents' health. This section will present qualitative and quantitative findings regarding residents' quality of life, and the ways in which community structures serve to improve or impinge upon residents' efforts to maintain their health. As you read this chapter, keep in mind the overarching theme of the community assessment, that "many people who live here cannot afford the costs of living and the costs of staying healthy in this community".

## The following sections are included in this chapter:

**A) Access to Health Insurance**

**B) Access to Health Care Systems**

**C) Housing, Homelessness and Hunger**

**D) Employment**

**E) Income and Poverty**

**F) Crime and Safety**

**G) Child Care**

**H) Recreation**

**I) Transportation**

"*People assume that we can do things we're not ready to do… Right now, we have to find the financial resources to just maintain basic services, when everyone is identifying new services we could be providing, which we won't be able to afford if we don't get more money*."

- Local Agency Director

## A) Access to Health Insurance

> "*The fact that we don't have health insurance for this many people is a problem…It's very hard to have preventive, ongoing, or early intervention services for someone with a health problem if they don't know how to pay for it.*"
>
> - Agency Director

**Healthy Carolinians Objectives for Health Insurance are:**

***Increase the proportion of adults 18 years and older with health insurance coverage to 100 percent***

The Sheps Center for Health Services Research estimated that in 2001, 85% of Orange County adults had health insurance coverage.[21]

***Increase the proportion of children birth to 18 years, with health insurance coverage to 100 percent***

The Sheps Center for Health Services Research estimated that in 2001, 90.4%of children under age 18 had health insurance coverage in Orange County.[22]

**Impact**

Lack of health insurance was the second leading priority issue in the prioritization process of the community assessment. Citizens' ability to access health insurance impacts on literally every aspect of their health and well-being. Those who use their primary care physicians know that they are often a valuable source of preventive and education services, yet those without insurance cannot access this resource. Seniors who use Medicare and who do not qualify for Medicaid have trouble purchasing all of their medications; the ill effects of this shortcoming affects their everyday lives in many ways. And those with only minimal medical insurance, the underinsured, know that services to prevent or intervene with mental health or dental crises are a cost they can rarely afford.

"*Children without health insurance are more likely to be seen in emergency rooms with more severe illnesses and are less likely to get care for their injuries, to see a physician if chronically ill, or to obtain regular dental care. The lack of appropriate care can affect a child's health status throughout life…Children with recurring ear infections may suffer permanent hearing loss and children with untreated asthma may endure avoidable hospitalizations*"[23]

[21] County Level Estimates of the Uninsured in North Carolina, 1999-2001. February, 2003, Cecil G. Sheps Center for Health Services Research, UNC-CH

[22] Ibid

[23] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of The Governor's Task Force for Healthy Carolinians. Pg 44

**Contributing factors**

*"There are a lot of people who don't have insurance just because their employers are becoming less and less involved in providing insurance…."* The costs to employers of purchasing insurance for their employees, the costs to individuals of purchasing their own or their families' insurance, and the costs of co-payments and premiums even for those with insurance are primary reasons why people are under- or un-insured. The burden falls particularly to those who have lower incomes, who are unemployed or suffer from social risks such as homelessness or domestic violence, and those whose undocumented immigration status makes them ineligible for the federal benefits they might otherwise qualify for based on income levels.

**Data**

According to a recent report by the Cecil G. Sheps Center for Health Services Research at UNC Chapel Hill, Orange County ranked number one of one hundred counties in the number of residents ages 0-64 with health insurance for the years 2000 and 2001. Despite this fact, they still estimated that there were 15,296 residents making up 13.8 percent of the population of Orange County without health insurance in 2001. The state average in 2001 was 17.7% of the 0-64 year old population being uninsured.[24]

The NC Division of Medical Assistance also reports that in fiscal year 2001-2002 there were 5,396 Orange County children eligible for the Health Check Medicaid program. Of these there were 2,905 that should have received a screening or annual evaluation and of these, 2,406 did receive screening. The participation ratio was therefore 82.8 which is very good and an improvement over previous years.[25]

In 2002 there were also 9,543 residents eligible for Medicaid, which equaled 7.9% of the population of the County. The total expenditures for Medicaid in Orange County in 2002 were $52,142,653 or $5,464 per Medicaid eligible individual. In October 2003 there were 7,294 Orange County residents enrolled in the Medicaid program. Of these, 2,421 were infants and children, 2,255 were on AFDC, 1,483 were disabled, and 780 were receiving Medicaid for the aged. Medicare catastrophic (217), pregnant women (81), foster care (35), blind (16), and refugee aliens (6) made up the remainder of Medicaid recipients in October 2003. As of September 2003 there were 6,574 Medicaid eligible residents also eligible for the Carolina Access program but only 4,628 were enrolled for a 69.34% enrollment rate.[26]

There were 9,931 individuals over age 65 in 2000, these individuals were eligible for Medicare.

**Disparities**

Citizens fall into four distinct categories when it comes to health insurance. 1) There are those who have access through private insurance to most of the care they need; these

[24] County Level Estimates of the Uninsured in North Carolina, 1999-2001. February, 2003, Cecil G. Sheps Center for Health Services Research, UNC-CH
[25] NC Division of Medical Assistance, website: www.dhhs.state.nc.us/dma
[26] Ibid

residents may pay rising amounts for premiums and co-payments. 2) There are those residents who have a private insurance policy that pays strictly for physical health concerns; we use the term 'underinsured', and note that their lack of mental health and dental benefits directly impacts the amount of care they receive in those domains. 3) There are residents whose health insurance is provided through a federal program (either Medicare or Medicaid) and who must struggle with those programs' limits and restrictions. Those senior citizens receiving Medicare are concerned about the high costs of the medications they rely on, which are not covered by their insurance. 4) There are those who are not able to purchase health insurance at all, who told us again and again about how they relied on UNC Hospital's Emergency Department to provide them with care, simply because it is the only place they could go after five o'clock that did not require a cash payment up front. (See UNC Emergency Department data in next section, Access to Health Care Systems.) As the director of one public agency put it, "*The fact that we don't have health insurance for this many people is a problem…It's very hard to have preventive, ongoing, or early intervention services for someone with a health problem if they don't know how to pay for it.*" While citizens from all racial, ethnic, and socioeconomic groups struggle with accessing health insurance to some degree, minorities are more often uninsured. The 2002 BRFSS showed 22.7 percent of minorities surveyed were uninsured, as compared to only 7.4 percent of whites. In addition, people with lower incomes, less education and those between the ages of 18-44 were all more likely to be uninsured than their counterparts. [27]

**Residents' concerns**

The rising cost of insurance and people's inability to afford to purchase insurance when it was not offered to them through their job top the list of residents' concerns. Many feel that we should offer some form of insurance to those who do not receive it as a work-related benefit. Some felt that the best option might be to encourage initiatives for small business and the self-employed to create group insurance plans, while others felt that only universal coverage would provide the benefits of health insurance to all those who truly need it.

**Resources**

The Health Check program is the Medicaid program for children aged birth to 21. The North Carolina Health Choice program, administered by the Department of Social Services, provides low-cost insurance for children birth to 19 whose families earn up to 200% of the poverty level. (See figures in above data section in regards to Health Check). Two Health Check Coordinators help families to enroll in the programs and encourage the appropriate health screenings and immunizations. Despite concerted outreach efforts, the coordinators are concerned that families that are eligible for Health Check and Health Choice are still not aware of the availability of these insurance programs and are working with the UNC SHOUT (Student Health Outreach) group and the Triangle United Way Health Issues Team to expand outreach efforts in Orange County.

[27] 2002 BRFSS, NC State Center for Health Statistics

**Gaps/Unmet Needs**
In general, while the very poor, children, the elderly, and the disabled are offered some form of health insurance through federal programs that are not tied to their employment status, many residents who are employed and who do not receive insurance as a benefit simply cannot afford to buy it on the private market. Residents cited their own experiences to demonstrate the gap that exists between Medicaid eligibility criteria and the income that a family would need in order to purchase their own insurance. For the adults in a family of four to be eligible for Medicaid their monthly income cannot exceed $594. Children can more readily access Medicaid, with children under age one eligible if a family of four earns $2,837 or less per month. For children ages one through five the monthly income limit is $2,040, for children ages 6-18 the monthly limit is $1,534[28]. But the parents must be living in serious poverty to be eligible themselves for benefits. The thousands of dollars that private insurance costs is simply out of reach to many families who are using their salaries simply to survive.

**Emerging issues**
The strain that the under and uninsured place on all the health-related resources in this community is reaching a breaking point. As one public health official put it, "*The Emergency Room is really overloaded with routine care…. and [Emergency Room] services have just about reached their breaking point*."

## B) Access to Health Care Systems

> *"I took my child there…and when I showed them my Medicaid card, they told me they couldn't see him, and I left with my spirits on the floor."* -A Mother
>
> "*It takes too much time and energy to get care… and the style of communication about "fitting" people in and saying "We'll call you" is very alienating to people*."
> - Non-Profit Agency Director

**<u>Healthy Carolinians Objectives for Health Care Provision are:</u>**
***Increase the number of primary health care physicians in all areas of North Carolina***
In 2002, there were 33.2 primary care physicians per 10,000 residents in Orange County and only 8.5/10,000 statewide[29]

***Increase the number of minority and ethnic physicians in the workforce***
In 2002 almost 15% of physicians in practice in Orange County were minority or Hispanic.[30]

[28] NC Division of Medical Assistance, website: www.dhhs.state.nc.us/dma
[29] UNC Sheps Center for Health Research, 2002 Active Health Professionals in Orange County
[30] Personal Communication, Katie Gaul, UNC Sheps Center for Health Research, 11/14/03

***Increase the number of dentists who accept Medicaid payments for services***
There are currently 4 dentists and 3 dental clinics accepting Medicaid in Orange County.

***Increase access to medications for Medicare and Medicaid recipients***
Data could not be found for this measure.

**Impact**
Barriers to accessing health care were the third leading topic in the community assessment prioritization process. An inability to access the healthcare system in a timely and affordable manner affects all levels of health prevention and intervention. Those who do not access medical help when they are healthy say they often avoid doing so because they either do not know where to get help that is affordable, or because they are frustrated or afraid of a system that seems inefficient and impersonal in many ways. And these are the same people who wait until they are very ill to access medical services, only to place a greater burden on all of our health-related resources.

**Contributing factors**
A sense of fear and isolation from the system contributes to many residents' feelings about accessing healthcare. In particular, residents from the Northern part of the county, ethnic minorities, and people with Medicaid felt that the healthcare system was not a welcoming environment for them. Waiting periods also discourage participation in the system. Rather than simply requiring people to wait for services, they discourage many from seeking services in the first place. One director of a non-profit agency summarized these concerns: "*It takes too much time and energy to get care… and the style of communication about "fitting" people in and saying "We'll call you" is very alienating to people*." Finally, a lack of knowledge about those services that are universally available limits the care that many receive. For example, experts in the public safety sector noted that they have many preventive services such as the "Welcome to the World" child safety program through EMS and home safety inspections through the Fire Department, that are available to any residents who request them, yet they also note that those services are rarely requested by any citizens, least of all those who might need free services most.

**Data**
The Sheps Center for Health Services Research publishes an annual account of the number of health professionals for each county in the state. In 2002 there were a total of 1,094 physicians practicing in Orange County, a number that included 409 primary care physicians and 685 specialists. This number equals 88.8 physicians per 10,000 population compared to only 20.1 physicians per 10,000 people statewide. There were 33.2 primary care physicians per 10,000 residents in Orange County and only 8.5/10,000 statewide. Orange County also boasted 122 dentists, 91 dental hygienists, 2,363 registered nurses and 148 LPN's in 2002. The Sheps Center also counted 668 other health professionals practicing in Orange County, a number that included pharmacists, physical therapists, optometrists and psychologists among others[31]. It

[31] UNC Sheps Center for Health Research, 2002 Active Health Professionals in Orange County

should be noted that UNC Health Care Systems employs many of these health professionals. While Orange County residents have access to UNC Health Care Systems, UNC also serves the entire state of North Carolina, so the large number of physicians and health care providers here can be misleading in terms of access for Orange County residents.

In terms of minority physicians in practice, in 2002 there were 40 Black (3.7%), 6 Native American (.55%), 65 Asian (5.9%) and 33 other race (3%) physicians practicing in Orange County. There were also 22 (2.01%) Hispanic physicians in practice. In addition, there were 323 minority RN's working in the county making up almost 16% of the RN's in practice.[32]

According to the 2002 BRFSS, only 4.1 percent of Orange County residents stated there was a time in the past 12 months when they needed medical care, but could not get it. Cost was the main reason that people said they could not access care, according to 69% of North Carolinians who answered yes to this question. When asked how long it had been since they last visited a doctor for a routine checkup, 11.1 percent of Orange County respondents said it had been more than 2 years.[33]

The UNC Hospitals Emergency Department (ED) has 4 areas; the Main ED, Minor Trauma, Pediatric ED and Urgent Care. These four areas had 67,414 total patient visits with 26,898 visits by Orange County residents in fiscal year 2002-2003. While the UNC Hospital ED serves patients from all one hundred counties in the state, 39.9% of patient visits to the ED in fiscal year 2002-2003 were from Orange County. Data from UNC Hospitals reveals that many Orange County residents visit the ED for conditions that may not be true emergencies. Of these visits by Orange County residents to all four areas of the ED, 40% were classified as triage category 4 defined as "*Conditions that have low potential for deterioration or complications, which require low resource intensity*". Another 9% were classified as triage category 5 defined as "*Conditions that are very unlikely to progress in severity or result in complications, which require minimal resource intensity*". In the Main ED, 19.3% of Orange County resident visits were triage category 4 and 5, and among those visits between 11PM and 8AM, 28.5% of Orange County resident visits were in these two less-severe triage categories[34]. This data would suggest that Orange County residents are visiting the ED for less severe medical conditions and especially may visit the ED during nighttime hours due to a lack of other resources in the community during these hours.

A major factor that came up in the community assessment is the issue of lack of insurance and many people said they would use the ED because they did not have insurance. Of Orange County residents who visited the UNC ED last year, 22.7% were self pay, 17% were on Medicaid, 19.4% were on Medicare, and the remaining 40.9% of patients were on some other type of health insurance[35]. As the Sheps Center data

[32] Personal Communication, Katie Gaul, UNC Sheps Center for Health Research, 11/14/03
[33] 2002 BRFSS, NC State Center for Health Statistics. Topics Health Care Access, Routine Check-up
[34] Personal Communication, Robbie Roberts, UNC Hospitals Planning Department. 10/22/03
[35] Ibid

shows that 15% of Orange County residents are uninsured, this higher rate of uninsured patients in the ED would tend to support the theory that people without insurance may use the ED with greater frequency than those who are insured.

UNC Physicians and Associates (P&A), saw 37,598 patients from Orange County in fiscal year 2002-2003 which made up 24% of all patients seen by UNC P&A, this number includes all in and outpatients and ED patients. There were a total of 173,574 non-emergency patient encounters for Orange County residents by UNC P&A, 28% of all encounters in 2002-2003. There were also 6,016 inpatient discharges from UNC Hospitals last year, a figure that includes newborns[36].

Please see the section below on resources for additional clients seen in various clinic settings in Orange County.

**Disparities**

Of Orange County residents that stated there was a time in the past 12 months when they needed medical care, but could not get it, minorities were more likely to answer in the affirmative with 9.1 percent of minority respondents saying they couldn't get care compared to only 2.9 percent of white respondents. Of the respondents on the BRFSS who had not seen a doctor for a routine check-up in 2 years or more, it is not surprising that they were more often men at 19.5% than women at only 3.7% and more often those age 44 or younger at 15.5% versus those over 45 at only 4.5%[37].

In addition, residents cited feeling unwelcome in a healthcare setting as a reason to avoid accessing the system. In particular, those with Medicaid or without insurance said they felt as if they were treated less well than others in healthcare settings. Additionally, residents noted that this is still a community that discriminates with regards to race and ethnicity, and residents from non-majority racial and cultural backgrounds cited their experience that members of their communities receive less healthcare than those from White communities. A recent study by the Institute of Medicine, "Unequal Treatment", presents the fact that even after accounting for age, gender, health insurance, SES and all other factors, members of racial and ethnic minorities still experience discrimination in access to health care services. The disparities that exist in all areas of chronic disease between White and minorities are affected by this fact.

Finally, residents from all over the county said they felt that those living in the Northern part of the county had less access to medical care. The reasons most often cited for this were a lack of specialist providers close to that part of the county, an inability to access consistent transportation to and from all points at all hours, and a feeling that services clustered around Chapel Hill were not welcoming to those who did not live there.

**Residents' concerns**

Residents are particularly interested in the ways that access to the healthcare system can be improved. They suggested a central resource where people can find referral

[36] Ibid
[37] 2002 BRFSS, NC State Center for Health Statistics. Topic, Routine Check-up

lists, lists of free services available upon request, and a 'real live' person of whom to ask questions. They are also interested in the improvements that individual providers could make in creating more personable, friendly services that are willing to engage in outreach services to those who may have been alienated in the past. For example, residents suggest that if agencies and community residents would partner together to engage in persistent, culturally sensitive outreach, in order to build trust and share information, residents of all types might make more use of the services we do have available in this county. Finally, they are concerned about the disparities (see above) and gaps (see below) that exist in access to healthcare, and recognize the complex web of factors related to income, education, and cultural background that impact on access.

**Resources**

As mentioned above, Orange County has many health care providers practicing in our County, including UNC Hospitals. There are also two health department medical clinics, one in Chapel Hill and one in Hillsborough. In fiscal year 2002-2003, 4,986 clients were served in both Health Department clinics for a total of 9,042 clinic encounters.[38] Piedmont Health Services (PHS) has a primary care clinic located in Carrboro that served 4,808 patients from Orange County during 2002. They also have a clinic in Prospect Hill, located in Caswell County, that served 2,710 Northern Orange residents in 2002.[39] Both the Health Department and Piedmont Clinics serve predominately low-income residents on a sliding fee scale. The Student Health Action Coalition (SHAC) also provides a free clinic on Wednesday evenings at the PHS Carrboro office. SHAC served 726 patients in 2002 and also developed the "Mobile SHAC" program in 1999 where interdisciplinary teams of students make monthly visits to seniors; they made 73 visits to 25 seniors in 2002. The UNC Student Health Service also sees a large number of students for primary care, predominately those students who are single and live on campus. Specific data on UNC Student Health Service usage could not be obtained.

The Health Department also offers two dental clinics, one in each location. In fiscal year 2002-2003 the dental clinics had 3536 patient visits.[40] The UNC School of Dentistry also provides services on a sliding fee scale but is unable to accommodate all of those in need of low cost dental services. SHAC also offers a dental clinic through the Health Department in Carrboro where they see an average of 7 patients every Tuesday night. There are only 4 private dentists in the County at this time that accept Medicaid.

In terms of access to health information, the Triangle United Way operates the bilingual 211 Resource Information line 24 hours a day. They have a database with all human services agencies in the Triangle region. Callers can ask about and receive information on a variety of services, or the database can be accessed on-line. During calendar year 2002, the 211 information line fielded 544 calls from Orange County residents[41].

[38] Personal Communication, Kathy Glassock, OCHD Clinical Nursing Supervisor, 11/13/03
[39] Personal Communication, Moses Carey, Director, Piedmont Health Services, 10/24/03
[40] Personal Communication, Angela Cooke, OCHD Dental Clinic Director, 10/29/03
[41] Personal Communication, Susan King-Cope, Vice President, Triangle United Way, 10/22/03

**Gaps/Unmet Needs**
Many service providers interviewed noted that they are expanding the number of services they are able to offer in Spanish. Still, almost every agency also cited that they have a long way to go before their services are universally accessible in English and Spanish, and almost no agencies provide services comprehensively to those who speak any other languages.

More providers need to be encouraged to accept Medicaid and a system to help those who are uninsured access quality care in an affordable manner needs to be developed. Many residents also voiced a need for services that were available during non-traditional hours such as evenings and weekends, as many workers are unable to leave work to visit the doctor and those who may be dependent on a working spouse for transportation also may not be able to make appointments during regular business hours.

**Emerging issues**
As our population becomes more diverse culturally, our healthcare services must adapt to meet the needs of our newest residents, without alienating long-time residents. All residents must be made to feel welcome and encouraged to access the preventive services available, so that what may begin as a minor health concern does not become a major burden on their health, their families, and all of our healthcare systems.

## C) Housing, Homelessness and Hunger

> "*I appreciate you giving me a bed and feeding me. But I could do it for myself if I had a job. I need a job to get on my feet*."
>
> "*We never see anyone saying, 'let's do something to stop homelessness'. They say, 'let's do something to help the homeless'. That isn't working*."
>
> - Residents of the IFC Shelters

**Healthy Carolinians Objective**
Within the Community Health Section of Healthy Carolinians 2010 there is a goal for housing. "*To provide affordable housing for low-income populations that meets minimum building code standards, including indoor plumbing, potable water, adequate wastewater disposal, electricity and is free of environmental contaminants*"[42].

The goal for food security is: *Assure that all residents of a community have access at all times to enough food for an active, healthy life.*[43]

**Impact**
The affordability of housing in Orange County is a major issue. Frequently, those who work here note that they cannot afford to live here, those who live here say that the cost

[42] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of The Governor's Task Force for Healthy Carolinians. Pg 77
[43] Ibid

of their housing prevents them from using the services that exist here, and those who do not have housing at all face an almost insurmountable challenge in coordinating their housing, employment, social, and medical needs. The impact of housing needs on health needs is clear; one provider of health services said, "*It's ridiculous to get someone great healthcare if they do not have a place to live, or if they can't get to the treatment*."

According to a Triangle J Council of Governments Center for Affordable Living report, *Housing Opportunity in the Triangle,* released in January of 2003, affordable housing is housing that is priced so that households with low incomes can afford to purchase and very low-incomes can afford to rent without paying more than 30 percent of their income for rent (including utilities) or mortgage (excluding utilities). If low-income households pay more than 30 percent of their income for housing, they do not have enough for other necessities.[44]

Lack of adequate food is also a problem for many residents in Orange County, as evidenced by the high number of people seeking food assistance through the various available programs. In a county with such a high median income it is troubling that so many of our residents may be unable to make ends meet from month to month and may go hungry as a result. (See data below on the numbers needing food assistance.)

**Contributing factors**

The high cost of living in this county prevents many from being able to own or rent housing here. Cost of living traditionally includes expenses like food, energy, transportation, and personal services. Under-employment and unemployment also prevent many from buying or renting a home. Many recently-homeless individuals were adamant that, with help finding a job and opportunities for low-rent housing, they could become self-sufficient. One woman put it this way: "*I appreciate you giving me a bed and feeding me [at the shelter]. But I could do it for myself if I had a job. I need a job to get on my feet*."

The current downturn in the economy, coupled with lay offs and plant closings in the area, have created an increased need for services being provided by all of the agencies that provide assistance in food, housing and other forms of emergency assistance.

**Data- Housing**

The cost of living within the county is so high that many of the marginal wage earners cannot make ends meet. In 2002 the cost of living in Orange County was ranked 109.7% of the national average. It is often said that people that "work in Orange County can't afford to live there". In 2000, 40% of Orange County workers lived outside the county and 42% of Orange County residents worked outside the county. In 1998, only 17 percent of Town of Chapel Hill staff lived in Chapel Hill while 25 percent of Carrboro employees lived in that municipality. Only 40 percent of UNC-Chapel Hill and 54

[44] Triangle J Council of Governments, Housing Opportunity in the Triangle, accessed at: http://www.tjcog.dst.nc.us/affordliv/toc2003r.htm

percent of UNC Hospital employees lived in Orange County. These numbers include teachers, police officers, firemen, and medical personnel to name a few[45].

The average cost of a single-family home in Orange County in 2002 was reported to be $264,229. This figure includes town homes and condominiums. New houses are starting at $300,000[46]. Nevertheless, there are still many old and very old homes throughout the county, both urban and rural. There are also people living in substandard or crowded housing conditions. The 2000 census determined there were still 519 homes without complete plumbing facilities, which is 1% of all the housing units counted.

The pool of homes available at affordable prices is dramatically shrinking. From 1997 to 2000 the percentage of homes that sold for less than $120,000 shrunk by 21 percent. In 2002 homes in Orange County priced under $160,000 accounted for 26 percent of the homes sold (homes priced under $120,000 accounted for 11.5 percent), while homes priced over $250,000 accounted for 44.8 percent of the homes sold.[47]

**Data - Hunger**

The Orange County Department of Social Services reported 5,119 recipients of food stamps at the end of October 2003, and an average year-to-date number of recipients as 4,851. This number was up from 3,848 average yearly recipients in 2002.[48]

The Interfaith Council for Social Service provided 76,370 meals in 2001-2002 and housed 1,331 individuals at their emergency shelter and community house in Chapel Hill. Twenty-eight percent of those who used the shelter stated unemployment or under employment as their reason for needing shelter. Through the IFC Crisis Intervention Program 4,834 households were helped in fiscal year 2001-2002 with rent and utility assistance, food pantry and assistance with resources and advocacy. The number of clients served by the food pantry was 3,345, up 46% from the previous year.[49]
Orange Congregations in Mission (OCIM) provides similar assistance to residents in Northern Orange County though the Meals on Wheels program, food pantry and emergency assistance at their Hillsborough office. The OCIM Meals on Wheels program provides lunch to approximately 45-50 people per day and served a total of 93 people in calendar year 2002. Of these, 25% were African -American , 75% were Caucasian, and 64% were over age 65. 150 volunteer drivers deliver these meals[50].

There is also a Meals on Wheels program serving Southern Orange County. This program operates out of the Binkley Baptist Church in Chapel Hill and is run by 120

[45] *Who Can Afford to Live in Orange County?* ABODE: Coalition for Housing Diversity in Orange County, June, 1999
[46] Orange County Office of Economic Development
[47] Triangle Multiple Listing Service
[48] Personal Communication, Gwen Price, OC DSS, 11/12/03
[49] Interfaith Council for Social Service, publications
[50] Personal Communication, Janet Borel, OCIM Meals on Wheels Program Director, 11/13/03

volunteers. During their fiscal year October 2002 to September 2003 they served 17,789 meals to 151 clients with an average of 70 meals delivered per day.[51]

The Department on Aging, through the Joint Orange-Chatham Community Action (JOCCA) Program, provided lunch to 262 seniors at three meal sites located through out the county during the first quarter of fiscal year 2003-2004. JOCCA also provides emergency assistance through FEMA and served 33 people in fiscal year 2002-2003 and has served 35 people this year[52].

The Durham Branch of the Food Bank of North Carolina has also started to provide direct monthly food distribution at 4 sites in Northern Orange County through local churches and distributed 17,000 pounds of food in September 2003 alone.

Orange County and Chapel Hill-Carrboro City Schools also provide a free or reduced lunch. In the CHCCS system, approximately 1580 students received a free lunch and another 350 a reduced lunch on any given day making up approximately 18% of the students in the CHCCS system[53]. On November 19, 2003, in the Orange County Schools, 1,495 students received a free lunch and 477 a reduced lunch making up almost 30% of students in that school system[54].

**Disparities**

The connection between unemployment and an inability to afford housing and proper nutrition may seem clear to many. What may not be as clear is the connection between under-employment and an inability to stretch a minimum wage salary to cover the costs of living in adequate housing while paying associated bills. This is a highly educated community, and those with a high school education (or less) often struggle to find a suitable and stable place to live. The connection between being one of our oldest citizens and not being able to afford housing or food is also probably invisible to those who do not work with this population on a regular basis. Seniors who are struggling to pay medical bills not covered by Medicare note that their home is an asset that counts against them when they are attempting to qualify for Medicaid so that their medications and long-term care needs can be paid for.

There is a high number of renters in the area, partly due to the UNC student population. At the time of the 2000 census, the number of houses occupied by owners was 26,415 or 53.6% and the number of houses being rented was 19,448 or 39.5%[55]. In terms of race, whites were more likely to own their homes than all other racial groups, as shown in Table 4A (next page). Low-income and minority groups are the most likely to be turned down for a loan or become victims to sub-prime or predatory loans.

[51] Personal Communication, Jeannie Arnell, Director, Southern Orange Meals on Wheels, 11/5/03
[52] Personal Communication, Cheryl Cureton, JOCCA 11/17/03
[53] Personal Communication, Judy Garrison, Cost Technician, CHCCS, 11/19/03
[54] Personal Communication, Piper Flynt, Child Nutrition Bookkeeper, OCS, 11/19/03
[55] Census 2000, Summary File 1 General Profile 3: Housing unit tenure, vacancy type, household size, householder race/age. Orange County

| Race of Householder | Owner Occupied | | Renter Occupied | |
|---|---|---|---|---|
| | Percent | Number | Percent | Number |
| White | 84.9 | 22,424 | 73.9 | 14,369 |
| African-American | 11.3 | 2,986 | 15.8 | 3,080 |
| Asian | 2.3 | 602 | 5.3 | 1,025 |
| Native-American | .2 | 62 | .5 | 105 |
| All others* | 1.3 | 341 | 4.5 | 869 |
| Total | 100 | 26,415 | 100 | 19,448 |

Table 4A. Renter and Owner Occupied Housing by Householder's Race, 2000 Census[56]
*Includes Native Hawaiian alone, some other race alone, and two or more races

In rental housing in Orange County, approximately 6,697 (36 percent of households) are paying more than 30 percent of their income for housing costs. Further, 4,455 households (24 percent) pay more than 50 percent of their gross income for rent[57]. HUD recommends that housing is considered affordable if 30 percent or less of gross income goes to pay housing costs.

A worker in Orange County would need to work 40 hours a week at $14.52/hour in order to afford a two-bedroom unit at the Fair Market Rent (Compared to the North Carolina average wage of $10.16/hour). A worker earning minimum wage ($5.15/hour), would have to work 113 hours per week in order to afford a two-bedroom apartment at Fair Market Rent.[58]

**Residents concerns**
Residents who were not homeless tended to cite the cost of housing here as an important priority, while those who were homeless were more concerned about the preventable causes and consequences of their homelessness. The homeless individuals we spoke with in focus groups tended to feel that their concerns were not concerns shared by the wider community; that their needs for a secure place to live, for food and clothing and a job that would not discriminate because they had not held one recently, were overlooked. One shelter resident emphasized the need for a comprehensive solution to homelessness: "*We never see anyone saying, 'let's do something to stop homelessness'. They say, 'let's do something to help the homeless'. That isn't working*."

**Resources**
Many residents at the homeless shelters cited the two county facilities run by the Inter-Faith Council, the Community House shelter for men and Project Homestart shelter for women, as some of the best in the area. Indeed, some of the residents there had been referred by agencies in surrounding counties. There are many sources for food assistance in the county including the IFC, OCIM, Department on Aging and Meals on Wheels and DSS. (see data section above).

[56] Ibid
[57] Karnes Research Company
[58] National Low Income Housing Coalition

EmPOWERment, Inc. is a non-profit Community Development Corporation (CDC) located in Chapel Hill. They work to empower people to control their own destinies through affordable housing, community organizing, and grassroots economic development. Since 1996, they have designed several programs to combat gentrification, expand affordable housing opportunities, organize stronger neighborhoods, and help emerging businesses grow into strong local employers. They began their work in four historically African American neighborhoods in downtown Chapel Hill and Carrboro. In 1999, they expanded into both northern Orange County and neighboring Chatham County.

Habitat for Humanity builds houses with Orange County families in need. Habitat for Humanity builds between10-15 houses per year with volunteers and low-income home owners. The goal of Habitat for Humanity is to eradicate poverty housing in Orange County and to enable less advantaged families to own simple, decent, affordable homes. They endeavor to foster a spirit of responsibility and self-reliance among the families they serve. They seek to engage cooperatively individual citizens and local organizations in the work of community development. Volunteer labor is used to build houses to keep building costs low for Habitat families. Families pay $750 in closing costs and invest 325 hours of labor into building their own houses and the houses of others. Habitat provides a zero interest mortgage of $67,500 and homeowners pay monthly mortgage payments of around $350 directly to Orange County Habitat. As Habitat homeowners pay their mortgages, the money goes into a revolving fund that helps build houses with other families[59].

Orange Community Housing and Land Trust builds affordable town homes and houses across the county. They are funded 75% by the County and the three towns, and 25% by development fees and private donations. They built 32 town homes and 16 condominiums in Meadowmont ranging in price from $80,000 to $140,000. They also built the Dobbins Hill rental apartments, Legion Road town homes and bought and rehabilitated 4 single-family homes on Milton Ave in Chapel Hill. In 1995 they built 42 single-family homes in Hillsborough. Currently they are building 30 town homes at Vineyard Square and 13 single-family homes off of Weaver Dairy Road[60].

Orange County has attempted to meet the growing demand for affordable housing. In 1997 and 2002 Orange County voters passed Housing Bonds that provided over $3 million for affordable housing. Also, in the summer of 2000 the Orange County Commissioners established a Housing Trust Fund, which raises over $300,000/year to go toward the development of affordable housing.

**Gaps/unmet needs**

While there are a large number of food resources as seen above in the data section, the fact that so many people are in need of food assistance in this county speaks to the problem of poverty and a need for improved access to living wages.

[59] Orange County Habitat for Humanity website accessed at : http://www.habitat.org

[60] Personal Communication, Mavis Gant, Office Manager, Orange Community Housing and Land Trust, 11/19/03

Even with local and federal funding available for Orange County community development efforts, we are still falling way short of meeting the estimated need. According to the Report of the Orange County Commissioners Affordable Housing Task Force released in 2001 there are at least 12,281 households in the County experiencing housing problems and a best case scenario for affordable housing production utilizing available funds will only produce 703 new units over the next 5-years.

More efforts need to be made to assure additional affordable housing be made available in the county so that people can stretch their dollars further and are not so dependent on programs to insure proper nutrition. There is also a need to help low income elderly with home maintenance and improvement

Two groups that have been consistently ignored when it comes to creating housing solutions are the mentally and physically disabled. One parent who was exploring housing options for his adult child said, "*I asked about group homes, or living situations, and there's not just one agency to turn to, you don't know where to go, how to begin, or what to do.*"

**Emerging issues**

Relative to more urban areas, the rate of homelessness in this county is not incredibly high. However, those numbers may mask some significant unmet need. Many residents are living in substandard or over-crowded housing in order to save on rent and expenses. As the costs of housing continue to rise while wages remain stagnant, it will be harder and harder to convince people who cannot afford to live here to continue to work here. And those residents who are without a home need assistance with employment and healthcare as much as they need a roof over their head.

To reverse the trend of evaporating affordable housing options will take the concerted efforts of our local governments, nonprofits, businesses, and the University of North Carolina at Chapel Hill. One possible solution dictated by local governments is the idea of inclusionary zoning. Inclusionary zoning requires that a certain percentage of new residential units being built in a newly constructed residential development larger than a set number of units (e.g. five units or more) be sold or rented as affordable housing units. In addition, local governments can find ways to streamline the approval process both on the funding side and development side for affordable housing projects. Nonprofits need to work together to offer housing counseling and financial education to more low-income households to improve the credit-worthiness and ability of additional low wealth families to buy a home. The University of North Carolina at Chapel Hill needs to be encouraged and held accountable for supplying ample housing to the growing student population and its faculty and staff. UNC-CH could follow the example of Yale University and Duke University, who have both partnered with local community development corporations to produce affordable housing and/or commercial development. More affordable housing opportunities will benefit the whole community by reducing the commute many low-income families are forced to make when they cannot afford to live in our community (which adds to traffic congestion), helping local

employers and the University recruit and retain staff, and maintaining a diverse community.

## D) Employment

> "*Especially when there's already a crisis in you're life, and you're trying to cope with that and find a job, things are already bad, and not having a job makes a bad thing worse*."
> -Service Provider

**Healthy Carolinians Objective**
The Community Health section of Healthy Carolinians 2010 has a goal related to economic opportunities. "*Eliminate income inequalities among different segments of the population and ensure that all communities have a healthy, viable and sustainable economy and individual members have the opportunity to participate fully in work and production*"[61]

**Impact**
Employment impacts health and its correlates in two significant ways. First, because health insurance is a benefit most often tied to employment status in this country, those who are employed on an hourly or part-time basis, as well as those who are not employed at all, face a barrier to healthcare that does not exist in many other modernized democracies. Second, because employment has such a direct effect on income and poverty, those who are under or unemployed are disproportionately affected by the rising costs of health care of all types.

**Contributing factors**
Opportunities for employment are not evenly distributed across our population. Because the population here is highly educated compared to other counties of a similar size, those without a college degree often struggle to find employment that is stable and that pays a living wage. Difficulty in finding a job is related to many other factors in residents' lives; one service provider put it best when she said, "*Especially when there's already a crisis in you're life, and you're trying to cope with that and find a job, things are already bad, and not having a job makes a bad thing worse*."

**Data**
The unemployment rate for Orange County remains low with a rate of 3.1% in July 2003. There were 66,340 people in the labor force in Orange County as of June 2002. By far, the largest employer in Orange County is the University with over 10,000 employees. After that UNC Hospitals has 5,855 employees, Blue Cross/Blue Shield NC employs 2,700 and the Chapel Hill Carrboro City Schools have 1,580 employees. There are many other companies and groups that employ over 100 people each including Orange County Schools, Orange County Government, the towns, OWASA, banks, grocery stores, manufacturing, retail and restaurants[62].

[61] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of The Governor's Task Force for Healthy Carolinians. Pg 76
[62] Orange County Office of Economic Development

The leading form of employment in the County is government with 46% of employees, followed by services and retail trade which each employ 18% of workers, and real estate, finance and insurance which employ 5% of workers. The remaining 13% of workers are employed in manufacturing, construction, transportation, communications and utilities, wholesale trade, agriculture and mining, in that order[63].

**Disparities**

Clear disparities exist between men and women when it comes to wages. The 2000 census reported that while there were almost equal numbers of men and women in the workforce in 1999, in Orange County far more low-wage workers were women and many more upper income wage-earners were men. The median income for men was $25,384 but for women it was only $17,029. The mean income for men was $39,596 and for women it was $23,368. Furthermore, of the 37,183 men who were employed in 1999, 41.5% earned less than $20,000 per year while 55% of the 38,729 employed women during that year earned less than $20,000. The numbers of men and women earning between $20,000 and $49,999 was about equal with 33.9% of men and 33.5% of women in this earning range. But the difference is most striking in the higher wage range. Here the number of men earning over $50,000 per year is more than double the number of women with 9157 men or 24.6% compared to 4073 women or 10.5% of those who were working in 1999. In the $100,000 or more per year category there were 3,243 men but only 756 women. Some of this can be attributed to women being caretakers for children and working more part time jobs, but there still would appear to be a large gender gap related to income.[64]

A large disparity can also be seen based on race. In 1990 the mean income of white families was $55,271 while the mean income of black families was only $28, 610. No more recent data on this measure for Orange County can be found at this time.[65]

It is often difficult to tell, on an individual level, whether a lack of employment opportunity has caused or been caused by other disparities. For example, the homeless are often assumed to be homeless because they cannot find a job, yet those homeless residents we interviewed emphasized that their status as homeless, jobless individuals also impedes their search for stable employment. In addition, there are many homeless people who are employed: 17% of those who stayed at the IFC shelters last year were employed when they arrived at the shelter[66]. What is clear is that personal attributes such as disability status, gender, racial or ethnic background, and level of education clearly are not caused by joblessness and are, instead, factors that persistently shape disparities in the job and wage market. In particular, providers who work with the mentally and physically disabled cited the need for more vocational training and

[63] Ibid
[64] Census 2000. Summary File 3 Income Profile 2: Individual earnings; Income of non-family households; per capita income, Orange County
[65] LINC Topic Report: Decennial Census- Income, Poverty and Employment, Orange County
[66] Personal Communication, Scott Hamer, Interfaith Council for Social Service, 7/15/03

supportive job training programs, so that all members of our community can earn a living wage.

**Residents' concerns**
Despite the economic recession that has affected many area employers in recent years, unemployment as an independent problem was not often mentioned by focus group participants. What was mentioned was the difficulty that even those who are employed have in getting full-time work that offers health benefits and a living wage. Equally likely to be raised by residents was their concern that basic needs like housing and healthcare are virtually impossible to meet without employment.

**Resources**
Club Nova, a program of OPC-Mental Health, offers an employment program for people with persistent mental illness. They run the Club Nova Thrift Shop and also have a transitional employment program that places people in community jobs for a period of 6-9 months. During that time the employee and employer receive support from Club Nova staff. In order to receive services, individuals must be referred by their doctor to Club Nova.

El Centro Latino offers classes to Spanish speakers in English language, computer skills, and driver's education. They offer job assistance programs as well. They have volunteers that meet with individuals who help clients search for jobs and also work with Empower, a student group form UNC, that helps people look for jobs and write resumes. El Centro also maintains a jobs list that a volunteer puts together each week with jobs such as manual labor and child care that most Spanish speaking and/or low skilled workers may be qualified for.

Durham Technical Community College operates the Skills Development, Employment and Training Center in Chapel Hill offering a wide range of computer and other skills training for individuals.

**Gaps/unmet need**
Perhaps because it is more common than long-term unemployment, many focus group participants are concerned about the needs of those who are unemployed for a short time, especially those unemployed due to disability or illness. They noted that while some basic services will eventually be put in place to meet the needs of the long-term unemployed, they take months to kick in and may not be available to those who will be returning to work soon. However, for those who were holding a minimum-wage job and living month-to-month in terms of expenses to begin with, losing wages for even a week or two can require assistance from public agencies that is rarely available to those who have not been out of work for some time.

**Emerging issues**
As the recession continues to affect our county, residents are demanding that basic needs like housing and health insurance be provided, at least for some duration, to those who cannot meet those needs because of even temporary unemployment. In a

county where the costs of living are so high, being unemployed for even a short time – as is likely to happen to many of us during the course of our lifetime – can have a devastating impact on our health and the quality of our lives.

## E) Income and Poverty

> "*A healthy community would be less about the 'haves' and the 'have nots'". It would be for everyone, and everyone would participate*."
>
> - Orange County Community Member

**Healthy Carolinians Objective**

The Community Health section of Healthy Carolinians 2010 has a goal related to economic opportunities. *"Eliminate income inequalities among different segments of the population and ensure that all communities have a healthy, viable and sustainable economy and individual members have the opportunity to participate fully in work and production"*[67]

**Impact**

A lack of sufficient income is one of the most significant correlates of poor health, and one of residents' greatest concerns. Many residents and service providers felt that the disparities that exist between citizens are a major concern. "*A healthy community would be less about the 'haves' and the 'have nots'". It would be for everyone, and everyone would participate*." Residents feel that they are fortunate to live in a county with so many resources, yet struggle with the fact that those resources are not available to all citizens. "*Even though we're a very rich county compared to others in the state, I don't feel like we're addressing the needs of our middle and lower classes*."

**Contributing factors**

In this well-educated county, those without a higher education are much more likely to face challenges in meeting their basic needs. Additionally, those who are homeless face such a myriad of challenges in re-establishing an economic foothold in society that they often remain impoverished for long periods of time.

**Data**

Orange County is one of the most affluent counties in the state with a very low unemployment rate of 3.1% compared to the state average of 6.9% as of July 2003. The unemployment rate in Orange County tends to run at about half the rate across the state[68]. The median family income was $59,874 in 2000 up nearly 50% from $40,685 in 1990. The per capita income in 1999 was $24,873. Despite this affluence, 13.11% of children six and under were still living in poverty at the time of the 2000 census. In addition, there are many people who are employed at marginal wages. The federal poverty guidelines place a family of four earning $17,650 or less per year as being in

[67] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of The Governor's Task Force for Healthy Carolinians. Pg 76

[68] Dianne Reid, Orange County Economic Development Commission; Personal Communication 11/4/02

poverty. In 1999, 12% of all families with children were living below the poverty line in Orange County. There has been a slight increase in the number of children and families living in poverty in Orange County since 1990. The largest increase is in the rate of children under age 6, which rose by just under 1 percent from 12.14% in 1990 to 13.11% in 2000. The total percentage of all residents living in poverty in the year 2000 was 14.1%[69]. Orange County has fewer children living in poverty but more residents overall living in poverty compared with the state. Across the state on average 17.8% of children under 6 live in poverty and 12.3% of all residents are living in poverty. More people are also receiving Work First in Orange County than in previous years. There were 821 Work First recipients in Orange County in 2001, 780 in 2002, and 1037 so far this year. There were also 1550 applications for emergency assistance to DSS in 2003, and 687 of those cases were approved.[70]

**Disparities**

The data on income also shows a disparity based on race and ethnicity. Of those for whom poverty status was determined in the 2000 census, 12.4% of White persons were living in poverty while 19.5% of Black persons were living in poverty. Among the 1,478 households determined to be Hispanic in the county, 30% had a household income under $20,000 per year[71].

Members of minority racial and ethnic groups are more likely to be poor than other residents. Among employed county residents, those with the least leverage over their wages are those undocumented immigrants who fear that their illegal immigration status will be exposed if they attempt to organize for better wages. Families headed by a woman are more likely than those headed by a man to be poor. The 2000 census reports that the median income for married families with children was $75,125 in 1999 while that of single male headed households was $32,634 and that of single female headed households was $24,705.[72]

**Residents' concerns**

Residents' concerns about income covered a variety of topics, in that disparities in income are related to disparities in so many health-related areas. Residents note that, even without insurance, the wealthy may be able to afford to buy private insurance or pay out-of-pocket, while the poor cannot afford these options, and so often end up scrimping on medical care. Poverty status also impacts health status by limiting prevention options: people without discretionary income cannot afford to join a health club or purchase a great deal of fresh produce. Service providers were concerned that even those with middle-class status could not afford basic needs. One hospital employee explained, "*People are going home [from the hospital] who can't buy infant formula. If they had Medicaid or WIC, WIC would pay for it, but if they're middle income,*

[69] LINC Topic report: Decennial Census- Income Poverty, and Employment. Orange County
[70] Personal Communication, Gwen Price, OC DSS, 11/12/03
[71] LINC Topic report: Decennial Census- Income Poverty, and Employment. Orange County
[72] Census 2000. Summary File 3, Income Profile 3: Family Income by Family Type, Age of Householder, No. of Workers, Orange County

*they're not eligible, but can't afford it themselves*." The sense that the needs of the working class, in addition to the needs of the poor unemployed, were not being adequately met pervaded many of our conversations with citizens.

**Resources**
Many service providers were quick to note that we are a community with many nonprofit and public agencies working to help meet unmet needs, yet those agencies cannot address all the needs they see. As the director of one popular local agency put it, "*People assume that we can do things we're not ready to do… Right now, we have to find the financial resources to just maintain basic services, when everyone is identifying new services we could be providing, which we won't be able to afford if we don't get more money*." Residents did note that the faith community is sometimes able to come together in order to address the needs of the poorer members of their community, and local agencies like Inter-Faith Council, Joint Orange-Chatham Community Action, and the Department of Social Services all strive to meet as much need as they can.

**Gaps/unmet need**
Those residents who are working and poor often feel that people assume that they are able to meet their basic needs with their wages, which often in not the case. Additionally, those residents who rely on income from disability services are not able to subsist on that income alone. As one provider noted, "*We just look like idiots when we say, 'You're going to have to learn how to manage your expenses now', and our clients say, 'On $530 a month? Tell me how!'* " Finally, those residents who have no income at all struggle with the eligibility requirements of public services such as Food Stamps, Medicaid and Work First, and are often coping with less public assistance than is commonly believed.

**Emerging issues**
Citizens who are poor felt that their needs often fell below the radar of many of the county's wealthier citizens. Many poor people who were working felt that others assumed that, since they were employed, they were able to meet their basic needs. In order to address economic disparities and help reduce the ill effects that poverty of even the mildest sort has on health and healthcare access, we need to make the needs of poor citizens the needs of all citizens.

## F)Crime and Safety

> "*In our community, police and courts are tremendously talented and caring and work very hard to collaborate"* - Service Provider

**Healthy Carolinians Objective**
Healthy Carolinians 2010 has a goal within the Community Health section related to a safe and secure community. "*Provide a safe and secure community that supports mutual respect for all residents and property and contributes to improving the quality of*

*everyone's life. (This essential component includes: public safety infrastructure, law enforcement, fire safety, crime reduction, intentional injury prevention)"*[73]

**Impact**

Residents often stated during focus groups that they found Orange County to be a safe, secure place to live. However, service providers and community residents alike noted that, where crime does exist, it tends to co-occur with other social and health problems, and is related in complex ways to the disparities that exist in our community. And while residents rarely mentioned public safety services in their conversations about our community's health and resources, public safety providers are keenly aware of the benefits that a strong public safety system can provide.

**Contributing factors**

Providers within the juvenile justice system told us during focus groups that crime and gang-related activity are usually related to teens' perceptions about the disparities that exist between those teens who have resources and those who do not. They feel that, to a great extent, teens commit crimes when they feel they have few other options for advancement or income. Other providers, including those who work with victims of domestic violence and those who work with substance abusers, note that many types of crime affect all socio-demographic groups in our community.

**Data**

In the year 2002 there were 5,696 index crimes reported by the five law enforcement agencies in Orange County. This number was down from 6,313 reported in 2001, a decrease of almost 10%. Index crimes include murder, rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. The area with the most crimes was Chapel Hill, which also has the largest population, and the vast majority of crimes countywide were larcenies which accounted for 68% of all index crimes reported. Perhaps most disturbing is that there were 8 murders in 2002, the largest number in a single year for the past ten years. The year with the highest number of crimes in the past ten years was 1994 (6,863 crimes) and the year with the fewest was 1996 (5,549 crimes). The average over the ten-year period was 6,092 index crimes per year[74].

In the fiscal year 2002-2003, Judicial District 15-B reported that 1574 Orange County adults were on probation or parole. The leading offenses for these individuals were: assault (162), driving while impaired (125), larceny (89), drug possession (81), other traffic violations (48), breaking and entering (43), fraud (42), forgery (26), and other sexual offense (21). Drug testing of the 268 offenders ordered to have routine testing by the courts showed nearly 50% tested positive for some type of drugs while on probation, with marijuana and cocaine use being predominant.[75]

[73] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of The Governor's Task Force for Healthy Carolinians. Pg 77
[74] NC Department of Justice, State Bureau of Investigation website
[75] Judicial District 15-B, Annual Report for 2002-2003

In fiscal year 2000-2001, 200 juveniles were charged with crimes, 9 were placed in youth development centers and 35 were placed in youth detention centers. Fifty-three youth were placed in mental health treatment facilities. The cost of these placements was $1,709,838.[76]

During the 2002-2003 school year, 317 students were suspended 441 times from the Chapel Hill-Carrboro City Schools for a total of 1919 days. The greatest number of offenses were for fighting, chronic cutting and insubordination (392) possession of a controlled substance (21), Possessions of other weapons (besides a firearm or powerful explosive) (19), and sexual offense (12). In the Orange County School system there were 1006 students suspended for a total of 4086 days[77].

(Please see more on substance abuse and mental health issues in Chapter 10)

**Disparities**
Citizens in the Northern part of the county more often than the Southern part noted that drug sales were a neighborhood problem that needed urgent attention. Residents from the Northern part of the county were also concerned about the fact that emergency response times to their homes often took longer than they thought response times to more urban locations might take.

**Residents' concerns**
Drug-related crime is residents' main area of public safety concern. Public safety officials add staffing levels, emergency preparedness, and the isolation of many of our citizens to their list of concerns.

**Resources**
There are five law enforcement agencies that serve Orange County. These include Carrboro, Chapel Hill, Hillsborough, Orange County Sheriff's Department and UNC Chapel Hill Police. These five agencies employ a total of 394 people, of these, 302 are sworn officers. Just under 8% of the sworn officers are female[78]. Citizens are pleased that neighborhood watch groups have taken hold in some areas, and report their successes. The community sub-stations in some public housing neighborhoods are also an asset.

Orange County is included in Judicial District 15-B which also includes Chatham County. The staff of this district provide supervision of criminal offenders in the community and work to reduce recidivism and incarceration. The programs they administer include intensive supervision of those on probation and parole, electronic house arrest, drug treatment court and others. Their Orange County staff includes 20 employees in two divisions, one in Carrboro and one in Hillsborough.

[76] Judicial District 15B Annual Report 2001-2002
[77] Personal Communication, Isabel Geffner, Executive Director, The Community Backyard, 11/14/03 (From school websites)
[78] NC Department of Justice, State Bureau of Investigation website

Orange County is also part of the Orange Chatham Justice Partnership (OCJP), a collaboration of local, state and federal agencies working together to develop community–based programs that address court-imposed sanctions and treatment needs of offenders in Judicial District 15-B. The partnership provides oversight and funding for a variety of programs, including substance abuse treatment, case management, community service and restitution and emergency shelters for juvenile offenders.

Various other resources exist to aid in the reduction of crime, assist victims, and improve provision of services to help offenders become contributing members of society. These include the school resource officers program, community policing, special courts such as drug court and teen court, and programs such as Volunteers for Youth, Project Turnaround, and the Dispute Settlement Center. Providers in both the public safety and the mental health sectors noted during interviews that we are fortunate in this county because our justice and mental health systems work so cooperatively together. There are also programs that advocate for victims of crime including the Guardian Ad Litem program that works with child victims, and court advocates provided by the Rape Crisis and Family Violence Prevention Centers.

In terms of public safety services, Orange County has 12 Fire Departments which operate across the county, four of them are completely volunteer; Caldwell, Cedar Grove, Efland and White Cross, the remainder have a mixture of paid staff and volunteer staff. These are; Chapel Hill, Carrboro, Orange Rural/Hillsborough, Eno, Mebane, North Chatham and New Hope. The Emergency Management Services (EMS) employs over 150 people including the Fire Marshall and, operates 911, emergency medical services, disaster response, and special operations response, (such as Halloween on Franklin Street, basketball and football games, race tracks etc) and has recently taken over the ambulance service for Orange County.

A newly formed emergency preparedness team has been developed to help coordinate services in the case of emergencies such as the ice storm of 2002. This team is working together to assure that residents will be safe during emergencies and has a particular focus on reaching members of the Hispanic community with information to help them understand the state of emergency.

**Gaps/unmet need**

Providers from various settings lamented the scarcity of support available to them when dealing with a client who may be suicidal or homicidal. Providers expressed their desire for a system that offered transportation quickly and at all hours, without having to rely on over-taxed police departments to provide both transportation and supervision (in the Emergency Department) to clients suffering a mental health crisis. Leaders in our public safety sector also worry that, while citizens here report feeling safe and secure most of the time, our county would be ill-prepared to face a catastrophe, because a sense of complacency has allowed funding and staffing levels to slip below those of many similarly-sized counties.

**Emerging issues**
As the population continues to grow, public safety officials urge the community not to become complacent in our planning for public safety staffing and funding. A large, diverse population will bring with it changing public safety needs. Public safety services are doing more to provide their services in Spanish; given the crucial nature of those services, it will become more and more important that they truly operate a bilingual service.

## G) Child Care

> *"We also need help with daycare costs…..we can't work if we don't have child care".* – A Mother

**The Healthy Carolinians Objective**
There are no Healthy Carolinians objectives related to childcare

**Impact**
Access to affordable, quality childcare, has a direct impact on residents' social, economic, and physical health. Without it, parents struggle to find employment that fits their schedules, struggle to choose between bills, and may leave younger children at home unattended or in the care of slightly older siblings rather than give up employment. Finding and paying for childcare has a large impact on Orange County residents: according to the Child Care Services Association website, Orange County was the county with the highest per-capita rates of childcare use in the state last year[79].

**Contributing factors**
Affordability and quality are the two most important factors that intersect to determine access to childcare. Affordability is a major issue – the cost of high-quality care in Orange County averaged from $750 a month for 5 year olds up to $915 per month for infants last year. Spread across a 40-hour work-week, those fees equate to roughly $4.70 - $5.70 per hour, which is more than minimum wage. While financial assistance is available for some, funds are simply not available for all those who need assistance and hundreds of children are currently on the waiting list for subsidy. Continuing state budget cuts are also cutting into childcare funds in counties across the state. Cuts in subsidies are exacerbated for low-wage workers in Orange County because reimbursement rates through DSS vouchers and eligibility rates for Head Start are set at the state level, yet the costs of childcare in this county are the highest in the state[80], leaving families with higher costs to bear.

Quality of childcare is also a major issue. Child Care Services Association (CCSA) uses the state's five-star rating system to connote those childcare programs offering high-quality care. Research has shown that young children benefit from high quality childcare and will be more ready for school as a result. Currently, more than 2/3 of all of

[79] From Child Care Services Association Website: http://www.childcareservices.org
[80] Ibid

our Orange County's childcare programs are rated three star or higher. However, not all families can access high quality programs because of the high cost.

**Data**
Orange County currently has 73 Child Care Centers and 57 Family Child Care Homes. At the end of November 2003, 2,600 children were enrolled in childcare centers and another 330 were enrolled in family childcare homes. Child Care Services Association (CCSA), with funds from the Orange County Partnership for Young Children (Smart Start), the Triangle United Way, the University of North Carolina at Chapel Hill, county and town governments and private contributions, provides the largest private child care subsidy program for families in Orange County. The county department of social services (DSS) also provides over $3 million annually in public funds for childcare subsidies. Together, CCSA and DSS currently support childcare subsidies for 876 children.

**Resources**
Child Care Services Association is our local service coordinator, providing staff training, childcare referral services, and scholarships to hundreds of families in the county each year. CCSA coordinates with Orange County DSS and Early Head Start/Head Start programs to help families who need financial assistance through scholarships and sliding-scale programs.

Head Start and Early Head Start are federally funded programs available in Orange County to serve families earning below the federal poverty guidelines. Eligible families receive free childcare and a variety of services designed to meet the medical, dental, nutritional and mental health needs of participating children. Head Start serves children ages three and four years old. Early Head Start serves children from infancy through two years old. Early Head Start gives special priority to teen parents. Head Start provides full-day care at the Chapel Hill-Carrboro School sites.

The Orange County Partnership for Young Children, the local Smart Start agency, provides funding to a variety of programs to help improve the quality and affordability of childcare for children age birth to five. They help with funds to train childcare teachers, improve the wages of childcare workers, who are one of the lowest paid professions, and help with child care subsidies administered through CCSA. The Partnership also administers the state's *More at Four* Program that provides a preschool program for disadvantaged, four-year-old children in Orange County.

**Disparities**
As mentioned above in contributing factors, the cost of care is extremely high. Families who are not eligible for subsidy, or are on the waiting list for subsidy, and who cannot afford higher rated quality care for their children, may be forced to place there children in unlicensed child care settings or with family members. In an unlicensed setting, children may not be exposed to as positive and stimulating a learning environment as in licensed and higher rated childcare settings, and therefore these children may not be as well prepared to enter school.

**Residents' concerns**
Residents recognize that the lack of affordable childcare is a barrier to many families' continued economic success. Providers and residents also recognize the challenges associated with a lack of childcare for older children. Although after-school care in middle school is free, families with children in the elementary grades must pay for after school care, so parents of young children who cannot arrange their work schedules to match the school's, must either pay for additional care, or leave elementary-age children at home alone or in the care of slightly older siblings. This is a less than ideal situation that could be addressed by providing free or low-cost after-school care at each elementary school.

**Gaps and unmet needs**
There are often not enough vacancies for infant and toddler care. As mentioned elsewhere, the cost is high and there are hundreds of families on the waiting list for child care subsidies. Please see more above in 'contributing factors'.

**Emerging issues**
Department of Social Services vouchers, the availability of federally subsidized programs like Head Start, and CCSA scholarships help low-income families pay for childcare, but they are not enough. Low-income families in our community are falling into crisis when the waiting list for childcare programs outgrows their ability to wait any longer. High quality childcare is expensive, and therefore more funds are needed to ensure that parents with young children can both work and provide good quality care for their children.

## H) Recreation

> "*We'll try any program that will just get people to move*."
> -Parks and Recreation Staff Member

**The Healthy Carolinians Objective**
There are no Healthy Carolinians objectives related to recreation but see the section on physical activity in Chapter 5 - Chronic Disease

**Impact**
Availability of recreational opportunities can impact the mental and physical health of residents tremendously. Provision of a wide range of recreational opportunities can provide outlets for residents with many different interests and provide opportunity for social interaction as well.

**Contributing factors**
In order to recreate, residents need to know about recreational opportunities, have access to them, and feel safe using them. In many ways, our county is doing a good job of providing recreational opportunities to citizens. Opportunities exist for a variety of

recreational venues from art to exercise, and serve our youngest and oldest residents through parks, senior centers, and community spaces like the Arts Center and town-wide events. Access to some opportunities is limited by transportation, and overall, residents from the Northern part of the county (particularly seniors and teens) felt that their opportunities were somewhat limited by access. Affordability is also a barrier to access to some types of recreational opportunities. As discussed further in the section on physical activity, the high costs of membership in a health club are prohibitive to many. On the other hand, residents praised our free parks and walking trails.

Similarly, while local municipalities provide some free cultural recreation opportunities (such as "Carrboro Day", "Hog Day", or "Apple Chill"), other opportunities offered by private ventures are prohibitively expensive to all but our wealthiest residents. As discussed in the chapter on public safety, most residents feel that this is a safe community; presumably this helps residents feel comfortable using recreational opportunities like public parks.

**Data**
The three County parks and recreation programs serve thousands of residents each year through classes, field trips, team sports and facilities.

The Department on Aging provides a broad range of wellness activities through their five Senior Center locations. These include physical activities such as aerobics, yoga, Tai Chi and strength training as well as support groups, wellness screenings and health education programs. In July, August and September of 2003, 5,549 seniors participated in these programs that are offered year round[81].

**Disparities**
Residents without the financial means to pay for unsubsidized forms of recreation have to work hard to find those opportunities for recreation that are free. Those without transportation are limited to those opportunities that; either provide transportation, are on a convenient bus route, or are close by. Residents with low income and without transportation are, therefore, quite limited in the opportunities available to them.

**Residents' concerns**
Many residents felt that improving opportunities for teens to recreate would help address related teen health problems such as drug and alcohol use, obesity, and antisocial or delinquent behaviors. Many residents feel that we are fortunate to have a variety of opportunities to recreate in this county, so ensuring access to teens, seniors, and those isolated by lack of transportation seem to be the biggest priorities in this area.

**Gaps and unmet needs**
As discussed in Chapter 9 in the section on Older Adult Health, access to all types of opportunities for seniors, and particularly more isolated seniors, could be improved by culturally appropriate outreach. Recreation is an important part of health, so outreach from recreation services will be just as important as outreach from health services.

[81] Personal Communication, Myra Austin, Wellness Coordinator, Dept. on Aging, 11/13/03

While teens tend to be less isolated due to their contact with school, they nonetheless struggle to access the myriad of recreational opportunities available due to lack of funding and transportation.

**Emerging issues**
In a society where stress and a lack of balance in life are cited as major health concerns by residents, providing opportunities for recreation and relaxation will become increasingly important. While our county is blessed with a diversity of recreational opportunities, the offerings are not available to everyone, and this will have a detrimental impact on all aspects of their health in the long term.

## I) Transportation

> "*It's ridiculous to get someone great healthcare if they do not have a place to live, or if they can't get to the treatment*." - Service Provider
>
> *"Buses don't run during the off hours, so I can't get home from the late shift"* - Community Member

**Healthy Carolinians Objective**
Healthy Carolinians 2010 has a goal within the Community Health section related to transportation. "*Improve transportation for people without cars or other means of transportation (targeting seniors and under-age drivers), to integrate growth and development with sound transportation policy, and to improve air quality that is threatened by cars and trucks*"[82]

**Impact**
Barriers to accessing care such as a lack of transportation emerged as the third issue leading area in the community health assessment prioritization process. Residents who own their own automobiles feel that, while congestion and pollution here are growing as the county's population grows, we are faring better than many localities with regard to pollution and congestion. People's perceptions about public transportation, on the other hand, vary drastically depending on where they live. Those who live in Chapel Hill and Carrboro often cite the free public transportation provided in those municipalities as a significant benefit, while those living in Hillsborough and points north note that, while Orange Public Transit (OPT) has improved its services in response to residents' concerns, those without their own transportation find it very difficult to commute to Chapel Hill and Carrboro for employment, health, or recreational reasons. Given that the majority of opportunities in all of those domains are concentrated in the Southern half of the county, the lack of transportation options available to many in the Northern half is a significant problem.

[82] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of The Governor's Task Force for Healthy Carolinians. Pg 77

**Contributing factors**
The costs of owning an automobile are not negligible; the price of the vehicle combined with rising insurance rates, maintenance costs, and county taxes make car ownership a luxury for many county residents. Those residents without their own vehicle rely on public transportation, and find the system sorely lacking.

**Data**
Seventy percent of people who work in the county, drive alone to get to work and just over 10% carpool. Another 4% use transit and nearly 10% walk or bicycle to work. [83] As mentioned elsewhere in this report, 42% of workers reside in Orange County but work outside the county and 40% of workers work in Orange County but reside elsewhere. As a result, the number of commuters and consequent commuter traffic is high. There were 77,525 trucks and automobiles registered in Orange County in 2001.[84]

Chapel Hill Transit runs bus service in the greater Chapel Hill-Carrboro area. In January of 2002, local transit service was made fare free, and as a result, ridership has increased considerably. There were a total of 3,016,422 rides in 2001 and 4,287,068 in 2002 a difference of 1,270,646 rides, and increase of almost 30%. On any given weekday, Chapel Hill Transit fixed routes have an average of 19,000 riders. There is some seasonal fluctuation based on the University schedule, with fewer riders in December and during the summer months. Chapel Hill Transit also offers the EZ Rider Service for persons with mobility impairments, riders must have their doctor complete a certification form. This service provides door-to-door transportation on lift-equipped vehicles. In October 2003, 4,974 passenger trips were provided through the EZ Rider service. Chapel Hill Transit also offers a shared ride service on evenings and weekends and a feeder service to bring people into the bus routes from peripheral areas of town that do not have routes. These two services provided 1,556 rides during October 2003[85]. For more on all these services and links to all of the transit services in the Triangle area, visit the website: http://www.townofchapelhill.org/transit/index.html.

Orange Public Transportation (OPT) provides approximately 115,000 rides per year. They can coordinate service for any Orange County resident that needs transportation. They provide transportation to the senior centers, nutrition sites, and for other special events and groups. They also offer door-to-door service for medical appointments for people over age 65, the disabled, and Medicaid recipients. In addition they run the Orange Express route starting at the Northern Orange Human Services Center in Cedar Grove and running to Hillsborough and Chapel Hill. This route makes 6 stops in Hillsborough and 8 stops in Chapel Hill including UNC Hospitals. This service costs 50 cents from Northern Orange to Hillsborough and $1 to travel all the way to Chapel Hill. The North-South service averages about 20 riders per day one-way[86].

[83] State of the Environment 2002, Orange County Commission for the Environment
[84] LINC
[85] Personal Communication, Bill Stockard, Administrative Analyst, Chapel Hill Transit
[86] Personal Communication, Cindy Skinner, OPT 11/26/03

The Triangle Transit Authority (TTA) offers bus service between Chapel Hill, Durham, Raleigh, other Triangle towns and the RDU Airport.

**Disparities**
While those who restrict their travels to Chapel Hill and Carrboro are pleased that the system is free, they lament the fact that those who need to commute (often for employment reasons) during 'off-peak' hours often wait a long time for bus service after five p.m., and are faced with finding their own way after ten p.m., when most bus service ends. Those who live in the Northern part of the county note that, unless one has a way to commute to Highway 86, where the OPT service runs down to Chapel Hill and the Southern part of the county, one is challenged to get around.

**Residents' concerns**
Residents have cited transportation as a barrier to healthcare, as well as to employment, recreational, and educational opportunities. Teens in the Northern part of the county connected their feelings of isolation and boredom in part to the fact that they are not able to easily get to and from recreational opportunities after school, and seniors often rely on friends and family to take them to medical appointments rather than trying to coordinate transportation from OPT.

**Resources**
Chapel Hill/Carrboro Transit is an asset to many, particularly those professionals and students who rely on daily access to the university, where parking is scarce. Also an asset is the network of transportation services that provides rides to the elderly and disabled. Although sometimes inconvenient to schedule, users on the whole felt that E-Z rider and its affiliates are a valuable service that we are fortunate to have. Bike lanes and sidewalks are available in many parts of Chapel Hill and Carrboro but are nonexistent in other parts of the county making it difficult for those who would like to use alternative forms of transportation. New bond referendums were recently passed to expand sidewalk and bike lane development in Chapel Hill and Carrboro.

**Gaps/unmet need**
Although residents from the Northern part of the county have relied on community and social supports to help them with transportation, their need is still largely unmet. Public transportation for those who do not have cars of their own is an important part of their ability to access employment and services in our county.

**Emerging issues**
Residents currently feel that congestion and pollution are not as bad here as they are elsewhere, but concerns about smog and air pollution were frequently raised nonetheless. (See chapter on Environmental Health for further detail about air pollution.) There need to be proactive solutions crafted to contain congestion and pollution as the population continues to expand. While improving current public transportation infrastructure is a must for those reasons alone, it is additionally imperative when it is noted how many residents from the Northern part of the county rely on transportation

that they feel is inadequate and infrequent in order to access the many resources the Southern part of the county has to offer.

# Chapter 5. Chronic Disease and Lifestyle Issues

The major causes of morbidity and mortality in Orange County are the chronic diseases of cancer, heart disease, and cerebrovascular disease. Diabetes also causes many deaths. These four health areas are responsible for the majority of hospitalizations, illnesses and deaths in the community. All of them can be related to lifestyle factors such as improper diet, lack of physical activity and smoking. They are also linked to hereditary factors and aging. The financial cost of treating these illnesses is huge and the fact that they can all be largely prevented is important in planning community health initiatives.

## This Chapter contains the following sections:

# Chapter 5: Part 1. Chronic Disease

## A) Cancer

> *"Rising rates of cancer are a huge problem and they come from diet and smoking"*
> -Health Care Provider

**The Healthy Carolinians 2010 objectives for cancer deaths are:**

***Reduce the overall cancer death rate to 166.2 deaths per 100,000 population.***

In Orange County for the period 1999-2001 the death rate for all cancers was 213.5 per 100,000 population.[87]

***Reduce the colorectal cancer death rate to 16.4 deaths per 100,000***

In Orange County for the period 1999-2001 the death rate for colorectal cancer was 20.7 per 100,000 population.[88]

***Reduce the breast cancer death rate to 22.6 deaths per 100,000***

In Orange County for the period 1999-2001 the death rate for breast cancer was 27.1 per 100,000 population.[89]

**The Healthy Carolinians 2010 objectives for cancer screenings are:**

***Increase the proportion of adults who have ever had a colorectal cancer screening examination to 49.8%***

The BRFSS for Orange County in 2002 reported that 53.1% of residents had ever been screened for colorectal cancer.[90]

***Increase the proportion of women age 50 and older who have had a mammogram in the last 2 years to 85.2%***

According to the 2002 BRFSS, 82.8% of women age 40 and older had received a mammogram in the past 2 years.[91]

***Increase the proportion of women age 18 and older who have had a Pap test in the last 3 years to 94.7%***

According to the 2002 BRFSS, 93.2% of women age 18 and older had received a Pap test in the past 3 years. [92]

**Impact**

Cancer is the leading cause of death in Orange County, responsible for 558 deaths during the period 1999-2001[93]. The financial costs of cancer are substantial and include

[87] 1999-2001 Race-Sex-specific, Age-adjusted death rates for Orange County. From the NC State Center for Health Statistics
[88] Ibid
[89] Ibid
[90] Behavioral Risk Factor Surveillance Survey, 2002 Orange County, NCSCHS
[91] Ibid
[92] Ibid
[93] 1999-2001 Race-Sex-specific, Age-adjusted death rates for Orange County. From the NC State Center for Health Statistics

the costs of health care and lost productivity due to illness and death. Cancers were the sixth leading cause of hospitalization in Orange County in 2001, accounting for 701 hospitalizations for a cost of $11,511,752[94]. The burden of cancer can be reduced through prevention and early detection.

**Contributing factors**

The predominant factors are tobacco use, (associated with 30% of cancer deaths) improper diet, and exposure to radiation. A lack of education and awareness, of screening and a lack of access to treatments also contribute to higher rates of cancer death. Age is also a factor in the development of many cancers, the older the population, the higher the rate of cancer.

**Data**

Cancer is the one major cause of mortality where Orange County shows an increase in the number of deaths over the past few years. In 2001, 171 people died of some form of cancer in Orange County, making cancer the leading cause of death for Orange County.[95] The rate of death for all cancers increased between the 1994-1998 and 1999-2001 periods. The largest increase is due to lung cancer, where the death rate among people ages 65-84 jumped from 313 per 100,000 in the period from 1994-1998[96] to 368.1 per 100,000 in the period from 1999-2001[97]. This is an increase of 55 deaths per 100,000 in that age group. There was an increase in lung cancer deaths among black males and white females but the largest increase was among white males from 63.7 per 100,000 to 85.7 per 100,000.[98] The other major areas of the body where cancer develops, and death rate data is routinely kept, are breast, prostate and colon.

Cancer is also a leading cause of morbidity with a total of 701 hospitalizations of Orange County residents during 2001 attributed to cancer, the sixth leading cause of hospitalization that year. The cancer incidence rate for Orange County for the 5-year period from 1996-2000 was 477.3 per 100,000, somewhat higher than the state incidence rate of 437.2 per 100,000. The most significant area of cancer incidence was in breast cancer which occurred at a rate of 203.6 cases per 100,000 compared with a rate of only 145.9 at the state level. Orange County showed the highest rate of breast cancer incidence during this 5-year period of any county in North Carolina, with Forsyth county having the next highest rate at 181.7 per 100,000. Despite this high rate of breast cancer incidence, the rates of death due to breast cancer have fallen slightly from the 1994-1998 period (31.5/100,00) compared with the 1999-2001 period (27.1/100,000). The higher incidence rates may be due to higher levels of screening in

[94] Inpatient hospitalization utilization and charges by principal diagnosis and county of residence, North Carolina, 2001. State Center for Health Statistics

[95] North Carolina Vital Statistics Volume 2, leading causes of death -2001, published by the State Center for Health Statistics, accessed on 11/03/03 at: www.schs.state.nc.us/SCHS/healthstats/deaths/lcd2001/

[96] County Health Data Book, NC SCHS, NCDHHS, 1999. Death Counts and Death Rates for Leading Causes and Cancer Sites, by Age Groups, NC 1994-1998. Pg C-15

[97] NC SCHS, NCDHHS, Death Counts and Death Rates for Leading Causes and Cancer Sites, by Age Groups, NC 1999-2001

[98]. Ibid

Orange County that may have led to the reduction in deaths as a result of better diagnosis and early treatment.

**Disparities**

Cancer deaths among minorities are higher in all areas than for whites. Table 5A (next page) shows the differences. The most dramatic disparity is the overall cancer rate for minority males, but the data also show that for each specific type of cancer, the rates are generally higher for minorities than for whites.

| | White males | White females | Minority males | Minority females | Overall |
|---|---|---|---|---|---|
| All cancers | 230 | 189.9 | 374.3 | 164.6 | 213.5 |
| Colon, rectum and anus | 23.6 | 11.4 | 48.3 | 32.3 | 20.7 |
| Pancreas | 10.1 | 10.1 | 20.9 | 0 | 10.5 |
| Trachea, bronchus and lung | 74.2 | 59.2 | 106.2 | 46.7 | 64.8 |
| Breast | 0 | 25.5 | 0 | 32.5 | 27.1 |
| Prostate | 23.6 | 0 | 62.8 | 0 | 30.8 |

Table 5A 1999-2001 Race-Sex-Specific age-adjusted death rates for all major cancers, per 100,000 population, Orange County ,NC[99]

**Residents Concerns/Comments**

Residents and service providers alike recognized the impact that poor health behaviors have on individuals' likelihood to be diagnosed with cancer. In particular, poor diet is understood by the lay health consumers we spoke to, to be related to increased rates of intestinal/bowel diseases of all types. Even the groups of senior citizens we spoke to (43 seniors in all) did not raise cancer as a significant health concern, either personally or in the community at large. Cancer was raised as a concern in relation to poor nutrition and tobacco use, and the residents and providers we spoke to seem to believe that better prevention and education efforts in those two areas would make a great impact in addressing cancer rates in our community.

**Resources**

Prevention and screening are the best ways to fight cancer. Detecting cancers early while they can still be treated through the use of mammograms, pap smears, colorectal and prostate screening is also a good way to reduce deaths from cancer. The rates of screening reported by the BRFSS and shown above under the Healthy Carolinians objectives reveal that the level of cancer screenings in Orange County is quite high. Healthy Carolinians and the Orange County Health Department are working with many partners and community groups to encourage better eating habits, increased physical activity and increased appropriate early screenings. The presence of UNC Hospitals and the Lineberger Cancer Center in Chapel Hill are an excellent resource for residents who have health insurance or who can afford to access care at these facilities. These organizations offer state of the art testing and treatment for numerous health and medical conditions.

[99] NC DHHS State Center for Health Statistics, 1999-2001 Race-Sex-Specific age-adjusted death rates per 100,000 population for Orange County

**Gaps and unmet needs**
The enormous disparities shown above in Table 5A would suggest that much work still needs to be done to educate the minority community about cancer prevention, screening and treatment to reduce the number of deaths due to cancer.

**Emerging issues**
New treatments are constantly emerging in cancer research helping people recover and prolong their lives after a cancer diagnosis. Age is a factor in the development of cancer. Thus, as the population ages, the cancer rates may continue to rise. Prevention is truly the key to decreasing cancer. Please see the section below on lifestyle factors that contribute to chronic disease.

## B) Heart Disease and Stroke

**The Healthy Carolinians 2010 objectives for Heart Disease and Stroke are:**

***Reduce the heart disease death rate to 219.8 deaths per 100,000 population***
The heart disease death rate for Orange County between 1999-2001 was 190.7 per 100,000[100]

***Reduce stroke death rates to 61 deaths per 100,000 population***
The cerebrovascular disease death rate for Orange County between 1999-2001 was 66.3 per 100,000[101]

***Increase the proportion of adults who have had their cholesterol checked within the preceding 5 years to 90.0%***
No data source could be found to determine the number of adults who have had their cholesterol checked.

***Increase the proportion of adults who have had their blood pressure measured within the last year to 95%***
There is currently no data source available to determine the number of adults who have had their blood pressure checked, although a reasonable assumption is that persons who saw their physician within the last year would have had their blood pressure taken. According to the BRFSS for 2002, 77.9% of residents said they had a routine check-up in the past year.[102]

**Impact**
Heart disease is the second leading cause of death in Orange County followed by deaths due to cerebrovascular disease or stroke. In 2001 there were 156 deaths due to heart disease and 57 due to cerebrovascular disease[103]. Heart disease and cerebrovascular disease, often resulting in stroke, are the leading causes of

[100] NC DHHS State Center for Health Statistics, 1999-2001 Race-Sex-Specific age-adjusted death rates per 100,000 population for Orange County
[101] Ibid
[102] NC SCHS. BRFSS 2002 Survey Results for Orange County. Routine Checkup
[103] North Carolina Vital Statistics Volume 2, leading causes of death -2001, published by the State Center for Health Statistics, accessed on 11/03/03 at: www.schs.state.nc.us/SCHS/healthstats/deaths/lcd2001/

hospitalizations in Orange County. These illnesses accounted for 2,299 hospitalizations in 2001, at a cost of $434,889,329 during 2001 alone[104]. These hospitalizations and the resulting disability account for a significant proportion of health care costs.

**Contributing Factors**

Elevated blood cholesterol, high blood pressure, family history of heart disease, diabetes, tobacco use, overweight and obesity, physical activity and a diet high in fat and sodium all contribute to increased rates of heart disease and stroke. Lack of affordability and accessibility of prescription medications that help to lower elevated blood pressure and blood cholesterol also contribute to problems particularly in the senior population. Residents and providers whom we spoke to are concerned that residents with poor nutrition habits and lack of physical activity are at increased risk for heart disease and hypertension. Senior citizens, in particular, mentioned high blood pressure and cholesterol as factors that contributed to heart disease and hypertension in that age group.

**Data**

Orange County has already achieved the Healthy Carolinians heart disease objective of 219.8 deaths per 100,000 with a death rate of 190.7 per 100,000[105]. Orange County came close to achieving the stroke objective with the stroke death rate from 1999-2001 of 66.3 per 100,000. As mentioned above, heart disease is the leading cause of hospitalizations in Orange County with 2,299 hospitalizations resulting from cardiovascular disease, heart disease, and cerebrovascular disease reported in 2001.[106]

**Disparities**

Minority death rates due to heart disease and cerebrovascular disease are higher than for whites. The male death rates are also higher than those for females. Table 5B demonstrates the disparities.

| | White males | White females | Minority males | Minority females | Overall |
|---|---|---|---|---|---|
| Heart Disease | 248.6 | 147.3 | 300.4 | 173.1 | 190.7 |
| Cerebrovascular Disease | 70.1 | 57 | 111.3 | 74.4 | 66.3 |

Table 5B 1999-2001 Race-Sex-Specific age-adjusted death rates per 100,000 for Heart and Cardiovascular Disease, Orange County, NC[107]

**Residents Concerns/comments**

When residents mentioned obesity and poor diet as concerns, which they often did, they occasionally also mentioned heart disease and hypertension as concerns. Providers

[104] Inpatient hospitalization utilization and charges by principal diagnosis and county of residence, North Carolina, 2001. State Center for Health Statistics

[105] NC DHHS State Center for Health Statistics, 1999-2001 Race-Sex-Specific age-adjusted death rates per 100,000 population for Orange County

[106] Inpatient hospitalization and charges by principal diagnosis and county of residence, North Carolina, 2001. State Center for Health Statistics. Accessed at: www.schs.state.nc.us/SCHS/

[107] NC DHHS State Center for Health Statistics, 1999-2001 Race-Sex-Specific age-adjusted death rates per 100,000 population for Orange County

were more likely to mention hypertension as a significant health problem in our community that needs to be urgently addressed. Senior citizens who used the senior centers throughout the County suggested that education related to nutrition and exercise be brought to both the providers and the clients at the senior centers, so that heart disease and hypertension could be addressed in preventive ways.

**Resources**

UNC Hospitals offer excellent care and rehabilitation programs for individuals suffering from heart disease and stroke, but prevention is the best resource.
Cholesterol and blood pressure screening are an excellent first step to determining if someone may be at risk for heart disease and/or stroke. Therefore Healthy Carolinians works to encourage all individuals to visit their physicians annually to have these screening exams. Individuals are strongly encouraged to visit their health care providers for these exams so that if there is a problem, the physician can determine the appropriate care and treatment plan.

As with cancer, prevention and screening are the top methods for reducing deaths due to heart disease and stroke. Smoking cessation is one of the best ways to reduce the risk of heart disease and stroke, followed closely by increasing physical activity and improving the diet. Specifically, this involves following the American Heart Association's guidelines which include increasing daily fiber intake, increasing fruit and vegetable intake, and decreasing total fat intake, especially saturated fat . Overweight individuals should take steps to lose weight sensibly by following the dietary recommendations of the American Heart Association and the American Dietetic Association and by adding 60 minutes of moderate exercise and/or increasing physical activity to most days of the week. Individuals should consult their physician prior to starting an exercise program. Individuals may also ask their doctors to refer them to a Registered Dietitian.

**Gaps and unmet needs**

As with residents' concerns about nutrition, when heart disease and hypertension were mentioned as concerns, it was also mentioned that residents sometimes do not know how to address those issues effectively via health prevention and health behavior. Given the efforts made by physicians, the health department, and other health providers to educate citizens on a one-on-one basis, our community should consider broader prevention and education efforts that can target the populations most at risk in a culturally appropriate, user-friendly way.

Recognizing the impact that a lack of physical activity can have on cardiovascular health, and lamenting the disparities that exist in health outcomes between White and non-White populations, Chapel Hill Parks and Recreation has committed to partnering with the local National Association for the Advancement of Colored People (NAACP) to implement programs which will appeal to minority populations. While this proactive approach may not work for all agencies, each will need to come up with ways to address the disparities that exist in health outcomes by creating prevention and early intervention programs that meet the needs of those who the data show need those programs most.

**Emerging Issues**
Many Americans are becoming increasingly overweight or obese as a result of calorie-laden diets and lack of physical activity. As a result, the rates of heart disease and stroke may increase rather than decrease over time. North Carolina's aging population is also likely to increase the incidence of cardiovascular disease in NC and may further slow or reverse the decades-long downward trend in death rates. Much work needs to be done to educate particularly the younger members of the population about the importance of physical activity and good nutrition to reduce the risk of developing heart disease later in life.

## C) Diabetes

> "*I have learned a lot that I didn't know before about my condition (diabetes), medications, and how to take them. This clinic was very helpful*."
> –Diabetes Foot Clinic Participant

**The Healthy Carolinians 2010 Objective for Diabetes is:**
***Reduce the diabetes death rate to 67.4 deaths per 100,000.***
The rate of death due to diabetes in Orange County from 1999-2001 was 18.8[108], already far below the 2010 goal of both Healthy Carolinians and Healthy People 2010. Healthy Carolinians also has objectives related to the number of adults with diabetes who receive appropriate care with each clinic visit, but because the rates of diabetes are so low in Orange County, we do not have data from the BRFSS on these measures.

**Impact**
Diabetes is the 8th leading cause of death in Orange County and is a major contributor to deaths from cardiovascular disease. Diabetes is the leading cause of blindness, renal failure, and non-traumatic amputations. Healthy Carolinians states that 130,000 adults in North Carolina are believed to have diabetes and are not aware of it[109].

Similar to other health issues listed above, there is still a large disparity between the rates of whites and minorities. With the increase in the problem of overweight and obesity in the US, healthcare providers and prevention educators need to be vigilant in educating the population about the importance of having their blood glucose checked when meeting certain diabetes risk factors, such as being overweight. Nationally, the rate of Type 2 Diabetes has been rising dramatically, especially among children, as the problem of overweight has increased.

**Contributing Factors**
Many factors contribute to the onset of diabetes, including family history of the disease, improper nutrition (diet high in calories, fat, especially saturated fat as well as high in

[108] 1999-2001 Race-Sex-specific, Age-adjusted death rates for Orange County. From the NC State Center for Health Statistics
[109] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 62

processed foods), obesity, lack of physical activity, difficulties in managing disease due to rural living conditions, limited access to health care, lack of economic resources, and lack of education about the disease.[110]

**Data**

In Orange County in 2001 there were 15 deaths attributed to diabetes at a rate of 12.4 per 100,000[111]. An additional 113 people were hospitalized due to diabetes in the same year[112]. The available data does not really present a true picture of diabetes since so many people are undiagnosed or may not be receiving treatment. There is also no reliable source of data for the number who are living with diabetes. In addition, many other conditions such as heart disease and renal failure may be due to long-term diabetes. In North Carolina, during 1998, about 360,000 adults were diagnosed with diabetes. Another 130,000 adults are believed to have diabetes and are not aware of it. Each day, diabetes causes about 15 deaths, eight leg amputations, and more than 600 hospitalizations for treatment or surgery for heart or stroke complications or poor circulation in the feet or legs.[113]

**Disparities**

While the death rate from diabetes in Orange County is low, there is a significant difference between whites and minorities with the rate for minorities (45.4/100,000) almost four times higher than that for whites (12.6/100,000)[114]. American Indians are also at very high risk for diabetes and diabetes is more common in people over the age of 60. Diabetes, and especially its serious complications, disproportionately affect rural and economically disadvantaged people.

**Residents Concerns**

Those residents and providers who identified diabetes as an important health concern emphasized the importance of prevention and early intervention services as a strategy for solving the problem; they were less concerned about treating the more serious side-effects of the disease. They emphasized a connection between nutrition, overweight, and the increasing rates of diabetes, and the suggestions they gave for creating change in the rates of diabetes focused on creating change in those areas. For example, creating exercise and nutrition programs that are integrated into existing services such as parks and recreation programs, senior centers, and the elementary and secondary schools curriculum were seen as important strategies for change.

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[110] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 63

[111] 1999-2001 Race-Specific and Sex-Specific Age-adjusted Death rates per 100,000 population for Orange County, NC. State Center for Health Statistics.

[112] Inpatient hospitalization and charges by principal diagnosis and county of residence, North Carolina, 2001. State Center for Health Statistics. Accessed at: www.schs.state.nc.us/SCHS/

[113] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 63

[114] 1999-2001 Race-Specific and Sex-Specific Age-adjusted Death rates per 100,000 population for Orange County, NC. State Center for Health Statistics.

**Resources addressing the issue**
Several initiatives are underway to try and reduce diabetes and the complications that can result from it. The Health Department and UNC Hospitals offer programs in diabetes management and nutritional counseling. An effort by the SHAC outreach program has organized diabetes foot clinics in the northern portion of the county and the Department on Aging also partners with the Health Department to provide foot screening clinics at the senior centers. One local optometrist is spearheading a program to provide preventive eye screening to high-risk groups.

**Gaps and Unmet Needs**
Much more education is still needed to help the community understand how to prevent diabetes and how to treat it. Particularly in the northern portion of the county where many low-income elderly people reside, more outreach could be done to educate and help them combat the complications of diabetes. More also needs to be done to reduce obesity especially in children where the rates of diabetes are on the rise. Finally, better access to primary care for low-income residents is needed in order for them to receive the proper screening necessary to determine if they are diabetic and access the needed treatment to prevent complications. After attending the most recent SHAC Outreach foot clinic in Hurdle Mills, one participant told the coordinators, "*I have learned a lot that I didn't know before about my condition (diabetes), medications, and how to take them. This clinic was very helpful*." This particular participant had been receiving regular care from her physician, but clearly benefited from the information related to pharmacology and nutrition presented at the clinic.

**Emerging Issues**
As mentioned previously, the number of children and adults who are overweight or obese is on the rise and as a result the number of diabetics, especially among children, is increasing at an alarming rate.

## D) Obesity

**The Healthy Carolinians 2010 Objectives for overweight are:**
***Reduce the percent of children and adolescents seen in health department clinics and WIC programs who are overweight or obese to 10%.***

| Age | NC 2002 | Orange County 2002 |
|---|---|---|
| **2-4** | 13.5 % | 16.3 % |
| **5-11** | 21.1 % | 24.2 % |
| **12-18** | 26.3 % | 29.6 % |

Table 5C. Comparison of NC and OC children seen in Health Department and WIC clinics who were overweight. ($\geq$ 95$^{th}$ percentile).[115]

[115] NCNPASS data accessed on November 4, 2003 at :www.nchealthyweight.com/thefacts4.htm

***Reduce the proportion of adults who are obese to no more than 16.8% of the population.***
Based on results of the BRFSS for Orange County in 2002, 16.7% of adults were obese.

**Impact**
Obesity was one of the top five issues selected by the community for a priority area of focus. "Elevated cholesterol levels, high blood pressure, and type 2 diabetes are associated with overweight and obesity and are independent risk factors for coronary heart disease. Being overweight or obese also increases the risk for gall bladder disease, sleep apnea, respiratory problems, some types of cancer, and have been implicated in the development of osteoarthritis."[116]

There has been an alarming increase in overweight and obesity in all age groups in NC and the nation over the past 10 years and Orange County is no exception. Of special concern is the increase in the number of children who are overweight and the long-term impacts this may have in the development of chronic disease at early ages.

**Contributing Factors**
Advancing age, inactivity or no physical activity and sedentary lifestyles contribute to obesity. Also dietary habits that include eating away from home, eating fast foods often and eating foods high in fats, sugars and salts also impact weight.

**Data**
While data on obesity and overweight are sometimes hard to find, there is data shown above in Table 5C, from Health Department and WIC programs. The BRFSS also shows that in addition to 16.7% of the population of Orange County being classified as obese by having a Body Mass Index (BMI) greater than 29.9, another 31.5% are classified as overweight or having a BMI greater than 24.9. Another data source is the Youth Risk Behavior Survey (YRBS) that was conducted in the Orange County and Chapel Hill-Carrboro City Schools in the 2000-2001 school year. This survey showed that on average 22.6% of middle and high school students believed themselves to be slightly overweight and 3-7% of students believed themselves to be very overweight. An average of 42% of students were trying to lose weight[117]. The general picture drawn from all of this data is that close to 50% of the population of Orange County in every age group is overweight, and that is an alarming trend.

**Disparities**
According to Healthy Carolinians, overweight and obesity are observed in all population groups, but obesity is particularly common among Hispanics/Latinos, African-Americans

[116] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 68
[117] Youth Risk Behavior Survey, CHCCS and OCS 2000-2001 school year

and American Indians, especially females of these groups. The prevalence of overweight and obesity increases with advancing age in both males and females.[118]

| Weight | Recommended | | Overweight | | Obese | |
|---|---|---|---|---|---|---|
| | # | % | # | % | # | % |
| **Gender - Male** | 88 | 50.5 | 73 | 38.9 | 16 | 8.6 |
| **Gender - Female** | 126 | 47.5 | 65 | 24.9 | 39 | 23.9 |
| **Race - White** | 184 | 50.5 | 114 | 32.2 | 37 | 15.3 |
| **Race - Other** | 28 | 40.7 | 23 | 28.5 | 18 | 23.7 |
| **Age 18-44** | 126 | 56.6 | 46 | 19.2 | 29 | 20.3 |
| **Age 45+** | 86 | 36.8 | 92 | 50.0 | 26 | 11.7 |
| **High school or less** | 30 | 29.1 | 30 | 33.1 | 16 | 35.3 |
| **Some college** | 183 | 55.2 | 108 | 31.2 | 39 | 10.6 |

Table 5D. Results of the BRFSS 2002 for Orange County for the risk factor overweight or obese.[119]

It is interesting to note from Table 5D above, that in Orange County, men are more likely to be overweight, but women are more likely to be obese. Whites are more likely to be overweight but minorities are more likely to be obese. Older people are more often overweight, while younger people are more often obese and those with less education are more likely to be obese than those with higher education.

**Residents Concerns**

Residents believed that school food programs, consumed by large numbers of children each day, are unhealthy and contribute directly to the rapidly rising rates of overweight in school-aged children. They also wonder whether more can be done to educate people about what the greatest dietary problems are. Residents seem to be well aware of the risks that follow from poor diet, yet they feel powerless to change their dietary habits. One resident said, "*If somebody could just teach us how to eat better, I think that would contribute directly to us having a healthier lifestyle*." In part, the food prepared by schools, restaurants, and fast-food venues is a contributor to their nutrition habits; many parents and service providers lamented their sense that the only "fast" food available to them was also of poor nutritional value.

**Resources**

Several initiatives have been started at the state level based on the knowledge that overweight is a critical problem in every county of the state, including Orange County. The State Division of Public Health, Health Promotion and Disease Prevention Section, Physical Activity and Nutrition Unit has developed a new program called Eat Smart Move More NC. They have written two reports; *North Carolina Blueprint for Changing Policies and Environments in Support of Increased Physical Activity* and *North Carolina Blueprint for Changing Policies and Environments in Support of Healthy Eating*. At the

[118] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 68

[119] NC SCHS. BRFSS 2002 Survey Results for Orange County. Risk Factors Body Mass Index Grouping-Underweight, Recommended Range, Overweight and Obese. Accessed on Nov 4, 2003 at : www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/rf1.html

same time, the Women's and Children's Health Section of the State Division of Public Health has begun the NC Initiative for Healthy Weight in Children and Youth and they have written a report entitled *Moving our Children Toward a Healthy Weight.* It is these types of statewide initiatives that will be required if we are to begin to see improvements on a large scale related to the problems of overweight.
In Orange County, many programs have been started through the Health Department and Healthy Carolinians. The "Winners Circle Healthy Dining" program was started last year. The program aims to increase access to, recognition of, and demand for healthy foods in those places where individuals are most likely to eat away from home: restaurants, work and school cafeterias, vending machines, convenience stores, and many other types of venues. While getting restaurants to participate has been a challenge, the school nutrition programs are eager to participate and have recently begun having their menus analyzed. Several fast food chains including Subway and McDonalds have also adopted the Winner's Circle Program statewide. The Healthy Choices, Community Voices committee of Healthy Carolinians is also working on several community-wide initiatives to encourage physical activity, including a map with most of the recreational opportunities present in the county and a Family Fun and Fitness Day was held in October 2003.

Another excellent local initiative has been started in the past year to combat the problem of overweight in youth. A coalition promoting nutrition and physical activity for youth, *Orange on the Move*, was formed in February 2002 spearheaded by Orange County Cooperative Extension. The group includes numerous representatives from schools, agencies, and organizations including the Health Department and Healthy Carolinians. Their mission is to help Orange County youth and their families achieve optimum health by the development of lifelong behaviors of good nutrition and physical activity. This will be achieved through collaboration, education, advocacy, and program implementation in diverse home and community environments. They applied for a Health and Wellness Trust Fund Grant to prevent obesity in the summer of 2003.

The Orange County Health Department Health Promotion Coordinator and Nutritionist are also in the process of beginning two weight management programs, one through the Orange County Schools and another for Orange County employees.

Finally, key staff at both the Chapel Hill-Carrboro and Orange County recreation departments cited overweight as a significant concern that they attempt to address through programming. One staff member we interviewed put it this way: "*We'll try any program that will just get people to move*."

**Gaps and Unmet Needs/Emerging Issues**
With obesity increasing in the community, there needs to be several programs on multiple levels to combat the problem among all ages, but the biggest battle will be changing the sedentary lifestyle habits of the community. Programs must be offered that are culturally sensitive and will appeal to minority community members as well as be affordable and easily accessible to all residents. Policies and environmental changes must take place in order to provide a healthier school lunch program, more

physical education and to remove the presence of soda and unhealthy foods from the school environment. In communities, there must be changes on an environmental level to increase opportunities for physical activity such as improved walking and biking trails, more mass transit and services located within walking distance of communities.

## E) Asthma

**Healthy Carolinians 2010 objective for asthma:**
***Reduce the rate of asthma related hospitalizations to 118 per 100,000***
In 2001 there were 33 hospitalizations for asthma for a rate of 27.3 per 100,000[120].

### Impact

The prevalence of asthma in children has increased over the past 20 years and is associated with hospitalization, restricted activity and sometimes death. Many children still go undiagnosed and untreated and asthma is the leading cause of school absence among children with chronic illnesses. In 1999, 50 percent of North Carolina children with asthma missed school because of the disease.[121]
(see also chapter 11 Environmental Health, section on air quality)

### Contributing Factors

Exposure to allergens and pollutants and respiratory infections can result in asthma. In addition, lack of access to adequate primary care, inadequate financial resources, and inadequate social support can exacerbate the problem. Poor housing conditions with mold and dust may also contribute to the problem. And asthma attacks can be triggered by climate changes or physical and emotional changes such as coughing, laughing, exercise or stress.

### Data

Asthma is a common cause of emergency department visits and accounted for 233 visits to the UNC ED in fiscal year 2002-03 by Orange County residents[122].

The North Carolina School Asthma Survey, which was conducted in the 1999-2000 school year, revealed that 9.6% of school-age children in Orange County had been diagnosed with asthma and an additional 14.5% suffered from wheezing caused by undiagnosed asthma. This can be compared to the rates for North Carolina of 10% of school-aged children being diagnosed with asthma and 17% statewide with undiagnosed wheezing.[123] While rates of asthma in Orange County are relatively low,

[120] Asthma Hospitalizations per 100,000, 2001 hospital discharge reports, NC State Center for Health Statistics
[121] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 56
[122] Personal Communication, Robbie Roberts, UNC Planning Department, Emergency Department Data for fiscal year 2002-2003, prepared 10/13/03
[123] County Health Data Book, NC SCHS, NCDHHS, 2002. NC School Asthma Survey 1999-2000. Pg D-25

there is still concern due to increasing air pollution and the fact that children may suffer from asthma but be undiagnosed.

**Disparities**
African-American and Hispanic children more frequently use emergency departments for medical care of their asthma, are more likely to be hospitalized, and are more likely to die from asthma than White children. Research reveals a strong relationship between poverty and asthma.[124]

Substandard housing often contributes to the exacerbation of asthma due to window air conditioning units that harbor molds, carpeting that is not maintained or easily cleaned, dryers not being properly ventilated, and roach and other insect or vermin infestations. People with lower incomes have higher rates of smoking, contributing to second-hand smoke exposure in children.

**Residents Concerns**
Residents worry that poor air quality and second-hand smoke contribute to rising rates of asthma, particularly in children. Chapter 11- Environmental Health, discusses the increasing rates of ozone pollution in Orange County. With regard to second-hand smoke, residents were mixed in their praise of recent ordinances in the area banning smoking in various public spaces. No one that we talked to said the bans went too far, some felt they were adequate, and some said they did not go far enough in preventing people from breathing second-hand smoke.

Some parents and teens also mentioned concerns about air quality in local schools as a contributing factor in increasing rates of asthma among children. They worry that poor ventilation systems and poor mold control contribute to respiratory problems in school-age children.

**Resources**
Orange County Health Department is part of an Asthma Coalition addressing the issues of asthma in children. The Asthma Coalition's mission is to improve asthma management in school-aged children. The coalition members include representatives from school nursing, public health, medical providers, the university and youth advocates. The coalition is involved in education and awareness, health fairs, in-services, school newsletter inserts, as well as environmental health assessments, advocacy and participation in grant projects.

**Gaps and Unmet Needs**
Children are often absent from school or reporting to the emergency department due to uncontrolled asthma. Orange County currently lacks a system that alerts the medical provider and school nurse of such an occurrence. Gaps in such communication not only lead to more emergency visits but also to missed opportunities for education and

[124] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 56

training for the family. The Asthma Coalition is exploring what would work for Orange County to address this communication gap and advocating for systems change.

**Emerging Issues**

In the future, policies regarding construction, building materials, cleaning, heating/air conditioning, pest control and smoking should empower housing agents and residents to work towards healthier living environments.

The rise in air pollution is a major concern because of its effect on existing asthma cases and on developing new cases of asthma. The County must focus on reducing air pollution as one factor in reducing the incidence of asthma.

As concerns about air quality continue to increase, service providers may want to use data on asthma detection and intervention as a way to monitor possible relationships between air quality and the onset of asthma.

# Chapter 5: Part 2. Lifestyle Issues That Impact Chronic Disease

## A) Tobacco Use

**Healthy Carolinians 2010 objectives for tobacco use in children and adolescents**

***Reduce tobacco use (including cigarettes, pipes, spit tobacco, and cigars.) by middle school students, grades 6 through 8 to 8%***
No data is available on tobacco use at this time

***Reduce tobacco use (including cigarettes, pipes, spit tobacco, and cigars.) by high school students, grades 9 through 12 to 19.1%.***
No data is available on tobacco use at this time

***Reduce cigarette smoking by middle school students, grades 6 through 8 to 7.5%.***
According to data collected from the Youth Risk Behavior Survey (YRBS) in 2001 in Orange County (OC) and Chapel Hill-Carrboro City Schools (CHCCS)12% of OC 8th graders and 3% of CHCCS 8th graders had smoked in the past 30 days[125].

***Reduce cigarette smoking by high school students, grades 9 through 12 to 15.8%.***
According to data collected from the YRBS in 2001 in OC and CHCCS, 24% of OC 9th graders and 20% of CHCCS 10th graders had smoked in the past 30 days[126].

***Decrease the percent of children who begin to smoke before age 11 to 10%.***
No local data is available

***Reduce the percent of retail outlets that sell tobacco products to minors to 5%.***
No local data is available

**Healthy Carolinians 2010 objective for tobacco use in adults**
***Reduce tobacco use (cigarette smoking) by adults to 12.5 percent.***
Based on the 2002 BRFSS, only 12.8% of Orange County adults said that they smoked[127]

**Impact**
Research has demonstrated the health consequences of tobacco use. Smoking causes heart disease, cancers of the lung, larynx, esophagus, pharynx, mouth, and bladder, and chronic lung disease. Tobacco contributes to cancer of the pancreas, kidney, and cervix. Smoking is associated with 30% of all cancer deaths. Consequences of smoking during pregnancy include spontaneous abortions, low birth weight babies, and sudden infant death syndrome. Smokeless tobacco causes a number of serious oral

[125] Youth Risk Behavior Survey, CHCCS and OCS 2000-2001 school year
[126] Ibid
[127] BRFSS Survey Results 2002 for Orange County, Tobacco Use, Smoking Status

health problems including cancer of the mouth, periodontitis (or gum disease) and tooth loss. Exposure to secondhand smoke can cause heart disease and lung cancer among adults and lower respiratory tract infections among children.[128]

**Contributing Factors**
When smoking is started at a young age it often becomes a life long habit. Environmental risk factors such as easy access and availability of tobacco products, cigarette advertising and promotion, and affordable price for tobacco products make smoking among young people more common. Perceptions that tobacco use is normal, peers and siblings' use and approval of tobacco use, and lack of parental involvement also contribute to young people taking up smoking[129].

**Data**
Orange County has a smaller percentage of people who smoke than many areas of NC, with only 12.8% of adults saying that they smoked some days or every day in 2002, compared to 26.2% statewide[130].

**Disparities**
Men, minorities and those with low income and educational levels are more likely to smoke than their counterparts. In the 2002 BRFSS, 16.7% of men and only 9.3% of women were regular smokers. In terms of race, 19.1% of minorities smoked versus only 11.3 % of whites. Among those with a high school education or less, 25.2% smoked but only 8.4% of those with some college smoked. And finally, 22.8% of those with household incomes of $50,000 per year or less smoked, as opposed to only 6.4% of those with higher incomes[131].

**Residents Concerns**
Residents we talked to tended to note the impact of secondary smoke, rather than primary tobacco use, on their health. As mentioned above in the asthma section, concerns about inhalation of second-hand smoke at restaurants and public recreation facilities were mentioned during focus groups, efforts to assist smokers in quitting were not. Concerns about teen smoking were also raised, particularly by school-based health providers. They hoped that schools and health initiatives could collaborate to provide more comprehensive prevention efforts to local high schools.

**Resources**
Many initiatives are underway to help people quit smoking on a state and local level including the Quit Now web site and hotline that offers cessation counseling to individuals 24 hours per day. There has been a concerted effort in the state during the past year to raise the tobacco tax in order to increase the price of cigarettes and reduce the number of young people who begin smoking, but it has not been successful.

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[128] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 120
[129] Ibid
[130] BRFSS Survey Results 2002 for Orange County, Tobacco Use, Smoking Status
[131] Ibid

Orange County Health Department, in collaboration with both school systems, applied for and was awarded a three-year, $232,000 grant by the North Carolina Health and Wellness Trust Fund to develop a program in the schools to prevent smoking among youth. This project was funded beginning in January 2003. Both Orange County schools systems are now 100% tobacco free on campus as of 2003.

**Gaps and unmet needs**
There is a need for cessation programs that are easily accessible to the community of smokers who want to quit. More insurance plans need to offer preventive benefits to help cover the cost of smoking cessation aids such as nicotine patches, gum, and medications to aid in cessation.

**Emerging issues**
An increase in the tobacco tax and price of cigarettes nationally has been shown to decrease the number of new smokers and should continue to be advocated for in North Carolina. More people are interested in different types of smoking cessation than the group format of previous times, so access to the quit line for one-on-one counseling and making new cessation technologies such as drugs more available and affordable should continue to be promoted to aid those who want to quit.

## B) Nutrition

> "*When you're a freshman, you go to health, and they tell you about being over-weight and nutrition…and then you go to the cafeteria, and you can't eat healthy [food] there*.
> - Orange County Teen

**Healthy Carolinians 2010 Objectives related to nutrition**

***Increase the proportion of adults eating five or more servings of fruits and vegetables each day to 25.1 percent***
In the 2002 BRFSS, 32 percent of adults stated that they ate 5 or more fruits and vegetables per day[132].

***Increase the percent of middle school and high school students who eat any fruit or juice on a given day to 95 percent***
According to data collected from the Youth Risk Behavior Survey (YRBS) in 2001 in Orange County and Chapel Hill-Carrboro City Schools, an average of 37% of middle and high school students drank 100% fruit juice one or more times per day and 35.9% of students ate fruit one or more times per day.[133]

[132] BRFSS Survey Results 2002 for Orange County, Fruits and Vegetables, Fruit and Vegetable Consumption per day. Accessed Nov 4, 2003 at : www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/_frtindx.html
[133] Middle and High School Student Responses to the Youth Risk Behavior Survey, 2001, Chapel Hill-Carrboro City Schools and Orange County Schools.

***Increase the percent of middle school and high school students who eat any vegetables on a given day to 95 percent***
The YRBS (see above) showed that an average number of students ate the following vegetables once per day or more; 14.6% ate green salad, 6.1% ate potatoes, 7.7% ate carrots, and 29.5% ate other vegetables[134].

***Decrease the percent of middle school and high school students who eat high-fat meats on a given day to 50 percent***
No local data available

***Decrease the percent of students who eat high-sugar snack foods on a given day to 50 percent***
No local data available

**Impact**
Healthy eating habits throughout life provide the foundation for health and well-being. Improper nutrition and diet are major contributors to the burden of preventable illnesses. Leading causes of morbidity and mortality including heart disease, cancer, stroke and diabetes are all diet-related. "At least 20-40 percent of all deaths from heart disease and 40 percent of all deaths from cancer are associated with the typical American high-fat, low-fiber diet."[135] Overweight and obesity are also closely linked to poor nutrition and contribute to the burden of illness (see above section on obesity).

Research has shown strong and consistent patterns of relationships between a diet rich in whole grains, fruits, vegetables, dairy products, low-fat meats and meat alternatives, and a lowered risk of a number of chronic diseases. Epidemiological, ecological, and some experimental studies have shown compelling evidence supporting this relationship.

Malnutrition is also a problem for members of our community. Please refer to the section on Hunger and Homelessness in Chapter 4 for more on this issue.

**Contributing factors**
Among school-age children, the choice of foods in school food programs was repeatedly cited as the reason why children do not eat healthy food more often. Citizens are concerned by the types of food offered to children and by the availability of soda and snacks in vending machines at schools. Even teens themselves are concerned: "*When you're a freshman, you go to health, and they tell you about being over-weight and nutrition…and then you go to the cafeteria, and you can't eat healthy [food] there*." In addition, children's rates of obesity are impacted by decreasing levels of exercise. (See the next section on physical activity.) Breastfeeding is on the decline even though it is the healthiest way to feed babies. Breastfed babies are less likely to be overweight

[134] Ibid
[135] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force on Healthy Carolinians 2000, pg 100

and for that reason, breastfeeding should be promoted as the best and healthiest choice for babies.

Among adults, the causes of obesity (unhealthy eating and lack of exercise) are the same even if the reasons are different. Some adults cite a lack of knowledge about what to eat as a major barrier, while others say that time and a tight budget prevent them from buying and preparing healthier foods.

**Data**

In the 2002 BRFSS, 32 percent of adults stated that they ate 5 or more servings of fruits and vegetables per day, which exceeds the Healthy Carolinians 2010 goal of 25.1%. In addition, 40.7 percent of residents drank fruit juice once or more per day and another 41.6% drank juice at least once per week. Not counting juice, 39.7% of respondents ate fruit once or more per day and 49.7 ate fruit once or more per week. Twenty-one percent of residents ate green salad once or more per day and 70.6 percent at least once per week[136].

In addition to the data above from the YRBS, (shown in comparison to the Healthy Carolinians objectives), on student nutrition, the number of students who said they drank one or more glasses of milk per day was an average of 42%[137]. Current recommendations are for children and adults to eat five or more servings of fruit and vegetables per day and for children to drink three glasses of milk per day. The data collected by both the YRBS and the BRFSS would suggest that few residents are eating the recommended amount of fruits and vegetables for a healthy diet.

**Disparities**

Based on the BRFSS from 2002, women ate more fruit and vegetables than men and whites more fruits and vegetables than minorities. Those with higher incomes, more education and over age 45 also ate more fruits and vegetables than their counterparts[138]. This data would suggest that more work needs to be done to educate the minority and the low-income community about the importance of eating “5 A Day” and efforts need to be made to make fresh fruits and vegetables available and affordable to these residents.

Because school food programs are subsidized for low-income families, poor children are more likely to eat the food offered there. In addition, residents noted that the cost of a salad during school lunch is an extra cost not covered by the subsidy, so that children from poor families are not able to have fresh salad with their lunch, even if they would like to.

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[136] BRFSS Survey Results 2002 for Orange County, Fruits and Vegetables, Fruit and Vegetable Consumption per day. Accessed Nov 4, 2003 at : www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/_frtindx.html

[137] Middle and High School Student Responses to the Youth Risk Behavior Survey, 2001, Chapel Hill-Carrboro City Schools and Orange County Schools

[138] BRFSS Survey Results 2002 for Orange County, Fruits and Vegetables, Fruit and Vegetable Consumption per day

The YRBS data from the schools (Table 5E) also show that Chapel Hill-Carrboro City Schools students tend to eat more fruits and vegetables than students in the Orange County School system.[139].

| During the last 7 days, how many times did you eat: | CHCCS | | OCS | |
|---|---|---|---|---|
| | MS | HS | MS | HS |
| Green Salad one or more times per day | 18.1% | 17.5% | 10% | 13% |
| Carrots one or more times per day | 7.6% | 10.3% | 4% | 9% |
| Other vegetables one or more times per day | 38.2% | 31.0% | 23% | 26% |

Table 5E. Comparison of vegetables eaten by students in the CHCCS and OCS from the YRBS 2000-2001[140].

**Residents' concerns**

Poor nutrition and obesity were recognized by many community members as having a detrimental impact on many aspects of health. The factors that contribute to poor nutrition and obesity are well-known, yet they have proven very hard to address. According to community members, preventing poor nutrition and obesity may be one of the best ways to improve physical health outcomes later in life.

Residents were particularly concerned that school food programs, which are consumed by large numbers of children each day, are so unhealthy. They also wonder whether more can be done to educate people about what the greatest dietary problems are. Residents seem to be well aware of the risks that follow from poor diet, yet they feel powerless to change their dietary habits. One resident said, "*If somebody could just teach us how to eat better, I think that would contribute directly to us having a healthier lifestyle*."

**Resources**

Food Stamps and WIC are important nutrition benefits for low-income families, especially mothers and children. A new federal program allows families receiving WIC to use special vouchers to purchase fresh fruits and vegetables at farmers markets. As mentioned above under the obesity section, many programs are working together to improve the school nutrition environment.

Milk machines have recently been installed in the two Chapel Hill High Schools thanks to a special "Team Nutrition" grant, developed collaboratively by the OCHD and the CHCCS. A new effort is also underway through the collaboration of the OCHD, OCS Child Nutrition Services and Cooperative Extension to make healthy snacks, that meet the "Winner's Circle" nutrition criteria, available in the Orange County School cafeterias and after school programs. Part of this effort to improve foods offered to students will also provide nutrition education sessions to students to increase knowledge of the components of a healthy diet. In addition, a structured program, *BodyWorks*, will be offered starting in January 2004. This program, organized by OCHD for Orange County

[139] Ibid
[140] Ibid

Schools will educate students about healthy eating, body weight, and body image. Please see above section on obesity for additional community resources and programs.

**Gaps/unmet need**
Despite efforts by agencies like the Health Department, the Department on Aging and Cooperative Extension to provide residents with education about the importance of diet and nutrition, residents feel they do not know how to eat in a way that promotes physical health. People's inability to afford healthy foods like fresh fruits and vegetables was a source of frustration to many, and residents felt that policy changes should be implemented so that healthy food is affordable to all. Despite residents beliefs, healthy eating is really not more expensive, and education needs to be done to show residents how to eat healthily on a budget. Health promotion and public awareness are the keys to changing eating behaviors.

**Emerging issues**
Nutrition and obesity are emerging as one of the leading causes of morbidity and mortality in our communities. Citizens of all ages are aware the ways that poor diet negatively impacts their lives. New, creative strategies to help people recognize ways they can improve their diet and nutrition will be essential if people are to manage this problem effectively in the long-term.

Policies must be shaped to improve access to healthy foods in public settings and children need to receive better nutrition education in schools.

## C) Physical Activity

> *" You're so busy trying to survive in this community that eating right and exercise are put on the back burner"* *- Community Member*

**<u>Healthy Carolinians 2010 objectives for physical activity in children and adolescents:</u>**

***Increase the proportion of middle and high school students who report participating in vigorous physical activity for at least 20 minutes on 3 or more of the previous 7 days to 80 percent***
According to data collected from the Youth Risk Behavior Survey (YRBS) in 2001 in Orange County and Chapel Hill-Carrboro City Schools, an average of 73% of students exercised vigorously for 20 minutes on 3 or more of the previous 7 days[141].

***Increase the proportion of middle and high school students who report participating in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days (no baseline).***

[141] Middle and High School Student Responses to the Youth Risk Behavior Survey, 2001, Chapel Hill-Carrboro City Schools and Orange County Schools

According to data collected from the YRBS in 2001 in Orange County and Chapel Hill-Carrboro City Schools, an average of 26.4% of high school and 39.5% of middle school students participated in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days[142].

**Healthy Carolinians 2010 objectives for physical activity in adults:**

***Increase the proportion of adults (18 years or older) who engage in physical activity for at least 30 minutes on 5 or more days of the week to 20 percent.***
Based on the BRFSS for 2002, 51.4 percent of adults participated in the recommended amount of physical activity.[143]

***Reduce the proportion of adults (18 years or older) who engage in no leisure-time physical activity to 29 percent***
Based on the BRFSS for 2002, 22.5 percent of adults participated in no leisure time physical activity[144].

**Impact**
Physical activity can enhance the quality of life for people of all ages. Regular physical activity can reduce the risk of heart disease, diabetes, some types of cancer and high blood pressure. It can also decrease stress and improve mental health. "Public health experts estimate that 26% of total premature deaths result from a lack of regular physical activity and poor nutrition."[145] Participating in at least 30 minutes of moderate activity 5 times a week is the current recommendation for adequate physical activity.

**Contributing Factors**
Healthy Carolinians cites the following determinants and risk factors for inadequate physical activity:
- Obesity
- Lack of motivation
- Lack of comprehensive physical and health education in schools
- Lack of worksite wellness programs
- Lack of recreational facilities

**Data**
Adolescents- The Youth Risk Behavior Survey (YRBS) conducted in both Chapel Hill-Carrboro (CHCCS) and Orange County Schools (OCS) in 2001 showed the following results. Seventy-three percent of OCS middle school students did strenuous physical activity on 3 or more days each week, and 34% did moderate physical activity on 5 or

[142] Ibid
[143] BRFSS Survey Results 2002 for Orange County, Physical Activity, Leisure Time Physical Activity, accessed on 11/4/03 at : http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/_TOTINDA.html
[144] Ibid
[145] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 105.

more days. In high school, 73% did strenuous activity on 3 or more days each week, and 29% did moderate physical activity on 5 or more days. In the CHCCS, 83.2% of middle school students met the strenuous activity requirement, but only 45% met the moderate activity requirement. Among the high school students the rates were lower, with 63.5% meeting the strenuous requirement and 23.8% reaching the moderate requirement[146].

Adults - According to data gathered for the BRFSS, the number of Orange County residents who participate in no leisure-time physical activity has risen from 17% in 1999 to 22.5% in 2002, as compared to the NC rate of 29.5%. Though Orange County has a more physically active population than the state or 2010 goal, the decrease in physical activity over time is of concern. Also in 2002, 51.4% of Orange County residents surveyed were currently meeting the recommendation for physical activity, compared with only 38.1% of North Carolinians as a whole[147].

**Disparities**

Students in the CHCCS middle school get 20% more exercise than those in high school. In the OCS, the rates between middle school and high school are about the same. In both schools systems, students are more than twice as likely to get the recommended amount of strenuous exercise per week as they are to get the recommended amount of moderate exercise.

Among adults, people with higher education and income are more likely to be physically active than those with a lower income and education level. Whites are more physically active than non-whites and men are more physically active than women. Disparities in income seem to impact fitness consumers in two ways. Primarily, people with low income are not able to afford access to resources including parks and recreation programs and fitness centers. Not to mention, many low-income residents may be working two jobs and simply don't have leisure time they can devote to physical activity. In addition, those with low income are less likely to work for employers who offer health-club or other physical fitness benefits as a part of their employment compensation. Indeed, many residents and health-care providers expressed concern that some of the county's biggest employers, including the University, are cutting back on or eliminating entirely fitness programs available to employees. The Northern portion of the County has fewer parks and recreational areas than the south, but there are still resources available to residents there, including the Triangle Sportsplex and Orange County Recreation and Parks programs.

Disparities were often identified by residents with regard to children's opportunities for exercise. As one service provider put it, "*We know that keeping kids involved in organized activity is a good way to keep them out of trouble, but if they can't get home they can't participate - so transportation is a huge issue*." Although the parks and recreations departments in the county consistently offer a variety of programs, parents

[146] Middle and High School Student Responses to the Youth Risk Behavior Survey, 2001, Chapel Hill-Carrboro City Schools and Orange County Schools
[147] 2002 BRFSS, State Center for Health Statistics.

and providers perceive that slots fill quickly so that only those children whose parents are very organized are able to participate. Outreach through school support staff (i.e. social workers and guidance counselors) was suggested by some community members as a way for the parks and recreation departments to begin to remedy the disparities in access to recreational programs that disadvantaged children face.

**Residents Concerns**

Many of those interviewed for the health assessment expressed concern especially for the lack of physical activity among children. Increased time spent watching television and videos and playing inside, fear of playing outside or playing in the heat, and a lack of education for children about the importance of nutrition and good physical health all contribute to a lack of physical activity among children. Additionally, residents and providers expressed concern that schools have discussed reducing the number of physical education hours available in the curriculum, thus further reducing opportunities for exercise available through school.

The lack of "walkability" is a major concern of residents and providers from all parts of the county, and was one of the most frequently-cited problems during focus group discussions. Residents in the Northern part of the county identified distance as the primary barrier to walking or riding their bicycles to a given destination, while residents in the Southern part of the county had concerns about traffic safety.

**Resources**

Orange County boasts three separate Parks and Recreation Departments offering numerous classes and facilities. There are also 23 public parks and many miles of walking trails available, including 9 greenways in the Chapel Hill-Carrboro area, the Botanical Gardens and in the rural sections of the County, four public tracts of Duke Forest and the Johnston Mill Nature preserve. There are 3 parks along rivers, and 3 lakes with public access for boating and fishing. Parks and recreation staff from throughout the county report that seniors and children are the most likely people to use formal recreational activities through their programs. There are several parks on the horizon as well as a fourth public swimming pool.

The Town of Chapel Hill was recently awarded an "Active Living by Design" grant from the Robert Wood Johnson Foundation to develop more "walkability" in the Chapel Hill area. Several bonds were also recently passed in Chapel Hill and Carrboro to build additional sidewalks, bike paths and greenways.

The Walkable Hillsborough Coalition, a grassroots community group of concerned citizens, is working to improve "walkability" in the Hillsborough area.

**Gaps/Unmet Needs**

Despite all the recreation facilities available in the County, people still want more. Although there are many opportunities for league sports and classes, they fill rapidly and there is still a need for more fields and team opportunities. Parents and providers voiced their opinion during focus groups that additional information on available

opportunities for children might help close the gap between those children who seem to participate in a variety of recreational activities, and those who are not able to participate in any. Addressing issues of affordability, language of instruction, and transportation may help reduce the gap between our plentiful resources and the community's sense that many are still going without adequate recreational opportunities.

Seniors and providers for seniors report concerns about their isolation in all facets of their lives; recreational opportunities are not excluded. Seniors in the Northern part of the county feel that it is difficult for them to get to recreational spaces. Both providers and seniors themselves feel that increasing recreational opportunities goes hand-in-hand with increasing other opportunities for seniors to socialize and reduce their isolation; this in turn is felt to be an important part of improving the quality of life for the growing senior population throughout the county. Finally, some parks staff feel that, while opportunities for patrons with physical disabilities are available, they are not widespread enough to account for the various interests and needs of that population. The programs are trying to expand their services available to disabled persons through hiring "inclusion coordinators" as additions to popular programs like soccer and summer camps.

**Emerging Issues**

With obesity an increasing threat to health, physical activity must become a priority and facilities must be made available to all sectors of the public for use. In a community where resources are plentiful, they must be made accessible to those most at risk for poor physical health. Growth in the senior population requires attention to special programs that meet the needs of an aging population. Increased numbers in the Hispanic community may require additional materials, programs and staff that speak Spanish.

## Chapter 6. Communicable Disease

Communicable disease encompasses a broad range of issues and illnesses critical to public health. This chapter explores these various diseases and the sources of infections from humans, animals and insects. The chapter also considers prevention through immunization and other measures.

### This chapter contains the following sections:

- **A) Immunization**
- **B) Infectious Disease (Not Sexually Transmitted)**
- **C) Infectious Disease (Sexually Transmitted)**
- **D) Animal Disease Threats to Humans**

## A) Immunization

**Healthy Carolinians Objectives related to immunization in children:**

***Increase the proportion of young children who receive all vaccines that have been recommended for universal administration to 95% of children ages 19 through 35 months.***

In Orange County 50% of children ages 12-23 months of age are documented to be up-to-date on vaccinations and 52.58% of children ages 24-35 months of age are documented to be up-to-date on vaccinations per the NC Immunization Registry[148].

***Maintain vaccination 98% coverage levels for children in licensed day care facilities.***

In Orange County, 99% of children in licensed day care facilities have been vaccinated[149].

***Maintain vaccination 99% coverage levels for children in Kindergarten-First Grade.***

In Orange County, 99% of Kindergarten – First Grade children have been vaccinated.[150]

**Healthy Carolinians Objectives related to immunization in older adults:**

***Increase the proportion of adults 65 years of age or older who are vaccinated annually against influenza to 75%.***

In Orange County in the year 2000, 35.5% of Medicare Beneficiaries (age 65+) were immunized against influenza[151].

***Increase the proportion of adults 65 years of age or older who have ever been vaccinated against pneumococcal disease to 75%.***

In Orange County, from 7/1/02 to 6/30/03, 71 pneumococcal vaccinations were given by OCHD[152].

**Impact**

Children who have not been appropriately vaccinated are at risk of serious diseases that are still present in the population. Despite extensive efforts to vaccinate children early and keep vaccinations up to date, there have been outbreaks of rubella in the past few years that have posed a particularly serious threat to women of childbearing age.

Among older adults, flu and pneumonia are the leading vaccine preventable diseases.

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[148] NC State Immunization Registry

[149] Internal Communication, Judy Butler Community Services Section Supervisor, Orange County Health Department, 10/29/03

[150] Ibid

[151] Medical Review of North Carolina,

[152] Personal Communication, Pam McCall, Communicable Disease Program Coordinator Orange County Health Department, Internal Records, 11/10/03

**Contributing factors**
In children, a lack of parental education about the need for vaccinations and a lack of assessments on the coverage of vaccinations among the population can lead to low levels of immunization.

Adults over age 65 are at greater risk of pneumonia and influenza than the rest of the population, as are those with chronic lung disease, heart disease and compromised immune systems. Health care workers and residents of nursing homes and long-term care facilities are also at greater risk.

New immigrants are also at risk of vaccine-preventable disease if they have not received vaccinations in their home countries.

**Data**
In Orange County in 2001, 27 people died of flu or pneumonia, making this the 6th leading cause of death in our county that year. The age-adjusted death rate for flu and pneumonia in Orange County for the period from 1999-2001 was 26.3 per 100,000 compared to 24.4 for the state[153].

In children, 99% of those in day care and public school have been vaccinated but only 50% of younger children have been documented as being vaccinated. The number is probably higher, but the health department does not always receive records of vaccinations from private physicians so the actual number is difficult to track [154],[155].

There is currently no method of tracking the number of people over age 65 who receive flu or pneumonia vaccine countywide.

**Disparities**
Children who live in under-served areas or who are from immigrant populations are less likely to have their vaccinations up to date. African-American and Latino adults are less likely to receive vaccinations against flu and pneumonia than members of the majority population.

In Orange County during the period from 1999-2001, men were more likely to die from flu and pneumonia than women, at a rate of 33.5 men per 100,000 population compared to only 24.7 women per 100,000. In addition, whites were more likely to die than minorities from these conditions, with 30.3 whites per 100,000 dying versus only 11.2 per 100,000 in the minority population[156].

[153] North Carolina Vital Statistics Volume 2, leading causes of death -2001, published by the State Center for Health Statistics, accessed on 11/03/03 at: www.schs.state.nc.us/SCHS/healthstats/deaths/lcd2001/
[154] NC State Immunization Registry
[155] Internal Communication, Judy Butler Community Services Section Supervisor, Orange County Health Department, 10/29/03
[156] NC DHHS State Center for Health Statistics, 1999-2001 Race-Sex-Specific age-adjusted death rates per 100,000 population for Orange County

**Residents Concerns/Comments**

Most residents of Orange County were not concerned about immunization rates when we interviewed them. However, what stood out was the concern raised by recently arrived residents and the health providers who served them, that they did not know how or where to get immunizations, or what the procedure would involve in terms of time and money. We use the term “recently arrived” rather than “immigrants” because even those who have moved here from another county or state have found it difficult to determine whether the Health Department offers various vaccines, what the charges are, and whether they should make an appointment or just walk in to the clinic. Recent immigrants from other countries were mostly worried about vaccinating their children in time for school; this raises some concern that adults may not be being sufficiently targeted, since many jobs do not require immunization records. Residents who had moved here from within the United States tended to have questions related to the influenza vaccine, which is targeted to the adult population.

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**Resources**

The public health system is working diligently to increase the number of persons who have received flu and pneumonia vaccinations by offering flu clinics through out the county at senior centers, churches and through the Health Department clinics. Private physicians and other clinics also provide the vaccinations each autumn in an effort to immunize as many residents as possible, especially those at high-risk against these illnesses. The free SHAC clinic offers two “well-child immunization days” each fall in order to provide immunizations and boosters to children entering school for the first time in this county; this year they served approximately 100 children in total. In 2003 the public health system has recommended influenza vaccination for all residents in order to decrease the number of people susceptible to influenza and to avoid confusion of diagnosis with other flu-like illnesses such as SARS.

**Gaps and Unmet Needs**

A better system for tracking those who have been vaccinated is needed and greater numbers of the population need to be made aware of the importance of receiving these vaccinations. Residents who move to this area from countries with less well-developed health infrastructures are often not equipped with information about the availability and importance of immunization in this community. As our population continues to diversify, we will need to investigate more creative ways of providing information and referral sources to new residents. Residents have suggested that targeting apartment complexes and services most often used by new residents as venues for information distribution could be an effective way to address this emerging need.

**Emerging Issues**

With new flu-like illnesses emerging such as SARS, it is vital that people understand the importance of receiving vaccinations against influenza and pneumonia.

## B) Infectious Disease (Not Sexually Transmitted)

### Healthy Carolinians objective

There are no objectives related to non-sexually transmitted disease

The Orange County Health Department has created its own objectives related to communicable disease:
Provide investigation and follow-up for all TB cases, contacts and suspects.

Provide investigation of all reportable communicable disease cases, contacts and suspects.

### Impact

Tuberculosis is a curable infectious disease that continues to affect residents. The case rate for TB in North Carolina for 2002 was 5.2 per 100,000. This is identical with the U.S. average of 5.2 cases per 100,000. In Orange County in 2002 the TB case rate was 2.4[157].

Communicable diseases impact morbidity and in some cases mortality of residents. Personal issues such as time lost from work or school and health effects impact individuals. More broad public health and community-wide concerns include the expense and impact of large-scale outbreaks.

### Contributing Factors

The influx of foreign-born individuals from TB endemic countries has contributed to the cases of TB disease in NC.

Lack of appropriate hand washing and food preparation techniques may contribute to food-born illnesses both at home and in public eating establishments. A number of school-based providers, parents, and teens noted that they observe a lack of education around hand washing and good sanitary health in the schools. They hoped that an increase in preventive education and an awareness campaign amongst students could help prevent the spread of common illnesses amongst school-aged children.

Substance abuse including use of non-sterile needles for drug injection and unsafe sexual practices may contribute to the spread of Hepatitis B.

### Data

In Orange County in fiscal year 2002-2003 there were 4 cases of tuberculosis, 5 suspects, 40 contacts, 80 with positive TB skin tests (these were either tested at OCHD or referred to OCHD after testing positive)[158].

In Orange County for the fiscal year 2002-2003 for reportable communicable diseases there were 60 cases, 15 suspects, and 160 contacts. These disease included

[157] NCDHHS, TB Control Branch, Annual Report 2002
[158] Personal Communication, Pam McCall, Communicable Disease Program Coordinator Orange County Health Department, Internal Records, 11/10/03

salmonellosis, campylobacteriosis, Hepatitis A and B, tick-born diseases, group A strep, bacterial meningitis, and pertussis[159].

**Disparities**
TB is more likely to be seen in immigrant and indigent populations.
There is no clear indication of factors or data that would suggest disparities in relation to other non-sexually transmitted communicable disease.

**Residents Concerns/Comments**
Other than the transmission of infectious diseases at schools, residents were most concerned about 'high publicity' infectious diseases such as SARS and West Nile Virus and, to a lesser extent, influenza (flu). Residents were confused about whether the Health Department offered flu shots annually and whether or not the flu shot incurred a fee (see the above "immunization" section for more on this topic). Some residents who had recently moved here noted that the Health Department's standards for reading tuberculosis (TB) tests and providing treatment for TB appeared to vary depending on whether the patient was a recent immigrant or a long-time resident. Overall, newer residents of the county tended to know less about the information, preventive and intervention services available through the Health Department related to communicable diseases.

**Resources**
The NC TB Control Branch of the NC State Health Department provides local health departments with guidance, training and resources (medication, etc.) for the treatment and control of tuberculosis.

The NC Communicable Disease Branch of the NC State Health Department provides resources and guidance to local health departments for investigation and control of communicable diseases.

**Gaps and Unmet Needs**
A real-time surveillance system to monitor disease patterns would improve tracking of communicable disease. Better reporting of communicable disease by private physicians would also help to track disease.

The cost of Hepatitis A vaccine makes it difficult for some food handlers to afford. Increased availability might result in fewer cases of Hepatitis A transmitted to the public.

More promotion of influenza, pneumonia and Hepatitis B vaccination of adults by private health care providers may result in fewer cases.

As with immunizations, our county's newest residents are often the least knowledgeable about available information, prevention, and intervention services. Yet, some service providers worry that those who move or travel to and from the US may be the most likely to act as vectors for communicable diseases rarely seen in this country. (For

[159] Ibid

example, many communicable diseases are more likely to be contracted in other countries, and many of our county's residents either visit or host visitors from those countries on a regular basis.) In order to continue to effectively manage the spread of infectious disease in the county, information and prevention services will need to be advertised and delivered in ways that are available to and well-received by those who have most recently moved to our county.

**Emerging Issues**
2002 saw an increase in pediatric TB cases in North Carolina. There were 32 cases of TB in children under age 14, more than any other year since 1994. Fifty of these cases were Hispanic, 44% were non-Hispanic Black[160].

## C) Infectious Disease (Sexually Transmitted)

**Healthy Carolinians objectives for sexually transmitted infections:**

***Reduce the rate of chlamydia infection in 15 to 24 year olds (developmental objective, no baseline determined yet)***
The rate of chlamydia in Orange County in 2002 was 157.5 cases per 100,000.[161]

***Reduce the rate of gonorrhea to 191 cases per 100,000 population***
In the past five years, Orange County has achieved this goal and in 2002 achieved the low rate of 77.1 per 100,000 cases of gonorrhea.[162]

***Reduce the number of new cases of primary and secondary syphilis to .25 cases per 100,000 population***
In the year 2002 the rates of primary, secondary and early latent syphilis combined in Orange County was 10.6 per 100,000.[163]

***Reduce the rate of HIV infection to 14.7 cases per 100,000 population***
Orange County has a low rate of HIV infection with a rate of 9.7 per 100,000 in 2002.[164]

**Impact**
According to Healthy Carolinians 2010, sexually transmitted infections (STI's) have a significant health and economic impact on the people of North Carolina especially the young. In NC, approximately 67 percent of gonorrhea and chlamydia cases occur in people ages 15-24. Confronting the growing STI problem requires health officials to establish an effective system for STI prevention that responds to the complex interaction between the biological and social factors that sustain STI transmission in populations.[165] It is estimated that there are 1 million new cases of genital herpes every

[160] NCDHHS, TB Control Branch, Annual Report 2002
[161] NC 2002 HIV/STD Surveillance Report, DHHS, HIV/STD Prevention and Care Branch, Epidemiology Section, Division of Public Health
[162] Ibid
[163] Ibid
[164] Ibid
[165] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, report of the Governor's Task Force for Healthy Carolinians, pg 136

year in the US and that 45 million Americans are currently infected. In addition, there are 5.5 million new cases of Human Papilloma Virus each year and 20 million currently infected. Both of these viruses are untreatable and the result is that one out of every five American adults may be infected with genital herpes or Human Papilloma Virus[166].

STI's also pose considerable risk for unborn children and STI infection during pregnancy can result in stillbirth, birth defects, blindness and skin and eye infections. In the case of HIV, the disease may be passed to the baby of an infected mother if specific anti-viral medication is not taken during the pregnancy[167].

**Contributing Factors**
High-risk sexual behavior, sexual coercion, substance abuse, limited access to health care and poverty all contribute to the problem of STI's.

**Data**
While Orange County has a lower rate of STI's than many other counties in the state, it does remain a problem within our community. Because STI's tend to be much more prevalent in the 15-24 year old population, the presence of the University and its large number of young adults may influence the prevalence of STI cases in Orange County.

Table 6A shows the total number of STI cases reported in the past five years in the county and demonstrates the fact we still have a serious number of STI's occurring each year with 314 total cases in 2002.

| Disease | Case/rate | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|
| **Chlamydia** | OC Cases | 237 | 239 | 187 | 219 | 194 |
| | OC Rate | 206.6 | 206.1 | 157.5 | 181.1 | 157.5 |
| | NC Rate | 284.7 | 274.8 | 274.7 | 270.8 | 296.7 |
| **Gonorrhea** | OC Cases | 81 | 119 | 108 | 115 | 95 |
| | OC Rate | 70.6 | 102.6 | 90.9 | 95.1 | 77.1 |
| | NC Rate | 246.5 | 244.7 | 222.9 | 204.4 | 184.3 |
| **Syphilis** | OC Cases | 39 | 14 | 3 | 20 | 13 |
| | OC Rate | 34 | 12.1 | 2.5 | 16.5 | 10.6 |
| | NC Rate | 20.1 | 15.2 | 13.6 | 11.5 | 7.4 |
| **HIV & AIDS** | OC Cases | 16 | 11 | 18 | 13 | 12 |
| | OC Rate | 13.9 | 9.5 | 15.2 | 10.7 | 9.7 |
| | NC Rate | 19 | 19.5 | 18.2 | 19.7 | 20.3 |

Table 6A. Total number of reportable STI cases for Orange County 1998-2002 and Orange County rates per 100,000 compared with NC rates.[168]

[166] Tracking the Hidden Epidemics; Trends in STD's in the United States 2000, Centers for Disease Control and Prevention. Accessed on 11/10/03 at: http://www.cdc.gov/nchstp/dstd/Stats_Trends/Trends2000.pdf
[167] Ibid
[168] NC 2002 HIV/STD Surveillance Report, DHHS, HIV/STD Prevention and Care Branch, Epidemiology Section, Division of Public Health

Table 6A also illustrates that while our rates of chlamydia, gonorrhea and HIV are lower than the state rate, the rates do fluctuate up and down over time and the syphilis rate, while down from a high in 1998 of 34/100,000 population is still above the state average and cause for concern.

As of December 31, 2001 the HIV/STD Prevention and Care Branch reported that 236 HIV cases and 116 AIDS cases had been reported in Orange County since reporting began in 1983. They further estimated there to be 164 persons living in Orange County with HIV or AIDS at that point in time.[169] Compared with all 100 counties in the state, Orange County was ranked 48th based on the HIV infection rates.

**Disparities**

As mentioned earlier, adolescents bear the majority of the burden for chlamydia and gonorrhea infection. This may be due to the likelihood for more sexual risk taking and a larger number of sexual partners than people of older ages. In the case of chlamydia, 40-45% of all cases in 2000-2001 were in 15-19 year olds and another 46-50% of cases were found among 20-29 year olds. With gonorrhea, 27-33% of cases were in the 13-19 year old age group and 45-50% in 20-29 year olds[170]. With HIV infection, males who have sex with males are still the highest risk group among adolescents, and account for the greatest number of adolescent HIV infections.

African-Americans suffer disproportionately from HIV and AIDS and the trend continues to evolve. In North Carolina, the number of African-American heterosexual males with HIV has increased dramatically from only 3% of all HIV cases in the period from 1983-89, to 28% of the cases in 2000-2001. Among African-American females the trend is even more alarming jumping from 28% of infections in 1983-89 to 67% in 2000-2001, a number almost 7 times greater than any other female risk-group.[171]

Heterosexual African-Americans are now the leading risk group for HIV infection in North Carolina, a change from white homosexual men in the 1980's and then intravenous drug users in the early 1990's.

It is possible that reporting for STI infection is biased towards those who attend publicly funded STI clinics, as private providers who are required to report STI cases may not always comply. STI's are more common in disenfranchised populations and persons who participate in high-risk behaviors such as sex workers who exchange sex for money, drugs or other goods, adolescents, persons in detention and migrant workers. These same people often also have limited access to health services.

**Residents Concerns/Comments**

Residents did not often raise sexually transmitted diseases as a persistent health problem in our county. Those community leaders who mentioned it as a concern during

[169] 2003 HIV/STD Prevention and Community Planning, Epidemiologic Profile for North Carolina, Epidemiology and Special Studies Unit, HIV/STD Prevention and Care Branch, NCDPH-NCDHHS
[170] Ibid
[171] Ibid

interviews noted that HIV/AIDS has a particularly devastating impact on the segments of our population who are also confronting other health-related challenges such as mental illness, drug or alcohol addiction, or low socioeconomic status. One provider said *"HIV is definitely a problem in our community, even though we may not see it"*. Providers encouraged the development of initiatives that would build trusting, long-term relationships with groups of people facing those challenges, so that HIV/AIDS prevention and intervention programs could be carefully tailored to meet their unique needs. For example, providing services targeted towards a population with dual diagnoses, low literacy, and lack of reliable transportation would require a concentrated and highly tailored effort. Residents and providers also support additional opportunities to provide education about the spread of STI's among teens, because they feel that knowledge and prevention are the keys to preventing unhealthy behaviors in teens.

**Resources**

Free, confidential STI testing is available at the Orange County Health Department and SHAC clinics and low-cost and/or sliding fee scale, confidential STI testing is available at UNC Student Health Services, Planned Parenthood, and Piedmont Health Services.

The Orange County Health Department began a program in 2003 called "Project Courage" in which community members are trained as lay health advisors to educate residents about HIV/STI prevention, treatment and care. Free condom distribution sites have also been established in high-risk areas through local businesses such as barber and beauty shops.

Planned Parenthood has a program called "Teen Talk" which trains teens in the county to educate their peers and provide health resource information on a variety of health topics including STI prevention.

The Alliance of AIDS Services NC (ASANC) disperses federal and state funds to their clients living with HIV/AIDS in Orange County. ASANC also runs a residential program, provides information, counseling, and referral services for clients and their families, and connects clients to community resources such as food banks. The Alliance uses translators who work in offices in other counties to provide translation services to Spanish-speaking clients in Orange County; one of the reasons there is not a bilingual position here is that the agency does not have the funds to staff all of the positions it would like to.

**Gaps and Unmet Needs**

Due to the stigma connected with STI, people may not seek testing and appropriate treatment. In addition, women in particular may be asymptomatic and therefore not request testing, and private providers may not offer STI screening on a routine basis, all resulting in STI's which may go undiagnosed and untreated.

There remains a need within the community to educate adolescents about the risks and symptoms of STI's and to encourage young people to abstain from sexual activity, or limit sexual partners and use condoms to help prevent transmission of these serious

infections. Especially in light of the fact that there is currently no cure for many of the viral infections that cause STI's such as genital herpes, Human Papilloma Virus (HPV), Hepatitis C and HIV.

Service providers looking at the demographic trends in our community related to the number of people with HIV/AIDS have hypothesized that the low numbers of clients using public services targeted to those with HIV/AIDS represent the intersection of two trends. On the one hand, our community includes a number of people who have excellent health benefits and some financial resources; those clients likely use their private healthcare provider if they require medical treatment for HIV/AIDS. On the other hand, those community members who develop HIV/AIDS who do not have good health insurance or adequate financial assets may be forced by our county's relatively high costs of living to move outside the county in order to secure affordable housing and a lower cost of living. Service providers also noted, that while available medical services for HIV/AIDS patients may be world-renowned because of our proximity to large medical centers, we still have a great deal of unmet need in the population when it comes to social health concerns. For example, service providers note that people with HIV/AIDS would benefit from more local food pantries and opportunities for affordable housing that are close to reliable public transit.

**Emerging Issues**

There is significant concern within the HIV prevention community that the lessons of the 90's which resulted in a decrease of new HIV infections among men who have sex with men may now be lost to the new generation. An increasing number of new infections are occurring among young men who have sex with men. In addition the situation with African-Americans as well as Hispanics is one that merits an extra effort towards prevention in these communities where homosexual activity has long been stigmatized and therefore honest conversations about HIV prevention have not occurred. Now that the infection rate is increasing dramatically among the heterosexual population, perhaps the conversation can begin.

While Hepatitis B is now being controlled with greater effectiveness through the use of vaccines, new strains of Hepatitis are appearing and are currently untreatable.

Now that it has been discovered that HPV is a major cause of cervical cancer, new screening and treatments may result in lower numbers of cases of cervical cancer in women infected with HPV.

Vaccines against Herpes Simplex and Human Papilloma Virus are being developed, but may not be available to the general public for many years.

## D) Animal Disease Threats to Humans

### Healthy Carolinians Objective
***There are no objectives related to animal disease threats to humans***

### Impact
The main diseases of concern in this area are endemic wildlife rabies based in the raccoon population and Arboviruses, including West Nile, Lacrosse and Eastern Equine Encephalitis (EEE). New or foreign diseases, such as monkeypox, may continue to emerge. Existing diseases such as Rocky Mountain Spotted Fever, Lyme Disease, and Ehrlichiosis, continue to concern many who spend time outdoors. Tularemia cases could increase as people domesticate formerly wild rodents and lagomorphs. Finally, leptospirosis continues to be an issue for many people who work outdoors or with animals and for those who live or work in rodent-infested areas.

Rabies is a disease, caused by a virus, which can infect all mammals, including humans. It is transmitted through contact with the saliva or nervous tissue of an infectious animal, almost always through a bite. If an exposed person is not treated soon after the exposure, the virus may infect the person, and thereby result in death. Rabies is always fatal to animals and people once signs of disease appear. However, treatment by a doctor soon after exposure, including a series of post-exposure rabies vaccinations, will prevent development of the disease. In recent years, there has been a significant increase in the number of animals found to have rabies in North Carolina, as the Eastern Raccoon Rabies Epidemic swept through the state and became endemic.[172]

### Contributing Factors
Lack of rabies immunization of domestic pet dogs and cats, along with the continued existence of large populations of unvaccinated stray dogs and feral cats, are the main threats of spread of disease. Secondly, the encroachment of human populations into areas of wild animal population has led to an increase in the frequency of encounters between human and wildlife, with some of this wildlife, mostly raccoons, but also fox and skunks, carrying rabies. To help protect people against rabies, vaccination of dogs and cats is required by law in North Carolina. Any mammal can carry rabies and spread the disease to humans and domesticated animals. The best way to avoid rabies is to stay away from animals that appear sick or act oddly, and to avoid contact with strange animals and wildlife.

Standing water that leads to the development of mosquito populations is the main source of West Nile. People who are outdoors during the dawn and dusk hours are more likely to be bitten then than at other times of day. Failure to protect exposed skin either through the use of DEET mosquito spray and/or long sleeve shirts and long pants increases one's chance of exposure. Age (over 55) and a compromised immune system also increase the risk that exposure will lead to disease.

[172] NC DPH, DHHS Epidemiology Branch website, http://www.epi.state.nc.us/epi/rabies.html

Poor zoning and environmental regulations and/or enforcement can lead to the conditions conducive to rodent infestation and its accompanying risks including leptospirosis.

Failure to implement local and state regulations restricting the importation, sale and possession of exotic animals can also allow emerging and foreign zoonotic diseases to insinuate themselves into the local animal and human population.

**Data**

The number of rabies cases reported in animals between January and June 2002 was 15, a number that included one bat, one fox and 13 raccoons. In the five years between 1996 and 2000, 188 cases of rabies were reported in Orange County with the peak year being 1997 when 106 cases were identified with the majority of cases (92) in raccoons, an additional 10 cases in skunks, and the remaining 4 cases in a mix of other animals. From July 2002 to June 2003, Orange County reported 13 confirmed case of animal rabies, including one domestic animal.[173]

In 2003, two birds, of nine submitted, tested positive for West Nile Virus[174].

**Disparities**

Traditionally there have been disparities in the relative rabies vaccination rate for dogs and cats among different communities within the county. It has been assumed, and to some extent observed, that these disparities relate to income and educational factors. There has been a consistent, long-term effort to address these disparities by holding frequent low-cost rabies vaccination clinics at locations convenient to the lower income pet-owning population.

It is also considered a reality that there are more (unvaccinated) stray and feral dogs and cats in poorer neighborhoods and rural areas than elsewhere. While this may still be true, Animal Control has attempted to avail its services to every social, cultural, educational and economic group, and to every corner of the county by maintaining a high profile and by offering animal pickup services free of charge.

**Residents Concerns/Comments**

Residents in the Northern part of the county noted that poor enforcement of livestock containment policies meant that they sometimes saw livestock loose in the county, and residents wondered about whether this was hazardous for animals or people. People in the more rural parts of the county also observed that dogs are often allowed to run loose, and wondered about the threat of canine-borne illnesses to livestock and humans.

[173] NC DPH, DHHS Epidemiology Branch. Rabies in North Carolina, confirmed rabies cases. Accessed on 10/22/03 at: http://www.epi.state.nc.us/epi/rabies/2002.html

[174] Personal Communication, John Sauls, Animal Control Division Director, OCHD 11/20/03

**Resources**
Resources may well be adequate for meeting the problems discussed provided existing regulations can be enforced and new regulations are implemented where indicated.

**Gaps/Unmet Needs/Emerging issues**
No additional gaps, unmet needs or emerging issues could be named related to animal disease threats to humans.

## Chapter 7. Injuries

This chapter covers all injury-related health issues, from unintentional injuries caused by motor vehicle crashes and other things like falls and accidents, to intentional injuries including sexual assault, child abuse, domestic violence, suicide and homicide. The rate of unintentional injuries other than motor vehicle crashes is high for Orange County and should be addressed.

The intentional injuries are of special concern to health professionals as they are pervasive in the community and can be prevented. The solutions for intentional injuries are complex and require the involvement of the mental health system, law enforcement, social services agencies, health care providers, faith communities and community members in order to alleviate these types of injuries.

### This chapter includes the following sections:

**A) Unintentional Injury**

**B) Intimate Partner Violence**

**C) Sexual Assault**

**D) Child Abuse and Neglect**

**E) Suicide and Homicide**

## A) Unintentional Injury

**Healthy Carolinians Objectives for unintentional injury:**

***Reduce deaths caused by motor vehicle crashes to 15.8 deaths per 100,000 population***
In Orange County, from 1999 to 2001, 14.8 deaths per 100,000 population were caused by motor vehicle crashes.[175]

***Reduce nonfatal injuries caused by motor vehicle crashes to 15.6 nonfatal injuries per 1000 population***
In Orange County in 2002, there were 1,304 nonfatal injuries caused by motor vehicle crashes, with a three-year average from 2000 to 2002 of 11.26 injuries per 1000 population.[176]

***Reduce nonfatal alcohol-related motor vehicle crashes to 1.05 nonfatal alcohol-related crashes per 1000 population***
Between 1998-2002, 7.9% of nonfatal motor vehicle crashes were alcohol related.[177]

***Reduce fatal alcohol-related motor vehicle crashes to 0.045 fatal alcohol-related crashes per 1000 population***
Between 1998-2002, 26.5% of fatal motor vehicle crashes were alcohol related.[178]

***Increase use of safety belts to 92 percent***
In 2002, 89.2% of Orange County adults reported always using a seatbelt.[179]

Healthy Carolinians 2010 does not outline objectives regarding other causes of unintentional injuries.

**Impact**
From 1999 to 2001, 10,061 people in the state of North Carolina died from unintentional injuries. Motor vehicle collisions (MVCs) are the leading cause of injury-related death, causing 4,767 deaths in North Carolina over the same time period.[180] When one considers all ages, other unintentional injuries and motor vehicle related injuries were the seventh and eighth leading causes of death in the state for the three year period from 1999-2001. The statistics, however, are even more striking for the young: non-MVC-related unintentional injuries are the leading cause of death for one to four year

[175] North Carolina State Center for Health Statistics. 2003 County Health Data Book. http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc Accessed October 22, 2003.
[176] NC Department of Transportation Division of Motor Vehicles. 2002 North Carolina Traffic Crash Facts. Raleigh: DMV-Traffic Records Section, 2003.
[177] Ibid
[178] Ibid
[179] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed October 22, 2003.
[180] Healthy Carolinians 2010

olds in the state and motor vehicle injuries are the leading cause of death for 15 to 24 year olds.[181] Because injury is a leading cause of death in the young, it has the potential to cause a greater number of years of life lost than many other prevalent causes of mortality.

Death due to injury reflects only part of a larger problem; there is also significant morbidity caused by injury. For children and adults under age 34, motor vehicle crashes are a leading cause of nonfatal injury, contributing to life-long disability from spinal cord injury, traumatic brain injury, and other injuries.[182]

**Contributing Factors**

Many highway fatalities and other injuries are related to alcohol and other drug use. In North Carolina in 1998, 29.4% of deaths caused by motor vehicle crashes were alcohol-related. Many policy interventions have been instituted. For example, laws regarding seat belt and child safety seat use, graduated drivers licensing, and maximum blood alcohol levels, that can help prevent motor vehicle related injuries and deaths, are in place. In addition, features of vehicle and highway design can enhance auto safety. Advances in these fields have contributed to a decline in motor vehicle related deaths over the last 30 years.[183]

**Data**

In Orange County from 1999 to 2001, 53 deaths were caused by motor vehicle crashes, for a rate of 14.8 deaths per 100,000 population.[184] There were 1,304 non-fatal injuries caused by motor vehicle collisions in 2002. The three-year average rate of non-fatal injuries caused by motor vehicle collisions from 2000 to 2002 was 11.26 per 1,000 people. From 1998 to 2002, 5.3% of motor vehicle crashes were alcohol related, including 26.5% of fatal crashes and 7.9% of crashes that involved a non-fatal injury.[185]

From 1999 to 2001, 85 deaths due to non-MVC related unintentional injuries occurred, for a rate of 29.8 per 100,000 population.[186] In 2001, the most common causes of non-MVC injury mortality were falls and accidental poisoning.[187]

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[181] North Carolina State Center for Health Statistics. NC Vital Statistics Volume 2: Leading causes of death –2001. http://www.schs.state.nc.us/SCHS/healthstats/deaths/lcd2001/pdf/TblsA-F.pdf Accessed October 22, 2003.

[182] Healthy Carolinians 2010. Motor Vehicle Injury. http://www.healthycarolinians.org/2010objs/motorveh.htm. Accessed October 22, 2003.

[183] Ibid

[184] North Carolina State Center for Health Statistics. 2003 County Health Data Book. http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc Accessed October 22, 2003

[185] NC Department of Transportation Division of Motor Vehicles. 2002 North Carolina Traffic Crash Facts. Raleigh: DMV-Traffic Records Section, 2003.

[186] North Carolina State Center for Health Statistics. 2003 County Health Data Book. http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc Accessed October 22, 2003

[187] NC State Center for Health Statistics. Detailed Mortality Statistics 2001. http://www.schs.state.nc.us/SCHS/healthstats/deaths/dms/dms2001/orange.pdf. Accessed October 22, 2003.

The 2002 Behavioral Risk Factor Surveillance Survey asked Orange County residents about health behaviors that could affect injury-related morbidity and mortality. When asked about driving after consuming alcohol, 1.9% of respondents (95%CI 0.8-4.6) reported driving at least once in the last 30 days when they had had too much to drink, a percentage not significantly different from the state rate. A large majority of Orange County residents surveyed (89.2%) reported always wearing a seatbelt when they drove a car, a rate comparable to the state average.[188]

Youth who completed the Youth Risk Behavior Survey (YRBS) in 2001 in Orange County reported the information shown in Table 7A below related to seat belt and bike helmet use.

| **Question** | **CHCCS** | | **OCS** | |
|---|---|---|---|---|
| How often do you wear a seatbelt? | **MS** | **HS** | **MS** | **HS** |
| Always wore a seatbelt | 58.9% | 68.8% | 43% | 45% |
| Most times wore a seatbelt | 26.4 | 20 | 33 | 29 |
| Rode a bike in the past 12 months? | 85.4 | 65.6 | 80 | 74 |
| Always wore a helmet | 27.7 | 18.4 | 5 | 5 |
| Most times wore a helmet | 21.5 | 9.6 | 6 | 3 |
| Rarely or never wore a helmet | 30 | 33.6 | 63 | 61 |

Table 7A. Youth Risk Behavior Survey responses to questions about seatbelt and bike helmet use[189].

The same survey (YRBS) also asked youth about riding with drivers who had been drinking. Twenty-three percent of CHCCS middle school students said they had ever ridden with a driver that had been drinking and 32% of OCS middle school students reported the same. High school students were asked how many times they had ridden with a driver that had been drinking in the past 30 days. Almost 20% of CHCCS students said they had ridden in a car with a drinking driver one or more times in the past 30 days and 31% of OCS students answered the same. When asked if they had driven after drinking one or more times in the past 30 days, 11% of CHCCS students answered yes and 15% of OCS students answered yes to this question[190].

**Disparities**

In Orange County, mortality due to motor vehicle injuries disproportionately affects males and non-white races. For males, the mortality rate due to motor vehicle injuries was over twice that for females from 1999 to 2001 (Table 7B). In Orange County, the motor vehicle related mortality rate for minorities was over twice that for whites (Table 7B). This represents a much greater racial disparity than exists in North Carolina as a whole: at the state level, mortality rates due to motor vehicle injuries are roughly the same for white and non-white races. Males are also more likely than females to die

[188] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed October 22, 2003.
[189] Youth Risk Behavior Survey 2000-2001 CHCCS and OCS, internal data shared in personal communication from Donna Williams and Susan Spalt, Oct 2002
[190] Ibid

from other unintentional injuries, but other injury related mortality is comparable between races.

| | Motor Vehicle Injuries | | Other Unintentional Injuries | |
|---|---|---|---|---|
| | Number | Rate* | Number | Rate* |
| Total | 53 | 14.8 | 85 | 29.8 |
| Race | | | | |
| White | 36 | 12.3 | 71 | 30.1 |
| Other races | 17 | 25.3 | 14 | 28.1 |
| Sex | | | | |
| Male | 35 | 22.7 | 46 | 36.4 |
| Female | 18 | 9.1 | 39 | 24.4 |

Table 7B: Injury-related mortality in Orange County, 1999-2001 (age-adjusted)[191]
*Rate per 100,000 population

According to BRFSS data, men, whites, adults between ages 18 and 44, and persons with incomes less that $50,000 were most likely to drive after drinking alcohol. Women, whites, adults between ages 18 and 44, and individuals with a college education or an income greater than $50,000 were most likely to always wear seatbelts when driving, although none of these differences reached statistical significance.[192]

The data presented above from the YRBS suggests that OCS students are less likely to wear seat belts or bicycle helmets than CHCCS students and also more likely to have ridden with a driver that has been drinking or drive themselves after drinking.

**Residents' Concerns**

In focus groups, Orange County residents expressed concern over accidents related to automobiles. In particular, they worry that, although they would like to walk and bicycle more to improve their health and the health of the environment, they may be putting themselves at risk by traveling on roads with a high volume of vehicle traffic. Residents advocated for more walking trails and bike lanes to be included in our planning process, so that outdoor activity does not entail a risk of vehicular injury.

Our fire and emergency management services offer a number of programs that are preventive in nature, such as the "Welcome to the World" program for infant safety at home, and comprehensive home safety inspections for all residents – but particularly those who are more home-bound. The departments note that these preventive programs are little known and under-utilized, partly because they have not determined the most effective way to advertise the programs to the residents who need them most.

[191] North Carolina State Center for Health Statistics. 2003 County Health Data Book. http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc Accessed October 22, 2003.
[192] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed October 22, 2003.

**Resources**
Orange County has several initiatives to address motor vehicle and other injury issues including the Safe Communities Coalition headed by UNC Hospitals. The Safe Communities Coalition and Orange County Health Department conduct car seat clinics and car seat safety checks on a routine basis around the county. Safe Communities also provides RISK WATCH, an injury prevention school based curriculum in the 2nd grade classes in 2 Orange County schools and all 9 Chapel Hill Carrboro elementary schools. They offer a Driver's Improvement Program in English and Spanish that is based on court referrals. For drinking and driving, Safe Communities has had campaigns in December at local high schools called "Don't Be a Dum Dum Don't Drink and Drive" where they pass out information on drinking and driving with Dum dum lollipops and MADD red ribbons. Also UNC AIR CARE and UNC Trauma Program sponsor "Let's Not Meet By Accident" a mock accident at local high schools, students also visit the ED, trauma bay at UNC, and attend a talk given by law enforcement.

The UNC Injury Prevention Research Center (IPRC) is also a valuable resource in our community in providing research addressing the causes and prevention of injury in the community.

The *Remembering When* Curriculum, which focuses on fire and fall prevention for older adults, has been offered by the Cooperative Extension, Department on Aging and the OCHD.

**Gaps and Unmet Needs**
Although Orange County is meeting Healthy Carolinians 2010 targets for deaths due to motor vehicle crashes, there are still a significant number of highway fatalities and injuries in the state, all of which theoretically should be preventable. Most concerning is racial disparity in motor vehicle related deaths, the disproportionately higher mortality for nonwhite residents of Orange County. The reason for this disparity is unclear, but it points to the need for motor vehicle safety outreach efforts among minority residents of Orange County.

In addition, there is still significant mortality due to non-traffic related injuries. An analysis of the detailed mortality statistics could help set priorities for injury prevention programs.

Data gathered from the YRBS would suggest a need for increased education about injury prevention, seat belt and bike helmet use and not driving after drinking alcohol in the both the County's school systems.

**Emerging Issues**
In recycling used car seats for children, providers and the community need to be sure that safety features are intact.

## B) Intimate Partner Violence

*"The Family Violence Prevention Center saved my life."*

- FVPC Client

**Healthy Carolinians Objectives related to intimate partner violence:**
***Reduce the rate of physical abuse by current or former intimate partners.***
Developmental Objective, baseline data to be collected in 2001.

***Increase the number of victims of intimate partner violence seeking and receiving services.***
NC Target: 49,336 victims of intimate partner abuse will receive services.
Baseline: In North Carolina between July 1998 and June 1999, 39,469 victims of intimate partner abuse received services from Battered Women Shelters.
In Orange County between July 2002 and June 2003, direct services were provided to 630 women at the Family Violence Prevention Center[193]

**Impact**
Intimate partner violence can be defined as, "aggressive or controlling behavior by a person toward a partner in order to have power over that person's actions".[194] The term encompasses physical, emotional, and sexual abuse occurring in an intimate relationship, whether with a current or former girlfriend or boyfriend, spouse, or ex-spouse. Intimate partner violence is a pervasive problem in the United States: national estimates suggest that between 9 and 30% of women and between 13 and 16% of men are physically assaulted by an intimate partner at some time in their lives.[195]

Healthy Carolinians 2010 reports that North Carolina magistrates handle about 200,000 cases of domestic violence each year; that is about one case for every 13.5 adult women in the state. Nationally, 37 percent of the females seen in hospital emergency departments for violence-related injuries were there for injuries inflicted by spouses, ex-spouses, or non-marital partners. Nearly one-half the female homicide victims were murdered by a husband, ex-husband, or boyfriend. A North Carolina study of femicide found that more than half the women studied were killed by current or former intimate partners and at least two-thirds of those deaths were preceded by domestic violence.[196] In addition to increased risk of injury or homicide, women in violent relationships are at increased risk for depression, post-traumatic stress disorder, substance abuse, and worse overall health status.[197]

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[193] Personal communication, Amy Holloway, director, Family Violence Prevention Center, October 28, 2003
[194] Healthy Carolinians 2010. Sexual Assault & Intimate Partner Violence. http://www.healthycarolinians.org/2010objs/sexassault.htm. Accessed October 22, 2003.
[195] Tjaden P, Thoennes N. Extent, Nature, and Consequences of Intimate Partner Violence: findings from the National Violence Against Women Survey. Washington, DC: US Department of Justice, 2000.
[196] Healthy Carolinians 2010, Sexual Assault-Intimate Partner Violence, pg 148
[197] Campbell JC, Health consequences of intimate partner violence. Lancet 2002; 359:1331-36.).

Participants in Orange County focus groups who were victims or survivors of intimate partner violence portrayed how violence had an impact on every aspect of their lives. Either while they were in a violent relationship or after leaving it, victims faced many barriers in their lives. While in violent relationships, many aspects of their lives were controlled, either directly or because of fear, by their abusers. Once they left violent relationships, they found that access to many services was limited because they had lost a home, insurance benefits, a car, a job, or other critical resources.

**Contributing Factors**

Drug and alcohol abuse increases the risk of intimate partner violence.[198] In addition, witnessing family violence as a child increases one's chances of being both a victim and perpetrator of intimate partner violence later in life, and being abused as a child is associated with increased likelihood of being abused in the context of an intimate relationship as an adult. Unmarried couples are more likely to experience intimate partner violence than married ones.[199]

**Orange County Data**

| | Within the past 12 months. | Greater than 12 months ago |
|---|---|---|
| Physical assault | | |
| Total | 2.5% | 7.7% |
| Women | 3.9% | 8.4% |
| Men | 0.8% | 6.9% |
| Sexual assault | | |
| Total | 0.9% | 1.6% |
| Women | 1.7% | 2.8% |
| Men | 0.0% | 0.3% |

Table 7C – Physical and Sexual Assault by an Intimate Partner, Orange County Residents' Responses to 2002 BRFSS[200]

The 2002 Behavioral Risk Factor Surveillance Survey asked Orange County respondents whether they had been physically or sexually assaulted by a partner or ex-partner. Results (Table 7C). showed that 12.3% of women and 7.7% of men had been physically assaulted; 4.5% of women and 0.3% of men had been sexually assaulted Rates of physical and sexual assault by an intimate partner in Orange County are comparable to state averages.[201]

In the fiscal year from June 2002 to July 2003, the Family Violence Prevention Center in Orange County provided 3744 services to 630 women. Services provided included

[198] Healthy Carolinians 2010, Sexual Assault-Intimate Partner Violence, pg 148
[199] Tjaden P, Thoennes N. Extent, Nature, and Consequences of Intimate Partner Violence: findings from the National Violence Against Women Survey. Washington, DC: US Department of Justice, 2000.
[200] Ibid
[201] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed October 22, 2003

crisis line counseling, group counseling, case management, referrals, court advocacy, emergency financial assistance, placement, and shelter[202]

**Disparities**

National data suggest that women are more likely than men to be victims of intimate partner violence and that intimate partner violence against women is more lethal than that against men.[203] In addition, low income women, minorities, women with lower levels of educational attainment, and persons with disabilities are more likely to experience intimate partner violence.[204] Evidence regarding Latina women's risk for intimate partner violence relative to non-Latina women has been conflicting.[205,206,207] Orange County BRFSS data from 2002 failed to detect a statistically significant difference in rates of intimate partner physical or sexual assault based on race, age, educational attainment, or household income,[208] probably because of the small numbers in the sample size.

Service providers in Orange County whose work includes victims of intimate partner violence pointed out that geographic disparities exist with regard to access to community resources for victims or survivors of intimate partner violence. For example, Orange County Rape Crisis and the Family Violence Prevention Center (FVPC) both attempt to serve all of Orange County, yet FVPC only has a Chapel Hill office which makes them hard to access for those without reliable transportation. This presents a particular hardship for victims of intimate partner violence, since perpetrators often use social isolation and control of resources like the family's money or car, as a part of their abuse.

**Residents' Concerns**

In focus group interviews, Orange County residents who had survived intimate partner violence stressed the importance of continuing to support services provided by the Family Violence Prevention Center (FVPC). They also expressed concern that, while FVPC can do a lot to help victims, those who are already facing barriers of poverty or language may still face significant difficulties accessing services if they leave a violent relationship. These barriers cause some victims to stay in violent relationships, and they contribute to the anxiety and shame that many victims who do leave struggle with on a daily basis. Residents are hopeful that by increasing awareness and prevention

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[202] Personal communication, Amy Holloway, director, Family Violence Prevention Center, October 28, 2003

[203] Healthy Carolinians 2010, Sexual Assault-Intimate Partner Violence, pg 148

[204] Ibid

[205] Caetano R,Cunradi CB, Clark CL, Schafer J. Intimate partner violence and drinking patterns among white, black and Hispanic couples in the US. J Subst Abuse 2000;11:123-38.

[206]Lown EA, Vega WA. Prevalence and predictors of physical partner abuse among Mexican American women. Am J Public Health 2001; 91:441-5.

[207] Bauer HM, Rodriguez MA, Perez-Stable EJ. Prevalence and determinants of intimate partner abuse among public hospital primary care patients. J Gen Intern Med 2000;11:811-7.

[208] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed October 22, 2003

programs, continuing to expand FVPC's services, and enhancing services related to housing, child-care, employment, and other basic needs, we may be able to more effectively fight family violence in our county.

**Resources**
The Family Violence Prevention Center, Orange County Rape Crisis Center, and the Chapel Hill police crisis unit all provide both intervention services and prevention at a community level, such as offering education to local schools, agencies, and other service providers. The Beacon Program provides advocacy, counseling, case management, referrals to community agencies and health care providers, support, and medical evaluations for patients of UNC Healthcare who are experiencing intimate partner violence. Kiran, located in Chapel Hill, provides crisis counseling services for South Asian women across North Carolina who are experiencing intimate partner violence.

**Gaps and Unmet Needs**
Because availability of transportation may be a significant barrier for individuals experiencing intimate partner violence, there appears to be a need to increase accessibility of services for residents of northern Orange County. Residents and providers also expressed a wish that Orange County had a shelter for victims of domestic violence. Although the Family Violence Prevention Center has a good working relationship with shelters in other counties, it would serve Orange County residents better to have a shelter located in the county.

**Emerging Issues**
Long-term prevention strategies such as bullying programs in schools, character education, and reduction in media violence are needed to change these statistics.

## C) Sexual Assault

> *" Sexual assault is a* health *issue…people are not comfortable talking about it, but a lot of health issues are often related to sexual assault" - Service Provider*

**Healthy Carolinians Objectives related to sexual assault:**

***Reduce sexual assault.***
Developmental Objective: baseline data to be collected in 2001.

***Increase the number of sexual assault victims seeking and receiving services.***
NC Target: 6,793 victims of sexual assault will receive services.
Baseline: In North Carolina between July 1998-June 1999, 5,434 victims of sexual assault received services from Rape Crisis Centers.
From July 2002 to June 2003, the Orange County Rape Crisis Center provided services to 378 victims of sexual assault[209]

[209] Personal Communication, Margaret Barrett, Orange County Rape Crisis Center, October 22, 2003

**Impact**
Sexual assault can be defined as, "any unwanted sexual contact or attention achieved by force, threat, bribe, manipulation, pressure, trickery, or violence".[210] Healthy Carolinians 2010 reports that sexual assault may be physical or non-physical and includes rape and attempted rape, child molestation and incest, and sexual harassment. Acquaintances, friends, or relatives commit sexual assault more often than strangers.

Sexual assault is a widespread problem that affects mainly women. About one in eight women (14.8 percent) report being victims of forcible rape sometime in their lifetime, resulting in 12.1 million victims in the United States. Rape and sexual assault affect the victim's mental and physical well being for years beyond the occurrence. Mental health consequences for victims of sexual assault include increased risk of depression, sexual dysfunction, posttraumatic stress disorder, anxiety, suicide, substance abuse, and relationship problems. According to the 1997 Behavioral Risk Factor Surveillance System, 18.5 percent of adult women in North Carolina have been sexually assaulted at least once in their lives, and 73 percent of these were forced into sexual intercourse. About 6.2 percent of adult men have been sexually assaulted, and about 39 percent of these were raped.[211]

**Contributing Factors**
Alcohol and other substance abuse often contribute to sexual assault. Other contributing factors include traditional sex role beliefs that support assault, social norms that support male domination of women, and a cultural acceptance of violence.[212]

**Data**
Behavioral Risk Factor Surveillance Survey Data from 2002 suggests that 5.4% of Orange County residents report having been sexually assaulted in their lifetime, including 7.1% of women and 3.4% of men. More respondents had been sexually assaulted by someone they knew than by a stranger ( See Table 7D, next page). Rates of sexual assault in Orange County were comparable to those of North Carolina as a whole.[213]

According to the State Bureau of Investigation, there were 14 rapes reported by law enforcement in Orange County in 2002[214]. Despite this low number, the Orange County Rape Crisis Center provided direct services to 378 victims of sexual assault in the fiscal year from July 2002 to June 2003. In addition, the Rape Crisis Center provided community education related to sexual assault to 9,326 individuals over the same time period.[215]

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[210] Healthy Carolinians 2010, Sexual Assault-Intimate Partner Violence, pg 148
[211] Ibid
[212] Ibid
[213] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed October 22, 2003
[214] NC Department of Justice, State Bureau of Investigation
[215] Personal Communication, Margaret Barrett, Orange County Rape Crisis Center, October 22, 2003

| | In the past 12 months | More than 12 months ago |
|---|---|---|
| Assault by a stranger | | |
| Total | 0.4% | 0.7% |
| Men | 0.0% | 0.6% |
| Women | 0.8% | 0.9% |
| Assault by a known assailant (not an intimate partner) | | |
| Total | 0.7% | 2.2% |
| Men | 0.0% | 2.5% |
| Women | 1.3% | 2.0% |

Table 7D – Orange County Residents' Sexual Assault Victimization, Not Including Assault by an Intimate Partner, 2002 BRFSS[216]

**Disparities**

Women are much more likely than men to be victims of sexual assault: about 90 percent of victims of sexual assault are female. In addition, adolescents and young adults are more likely to be sexually assaulted: one national study found that 54% of all sexual assault victims were assaulted between age 11 and 24.[217]

Orange County 2002 BRFSS data suggest that whites, individuals ages 18 to 44, and those with some college education are more likely to report having been sexually assaulted, although none of these differences are statistically significant, due to small numbers of respondents in each category.[218]

**Residents' Concerns**

There was some concern raised by service providers who work with young women that not all of our neighborhoods and communities feel safe for them. However, residents who were not service providers did not raise concerns about sexual assault that were separate from domestic violence, even though these are two quite different issues.

**Resources**

The Orange County Rape Crisis Center, with offices in both Chapel Hill and Hillsborough, offers a 24-hour crisis hotline, support groups for survivors of sexual assault, and community education programs for schools, churches, businesses and other interested groups. They also offer "companion" services to patients who receive care in the UNC ED following a sexual assault. These services ensure that victims are accompanied at all times by someone who is trained as an advocate for survivor's needs. The center has interpreter services available 24 hours for Spanish-speaking clients who call the crisis hotline. The Rape Crisis Center coordinates a county-wide Sexual Assault Response Team that works to bring consistency to the way that sexual assault cases are handled throughout the seven law enforcement jurisdictions of Orange County. In addition to providing immediate response to sexual assault survivors in crisis, the Rape Crisis Center also conducts longer-term support groups. One of the

[216] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed October 22, 2003
[217] Healthy Carolinians 2010, Sexual Assault-Intimate Partner Violence, pg 148
[218] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed October 22, 2003

most consistently utilized support groups is the group for adult survivors of incest and child sexual abuse.

**Gaps/Unmet Needs**
Although the Orange County Rape Crisis Center provides support for sexual assault survivors through its 24-hour crisis line, it requires community volunteers to ensure that this service is affordable. Because of this, there is a need to make the community more aware of this volunteer opportunity, which offers a way to contribute directly to stopping sexual violence and its impact.

**Emerging Issues**
The continuing development of the new Sexual Assault Response Team is an important step to improving the support available to sexual assault survivors, particularly those who choose to report their case to law enforcement. By improving the systems of support, the Team hopes to increase reporting rates and to hold offenders accountable more frequently. Men also need to be a part of the solution to sexual assault and become involved in programs like those offered through the Rape Crisis Center to help educate and advocate for this issue.

## D) Child Abuse and Neglect

**Healthy Carolinians Objectives:**
***Reduce the rate of repeat substantiated maltreatment (abuse and neglect) of children.***
*Developmental Objective: baseline data to be collected and analyzed in 2001.*

In Orange County for the fiscal year 2002-2003, there were 958 reports of child abuse and neglect involving 1,913 children. Of those, 35% were substantiated[219].

**Impact**
Reports of child abuse and neglect have been increasing in both North Carolina as a whole[220] and Orange County[221] over the last decade. The social and economic consequences of child abuse and neglect are many. Healthy Carolinians 2010 reports that the costs of child abuse and neglect intervention and treatment are $10,000/year/child, plus court costs to investigate a case resulting in foster care. Child abuse often leads to juvenile delinquency and/or mental illness. It costs $50,000/year to detain a young person in a public training school facility and $80,000/year to maintain a seriously troubled child in a residential treatment center.

Effects of child abuse and neglect last over a lifetime and are often passed on to the next generation. One-third of abused children grow up to continue the pattern of seriously inept, neglectful, or abusive parenting. A forty-year study of abused and

[219] Personal Communication, Denise Shaffer, Orange County DSS, CPS Services Director, 11/14/03
[220] Healthy Carolinians 2010. Child Abuse. Pg 141 http://www.healthycarolinians.org/2010objs/abusechild.htm. Accessed October 22, 2003.
[221] North Carolina Child Advocacy Institute. http://www.ncchild.org/CI/Orange.pdf. Accessed October 22, 2003.

neglected children found that half of these children had been convicted of serious crimes, were mentally ill, had substance abuse problems, or died at an early age. Child abuse increases an individual's chances of delinquency and adult criminality (including violent crimes) by over 40 percent.[222]

**Contributing Factors**

Healthy Carolinians 2010 reports that men who abuse their partners may also abuse their children. Abused women are more likely to abuse their children than non-abused women. Children living in homes where there are economic hardships, lack of employment, poverty, discrimination, and lack of education are at risk for abuse and/or neglect. Children who are disabled and developmentally challenged have a higher incidence of abuse and neglect. Studies suggest that younger children, girls, premature infants, and children with more irritable temperaments are more vulnerable to abuse and neglect. Also, children who are medically fragile are at risk. Child maltreatment is three times as likely in alcohol abusing families compared with non-alcohol abusing families. Children from families with annual incomes below $15,000, as compared to children from families with annual incomes above $30,000 per year, were over 22 times more likely to experience some form of maltreatment.[223]

**Data**

In 2001-2002, Orange County had 1,421 unduplicated reports of child abuse or neglect, 414 of which were substantiated. This reflects a rate of 56.28 investigations per 1,000 children. Orange County's rate is much higher than the state average of 16.15 investigations per 1,000 children, and Orange is ranked 51st among the 100 counties in the number of child abuse investigations per 1,000 children[224]. Reports of child abuse and neglect have increased over the last four years, with a 51.1% increase in total reports and a 27.6% increase in substantiated reports.[225] One cannot determine from these data whether there was a true increase in child abuse and neglect over that time period or simply an increase in reporting due to increasing community awareness or other factors. One factor that has impacted child abuse reporting is a change in laws related to domestic violence. If children are present in the home during a domestic violence incident, and law enforcement is called, the officer is now required to make a Child Protective Services report.

**Disparities**

Although detailed demographic data on children who are abused in Orange County are not available at this time, national studies suggest that younger children, girls, premature infants, children with physical or developmental disabilities, children who live in low income households, and children in families affected by substance abuse or

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[222] Healthy Carolinians 2010, Child Abuse, pg 141
[223] Ibid
[224] NC County Statistics for CPS Investigative Assessments based on county child population, 2001-2002 Accessed on 11/16/03 at: http://www.dhhs.state.nc.us/dss/childrensservices/stats/programstatistics.htm
[225] North Carolina Child Advocacy Institute. http://www.ncchild.org/CI/Orange.pdf. Accessed October 22, 2003.

intimate partner violence are more likely than others to be abused.[226] See also contributing factors section above.

**Residents' Concerns**

Most residents and service providers interviewed did not raise child abuse and neglect as a problem in our county. However, those service providers who work with children who are abusing substances, getting into trouble with the law, or at risk of dropping out of school noted that these same children are often unidentified subjects of child abuse or neglect. Therefore, continuing to strengthen the services available for child abuse prevention and early intervention will likely reduce some of its long-term effects on children, families, and our community.

**Resources**

The Hillsborough Exchange Club provides community education services regarding child abuse and neglect, including presentations to schools, civic organizations, businesses and places of worship and community awareness campaigns covering topics such as shaken baby syndrome and fetal alcohol syndrome. The Orange County Rape Crisis Center conducts programs in nearly every public Kindergarten through 4th grade class in the County, along with many middle school and high school classrooms; these programs, focused on personal safety, lead to many disclosures of possible sexual as well as other forms of abuse. To a lesser extent, the Family Violence Prevention Center of Orange County, located in Chapel Hill, provides community education as well. Prevention services are offered by a number of organizations. The Hillsborough Exchange Club, OPC Mental Health Kidscope program, the Cooperative Extension program, and the Orange County Department of Social Services offer parenting classes for parents who have been or are at risk of becoming abusive or neglectful. The Exchange Club also offers a home-visiting parent aide program to help parents adjust to the stress and challenges of becoming a new parent, and the Orange County Health Department offers Child Service Coordination services for families with children at risk for developmental delays and Intensive Home Visiting for first-time parents with factors that place them at high-risk for child abuse. The Orange County Prison also offers parent education programs to incarcerated parents, which have received positive evaluations from prisoners. If a child has been physically or sexually abused they are examined through the Child Medical Exam (CME) program.

**Gaps and Unmet Needs**

One service provider, who works with physicians across the state on issues related to child abuse, noted that there is an increase in the number of Latino families being referred for services. Agencies are attempting to increase their language ability and cultural competence, yet they need more financial resources to be able to fully meet the needs of a diverse client population. Given that the number of Latino residents in this community is continuing to increase, the gap between the need for and the availability of services provided in a culturally competent manner will continue to widen unless resources are committed to increasing the linguistic and cultural competencies of service agencies.

[226] Healthy Carolinians 2010, Child Abuse, pg 141

There is currently no way to pay for medical exams for non-DSS involved cases of children who may need a medical exam to document injuries.

**Emerging Issues**
Orange County DSS will be implementing the Multiple Response System (MRS) in fiscal year 2003-2004. This is an effort to reform the continuum of child welfare services in North Carolina, from intake through placement services. The seven strategies of MRS are:

1. Strengths-based structured intake process
2. Choice of two approaches to reports of child abuse, neglect or dependency
3. Coordination between law enforcement agencies and child protective services for investigative assessment approach
4. Redesigning of in-home family services
5. Child family team meetings
6. Shared parent meetings
7. Collaboration between Work First and child welfare programs

This family-centered approach will continue to have the safety of the child as the first priority.[227]

## E) Suicide and Homicide

**Healthy Carolinians Objectives:**
***Reduce homicides to 5.0 homicides per 100,000 population***
In Orange County in 2002, there were 3.7 homicides per 100,000 population.[228]

***Reduce the suicide death rate to 8 suicide deaths per 100,000 population***
In Orange County in 2002, there were 12.8 suicides per 100,000 population.[229]

**Impact**
According to Healthy Carolinians 2010, on an average day in the United States, 53 persons die from homicide and a minimum of 18,000 persons survive interpersonal assaults. Eighty-four persons complete suicide, and as many as 3,000 persons attempt suicide…. In North Carolina, an average of 745 homicides occur each year. Homicide is the second leading cause of death for persons aged 15 to 24 years and the leading cause of death for African American/Blacks in this age group.[230]

Suicide is an even more pervasive problem. Healthy Carolinians 2010 reports that in North Carolina in 1998, there were 1.3 times as many suicides as homicides. Overall,

[227] Personal Communication, Denise Shaffer, Orange County DSS, CPS Services Director, 11/14/03
[228] NC State Center for Health Statistics. 2003 County Health Data Book. http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc. Accessed October 22, 2003.
[229] Ibid
[230] Healthy Carolinians 2010. Violence: Homicide, assault, suicide and firearms. http://www.healthycarolinians.org/2010objs/violhomicide.htm. Accessed October 22, 2003.

suicide is the eighth leading cause of death for North Carolinians and is the third leading cause of death for young people ages 15-24.[231]

**Contributing Factors**

Accessibility of firearms contributes to both suicide and homicide. Healthy Carolinians 2010 reports that homicides are most often committed with guns, especially handguns. Homicides of teens and young adults are much more likely to be committed with a gun than homicides of persons of other ages. Across the country, for every fatality caused by a firearm, approximately three more persons received non-fatal gunshot wounds.[232]

Substance abuse also contributes to both suicide and homicide. Healthy Carolinians 2010 reports that, in national surveys, 33 percent of state prisoners and 22 percent of federal prisoners said they had committed their offense while under the influence of drugs. About 60 percent of mentally ill and 51 percent of other inmates in state prison were under the influence of alcohol or drugs at the time of their current offense.[233]

Homicide is also more likely to occur as a result of an argument between individuals who know each other than between strangers. A majority of homicide victims (85 percent) knew the perpetrator.[234]

**Data**

In Orange County from 1999 to 2001, the homicide rate was 3.7 per 100,000 population, which is lower than the North Carolina rate of 7.7 per 100,00 population and meets Healthy Carolinians goals (Table 7E). The suicide rate in Orange County over the same time period was 12.8 per 100,000 population, comparable to the state rate of 11.6.[235] Orange County is not meeting Healthy Carolinians targets with regard to suicide.

| | Homicide | | Suicide | |
|---|---|---|---|---|
| | Number | Rate* | Number | Rate* |
| Total | 13 | 3.7 | 44 | 12.8 |
| White Males | 6 | 4.0 | 30 | 21.8 |
| White Females | 0 | 0.0 | 10 | 7.5 |
| Minority Males | 7 | 24.7 | 3 | 10.3 |
| Minority Females | 0 | 0.0 | 1 | 3.0 |

Table 7E—Homicide and Suicide Rates for Orange County, 1999-2001 (age adjusted)[236]
*Rate per 100,000 population

BRFSS data from 2002 indicate that 25.8% of Orange County residents have a gun in the home, significantly lower than the state rate of 41.6%. Of these, 22.3% keep a loaded gun in the home.[237]

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[231] Ibid
[232] Ibid
[233] Ibid
[234] Ibid
[235] NC State Center for Health Statistics. 2003 County Health Data Book. http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc. Accessed October 22, 2003.
[236] Ibid

**Disparities**
In Orange County, the homicide rate is higher for minority males than for any other race or sex category. The suicide rate is highest for white males, followed by minority males.

Although numbers for Orange County are too small to look at a detailed age breakdown of suicide and homicide rates, state-level data indicate that homicide is the second highest cause of death and suicide is the third highest for 15 to 24 year olds.[238] National data indicate that homicide is the leading cause of death for African Americans in this age category. National data also indicate that suicide rates are highest among older adults over age 65, especially those who are divorced or widowed.[239] According to Healthy People 2010, while older adults attempt suicide less frequently than other groups, they are more successful at completing the act.[240]

**Residents' Concerns**
Residents did not voice concerns specific to homicide or suicide. One mental health provider did feel that the issue of suicide should be addressed by getting information and statistics from the police crisis units in order to learn more about suicide.

**Resources**
Please see Chapter 4, Crime and Safety section for resources related to homicide and Chapter 10, Mental Health for resources related to suicide.

**Gaps and Unmet Needs**
Orange County data suggest that there is a significant racial disparity in homicide mortality rates. Although the county as a whole is meeting Healthy People 2010 targets with regard to homicide, the homicide mortality rate for minority males is significantly above the Healthy People 2010 target. This points to a need to explore the reasons for the disparity and focus prevention efforts in minority communities. Substance abuse is also a factor in homicides. Substance abuse rates are high in the County, while treatment options are few (see Chapter 10 for more on substance abuse).

One of the service providers we spoke with said "*The issue of suicide is not too small to be addressed – we can get statistics that are out there and get #s from the crisis unit in order to learn more about those suicides that we do know about. We need to know who is at risk for committing suicide (what are the risk factors), and how it especially impacts the mentally ill."*

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[237] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed October 22, 2003

[238] North Carolina State Center for Health Statistics. NC Vital Statistics Volume 2: Leading causes of death –2001. http://www.schs.state.nc.us/SCHS/healthstats/deaths/lcd2001/pdf/TblsA-F.pdf Accessed October 22, 2003

[239] Healthy Carolinians 2010. Violence: Homicide, assault, suicide and firearms. http://www.healthycarolinians.org/2010objs/violhomicide.htm. Accessed October 22, 2003

[240] Ibid

**Emerging Issues**

The county mental health system is undergoing significant organizational changes, including a shift away from providing direct services to mentally ill clients. It is unclear at this time how many clients might lose access to counseling and psychiatric services as a result of these changes. If the availability of services to mentally ill individuals in Orange County is reduced, the suicide and homicide rates could potentially be affected.

# Chapter 8. Oral Health

**Healthy Carolinians 2010 objectives for oral health:**

***Increase the proportion of 5th graders whose permanent teeth are free of decay to 87 percent.***

In Orange County during the school year 2001-2002, 94% of fifth graders received dental screening and of those 85% were cavity-free[241] which exceeds the 2010 objective

(2001-2002 is the last official School Level Oral Health Status Data collected by the NC Division of Public Health, Oral Health Section)

***Increase the proportion of adults who visited a dentist within the past year to 73.9%***

According to the 2002 BRFSS, 77.4% of Orange County adults stated they had seen a dentist within the past year[242].

## Impact

Oral health is much more than having healthy teeth. According to the Surgeon General's report on oral health that was published in 2000, "oral health is essential to the general health and well-being of all Americans and can be achieved by all Americans."[243] Poor oral health can result in health, social and financial consequences. For example, dental caries left untreated can lead to needless pain and suffering, compromised nutrition, swollen face, diminished self-esteem, increased susceptibility to other medical conditions, missed school days, and avoidable high health care costs.[244]

## Contributing Factors

Poor oral health in North Carolina like other places in the nation is connected to a number of interrelated and complex factors. These factors can be attributed to individuals, dentists, employers and insurers. Oral health begins with the individual taking responsibility for his or her behavior. This includes oral hygiene and sound home care practices, healthy diet and nutrition, avoidance of tobacco and alcohol, and periodic preventive dental visits. A lack of awareness of the importance of oral health can affect whether the individual practices the appropriate lifestyle behaviors to prevent oral health problems.

Other factors that contribute to poor oral health status include lack of dental insurance. Without dental insurance coverage, many are unable to get needed dental care to prevent oral health problems. However, even when dental insurance is available, some

[241] County Health Data Book, NCSCHS

[242] NC State Center for Health Statistics, BRFSS survey results for Orange County 2002

[243] US Department of Health and Human Services. Oral Health in America: A report of the Surgeon General. Rockville, Md.: US Department of Health and Human Services; 2000. National Institutes of Health publication. 00-4713

[244] North Carolina Institute of Medicine, Task Force on Dental Care Access. Report to the North Carolina General Assembly and to the Secretary of the North Carolina Department of Health and Human Services. Raleigh, NC: North Carolina Institute of Medicine; 1999.

populations, particularly those with low socioeconomic status, experience other barriers in getting dental care[245].

A major barrier is the low dentist participation rate in public health insurance programs like Medicaid. The overall shortage of dental professionals, particularly pediatric dentists, and misdistribution of dental professionals across the state compounds the problems poor patients have in locating a dentist who will take them as patients.

The primary reason North Carolina dentists cite for their reluctance to participate in the Medicaid program is low reimbursement rates[246]. Dentists point out that current reimbursement levels frequently do not even cover the cost of providing the services. Dentists also complain about the burdensome paperwork associated with Medicaid. The state has, however, made significant changes in Medicaid reimbursement and operations to simplify the program for dentists.

According to primary caregivers of Medicaid-insured children in North Carolina there are non-financial barriers as well, including fear of and anxiety of dental visits[247]. Such perception may result in avoidance of dental visits. Parents also report that the practice behaviors of dental professionals make it difficult for them to get needed dental services for their children. Searching for a provider, arranging an appointment where choices are severely limited, finding transportation, and trying to take off from work, all leave families exhausted, dissatisfied and discouraged. Families who successfully negotiate these barriers are faced with additional barriers in the dental care setting, including long waiting times, restrictive office policies, and judgmental and disrespectful behavior from providers because of their public assistance status or their race. To avoid encountering such attitudes and behaviors, some families postpone or cancel dental visits for their children.

**Data**

In fiscal year 2002-2003 the Orange County Health Department (OCHD) clinics had 3,546 patient visits. (The number of dental patient visits per year is usually 4200 but for 2002-2003 the number of visits is lower due to the ice storm, vacant dental hygienist position, no adult dentist on 13 Tuesdays and the renovation at the Whitted Building). Of the 3,546 dental patient visits, 1,366 were adult visits and 2,180 were child visits. In addition, the OCHD clinics offer dental screenings and dental health education to children in child-care centers, family child-care homes, schools, and to adults in senior centers and other locations in Orange County. Education was provided to 4,712 preschool and school age children and adults in 2002-2003. Screening was provided to children in preschool, kindergarten, 2nd, 4th, and 5th grades for a total of 6,169 children screened in 2002-2003. The clinics also provided 896 dental sealants to dental patients

[245] US Department of Health and Human Services. Oral Health in America: A report of the Surgeon General. Rockville, Md.: US Department of Health and Human Services; 2000. National Institutes of Health publication. 00-4713

[246] Same as above

[247] Mofidi M, Rozier RG, King RS (2002). Problems with access to dental care for Medicaid-insured children: what caregivers think. American Journal of Public Health, 92(1): 53-58.

in the OCHD Dental Program with the emphasis on Medicaid-eligible children in 2002-03. Finally, the clinics conduct the special Seal Orange County Kids Program annually where 400 sealants were provided to 97 children in 2002-2003. Among its achievements, Orange County has 50% of all 5th graders with dental sealants, one of the highest in the state[248]

The SHAC Dental clinic, operating one night each week at the OCHD Carrboro location, provides services to approximately 7 patients per week.

**Disparities**

As significant as oral health is, not everyone achieves the same degree of oral health. Despite the availability of safe and effective means of maintaining oral health, such as water fluoridation, many still experience preventable dental conditions, such as dental decay, periodontal disease, and tooth loss. Sadly, for some, oral diseases remain lifelong conditions.

In North Carolina, while remarkable progress has been made in the prevention of dental decay, significant numbers of people continue to experience it. Oral health is the number one unmet health care need in North Carolina as reported by a wide array of public agencies including Head Start, long-term facilities, and local health departments. According to the Governor's Task Force for Healthy Carolinians oral health is the single most common health problem among children.[249] Every year, about 40,000 children in the state reach kindergarten having experienced dental caries. This represents 25% of all children entering kindergarten. Typically, these children with untreated tooth decay are from families of lower socioeconomic status and are eligible for Medicaid.

**Residents concerns**

Dental care was rated as the 6th most important health issue in Orange County in the prioritization process. Many of the above-stated challenges to oral health were confirmed by a number of Orange County citizens who took part in the focus groups that were part of the community health assessment. These citizens discussed at length the barriers to getting needed dental care, including low priority accorded to oral health and lack of personal resources. Participants shared the concern that the rising costs of all types of health insurance--including dental--prevents employers from providing health insurance to their employees. This translates, according to the participants, to fewer numbers of working people having access to subsidized dental insurance. Participants also noted that the costs of dental insurance premiums, deductibles, and co-payments make private dental insurance out of reach for many people. For those without dental insurance, accessing dental care becomes a very difficult endeavor, because there are "so few low-cost options." Participants stated that for those individuals, who do not make a 'living wage', dental care becomes unaffordable for them. Citizens also expressed frustration that for many working poor families Medicaid is not an option.

[248] Personal Communication, Angela Cooke, OCHD Dental Program Director, 10/17/03

[249] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 171.

These families make too much money to qualify for Medicaid but too little to afford private insurance. Participants who had Medicaid reported that there are only a small number of dental providers who accept Medicaid. With so few providers it is very difficult to get an appointment in a timely manner, stated the participants. Waiting a long time to receive dental care discourages some citizens to get needed dental care at all. On a positive note, citizens praised places like the Orange County Health Department dental clinic and the Student Health Action Coalition (SHAC) for providing dental services at affordable and free rates, respectively.

**Resources**

The County is fortunate to have two dental clinics housed within the Orange County Health Department (OCHD) that provide treatment for low income and Medicaid eligible children and adults. The OCHD clinics, one in Carrboro and one in Hillsborough, provide routine dental treatment including fillings, extractions and cleanings to residents of Orange County, primarily to patients who are Medicaid eligible, to low-income residents (sliding fee scale), and to children covered under North Carolina Health Choice, however, OCHD clinics will see any resident. They also provide emergency dental treatment within 24 hours to patients who experience pain/infection and swelling. One night per week, a free dental clinic, operated by the Student Health Action Coalition (SHAC) is offered in the Carrboro dental clinic location of OCHD. In addition, residents have access to the UNC School of Dentistry and the Piedmont Health Services (PHS) dental clinic at the Carrboro Community Health Center.

In 2002, The Sheps Center at UNC reported that Orange County had 122 dentists and 91 dental hygienists in practice[250]. This high number is due to the presence of the UNC Dental School. Not all of these dentists are available to see patients in the community and only 4 private dentists currently accept Medicaid patients.

Funding from the Orange County Partnership for Young Children has enabled the dental health staff of OCHD to provide dental screening and education to preschool children from 1994-2003. Between 1,400 and 1,800 preschool children were screened in each of those years. Unfortunately the funds were cut and no preschool screenings were done in 2002, but a portion of the funding was reinstated in 2003 allowing for 1,457 preschool children to be screened due to the *Give Kids A Smile Project* where the Orange County Partnership for Young Children collaborated with 23 private dentists in Orange County to help provide the dental screenings and education. In addition, through the Partnership for Young Children funding, the program is trying to improve follow-up so that children who are discovered to be in need of dental care will follow through and receive that care.[251]

**Gaps and unmet needs**

One of the overriding themes that emerged from the focus groups of community members was the lack of access to dental care. Participants felt that there is not

[250] 2002 Active Health Professionals in Orange County, UNC Sheps Center for Health Services Research
[251] Personal Communication, Angela Cooke, OCHD Dental Program Director, 10/17/03

enough dental care for low-income families and those without insurance and finding a provider who accepts Medicaid were the most significant barriers cited. Many working adults are simply unable to afford health/dental insurance for themselves and their families. Even if dental insurance is available, some community members struggle with the fact that dentists want patients to pay up front and then be reimbursed by insurance. For some families this represents a deterrent to use dental services as they may not have the resources at the time of the appointment. For some low-income patients getting dental care means going to the emergency room for a preventable visit. In 2003, there were 426 emergency room visits from Orange County Residents for dental related causes. Many of these visits were avoidable.

Although there are opportunities for low-income populations to receive dental care, such as OCHD, SHAC, Piedmont Health Services and the University of North Carolina Dental Clinic, these are not sufficient. It is very difficult to get appointments at OCHD and School of Dentistry, particularly at the latter. The OCHD Dental Health service is divided between two locations where dental treatment is provided two and a half days per week in each location. At the present time there is not enough funding to open both these clinics full time. One of the goals of the OCHD Strategic Plan is to be able to operate both dental clinics full time to accommodate the patient demand.

Another need has to do with following up on children who have had a dental screening. Every year over six thousand children are screened, of those, approximately 825 (14%) have documented dental decay. It is a challenge however, to contact the families of children for follow up visits and to get these families to make follow-up appointments.

**Emerging issues**

In addition to the problem of access to dental care, the OCHD dental clinic staff report that a high percentage of children in the Hispanic population are suffering from tooth decay. A survey was completed by participants at screenings conducted at two Spanish language health fairs in the fall of 2001. Eighty-six percent of those surveyed felt they needed to see a dentist and 66% of them said they were having dental problems such as pain (24%), swelling (27%) and other problems (40%). In addition, 61% of those surveyed said that high fees for service kept them from seeking dental care. The department is in the process of developing a program to better address the dental needs of the Hispanic population. This is especially important given the fast rising population of Hispanics in the community. Currently, one and a half days each week are devoted to services for Spanish-speaking clients.

One other emerging issue is worth noting. The dental clinic at the OCHD has the potential to serve greater numbers of patients if it could find available and willing dentists to work full time at the clinic. The dental clinic has adequate facilities to serve the oral health needs of an increasing number of patients. However, finding full-time dentists to commit to the clinic is a challenge.

In relation to dental care for older adults, the Orange County Master Aging Plan and the Orange County Health Department Dental Health Services Strategic Plan include the

following objective: "Assure access to dental care for residents that are in Long Term Care Facilities; Assisted Living, Group Homes, Adult Day Care Centers and Nursing Homes in Orange County regardless of payer source, or level of functioning to quality dental services provided by professionals trained in geriatric dentistry, who are knowledgeable of and can accommodate those with special needs."[252]

In 1999, the Regional Long Term Care Ombudsmen surveyed all long-term care facilities in North Carolina. From that survey it was determined that Region J consisting of Chatham, Durham, Johnston, Lee, Orange, and Wake counties had the greatest need for dental services of any other metropolitan area in our state. The survey showed a lack of resources in these counties to take care of the dental needs of long-term care residents. The shortage of dental care is particularly acute for residents relying on governmental assistance, 69% of them stated they had great or extreme difficulty accessing basic dental services. Residents needing emergency dental services also have an especially difficult time accessing care and experience long waiting periods for dental services. As a result of these findings, a group was formed in 2001 to develop solutions to the provision of dental care for long-term care facility residents and may include the purchase of a mobile dental clinic to be shared between the various counties. That group continues to meet to explore options.

[252] Orange County Master Aging Plan 2000, Orange County Department on Aging

# Chapter 9. Health Issues of Specific Populations

While many issues have been covered in previous chapters, there are health issues related to specific age groups and populations that do not fit neatly into the topic categories of other chapters. This chapter presents health issues predominately by age groups. But please note that there are many references to other chapters within the document in order to avoid redundancy.

## This chapter contains the following sections:

**A) Child Health**

**B) Adolescent Health**

**C) Maternal and Infant Health**

**D) Men's Health**

**E) Older Adult Health**

**F) Needs of Physically Disabled Populations**

## A) Child Health

**Healthy Carolinians objective**

There are no objectives related to child health in general, please see specific objectives related to children in chapters 5, 6, 7, 8 and 10.

### Impact

Good health during childhood sets the foundation for a healthy life. Provision of comprehensive child health services from infancy to adulthood is critical to insure that children remain healthy and become viable members of the community. Many of the providers who participated in the health assessment focused on improving childrens' health services as an important part of creating prevention programs that can change long-term health outcomes.

### Contributing Factors

Access to adequate nutrition, well-child screenings, immunizations, and primary care all contribute to healthy children. Many factors can impact the health of children including whether family systems are supportive or dysfunctional and if children have access to health insurance and health care services. Poor living conditions, and exposure to drugs or environmental contaminants can result in various childhood illnesses such as asthma. Children in the foster care system often suffer disproportionately from health problems.

### Data

Based on the 2000 census, there were 5,854 children age birth to five and 6,942 children ages 6-10 living in Orange County at that time for a total of 12,976 children ages birth to 10 living in the county. Of these, 6,559 were boys and 6,236 girls. Thirteen percent of children under age 6 were living in poverty in Orange County during the 2000 census.[253]

Please see references to children in the following chapters: 4, 5, 6, 7, 8,10, and 11.

### Disparities

As minorities overall tend to have poorer access to health care, it stands to reason that minority children would also have poorer access to care. In addition, children of Spanish-speaking families also face the language barrier in accessing services. Children who are not citizens do not qualify for Medicaid, Health Choice or private insurance, and therefore access to non-emergent care is impacted. Substandard housing conditions and inadequate income levels may also contribute to health outcome disparities.

### Residents Concerns

Service providers and residents continue to worry that our youngest citizens do not get the health care they need. In particular, accessing preventive care, which can be

[253] Census 2000, Summary File 1: Persons by Race, Age, Sex; Households and Families by Race and by Type - Orange County , NC

expensive even for those families who have health insurance, seems to be a challenge for many. One local agency director lamented, "*If we provided screenings and referrals when a child was young, we could detect and provide remediation for so many things before they became a bigger health problem."* Also, as discussed further in Chapter 8 - Oral Health, residents worry that even those children with Medicaid benefits have difficulty accessing dental care because of the limited availability of dental appointments and providers serving the Medicaid population in this county.

**Resources**

In Orange County we have made notable strides in increasing the number of children with access to health screenings, health insurance, dental care and immunizations. Many of the services children use are working hard to collaborate, and we can be proud of the efforts to provide comprehensive services to the families of young children through programs funded by the Orange County Partnership for Young Children and the many programs that provide social and medical support through the Orange County Health Department's Family Home Visiting Program. One such program is Child Service Coordination, a service that works with families to facilitate access to services for children at risk of developmental delay or with special needs. Another is the Intensive Home Visiting Program that works with high-risk families to prevent child abuse and neglect. All of these programs improve the outcomes of children and families in our community by connecting them with needed services and helping to improve parenting skills and family health.

The Health Check/Health Choice program begun in 1999 has also helped many more limited income families access health insurance for their children than could previously have afforded it. (See chapter 4, Access to Health Insurance for more on this program.)

**Gaps and Unmet Needs**

There are still gaps in health services for children and many are mentioned in the previous chapters. In particular, residents and service providers worry that children with special needs may not be getting enough care. While community agencies like the Orange County Partnership for Young Children have emerged to help coordinate screening, prevention, and early intervention services, children who do not receive early screenings may slip through the cracks and not be identified until elementary school or later. Once children are identified as having special needs, specific, targeted programs are available at little or no cost through federally and state funded efforts, but barriers impacting families such as transportation, language, and employment with inflexible time-off policies prevent some families from keeping their appointments. For those families, comprehensive wrap-around services that address both the children's health needs and the barriers preventing the family from accessing care are needed.

There is also concern about access to mental health services for children, and better meshing of services for children with developmental and behavioral problems to keep care continuous as children move from early intervention, to public schools, and finally on to adult or independent living.

**Emerging Issues**
Childhood obesity and early onset Diabetes are issues that have garnered much attention recently and are impacting the health of children. Multiple social, environmental and nutritional efforts are needed to address this burgeoning problem. Please see Chapter 5 for more on obesity.

## B) Adolescent Health

**Healthy Carolinians objectives**
There are several objectives specific to adolescents that can be found in the following chapters; 4-Chronic Disease, 6-Communicable Disease and 10-Mental Health.

**Objectives related to responsible sexual behavior**

***Increase the proportion of adolescents who abstain from sexual intercourse to 50.8%***
In the 2000-2001 YRBS at CHCCS only, 75% of 10th grade students surveyed stated they had never had intercourse[254].

***Increase the proportion of adolescents who use condoms, if currently sexually active to 75%***
In the 2000-2001 YRBS at CHCCS only. Of the 25% of students who were sexually active, 59% had used a condom at last intercourse[255]

***Reduce the rate of unplanned pregnancies to adolescent females ages 10-19 to 10 per 1,000 females ages 10-19***
In 2002, Orange County had a rate of 23.1 pregnancies per 1000 girls ages 15-19.[256]

**Impact**
(Because many aspects of adolescent health are discussed in other chapters of this report, this section focuses mainly on responsible sexual behavior and adolescent pregnancy, issues that have not been discussed elsewhere.)

Adolescence is a time of great change and a critical period for the development of a healthy individual. It can be a time of establishing healthy or unhealthy behaviors that can affect people their whole lives.

Responsible sexual behavior among adolescents is a concern to many. Abstinence is encouraged as the best policy but many teens still become sexually active at early ages, putting them at risk for unwanted pregnancies, sexually transmitted infections and emotional ramifications.

[254] High School Student Responses to the Youth Risk Behavior Survey, 2001, Chapel Hill-Carrboro City Schools
[255] Ibid
[256] Pregnancy, Fertility and Abortion rates per 1,000 women ages 15-19 in NC and Orange County, 2002, NCDHHS, State Center for Health Statistics

Teenage pregnancy can result in many problems for the mother and baby. Teen mothers are less likely to finish high school, have lower earning potential and subsequently live in poverty, and are more likely to abuse their children than women who wait until a later age to have their first child. Babies born to teen mothers are also more likely to be born premature or at low weights.

**Contributing Factors**

Eating and exercise habits, drug use and sexual behavior can all determine whether or not an individual will become a healthy or unhealthy adult. Positive social interactions, school involvement and sports participation can all help adolescents remain healthy mentally and physically.

Teens may become pregnant for a variety of reasons including lack of information about family planning services, being the child of a teen parent themselves, wanting to get out of a difficult home situation or simply a desire to have a child of their own.

**Data**

At the time of the 2000 census there were 19,157 children ages 10-19 living in Orange County, of these 10,318 were females and 8,839 were males[257].

It is difficult to know if a teen pregnancy was planned or not and therefore hard to compare Orange County numbers to the Healthy Carolinians objective. The 2002 rate of teen pregnancy in Orange County for young women ages 15-19 was 23.1 per 1000 compared to the state rate of 64.1. Orange County continues to have one of the lowest teen pregnancy rates in the state with only one other county, Watauga, reporting a lower rate than Orange. In Orange County, there were 12.4 girls per 1,000 who gave birth, compared with 49 for the state and 10.4 per 1,000 that had an abortion versus 14.6 for the state[258]. Despite this good news, there were still 114 pregnancies among women 18 or younger in the year 2002. Of those, 61 carried the child to term and 51 had an abortion.[259] In addition, in 2001, 26.7% of teen pregnancies were repeat pregnancies, suggesting we still have a significant need for family planning among this age group[260].

**Disparities**

There are significant disparities that exist between whites and minorities related to adolescent birth outcomes; this may be attributed to higher rates of poverty and less access to services. Among teens ages 15-19 we can see this trend. Table 9A (next page), shows that minorities have higher rates across all three categories than do whites, but compared to North Carolina, Orange Counties' teen pregnancy and fertility rates are extremely low.

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[257] Census 2000, Summary File 1: Persons by Race, Age, Sex; Households and Families by Race and by Type - Orange County , NC

[258] Pregnancy, Fertility and Abortion rates per 1,000 women ages 15-19 in NC and Orange County, 2002, NCDHHS, State Center for Health Statistics

[259] NCDHHS- 2002 Total resident pregnancies by county of residence

[260] Total and repeat pregnancies in North Carolina by County and Percentage, 2001. APPCNC

| | Pregnancy Rate | | | Fertility Rate | | | Abortion Rate | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Total** | **White** | **Minority** | **Total** | **White** | **Minority** | **Total** | **White** | **Minority** |
| **NC** | 64.1 | 53.6 | 87.3 | 49.0 | 42.6 | 63.9 | 14.6 | 10.8 | 22.7 |
| **OC** | 23.1 | 15.3 | 53.6 | 12.4 | 8.2 | 29.9 | 10.4 | 6.7 | 23.7 |

Table 9A. Pregnancy, Fertility and Abortion rates per 1,000 women ages 15-19 in NC and Orange County, 2002[261]

**Residents Concerns/Comments**

Teens felt that resources such as Planned Parenthood and the Health Department clinic offered care that helped teens avoid pregnancy and seek early prenatal care if they did become pregnant. Residents noted that sexual activity leading to pregnancy may be unwanted, and so the collaboration of agencies dealing with family and partner violence, crime, substance abuse, and teen pregnancy prevention is important.

**Resources**

There are programs in Orange County working to prevent teen pregnancy and help teen parents succeed. The DSS Adolescent Parenting Program assists young mothers in finishing their education, preventing additional pregnancies and reducing the risk of child abuse. The Planned Parenthood *Teen Talk* program trains teen peer educators on a variety of health issues including pregnancy prevention. And the Women's Center *Teens Climb High* program is a life skills and pregnancy prevention program that works with middle school girls. The Healthy Carolinians committee, Voices for Healthy Adolescent Choices, has brought together representatives from the Adolescent Parenting Program, both school systems, the Health Department, Planned Parenthood, and several other groups to address the issue of teen pregnancy. Together this committee works to inform the community about the issue of teen pregnancy, shares information with parents about how to help their adolescents avoid unwanted pregnancies and works with teens to educate them about the services available to them.

**Gaps and Unmet Needs**

Greater access to education about abstinence, healthy sexuality, and pregnancy prevention is needed in Orange County for teens to prevent unwanted and unplanned pregnancies. The pregnancy and abortion rates for teens would suggest a need for better access to family planning services. The disparities that exist also suggest a concerted effort should be made to reach out to minority teens with this information. The community priority survey also showed that teens need more access to mental health, nutrition and recreation services.

**Emerging Issues**

An area of growing concern is that of young Hispanic mothers. In 2001, 19% of the pregnancies to women ages 15-19 in Orange County were among Hispanics[262]. With the growing Hispanic population in the County and the cultural tendency for early

[261] Pregnancy, Fertility and Abortion rates per 1,000 women ages 15-19 in NC and Orange County, 2002, NCDHHS, State Center for Health Statistics

[262] NCDHHS, 2001 NC Resident Pregnancies by County and Ethnicity Ages 15-19

pregnancies and young marriages, this may be a trend that will continue. Recent data presents an intriguing picture with regard to births to Hispanic teens. While they represent a growing proportion of the teen mothers in our community, recent studies suggest that they may have healthier babies than mothers in other demographic groups.[263]

## C) Maternal and Infant Health

**Healthy Carolinians Objectives related to maternal and infant health:**

***Reduce infant deaths within the first year of life to 7.4 per 1000 live births***

In Orange County for the period 1997-2001 the infant death rate was 7.8 deaths per 1,000 live births [264]

***Reduce neonatal mortality to 5.9 deaths per 1,000 live births***

The neonatal death rate for Orange County for the period from 1997 to 2001 was 5.3 per 1,000 live births[265]

***Reduce the incidence of low birth weight to 7 percent of live births***

In Orange County during the period from 1997 to 2001 there were 7.7% babies born at low birth weight[266]

***Increase the proportion of pregnant women receiving prenatal care in the first trimester of pregnancy to 90 percent.***

Between 1997 and 2001, 90% of Orange County women who were pregnant started prenatal care in the first trimester[267]

***Reduce cigarette smoking among pregnant women to 7 percent.***

Between 1997-2001, 10.2% of pregnant women in Orange County reported smoking during their pregnancies[268]

***Reduce alcohol use among women prior to becoming pregnant to 19 percent and among women during pregnancy to .6 percent***

No data is currently available for this specific measure, but in fiscal year 2002-2003, 88% of babies born to women enrolled in the Maternity Care Coordination Program of the OCHD were born alcohol and drug free.[269]

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[263] The "Mexican Paradox", Barbara Solow, The Independent Weekly, Jan. 22, 2003
[264] Infant death rates, 2002, Orange County, DHHS State Center for Health Statistics
[265] Ibid
[266] Low Birth Weight and Very Low Birth Weight 1997-2001, Orange County, DHHS State Center for Health Statistics
[267] Prenatal Care First trimester 1997-2001, Orange County, DHHS State Center for Health Statistics
[268] 1997-2001, Number and percent of mothers who smoked during pregnancy, Orange County, NCDHHS, State Center for Health Statistics
[269] Personal Communication, Wayne Sherman, Personal health Services Division Director, OCHD, 11/26/03

**Impact**
Poor birth outcomes such as birth defects, low birth weights, premature births and neonatal and fetal deaths are all serious problems that can be reduced by improved prenatal care and maternal nutrition. Low birth weight in infants is a problem that affects many families and can result in serious long-term disabilities such as cerebral palsy, autism, mental retardation, vision and hearing impairments and other developmental disabilities. While the number of infant deaths has dropped due to advances in medicine, the number of surviving babies born prematurely with inadequate weight presents its own set of continuing health issues. Lack of family planning can lead to short spacing between pregnancies, high parity rates and unintended pregnancies and can lead to a need for more abortions.

**Contributing Factors**
Many factors contribute to healthy pregnancies and birth outcomes. The number of prenatal visits, time of gestation of the first prenatal visit, length of gestation, age of the mother, spacing between pregnancies, access to adequate nutrition, and substance abuse including smoking all can affect whether or not a child will be born healthy. Racism and poverty can also lead to poor birth outcomes as minority and low-income women may be unable to access adequate prenatal care and family planning. Stress can also cause poor birth outcomes as women may develop health problems during pregnancy due to stress. Domestic violence also has an impact, with studies showing an increase in domestic violence between couples during pregnancy.

**DATA**
Birth, Fertility and Abortion Rates
There were 1,356 live births among all women residents of Orange County in 2002. Of these 1,034 were to white women and 322 were to minority women. The pregnancy rate in Orange County is lower than the State average. Among women ages 15-44 in 2002, 54.6 women per 1,000 became pregnant in Orange County compared to 79.5 per 1,000 for the state. The fertility or birth rate in Orange County is also much lower than at the State level with only 39.5 women per 1,000 giving birth in Orange County compared to 64.8 women per 1,000 at the state level. The abortion rate is slightly higher in Orange County with 14.7 women per 1,000 receiving abortions versus 14.3 per 1,000 for the state.[270] Table 9B shows these comparative figures.

| | Pregnancy | | Fertility | | Abortion | |
|---|---|---|---|---|---|---|
| | **Rate** | **Number** | **Rate** | **Number** | **Rate** | **Number** |
| **NC** | 79.5 | 143,891 | 64.8 | 117,211 | 14.3 | 25,841 |
| **OC** | 54.6 | 1,871 | 39.5 | 1,353 | 14.7 | 505 |

Table 9B. Pregnancy, Fertility and Abortion rates per 1,000 and totals. Women ages 15-44 in NC and Orange County, 2002[271]

[270] Pregnancy, Fertility and Abortion Rates by race for females ages 15-44, North Carolina regions and counties, 2002. NC State Center for Health Statistics
[271] Ibid

Infant Mortality – Infant, Neonatal and Fetal Deaths

The majority of infant deaths are the result of complications caused by congenital defects and malformations or premature births resulting in babies that are too small to survive due to immaturity of the lungs and other organs.

The Healthy Carolinians 2010 objective for infant mortality is to reduce infant deaths within the first year of life to 7.4 per 1000 live births. An infant death is a death to a child between birth and 1 year. In Orange County for the period 1998-2002 the rate was 7.3 deaths per 1,000 live births, (a total of 45 infants), compared to the state rate of 8.7 per 1,000[272]. Overall we are close to reaching the North Carolina Healthy Carolinians goal. There were 8 infant deaths in Orange County in 2002 for a rate of 5.9 per 1000 live births compared with a rate of 8.2 per 1,000 at the state level for 2002[273]. While the 2002 rate for Orange County is below the Healthy Carolinians 2010 objective, because the number of infant deaths is so small, it is more reliable to use data covering a period of several years when making these comparisons.

The Healthy Carolinians 2010 objective for neonatal mortality is to reduce neonatal mortality to 5.9 deaths per 1,000 live births. A neonatal death is one that occurs from birth to 28 days of life. The neonatal death rate for Orange County for the period from 1997 to 2001 was 5.3 per 1,000 live births compared to the NC rate of 6.4 per 1,000 live births[274]. In 2001 there were 5 neonatal deaths in Orange County at a rate of 6.9 per 1000. [275] (Neonatal deaths are included in the total for infant deaths.)

A fetal death is one that occurs after 20 weeks gestation but prior to live birth. The fetal death rate for the period 1997 to 2001 was 7.9 per 1,000 for Orange County and 7.6 per 1,000 for the state. There were 10 fetal deaths in Orange County in 2001 and 13 in 2002. [276]

Low Birth Weight

The Healthy Carolinians 2010 objective for low birth weight is to reduce the incidence of low birth weight to 7 percent of live births. Orange County had a low incidence of low birth weight births during the period from 1997 to 2001 with 7.7% of babies born at low birth weight compared to the state average of 8.9%. In 2001 there were 109 low birth weight babies born in Orange County for a rate of 8.4 per 1,000.[277]

The number of very low birth weight babies born during 1997-2001 was 1.6% of all births in Orange County versus 1.9% in NC.[278]

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[272] Infant death rates, 2002, Orange County, DHHS State Center for Health Statistics
[273] NC 2002 Final Infant Death Rates, NC State Center for Health Statistics, accessed on 11/14/03 at: http://www.schs.state.nc.us/SCHS/healthstats/deaths/ims2002/2002rpt.html
[274] Ibid
[275] NCSCHS. Selected Vital Statistics for 2001 and 1997-2001, Orange County.
[276] Ibid
[277] NCSCHS. Selected Vital Statistics for 2001 and 1997-2001, Orange County.
[278] Low Birth Weight and Very Low Birth Weight 1997-2001, Orange County, DHHS State Center for Health Statistics

Prenatal Care

The Healthy Carolinians 2010 objective for prenatal care is to increase the proportion of pregnant women receiving prenatal care in the first trimester of pregnancy to 90 percent. Between 1997 and 2001, 90% of Orange County women who were pregnant started prenatal care in the first trimester compared with 84% of women statewide.[279]

Family Planning

In the five years from 1997 to 2001, 17.3% of pregnant Orange County women age 30 or younger were shown to have a high parity rate[280] and 20.2% of pregnant women 30 and older also had a high parity rate[281]. In addition 12.6% of all pregnant women had conceived again within 6 months of a previous delivery.[282] All of these statistics suggest a need for additional family planning services. During fiscal year 2002-2003, The Orange County Health Department saw 1067 patients for family planning and 23% of those were teens[283].

Substance Abuse

The Healthy Carolinians 2010 objective for smoking during pregnancy is to reduce cigarette smoking among pregnant women to 7 percent. Smoking during pregnancy is known to result in low birth weights and spontaneous abortions. There also appears to be a link between smoking in the home and Sudden Infant Death Syndrome (SIDS) as well as asthma, ear and lung infections in infants and children. Somewhat favorably, 10.2% of pregnant women in Orange County reported smoking during their pregnancies, only 6 other counties in the state report lower rates of smoking among pregnant women.[284]

The Healthy Carolinians 2010 objective for alcohol use prior to and during pregnancy is to reduce alcohol use among women prior to becoming pregnant to 19 percent and among women during pregnancy to .6 percent. Heavy alcohol use during pregnancy can result in fetal alcohol syndrome.

Abuse of other substances during pregnancy can result in birth defects and developmental problems in infants and children.

**DISPARITIES**

There are significant disparities that still exist between whites and minorities related to birth outcomes; this may be attributed to higher rates of poverty and less access to

[279] Prenatal Care First trimester 1997-2001, Orange County, DHHS State Center for Health Statistics
[280] 1997-2001 NC Live Births, age of mother <30 with high parity, Orange County, DHHS State Center for Health Statistics
[281] 1997-2001 NC Live Births, age of mother >30 with high parity, Orange County, DHHS State Center for Health Statistics
[282] 1997-2001 NC Live Births, Short interval- 6 months or less between last delivery and conception, Orange County, DHHS State Center for Health Statistics
[283] Personal Communication, Kathy Glassock, OCHD Clinical Nursing Supevidor, 11/13/03
[284] 1997-2001, Number and percent of mothers who smoked during pregnancy, Orange County, NCDHHS, State Center for Health Statistics

services as well as to the stress inherent in living within a racist environment and system of care.

Birth, Fertility and Abortion Rates

Table 9C shows that while whites and minorities have similar birth rates, minorities have much higher rates of pregnancy and abortion in Orange County than do whites. Among women ages 15-44 the white pregnancy rate is 47.9 per 1,000 while the minority rate is 77.9 per 1,000. The abortion rate for whites in this age group is 9.6 per 1,000 while that for minorities is 31.4 per 1,000. The data suggests a strong need for additional family planning services in the minority community. The minority birth rate in Orange County is closer to that of whites with 46 minority women per 1,000 giving birth compared to 37.9 per 1,000 whites. [285]

| | Pregnancy Rate | | | Fertility Rate | | | Abortion Rate | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Total** | **White** | **Minority** | **Total** | **White** | **Minority** | **Total** | **White** | **Minority** |
| **NC** | 79.5 | 74.6 | 90.4 | 64.8 | 65.4 | 63.3 | 14.3 | 8.9 | 26.4 |
| **OC** | 54.6 | 47.9 | 77.9 | 39.5 | 37.9 | 46 | 14.7 | 9.6 | 31.4 |

Table 9C. Pregnancy, Fertility and Abortion rates per 1,000 women ages 15-44 by Race in NC and Orange County, 2002[286]

Infant Mortality

Orange County has narrowed the gap considerably with 6.2 infant deaths (2 infants) per 1,000 live births among minorities in 2002 compared to 5.8 infant deaths (6 infants) per 1,000 births among whites[287]. The infant mortality rate in 2001 was almost triple for minorities (4.9 deaths per 1,000 live births for whites but 14.4 per 1,000 live births for minorities). For the period from 1997-2001 the neonatal death rate for minorities was still considerably higher at 11.7 per 1,000 births compared to whites at 3.5 per 1,000 births. Fetal deaths were also higher for minorities during the same period with 10.2 fetal deaths per live births for minorities and only 7.3 per 1,000 for whites.[288]

Low Birth Weight

There exists a disparity between whites and minorities based on low birth weight as well. The percentage of low weight minority births for Orange County for the period 1997-2001 was 12.8%, more than double the white percentage of 6.2%. The State percentage for 1997-2001 was 13.1% for minorities and 7.2% for whites so we fare better than the State average but still need improvement, particularly within the minority population[289].

[285] Pregnancy, Fertility and Abortion Rates by race for females ages 15-44, North Carolina regions and counties, 2002. NC State Center for Health Statistics
[286] Ibid
[287] Infant death rates, 2002, Orange County, DHHS State Center for Health Statistics
[288] NC DHHS- 2001 Infant Death Report, July 31, 2002
[289] County Health Data Book, NC State Center for Health Statistics, NCDHHS, 2002. Number and Percent Low Birth Weight Births by Race 1996-2000. Pg B-14

Prenatal Care

There are disparities seen in this area as well with the percentage of women receiving early prenatal care in Orange County at 90% but the percentage among African Americans at only 76.2%. On a positive note, there were 22 Native Americans in Orange County that received early prenatal care between 1997 and 2001 making up 96% of all Native Americans during the period that were having babies.[290]

**Residents Concerns and Comments**

In general, residents did not cite concerns about maternal and infant health during the Community Health Assessment. This probably reflects Orange County's relatively good health status with regard to teen pregnancy, low birth-weight infants, and prenatal care. Nutrition services offered through the WIC program were also cited as a resource, although some providers noted that the gap between WIC eligibility and many low-income families left some nutrition need unmet in this population.

**Resources**

Orange County has 6 Maternity Care Coordinators and two outreach workers in several of the Orange County agencies that provide prenatal care to low-income women such as the Health Department, Piedmont Health Services and UNC Hospitals. These social workers and trained paraprofessionals have helped to make substantial improvements in birth outcomes over time and many people are working in clinics and community settings to continue to improve maternal health.

The promotion of folic acid prior to and during pregnancy by the March of Dimes and local health agencies over the past few years is aimed at reducing the number of neural tube defects and other possible birth defects related to vitamin and mineral deficiencies.

There are also programs in place in Orange County that work specifically with pregnant and parenting women who are addicted to substances. The Horizons Program through UNC Hospitals is a comprehensive program that helps women with behavior change and life skills on many levels however, they are not able to help all that are in need.

See programs listed above under adolescent health for more resources.

**Gaps and Unmet Needs**

The influx of Hispanic families to our area has resulted in a large number of Hispanic women seeking prenatal services in the community. A combination of factors, including family and cultural beliefs, and the inability of some family planning services to work effectively with Spanish-speaking clients, may contribute to the high pregnancy rates among Latinas and subsequent large numbers of children in the Latino community. Efforts that are culturally sensitive, that help clients navigate confusing immigration status requirements, and that are responsive to language needs and religious beliefs, will likely be the only ones that succeed in reaching this population.

[290] Prenatal Care First trimester 1997-2001, Orange County, DHHS State Center for Health Statistics

**Emerging Issues**
As new technologies and practices are made available in the areas of prenatal care, surgery and neonatal care, more babies with previous life threatening conditions will be able to survive. However, the number of fetal and neonatal deaths will most likely never get to zero.

# D) Men's Health

**Healthy Carolinians objective**
There are no objectives specifically for men's health

**Impact**
The greatest issue for men, especially between the ages of 18-45, is their tendency not to seek regular preventive health care. As a result conditions such as diabetes, high blood pressure and cancers may go undetected and untreated.

**Contributing Factors**
As mentioned above younger men do not tend to seek preventive care. Smoking, lack of physical activity and being overweight impact the health of men. Substance abuse is also a greater problem for men than women and they are also more often involved in motor vehicle related injuries, homicides and other crimes than are women.

**Data**
At the time of the 2000 census, there were 29,221 men ages 20-49 and 11,419 men over age 50 living in Orange County for a total of 40,640 men 20 or older[291]. Of the respondents on the BRFSS who had not seen a doctor for a routine check-up in 2 years or more, they were more often men (19.5%) than women (3.7%) and more often those age 44 or younger (15.5%) versus those over 45 (4.5%)[292].

**Disparities**
Men have higher death rates than women for all of the chronic diseases and minority males have much higher death rates than white males as well. Please see Chapter 5 chronic disease for more details on these issues.

Men also suffer more frequently from death due to motor vehicle injuries, homicides and suicides than do women, and minority male rates are higher than for white males. Please see Chapter 7 on injury for more details.

The same patterns described above also hold true for substance abuse. Please see Chapter 10 on Mental Health for more information.

**Residents Concerns/Comments**
No additional concerns specific to men's health were raised in the community interviews and focus groups.

[291] Census 2000, Summary File 1: Persons by Race, Age, Sex; Households and Families by Race and by Type - Orange County , NC
[292] 2002 BRFSS, NC State Center for Health Statistics

**Resources**
Many health resources that are available in the county are provided to both sexes, however, agencies such as the Health Department focus primarily on women and children. A new grant through UNC-CH, in partnership with the Orange County Health Department and the Efland-Cheeks community, provides health education and prevention information to minority males in Efland-Cheeks. The project, entitled MAN (Men as Navigators) for Health, works to address the male gender socialization and organizational barriers that discourage men from seeking health care services.

**Gaps and Unmet Needs**
The data would suggest that more prevention education and screening services should be targeted towards males, and in particular minority males, in order to lower the morbidity and mortality rates due to chronic disease and injuries. More substance abuse programs need to be made available to the whole community as well.

**Emerging Issues**
Because chronic disease is more common in people as they age, and the population on a whole is aging, more prevention education needs to be done to encourage not only healthier lifestyles among people of all ages, but also to encourage men to seek preventive health care at earlier ages and with greater frequency than they currently do.

## E) Older Adult Health

**Healthy Carolinians objectives related to older adults:**

***Increase the numbers of North Carolinians who, at the end of their life, use hospice and other palliative care services by 25 percent.***
UNC Hospice served 93 Orange County residents and Duke Community Hospice served 129 Orange County residents in fiscal year 2002-2003

***Increase the number of adults over age 65 who have incomes at least at the federal poverty level***
The 2000 census reported 686 persons 65 and older living in poverty in Orange County[293]

***Increase spending for Home and Community-Based Care services as a proportion of total long-term care spending to 25% of total long-term care funding***
Information on spending for long-term care could not be found.

***Increase the percentage of older adults that have access to safe, decent, affordable and accessible assisted living facilities***
Information on the number of adults in assisted living in Orange County could not be gathered.

[293] LINC Topic Report:: Decennial Census- Income, Poverty and Employment Orange County

Please see also chapter 6-Communicable Disease and Chapter 10- Mental Health for other objectives related to persons age 65 and over.

**Impact**

As the population of Orange County ages, issues related to the health and well-being of older adults will increase. As individuals age, chronic disease becomes more prevalent, and issues related to long-term care for the elderly become more critical. Older adults with limited mobility require continuing-care retirement communities, assisted living facilities, and homes where they can live and access services comfortably. Most of the continuing-care retirement communities are too expensive for lower to middle income older adults. Furthermore, research has found that when older adults are forced to move to unfamiliar surroundings, many become much less active and less social, therefore significantly affecting their overall physical and mental well-being.[294]

There are major social health forces that shape the physical and mental health of seniors in our county. Seniors who are isolated or have few social supports are less likely than their more socially connected counterparts to access available services, and their isolation can contribute to poor health if it means that they are not accessing important preventive and interventive health care. The most isolated seniors tend also to be poor, and poverty is an additional barrier to services for many seniors. In Orange County, the majority of seniors are subscribers to Medicare, but gaps in that program's long-term care coverage, and non-existent drug coverage, mean that seniors with limited financial means must often choose between economic hardship and good health. Choosing between purchasing medication and making an important payment for something like rent or heat is a reality for some of the seniors in our county. The newly passed Medicare bill may alleviate some of the drug coverage issues.

In relation to end of life care, Healthy Carolinians 2010 states that despite federal and state laws that establish this right, completion of advance care directives is infrequent, and their use by health care personnel is erratic. Nursing home and rest home personnel care for many dying elders but have limited training to prepare them to provide comprehensive end of life care to residents and their families. Palliative care is essential for maintaining health and the highest possible quality of life for the terminally ill, their families and caretakers.[295]

The fiscal well-being of the older adult population bears a direct correlation to physiological well being, good mental health, and the overall quality of life. Without adequate financial resources, the physical and mental health of the older adult population will be lower.[296]

[294] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of The Governor's Task Force for Healthy Carolinians. PG 167
[295] Healthy Carolinians 2010
[296] Ibid

**Contributing Factors**

The risk of chronic disease increases with age as the natural aging process takes its toll on the major systems of the body such as heart, lungs and bones. In addition, the risk of various cancers increases with longer exposure to cancer-causing toxins such as smoking and environmental exposures.

Ineffective care at the end of life can include families lacking information about care for terminally ill family members, under-utilization of hospice services and long-term care facility providers not being trained to provide comprehensive end of life care.

Various factors can effect the financial status of older adults including lack of continued working income due to downsizing or disabilities that prohibit working, the cost of prescription medications, escalating tax payments and a lack of pensions, savings and retirement programs.

Older adults on fixed incomes, who lack family and social support and access to services due to cost or unavailability will have difficulty managing expenses and self care as they age. Those most at risk for not accessing available resources include those who do not trust medical services. In particular, because of a history of racism and discrimination, some minority seniors do not trust the medical system and warrant very intensive trust-building efforts so that they feel welcome in the healthcare setting.

**Data**

The 2000 census reported there to be 7,400 people ages 65-79 and 2,531 individuals over age 80 residing in Orange County for a total of 9,931 people[297]. The over 65 population in Orange County is expected to grow to 21,553 by the year 2020.[298]

The leading causes of death for people over age 65 are the chronic diseases including heart disease, cancer, cerebrovascular disease and chronic obstructive pulmonary disease followed by pneumonia, flu and diabetes. Cancer was the leading cause of death for those in the 65-84 age group, for the three-year period from 1999-2001 at a rate of 1100.6 per 100,000, a rate slightly higher than the state rate of 1017.8 per 100,000 for this same age group. Heart disease was the leading cause of death in the 85 and over age group at a rate of 4627.9 per 100,000, a rate lower than the state rate of 5111.3 per 100,000.[299]

As of the 2000 census, 7.38 percent of people over age 65 living in Orange County were classified as living in poverty, down from the 1990 census when the number was much higher at 13.3%.[300]

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[297] Census 2000, Summary File 1: Persons by Race, Age, Sex; Households and Families by Race and by Type - Orange County , NC

[298] Orange County Master Aging Plan: Environmental Scan. Orange County Department on Aging 12/01/99

[299] Death Counts and Death Rates for Leading Causes and Cancer sites, by age groups 1999-2001, Orange County, NC. NCDHHS State Center for Health Statistics accessed 11/15/03 at: http://www.schs.state.nc.us/SCHS/healthstats/databook/

[300] LINC Topic Report:: Decennial Census- Income, Poverty and Employment Orange County

The Orange County Master Aging Plan includes detailed information on living arrangements and living facilities for older residents in Orange County[301].

**Disparities**
As mentioned elsewhere in this report, older people suffer disproportionately from chronic disease and minority group members have higher rates of all of the chronic diseases than do whites.

Low-income older adults have access to fewer services than those with higher incomes, this includes access to quality health care, transportation, housing and proper nutrition. There are more minority low-income adults in the community than whites. At the time of the 2000 census, 22.89% of blacks were classified as living in poverty versus only 8.45% of whites[302].

**Residents Concerns**
Many of the senior citizens we spoke with have attended our local senior centers, which they cited as a resource in keeping them connected to others. Seniors worried about the costs of long-term health care, and were often strained by the high costs of prescription drugs. Seniors also worried about the health of those more isolated persons who do not access services such as those available through the senior centers. Indeed, isolation was one of the biggest concerns other providers noted, as well. Providers felt that the network of services provided through the Orange County Department on Aging, including opportunities for education, recreation, and transportation, was very good, but worried about those seniors who do not access those or any other services. Neighborhood leaders stressed the importance of providing outreach services by culturally and locally accepted professionals to isolated seniors so that a relationship of long-standing trust could be built that might encourage them to use available services and request help when they needed it.

Providers of health-related services in our community feel that, as our population has grown, services to meet the needs of our oldest citizens have not kept pace, and that seniors do not receive the kind of health care they deserve.

**Resources addressing the issue**
The Department on Aging in Orange County provides a broad array of services to older residents through various programs and 3 senior center locations.

**Gaps and Unmet Needs**
The lack of prescription drug coverage for seniors on Medicare may be alleviated by the newly passed Medicare bill, as the bill includes provisions for some drug coverage. However, there may still be a need for advocating in conjunction with national groups, or by forging a local solution, to help all the seniors that need prescription drugs be able to

[301] Orange County Master Aging Plan: Environmental Scan. Orange County Department on Aging 12/01/99
[302] LINC Topic Report:: Decennial Census- Income, Poverty and Employment Orange County

afford them. The other large gap in senior services in this community appears to be culturally sensitive outreach to seniors who are isolated completely from many forms of social and healthcare support. Finally, social isolation is exacerbated by transportation difficulties. While many praised services like OPT and EZ-Rider as helping seniors access resources, others noted that it is not easy for seniors in the Northern and more isolated parts of the county to access public transportation services, and this difficulty probably contributes to isolation.

More residential services for the aging population are still needed in Orange County to accommodate the growing numbers of seniors. In home services, assisted living, adult day care and the full spectrum of living arrangements that are possible for older adults to live a good quality of life will need to be expanded.

**Emerging Issues**
The aging population is expected to grow more quickly over the coming decades than other sectors of the population and, according to the Orange County Master Aging Plan, within the over 65 age group, the old-old, those over 85 will begin to grow more quickly than any other portion of the 65 and over population. This will have a significant impact on how and what services are required. The diversity of needs amongst the members of the 65+ population will be great. No longer will "services for seniors" be a catch-all; services will need to be differentiated based on health, economic, geographic, racial and ethnic components of the 65+ population.[303]

The growth in the over 65 population in Orange County is due to the convergence of two demographic trends – more seniors are moving here to retire, and, nation-wide, the population of 'baby boomers' moving into its senior years. As the population grows, services will need to expand to meet already existing needs in transportation, prescription coverage, and combating isolation, and will need to expand to meet the needs of a larger and more diverse community of senior citizens.

# F) Health of the Physically Disabled

Please see Chapter 10 for more on persons with developmental disabilities

**Healthy Carolinians objectives related to disabilities:**
***Increase the proportion of adults with disabilities reporting sufficient emotional support to 73.9 percent***

***Increase the proportion of adults with disabilities reporting satisfaction with life to 96.8 percent***
No source of local data could be found to reflect these objectives

[303] Orange County Master Aging Plan: Environmental Scan. Orange County Department on Aging 12/01/99

**Impact**
According to Healthy Carolinians 2010, disability is an issue that affects every individual, community, neighborhood, and family in North Carolina, either directly or indirectly. There are hundreds of different disabilities. Some are present from birth; many come later in life. Some are chromosomal, like Down-Syndrome. Some are progressive, like muscular dystrophy and cystic fibrosis. Some are episodic, like seizure conditions. Others have both aspects like multiple sclerosis, which is progressive and episodic. Some conditions happen in an instant, like the loss of a limb or paralysis. Some disabilities are visible, while others, like diabetes and epilepsy, are invisible. Disabilities are numerous and different in nature and form. However, regardless of specific condition, people with disabilities encompass a population of people who have too often been discriminated against in many aspects of society. Disability is a natural part of the human experience that does not diminish the right of the individual to enjoy the opportunity to live in and contribute to the mainstream of American society. Most people with disabilities have the potential to lead healthy and productive lives if given the opportunity to attain it and fully participate in all aspects of community life.[304]

**Contributing Factors**
Birth defects, developmental disabilities, injury, illness or disease, genetics and aging all contribute to the occurrence of disabilities.

**Data**
In the 2002 BRFSS, 8.8% of those surveyed expressed limitations of activities due to physical, emotional or mental health. When asked if they had specific impairment or health problems that caused trouble learning, remembering or concentrating, 22.2% said yes. 7.9% said they needed assistance with personal care and 17.1% needed assistance with routine needs such as everyday household chores, doing necessary business, shopping, or getting around for other purposes. Based on all of the above questions, 12.2% of the adult population was classified as having a disability.[305]

The YRBS also asked middle and high school students about disabilities. From 14.4% to 20% of students considered themselves to have a disability. When asked if their activities were limited due to an impairment or health problem 10.3% to 17% answered yes. In response to the question “do you have trouble learning, remembering or concentrating due to an impairment or health problem” between 11.5% and 17% of students said yes.[306]

The school systems have a variety of classifications for students in the exceptional education program. Those that reflect physical disabilities are listed in Table 9D, (next page).

[304] Healthy Carolinians 2010, North Carolina’s Plan for Health and Safety, Report of The Governor’s Task Force for Healthy Carolinians. Pg 81
[305] BRFSS Survey Results 2002 for Orange County, accessed on 11/4/03 at : http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/
[306] Middle and High School Student Responses to the Youth Risk Behavior Survey, 2001, CHCCS and OCS

| Disability classification | CHCCS | OCS |
|---|---|---|
| Deaf/Blind | 0 | 0 |
| Hearing Impaired | 10 | 11 |
| Multi-Handicapped | 9 | 9 |
| Other Health Impaired | 257 | 210 |
| Orthopedically Impaired | 8 | 10 |
| Speech-language Impaired | 131 | 278 |
| Visually Handicapped | 6 | 5 |
| Total | 421 | 523 |

Table 9D. Physically disabled children in the CHCCS and OCS 2002-2003[307]

**Disparities**

Healthy Carolinians 2010 reports that disparity issues related to disability are complex. People with disabilities, like other groups that have been historically disadvantaged, have higher rates of unemployment, lower incomes, fewer educational opportunities, fewer living options, and face an ongoing struggle for inclusion. Although the Americans with Disabilities Act (ADA), enacted in 1990, was created to address many of the barriers to participation in society, full implementation has not yet been realized.

People with disabilities also encounter significant structural, financial, and personal barriers that limit their access to health and health-related care. Those who are elderly, members of minority groups, or who live in rural areas face additional barriers. Structural barriers, such as the unavailability of services and the lack of accessible transportation, buildings, and programs are a major concern for people with disabilities. People with disabilities also face a number of financial barriers in accessing services including obtaining affordable insurance that does not restrict or exclude coverage of needed services. Personal barriers, including attitudes, knowledge, and communication also influence access to care for people with disabilities. Consumers report that many health care providers focus on their disability and fail to deal with critical primary care issues. Communication with people with disabilities may involve adapting the print size or content of written materials, using interpreters, working with special communication devices, or recording instructions[308].

**Residents Concerns**

Please see the concerns of residents in Chapter 10 under developmental disabilities.

**Resources addressing the issue**

Please see resources in Chapter 10 under developmental disabilities.

**Gaps and Unmet Needs/Emerging Issues**

People with disabilities need quality health promotion and disease prevention services. They are at risk for developing the same chronic conditions as the rest of the population, including high blood pressure, heart disease, cancer, diabetes, and substance abuse. In some instances, people with disabilities may even be at increased

[307] Exceptional Education Program numbers from CHCCS and OCS school websites
[308] Healthy Carolinians 2010, Report by the Governors Task Force on Healthy Carolinians.

risk. Prevention including self-care and counseling, screening for early detection, appropriate and timely treatment, and early recognition and reduction of known risks, are as important for people with disabilities as they are for everyone else. Much of the health promotion developed for use in the general population can be used directly with people with disabilities. In some cases, new strategies will need to be adapted or developed.

# Chapter 10: Mental Health, Substance Abuse and Developmental Disabilities

Both substance abuse and mental health emerged as two of the top five priority issues in the community assessment process. When asked to think about which aspects of health are most important to them, residents often talked about manageable stress, a sense of well-being, being able to function independently, and other key aspects of what health providers call mental health. While mental health is a key component to many people's definitions of health, the provision of mental health services is perceived as lacking in our community. Residents often felt that mental health needs are unmet, and the data bear out the fact that some citizens have trouble accessing mental health services in a timely and affordable manner.

## This chapter contains the following sections:

# Chapter 10: Part 1. Adults

## A) Mental Health

> "*If you are not mentally healthy, there are negative repercussions at work…. If you are not mentally healthy, you can't take care of your family properly*."
>
> - Community Resident

**The Healthy Carolinians Objectives related to adult mental health:**

***Increase the proportion of adults with mental illness who receive treatment by 15%.***

***Increase the proportion of adults over age 65 with mental illness who receive treatment by 15%.***
There is currently no reliable source of comprehensive data with which to determine a baseline for these measures.

**Impact**
Healthy Carolinians 2010 states that it is estimated that between 15-25 percent of adults suffer from significant mental illness. This includes people with serious and persistent mental illness, those who develop mental illness later in life, as well as those who have mental health problems and need treatment but are not diagnosed. Nationally it is estimated that only one-third of individuals in need of treatment actually receive mental health treatment.[309] Adults who struggle with poor mental health often struggle with every other aspect of their health.

Among older adults, national estimates suggest that 5-8 million older adults suffer from mental illness, and that treatment rates for mental illness are low in this age group. Older adults are more likely to receive mental health treatment from their primary care practitioner than from specialty-trained mental health care providers, which results in mental illness being under-recognized and under-treated[310].

One provider summarized the impact that mental health has on the health of individuals and our community this way: "*Severe Mental Illness is more expensive than cancer to the public at large, it is a total disability, more expensive than any other area of health*…" Mental health clients made the connection between physical and mental health explicit when they told us that managing their mental health left little time, energy, or financial resources for managing key physical health concerns like nutrition, weight management, exercise, preventive health, or access to medications. Mental illness also has a tremendous impact on the quality of people's lives. One resident explained, "*If*

[309] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians. Pg 156
[310] Ibid

*you are not mentally healthy, there are negative repercussions at work…. If you are not mentally healthy, you can't take care of your family properly*." The impact of mental illness in adults is often reflected in their families and their children.

**Contributing factors**
Being older, having inadequate health care, physical disabilities and health problems, a reluctance to seek mental health treatment (especially by older adults) and a lack of access to early diagnosis and treatment all contribute to the problem of mental illness and poor mental health.

**Data**
Local data is available from a variety of programs but it is difficult to access and present a comprehensive picture of how many persons in the county are being served and more difficult still to determine how many might be in need of services that are not receiving treatment. Orange-Person-Chatham Area Program (OPC) is the state funded community mental health program in Orange County that provides services to those who cannot afford private mental health services. In the fiscal year 2002-2003 OPC served a total of 1,180 Orange County adults for mental health services. They served 884 adults for mental health services alone and another 335 who were dually diagnosed with mental health and substance abuse. In a third category, 114 clients were served for mental health, substance abuse and developmental disabilities combined.[311].

We know this is only a fraction of the individuals receiving mental health services in the County, as there are many private practitioners who also provide these services. The UNC Department of Psychiatry estimates 29,000 patient visits annually through their outpatient clinics. And the STEP clinic serves around 120 Orange County residents per year. There are also services available outside of Orange County at Duke, Wake Med, Butner or other locations that provide inpatient and outpatient therapies or residential placements where Orange County residents may go for assistance and care. Based on a study by OPC Medical Director Donna Prather in 2002, using Orange County population data and national epidemiological prevalence estimates, there may be between 14,000 – 20,000 Orange County residents who are in need of some type of mental health service.[312]

Hospitalization data from 2001 shows that 1322 persons were hospitalized in Orange County for "other diagnoses including mental disorders" but that is not a solid number as the "other diagnoses" are unclear.[313]

Alzheimer's was the eighth leading cause of death in Orange County in 2001 with 19 individuals dying from this cause at a rate of 15.7 per 100,000 population.[314]

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[311] Orange County Residents Served by OPC in fiscal year 2003, personal communication, Tom Maynard, Director, OPC-Area Program 11/21/03
[312] From a review of epidemiological studies by OPC Medical Director Dr. Donna Prather. Studies reviewed include the Epidemiological Catchment Area Study and the National Co-morbidity Study. Personal Communication, Tim Williams, 11/6/02
[313] Inpatient Hospitalization and Charges by Principal Diagnosis and County of residence, NC 2001. State Center for Health Statistics

**Disparities**
According to Healthy Carolinians 2010, the prevalence of mental illness varies by gender and socio-economic status. Major depression affects twice as many women as men. Women who are poor, have little formal schooling, and on welfare, or are unemployed are more likely to experience depression than women in the general population. Anxiety, panic and phobic disorders affect two to three times as many women as men.[315]

Among older adults, depression and anxiety are seen more often among those with physical disabilities and physical health problems. Dementia illnesses such as Alzheimer's disease are as high as 12% among persons age 65 and by age 85 the rate grows to 25 percent[316].

While mental illness is evenly distributed across all demographic and socioeconomic groups, the same cannot be said for mental health care. Many health insurance plans do not cover mental health care, and those plans that do often impose strict spending and treatment limits, so that one severe mental illness can quickly deplete lifetime insurance allowances. Some people with mental illness are so impacted by their disease that they qualify for disability insurance and its accompanying Medicaid benefits, but the process and wait involved in qualifying for disability is a great frustration. Those without private insurance or Medicaid are left to pay for mental health services on their own; this often means that they get less care, fewer medications, and have poorer outcomes than their wealthier counterparts.

Those with mental illness also face the stigma that is often associated with their disease. People with mental illness told of the challenge they had faced when deciding whether to tell others about their illness, when seeking employment, and when trying to fit in to a community that often confronts mental illness with a great deal of confusion and misinformation. Their efforts were not made any easier when they were not able to afford the medications they needed to stay healthy; one client gave this example: "*You talk about reintegrating into the community…people want to know if you're still taking your meds. If you can't afford the meds because you don't have any insurance and you've lost your (SSI) coverage, you don't have any other options*."

**Residents' concerns/comments**
Residents' primary concern about mental health is concise: there is not enough mental health care. More particularly, there is not enough mental health care for those with few economic resources, for those who do not speak English, and for those who need long-term, comprehensive services. Because mental illness can impact so many aspects of people's health, the detrimental effects of not being able to access mental health care

[314] North Carolina Vital Statistics Volume 2, leading causes of death -2001, published by the State Center for Health Statistics, accessed on 11/03/03 at: www.schs.state.nc.us/SCHS/healthstats/deaths/lcd2001/
[315] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians. Pg 156
[316] Ibid

are significant. As noted above, though, residents are also worried about the stigma that the mentally ill face, and the myriad ways that it affects all aspects of their lives.

**Resources**

The Mental Health Association of Orange County (MHA) serves 200 persons a year with information and referral and the Compeer friendship program has 31 adults with mental illness who are matched with community volunteers. MHA also provides 3 support groups; depression or bipolar disorder, schizophrenia or schizo-effective disorder and anxiety disorder. Each group meets twice a month and together these groups serve approximately 25 individuals per year. Vocpeer, a new program of MHA, also provides volunteers who are matched with people with mental illness who want assistance in vocational activity including volunteering[317].

Club Nova, run by OPC-Mental Health, provides support to persons living with mental illness through a clubhouse model. They offer case management, job training and placement, help people to access benefits, and provide a supportive environment for individuals with persistent mental illness. Club Nova serves approximately 80 people per year and has an average daily attendance of about 40[318].

The UNC Department of Psychiatry offers both outpatient and inpatient mental health services and also has specialty clinics for eating disorders, geriatric psychiatry and seasonal disorders. They offer case management, medication management and support groups. The Schizophrenia Treatment and Evaluation Program (STEP) Clinic provides in and outpatient treatment specifically for schizophrenics.[319]

Although residents spoke highly of the services available at OPC, they lamented the length of the waiting lists, and service providers wondered whether clients were able to access services when needed. Support groups and community-based initiatives are available to specific populations (i.e., self-advocates, domestic violence victims, clients at the STEP clinic), but community-based mental health services for those who don't fit in a particular category are lacking.

**Gaps and unmet needs**

Although one local phonebook lists close to 50 private mental health providers, only four of those are located in Hillsborough; none are located further North than that. And while the Family Counseling Center, a service of OPC, is located in Hillsborough, residents in the Northern part of the county often noted that they have a hard time accessing mental health care, since getting to the clinic in Chapel Hill requires a bus transfer that is difficult to coordinate. And while our plethora of private providers is useful for some, many of them do not accept Medicaid, and their hourly rates are too high for many to afford. The only resource consistently available to those with few financial resources is

[317] Personal Communication, Evonne Bradford, Executive Director, Mental Health Association of Orange County. 11/13/03

[318] Personal Communication, Joan Burnett, Rehabilitation Therapy Specialist, Club Nova, 11/19/03

[319] From the UNC Department of Psychiatry website accessed on 11/14/03 at: http://www.psychiatry.unc.edu/clinicalservices/welcome.htm

OPC and its programs; the waiting list of a month or more is a barrier to many who would otherwise seek services there.

**Emerging issues**
Even as we heard about poor and uninsured residents' dependence on OPC for mental health care, and about the scarcity of community-based resources and support groups, we heard service providers lament the changes that the state mental health reform will bring to OPC. As this report was written, OPC and the state were in negotiation to create a plan that would meet OPC's goals and, at the same time, the state's requirements. Providers who work with the mentally ill worry that, *"...people will fall through cracks that we have worked passionately to close. Those cracks will become major gaps."* The intent of the state plan was, in part, to move mental health services from centralized agencies like OPC into community agencies that are assumed to be better at providing mental health services in a cost-effective, client-centered manner. However, providers cautioned that, "*The assumption is that if someone needs mental health care and they don't fit into one of the (categories) that we're allowed to work within, then there will be a private provider like a family doctor who will offer that person lower-level mental health care… the assumption is too grand about what will take place. Some of the clients we work with, people in the private sector are not going to want to see: they're complicated, challenging, and high-risk, and the state is not going to pay anybody for (the level of care they need)."* Others in the mental health arena believe that the mental health reform process can be an opportunity to fix what hasn't been working and for the community to come together to craft a better mental health system than the one that currently exists, but it will take everyone working together to make that happen. As the county continues to work towards state-mandated reform, providers and clients alike will watch the emerging services and gaps very closely.

As the population ages, those with diagnoses of Alzheimer's or dementia are likely to rise, creating an increasing demand for services to these groups.

## B) Substance Abuse

> "*There is a huge difference in the cost to society for someone with substance addiction who manages to turn their life around compared to someone who doesn't. The payback for success is dramatic*" -Mental Health Provider

**<u>The Healthy Carolinians Objectives related to adult substance abuse:</u>**

***Increase the proportion by 100% of adults in need of comprehensive substance abuse treatment who receive treatment to 8.8 percent.***

2,155 persons were treated for substance abuse by OPC Mental Health, Freedom House, and UNC ASAP in the 2002-2003 fiscal year, which is estimated to be 19% of the potential substance abusing population[320,321,322,323]

***Reduce the prevalence by 25% of heavy alcohol use in the past year among individuals 45 years and older to 3%***

In Orange County according to the 2002 BRFSS, 4.8% of all adults surveyed were classified as heavy drinkers[324].

***Reduce the prevalence of adults, age 18 and older, using any illicit drugs during the past year to 5%***

No source of local data could be found for this measure

**Impact**

According to Healthy Carolinians 2010, substance abuse is one of North Carolina's most expensive health problems. It is estimated that substance abuse problems are costing North Carolina $5 billion in health care costs, premature death, reduced productivity, criminal justice, motor vehicle crashes, etc[325]. The problem is compounded by a lack of adequate treatment programs, long waiting periods for services and lack of insurance coverage or funds to pay for treatment.

Alcohol abuse among older adults is an especially serious problem. Among men 15% percent report their first symptoms of alcoholism occurred between the ages of 60-69 and among women 24% report the same. Alcohol abuse by older adults can result in a higher risk for falls and drug interactions due to older residents taking numerous medications. Many cases of memory deficit and dementia are now believed to be a result of alcoholism. [326]

When we asked residents and service providers what they thought the most important issues affecting the health of our county were, substance abuse was one of the most common answers given. Providers, families, and substance abusers themselves all recognize the devastating impact that substance addiction has on almost every aspect of personal and community health.

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[320] From a review of epidemiological studies by OPC Medical Director Dr. Donna Prather. Studies reviewed include the Epidemiological Catchment Area Study and the National Co-morbidity Study. Personal Communication, Tim Williams, 11/6/02

[321] Orange County Residents Served by OPC in fiscal year 2003, personal communication, Tom Maynard, Director, OPC-Area Program11/21/03

[322] Personal Communication, Trish Hussey, Director, Freedom House Recovery Center, 11/17/03

[323] Personal Communication, Bill Renn, UNC Alcohol and Substance Abuse Program, 11/18/03

[324] NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html. Accessed 11/12/03.

[325] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians. Pg 112

[326] Ibid, Pg 113

**Contributing factors**

Substance abuse is a complex issue and related to many causes. Lack of available treatment, lack of knowledge about the effectiveness of treatment and lack of funds to pay for treatment all contribute to high rates of substance abuse.

As noted in the "Public Safety" section of Chapter 4, many residents recognize that crime, poverty, and substance abuse are often interconnected in our community. Providers explained that, from their perspective, those clients who present with substance abuse problems tend to be those whose emotional, vocational, and social needs are not being met by our community. Because of their resources, their abilities, or their preferences, they are excluded from the typical social networks, and so they use substances as a way to lower their stress or to fit in. One provider wondered, "*I wonder how many people use recreational drugs because they don't have access to mental health drugs - so much addiction is caused by anxiety and depression*."

**Data**

As with mental health data, it is challenging to find comprehensive data on this topic due to the diversity of providers in the area. Based on the study by OPC Medical Director Donna Prather in 2002, using Orange County population data and national epidemiological prevalence estimates, there may be between 5,600-11,000 Orange County residents who are in need of some type of substance abuse service[327]. Data from the three substance abuse treatment providers below show a total of 2,155 Orange County residents that received treatment in the past fiscal year, a figure that would equal about 19% of the projected 11,000 needing treatment in the county.

OPC provides substance abuse treatment to Orange County residents. In the 2002-2003 fiscal year they served 731 people for substance abuse alone, 335 clients with substance abuse and mental health problems combined and an additional 114 clients with substance abuse, mental health and developmental disabilities combined. The total number of people served for a substance abuse problem by OPC that year was 1,180.[328]

Freedom House Recovery Center in Chapel Hill provides halfway houses for men and women, a life skills program and an acute stabilization/detox program. In fiscal year 2002-2003 they served 773 individuals; 675 (87%) of those were Orange County residents.[329]

UNC's Alcohol and Substance Abuse Program (ASAP) served approximately 300 Orange County residents in the last fiscal year[330].

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[327] From a review of epidemiological studies by OPC Medical Director Dr. Donna Prather. Studies reviewed include the Epidemiological Catchment Area Study and the National Co-morbidity Study. Personal Communication, Tim Williams, 11/6/02

[328] Orange County Residents Served by OPC in fiscal year 2003, personal communication, Tom Maynard, Director, OPC-Area Program11/21/03

[329] Personal Communication, Trish Hussey, Director, Freedom House Recovery Center, 11/17/03

[330] Personal Communication, Bill Renn, UNC Alcohol and Substance Abuse Program, 11/18/03

**Disparities**
Healthy Carolinians 2010 states that according to the 1995 National Household Survey on Drug Abuse (NHSDA, conducted by Research Triangle Institute), the need for alcohol or other drug treatment was more common among men than women in North Carolina. About 10 percent of all North Carolina men in 1995 were classified as being in need of comprehensive treatment, compared with only 3 percent of women. These higher percentages of men in need of treatment held across all age and racial/ethnic groups. Furthermore, higher percentages of younger adults (ages 18-24) were in need of treatment compared with percentages of adults in other age groups. Approximately 19% of young males (18-24) in NC were in need of treatment.[331]

**Residents' concerns**
Substance abuse in the community is a major concern for residents. With regards to drug use in particular, residents worry that increased drug use brings to their neighborhood increased rates of crime and delinquency. The lack of available services for those who abuse substances serves to exacerbate the impact that substance abuse has on their health and the health of our community. We are fortunate to have three substance abuse treatment programs in our community, but as one recovering client put it, "*There's a lot of help out there, but you can't just walk off the street to get it. It's all these forms, and then a lot of waiting.*" Additionally, local providers from a variety of agencies and programs expressed their wish that our community had a more diverse set of options for substance abuse treatment.

**Resources**
As mentioned above, OPC Mental Health, Freedom House and UNC's ASAP program all provide substance abuse treatment for adults. In addition there are numerous AA and NA groups that meet throughout the county.

**Gaps and unmet needs**
Residents who cited concerns about substance abuse problems in our community often referred to particular neighborhoods where drug use was impacting an entire community. These neighborhoods are known to residents and seem to be small, well-defined areas. Providing additional resources to residents of these neighborhoods in the form of public safety and health initiatives will be one important way that we begin to stem the tide of drug use they see impacting the health of their communities. For those who have already begun abusing substances, providing a broader spectrum of treatment services which outreach into communities and making treatment more available to those who are finally able to say, "I need help" may also help curtail our community's substance abuse problem. Finally, helping to meet some of the unmet needs in our community, like mental health treatment and viable employment, which may contribute to an individual's substance abuse problem, might help prevent more of our citizens from abusing substances.

[331] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians. Pg 113

### Emerging issues

As mental health treatment becomes more and more focused on brief, out-patient treatment, we may lose the opportunity to create a spectrum of services for substance abusers. And yet, as citizens mentioned time and again during this assessment, the burden that substance abuse places on our community is large. As one mental health provider summarized, "*There is a huge difference in the cost to society for someone with substance addiction who manages to turn their life around compared to someone who doesn't. The payback for success is dramatic*"

## C) Developmental Disabilities

### The Healthy Carolinians Objective

There are no Healthy Carolinians objectives related to developmental disabilities. See Chapter 9: Health Issues of Specific Populations for disabilities objectives.

### Impact

Developmental disabilities include mental retardation and autism, as well as traumatic head injuries that may occur later in life. Generally speaking a developmental disability is a condition that occurs from birth except in the situation of a traumatic injury such as near drowning or head injury that may occur later in life. Developmental disabilities are conditions that will affect an individual throughout their lifetime and usually result in the need for some form of assistance in daily living. Adults with developmental disabilities often struggle to navigate the resources available to others in our community, including medical treatment, employment, and transportation, to name a few. Additionally, the developmentally disabled adults we interviewed spoke of discrimination from individuals and a lack of support from some sectors of our community that impeded their efforts to access needed resources. Finally, the high cost of living in our community has a direct impact on the lives of the developmentally disabled. Many of them are able to work in part-time employment or receive disability benefits, yet they find that few opportunities for that type of employment, combined with the high costs of living here, and sparse independent housing options, make economic survival a constant challenge.

### Contributing factors

Birth defects, premature birth, developmental disabilities, and traumatic injuries such as head trauma contribute to developmental disabilities.

### Data

The Association of Retarded Citizens (ARC) of Orange County serves approximately 140 families per year. Some of these families have more than one individual family member receiving services[332].

OPC Mental Health provides services to persons with developmental disabilities. During the 2002-2003 fiscal year, OPC served 109 adults with developmental disabilities and 114 adults with a combination of developmental disabilities and mental

[332] Personal Communication, Marc Roth, Director, The ARC of Orange County, 11/13/03

health and substance abuse problems. The total number of adults served by OPC with developmental disabilities was 223[333].

**Disparities**
Developmentally disabled clients painted a mixed picture of their position within the community. Sometimes, employers, transportation staff, and medical providers have reached out to provide services and opportunities in a way that is welcoming to those with disabilities. At other times, people with disabilities are excluded because they cannot meet the demands associated with gaining a particular resource. For example, many of the service providers we spoke with said they wished that their physical facilities were more accessible to those with physical disabilities. And, at other times, people with developmental disabilities are made to feel unwelcome and excluded because of something insensitive said by another member of the community.

**Residents' concerns**
Residents who are developmentally able tend not to mention developmental disability as a major health concern. The disabled people we spoke with were particularly interested in being able to meet their basic needs. The housing community that many of them share is an asset, and supportive employment opportunities are important to those who are able to use them. The ARC of Orange County was spoken highly of by both clients and providers.

**Resources**
The ARC provides respite care, social groups, exercise groups, advocacy groups, and general support for families. They also supply some one-time funding to families who could not otherwise afford special services such as occupational therapy, transportation or building a ramp to a house.

The Orange County Disability Awareness Council is a community action group dedicated to improving access to all areas of life for persons with disabilities.

The NC Division of Vocational Rehabilitation, under the Department of Health and Human Services, assists people with emotional, mental or physical disabilities and those in recovery for substance abuse. They help connect individuals to job training opportunities and they work with employers to make their worksites accessible for people with disabilities.

The UNC Center for Development and Learning provides evaluation and treatment plans for people with developmental disabilities.

**Gaps and unmet needs**
All of our community's members need opportunities to create healthy lifestyles, to find meaningful employment, to recreate and to live as independently as possible. With regards to health, those with developmental disabilities often find it hard to maintain

[333] Orange County Residents Served by OPC in fiscal year 2003, personal communication, Tom Maynard, Director, OPC-Area Program11/21/03

healthy behaviors like nutrition and exercise while trying to manage their disability. Providing programs and resources to meet those needs is one way that our community could better meet the health needs of the developmentally disabled population. Further, until all of our service providers have the knowledge and resources they need to provide programs in a way that is truly welcoming to people of all abilities, those who are developmentally disabled will face disparities in many aspects of their lives.

Parents of developmentally disabled young adults expressed concern about the transition from school into independent living and felt there was a need for more programs that would aid these young people in the transition period from public school to adult life.

**Emerging issues** – See above under mental health.

# Chapter 10: Part 2: Children and Adolescents

## A) Mental Health

> "*This community has been pretty fortunate and has developed some new programs; mental health reform is going to be a major jolt for this community, [meaning] the loss of access to substance abuse and mental health treatment for a major part of our community*." - Mental Health Provider

**The Healthy Carolinians Objective for mental health in children and adolescents:**

***Increase the proportion of children and adolescents, birth to age 18, with serious emotional disturbances who receive treatment***

OPC Mental Health served a total of 532 Orange County children and adolescents for mental health conditions in the fiscal year 2002-2003. Of these 380 children had mental health issues alone, 17 had mental health and substance abuse issues combined and 135 children had a combination of developmental disabilities, mental health and substance abuse[334].

**Impact**

According to Healthy Carolinians 2010, 10-12 percent of the total child population in North Carolina will experience serious emotional disturbances. Based on a population of approximately 32,000 children, age birth to 19 in Orange County, this would suggest there are between 3,200 and 3,840 children and adolescents with mental health needs. Mental disorders and mental illnesses often begin during childhood and adolescence. Children who have problems in these areas may or may not be diagnosed, yet it is important to focus on the mental health of children. Identifying and providing services to children who are at risk may prevent some children from developing severe mental health or substance abuse conditions. Diagnosable conditions range from learning disabilities, attention deficit disorder and hyperactivity disorder, and mild depression to more severe conditions such as bipolar disorder or schizophrenia[335].

**Contributing factors**

Living in poverty, parents with substance abuse problems, mothers who are depressed, parents who did not finish high school, unemployed parents, dysfunctional family situations, single parent families, inadequate health care, lack of health insurance coverage and child abuse and neglect can all contribute to mental health problems in children[336]. In addition, Orange County has a high number of successful, well-educated families, and schools that encourage academic excellence. The resulting stress applied to adolescents in particular can result in mental health problems including substance abuse and depression when children feel they may not be living up to the standards being set for them

[334] Personal Communication, Tom Maynard, Director, OPC-MH, 11/20/03
[335] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians. Pg 155
[336] Ibid

**Data**

Capturing the precise data about children with mental health issues is a challenge, but, when taken together, several sources paint a portrait of the mental health of our young people in Orange County

OPC Mental Health served a total of 532 Orange County children and adolescents for mental health conditions in the fiscal year 2002-2003. Of these 380 children had mental health issues alone, 17 had mental health and substance abuse issues combined and 135 children had a combination of developmental disabilities, mental health and substance abuse[337]. The Kidscope Program of OPC serves families with children birth to age 5 for mental health. They provide a range of services including parent education, outreach and consultation that served 248 families in fiscal year 2002-2003. OPC also runs the Early Intervention Program that includes Parent and Child Together (PACT) and the Children's Learning Center for children birth to 3 with developmental disabilities. These two programs served 101 children in fiscal year 2002-2003[338].

Out of 200 juveniles from Orange County that were charged with crimes in the 2001-2002 fiscal year, 53 of those adolescents were sent to mental health treatment facilities at a cost of $1,359,638[339].

The Youth Risk Behavior Survey (YRBS) was conducted in the county's two school districts during the 2000-2001 school year. The survey included 367 eighth graders and 381 ninth graders from Orange County Schools (OCS) and 133 eighth graders and 126 tenth graders from Chapel Hill-Carrboro City Schools (CHCCS). The survey asked the following questions. "During the past 12 months did you ever feel so sad or hopeless almost everyday for 2 weeks in a row that you stopped doing some usual activities?" Twenty-one percent of students from CHCCS middle and high schools answered yes to this question and 26% of OCS middle school and 32% of OCS high school students responded yes. When asked "I feel good about myself", nearly 26% of students from both school systems middle schools and 31% of students of both school systems high schools responded either; strongly disagree, disagree or not sure. High school students were asked if they had ever seriously considered suicide in the past 12 months and 18.5% (93 students) from CHCCS and 24% (23 students) from OCS responded yes to this question.

In questions related to eating disorders, such as "in the past 30 days have you taken diet pills, vomited or used laxatives to lose weight or keep from gaining weight?" 4-5% of students from CHCCS schools responded yes and 9-10% of students from OCS said yes. For the question "In the past 30 days did you go without eating for 24 hours or more to lose weight or keep from gaining weight?" almost 10% of students from CHCCS

[337] Personal Communication, Tom Maynard, Director, OPC-MH, 11/20/03
[338] Personal Communication, Linda Foxworth, Director, OPC-Kidscope, 11/19/03
[339] Judicial District 15-B Annual Report, FY 2001-2002

high schools said yes and 17% of students from OCS high schools said yes to this question.[340]

The YRBS also included a stress related question on the high school survey. Students were asked "How often do you feel stress in your life?" CHCCS students were given the choices of never, rarely and sometimes, and 77.6% of students responded that sometimes they feel stress. In OCS students were offered responses of sometimes, most of the time and all the time. 34% responded sometimes, 25% responded most of the time and 13% of students responded all the time.[341]

**Disparities**

Eating disorders, affecting up to 2 percent of the population, often arise in adolescent and young women; the median age of onset is 17 years. Eating disorders can persist into adulthood and are associated with the highest death rates of any mental disorder[342]. Based on the data above from the YRBS, it would appear that students in the Orange County Schools (OCS) may suffer more frequently from eating disorders as a larger percentage of OCS students claimed that they used laxatives etc. and went without eating to maintain weight.

The data from the YRBS would also suggest that students in the Orange County Schools (OCS) may suffer more frequently from depression as a higher percentage of OCS students had felt hopeless and sad and had considered suicide in the past year than those in the CHCCS system.

Also a cause for disparities is the fact that those who rely on the public system provided by Orange-Person-Chatham Area Program (OPC) often wait weeks or months for an appointment, whereas those who can pay for private services may be seen more quickly.

**Residents' concerns/comments**

Residents are worried about access to mental health treatment for all of our citizens, although they note that, because of extended Medicaid eligibility, many children are able to seek mental health services that adults are not. Still, many parents wondered whether our schools were doing enough to identify and prevent less severe mental health concerns. For example, parents wondered whether family specialists and counselors were overworked to the point that they were not able to provide services like counseling and support groups to teens with manageable concerns. Families also worry about the impact of mental health medication on the development of still-growing children. Indeed, very few mental health drugs have been specifically tested for use with children, yet their use in that population is growing rapidly.

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[340] Middle and High School Student Responses to the Youth Risk Behavior Survey, 2001, Chapel Hill-Carrboro City Schools and Orange County Schools.
[341] Ibid.
[342] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians. Pg 156

**Resources**
The OPC Northside Clinic in Chapel Hill and Family Counseling Service in Hillsborough provide services to families and children, however, the wait to receive these services is long. Families recognized that we are fortunate to have mental health providers in the schools, and further recognized that they could be even more effective if they had smaller caseloads with which to work. The major desire related to our resources for children with mental health concerns is that school personnel continue to collaborate and increase their level of coordination with other agency personnel who may be involved with their children. Families find it very confusing and frustrating to have to access so many different parts of the system in different ways; when they are already dealing with the stress of a mental health diagnosis for a child, it is important that services are well-coordinated so that treatment can effectively address the family's complex needs.

There are many private therapists available to those with insurance coverage or who can afford to pay out of pocket but the fees are unreachable for many families.

The Mental Health Association runs the Family Advocacy Network that provides support for parents of children with emotional or behavioral challenges. The two family advocates work with about 20 families per year.

The UNC Department of Psychiatry offers in and outpatient services for children and adolescents. They offer the Division TEACCH program (Treatment and Education of Autistic and Communication related handicapped CHildren) as well as an eating disorders clinic that serve adolescents age 14 and up[343].

**Gaps and unmet needs**
In general, residents feel that there are not enough mental health services available for children, and particularly for teens. Service providers again and again lamented the lack of options we have for treating a range of mental health concerns in our community. For example, they emphasized that we must create more out-of-home placements within our community, so that we can support teens' reintegration into their family and peer group while providing supportive treatment. Teens, in particular, spoke to us about their own mental health needs, particularly related to less severe mental health concerns. They wished that there were more mental health services available to them in schools: while the CHCCS system has family specialist/social workers in each school, there are only 4 social workers that serve all of the Orange County Schools. Teens also suggested providing avenues for peer support for themselves and their peers as an effective delivery model given their natural developmental affiliation with their peers.

**Emerging issues**
As mental health services provided by OPC become contracted to private providers, children and teens who have in the past benefited from the accessibility of services at

[343] From the UNC Department of Psychiatry website accessed on 11/14/03 at: http://www.psychiatry.unc.edu/clinicalservices/welcome.htm

the Northside Clinic and Family Counseling Service will instead need to seek services from private providers. Mental health providers worry about this shift for a number of reasons. First, they recognize that many children and families benefit from a coordinated system of care, where one agency provides services for children and their families, and is well-versed in collaborating with systems like the court, the schools, substance abuse treatment programs, and the Department of Social Services. As children and teens receive their mental health treatment from private providers, there is worry that care will not be coordinated well – in part because private providers will not be able to bill for case management. There is also a worry that, as services shift from OPC to other providers, fewer services will be available. One worried provider summed it up: "*This community has been pretty fortunate and has developed some new programs; mental health reform is going to be a major jolt for this community, [meaning] the loss of access to substance abuse and mental health treatment for a major part of our community*."

It will be incumbent upon county and agency leadership to attentively monitor the care our young people can access. All agencies will need to be ever more involved in the mental health care of children and adolescents and new paradigms of practice may need to be adopted to respond to the growing disparity between needs and services.

## B) Substance Abuse

> *People have a perspective that alcohol addiction is only kids that come from a certain type of family, and I don't think that's true. I work with just as many kids who come from well-educated families who are well off as I do from lower-income families. I think it's just that people who have more money hide it better, and have the ability to get private treatment."* -Substance abuse service provider

**<u>The Healthy Carolinians Objectives related to adolescent substance abuse are:</u>**
***Reduce the percentage of high school students who consumed alcohol within the past 30 days to 28.8 percent.***
According to the 2000-2001 Orange County YRBS, 40% of high school students consumed alcohol on one or more days in the past thirty days[344]

***Reduce the percentage of high school students who had five or more drinks of alcohol within the past 30 days to 15 percent.***
According to the 2000-2001 Orange County YRBS, 22% of high school students consumed five or more drinks of alcohol in a row on one or more days in the past thirty days[345]

[344] Middle and High School Student Responses to the Youth Risk Behavior Survey, 2001, Chapel Hill-Carrboro City Schools and Orange County Schools
[345] Ibid

***Reduce the percentage of high school students who used marijuana in the past 30 days to 16 percent***
According to the 2000-2001 Orange County YRBS, 24% of high school students used marijuana one or more times in the past 30 days.[346]

***Reduce the percentage of middle and high school students who sniffed glue or spray containers to get high at some time in their life to 13 percent.***
According to the 2000-2001 Orange County YRBS, 5-15% of middle school students and 12-19% of high school students sniffed glue or spray containers to get high at some time in their life. [347]

***Reduce the percentage of middle and high school students who have ever used any form of cocaine to 4 percent***
According to the 2000-2001 Orange County YRBS, 3-5% of middle school students and 7-12% of high school students have ever used any form of cocaine.[348]

**Impact**
As with adults, substance abuse among teens is a growing concern in our community. Teen substance abuse affects teens and their families, and it affects our community. The community's ability to support teens' developmental needs, and provide them with treatment options if they are abusing substances, will determine whether rates of substance abuse among teens will rise or fall.

The use of alcohol and other drugs can prevent young people from reaching their intellectual, social and emotional potential. Substance use may also predispose young people to high-risk behaviors such as sexual behavior that may result in unwanted pregnancy or sexually transmitted infections. Alcohol and other drug use combined with driving often results in fatal and non-fatal traffic related injuries.

**Contributing factors**
Family drug use, family management practices, family conflict, and low bonding to family; early and persistent behavioral problems; academic failure, low commitment to school, and peer rejection in early grades; association with drug-using peers and adults; attitudes favorable to drug use; early onset of drug use and anti-social behaviors can all contribute to adolescent substance abuse which can carry on into adulthood.[349]

**Data**
During fiscal year 2002-2003, OPC Mental Health served 164 children and adolescents for some combination of conditions related to substance abuse. They served 12 individuals for substance abuse alone, 17 for substance abuse and mental health

[346] Ibid
[347] Ibid
[348] Ibid
[349] Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians. Pg 156

combined, and 135 for substance abuse, mental health and developmental disabilities combined[350].

The UNC Alcohol and Drug Abuse Program (ASAP) served approximately 10 adolescents from Orange County and data could not be obtained on other children and teens with substance abuse problems that were served by the UNC Psychiatric Department.

Though self-reported data by teens about substance abuse may not be 100% reliable, it can be a fair indication of trends. Thanks to the administration of the YRBS in the two local school systems, there is fairly recent and solid data on drug use as reported by middle and high school students in the county. Unfortunately this data shows a high use of drugs as reported by our young people compared to the Healthy Carolinians 2010 goals. Marijuana and alcohol are the main drugs of choice among Orange County youth, and use of other drugs is reported by far fewer students and appears to be on a more experimental basis. Alcohol and marijuana are gateway drugs that may lead to further or more frequent use of other drugs. It also should be noted that the YRBS was administered to 8th graders in both school systems, 9th graders in the OCS and 10th graders in the CHCCS, so use may increase as students become older, have more freedom, money, and are driving.

Table 10A refers to marijuana use as reported by students and shows that use is much higher in high school than middle school. A significant portion of high school students say they have tried marijuana (36-40%) and 13% of high school students say they are fairly regular users claiming use 3 or more times in the past 30 days.

| **Question** | **CHCCS** | | **OCS** | |
|---|---|---|---|---|
| During your life, how many times have you used marijuana? | **MS (8th)** | **HS (10th)** | **MS (8th)** | **HS (9th)** |
| 0 times | 93.2% | 59.5% | 83% | 64% |
| One or more times | 6.8% | 40.5% | 17% | 36% |
| During the past 30 days how many times have you used marijuana? | | | | |
| 0 times | 97.7% | 75.8% | 87% | 77% |
| 1 or 2 times | .8% | 10.5% | 4% | 8% |
| 3 or more times | 1.5% | 13.6 | 8% | 13% |

Table 10A. Marijuana use by middle and high school students, CHCCS and OCS from the YRBS 2000-2001[351]

Table 10B (next page) refers to alcohol use by students. Again, usage is higher among high school students with over 40% reporting having used alcohol in the past 30 days but the rate of use among middle school students is also somewhat alarming at 15-26%. The fact that 20% of high school students also report binge drinking, (5 or more

[350] Personal Communication, Tom Maynard, Director, OPC-MH, 11/20/03
[351] Middle and High School Student Responses to the Youth Risk Behavior Survey, 2001, Chapel Hill-Carrboro City Schools and Orange County Schools

drinks on one occasion during the past month), is also of concern. It should also be noted that the rate of use of alcohol and marijuana in middle school appears to be significantly higher in the OCS schools than in the CHCCS.

| Question | CHCCS | | OCS | |
|---|---|---|---|---|
| | MS | HS | MS | HS |
| During the past 30 days, on how many days did you have at least one drink of alcohol? | | | | |
| 0 days | **83.8%** | **58.4%** | **72%** | **58%** |
| 1 or 2 days | **8.5%** | **20%** | **14%** | **21%** |
| 3 or more days | **7.7%** | **21.6%** | **11%** | **19%** |
| During the past 30 days, on how many days did you have 5 or more drinks in a row? | | | | |
| 0 days | **NA** | **77.8%** | **NA** | **78%** |
| 1 or 2 days | **NA** | **12.7%** | **NA** | **12%** |
| 3 or more days | **NA** | **9.6%** | **NA** | **8%** |

Table 10B. Alcohol use by middle and high school students, CHCCS and OCS from the YRBS 2000-2001[352]

In terms of other drug use, data was collected only at the high school level. On average, 8% of CHCCS students report having used other drugs and 11.5% of OCS students report having used other drugs. See Table 10C below for further details. In addition, 50% of CHCCS students and 40% of OCS students said that they had been offered, sold or given an illegal drug on school property in the past 12 months.

| During your life have you ever used the following drugs | CHCCS-10th | OCS-9th |
|---|---|---|
| Cocaine (powder, crack or freebase) | 7.2% | 12% |
| LSD, PCP or other hallucinogens | 12.8% | 13% |
| Heroin | 4.9% | 9% |
| Methamphetamines | 10.3% | 9% |
| Sniffed glue, paint or spray cans to get high | 11.9% | 19% |
| Used a needle to inject illegal drugs | 1.6% | 7% |

Table 10C. Lifetime use of illegal drugs by middle and high school students, CHCCS and OCS from the YRBS 2000-2001[353]

Some may wonder if students were being honest in answering these questions. The survey asked, “How honest were you in answering the questions on the survey?” It would appear that the CHCCS students were more honest: 92-94% of them said they were totally honest, versus the OCS students, 77-84% of whom said they were totally honest in their survey responses. See Table 10D (next page) for the responses.

[352] Ibid
[353] Ibid

| How honest were you in answering the questions on this survey? | CHCCS | | OCS | |
|---|---|---|---|---|
| | MS | HS | MS | HS |
| I was completely honest | 92.2% | 94.2% | 77% | 84% |
| I was honest about some questions, but not others | 5.4% | 5% | 15% | 10% |
| I was not honest about most of the questions | 2.3% | .8% | 6% | 5% |

Table 10D. Honesty in survey responses by middle and high school students, CHCCS and OCS from the YRBS 2000-2001[354]

**Disparities**

"*People have a perspective that alcohol addiction is only kids that come from a certain type of family, and I don't think that's true. I work with just as many kids who come from well-educated families who are well off as I do from lower-income families. I think it's just that people who have more money hide it better, and have the ability to get private treatment*." So said one experienced service provider of the impact that substance abuse has on all of our community's teens. Others disagreed only slightly, noting that while substance abuse certainly does impact all types of families, those teens that do not have access to extracurricular activities (due to funding, transportation, or lack of parental encouragement), seem particularly vulnerable to engaging in substance use. Additionally, those with fewer economic and employment prospects, particularly as the end of high-school looms and all focus is placed on college preparation, may turn to substance use out of frustration.

**Residents' concerns**

Residents are concerned about teen substance use both because of its causes and its effects. Residents believe that the causes of substance abuse include a lack of parental supervision, a lack of productive options for teen activities, and a frustration with the disparities that teens see around them. On the other hand, they are just as concerned about the effect that substance abuse has on teens, their families, and their schools and communities. Residents are very concerned about the public safety hazards of drug use, and worry that their neighborhoods are very negatively impacted when drug use escalates.

**Resources**

Service providers note that we have developed a fairly coordinated system of care for teens whose substance abuse brings them into the juvenile justice system. Project Turnaround, a diversionary program for first time offenders run out of the Chapel Hill Police Department andserving the entire county, offers treatment for teens. The CHCCS have a counselor with substance abuse counseling credentials at each high school. Chapel Hill High School has just begun a drug and alcohol awareness task force whose goal is to bring more public attention to the prevalence of substance use on school campuses and to galvanize the community to do something about it. Summit School has been founded as an alternative private high school for students who are committed to sobriety. Police Crisis services are all working together to help create a system where juvenile delinquency and substance use are seen as related issues that form a part of a complex picture of teen behaviors. But despite these endeavors, there

[354] Ibid

remain few options for therapeutic treatment for young people with substance abuse problems.

### Gaps and unmet needs

Parents and providers alike wish that there were more treatment options for teen substance abusers. There is no residential treatment program for teens in our community, and so teens with significant problems must be removed from our community in order to receive treatment. At the same time, parents and providers recognized that returning 'treated' teens to a community where the pressures that encouraged them to use drugs or alcohol in the first place are still present, is not a productive solution. Community members asked that we look hard at ways of preventing substance abuse through both creative outreach and service delivery, and through providing outlets to teens so that they do not use substances to begin with. Service providers from a variety of professions who work with addicted teens see substance abuse as, at least in part, an indicator of the lack of enriching, engaging opportunities that we need to make readily accessible to each and every teen

### Emerging issues

As with mental health treatment, substance abuse treatment for teens may look different following state-mandated mental health reform. Providers worry that some of the unique service opportunities created here, such as the community resource court, may not be a part of the new mental health plan. As was said with regard to mental health, our community has been somewhat fortunate in the types of services we have been able to secure. If we lose even the few services we know that residents support, the problem of teen substance abuse may become an even bigger burden on our community.

## C) Developmental Disabilities

### The Healthy Carolinians Objective

There are no Healthy Carolinians objectives related to developmental disabilities. See Chapter 9: Health Issues of Specific Populations for disabilities objectives.

### Impact

Developmental disabilities include mental retardation and autism, as well as traumatic head injuries that may occur later in life. Generally speaking a developmental disability is a condition that occurs from birth accept in the situation of a traumatic injury such as near drowning or head injury that may occur later in life. Developmental disabilities are conditions that will affect individuals throughout their lifetime and usually result in the need for some form of assistance in daily living.

### Contributing factors

Birth defects, premature birth, consequences of a lack of proper prenatal care, developmental disabilities, and traumatic injuries such as head trauma contribute to developmental disabilities.

**Data**
OPC Mental Health served 285 Orange County children with developmental disabilities in 2002-2003[355]. (See section A - Mental Health for additional data on children served through the KidSCope program.)

The school system has multiple classifications for children who are eligible for the exceptional education services program. Table 10E below shows the number of children in each classification served by the two Orange County school systems in the 2002-2003 school year with developmental disabilities. The total number of children in both school systems, that are enrolled in exceptional education services as developmentally disabled, is 1,681.

| Developmental Disability classification | CHCCS | OCS |
|---|---|---|
| Autistic | 93 | 21 |
| Developmentally Delayed | 78 | 46 |
| Emotionally Handicapped | 54 | 42 |
| Educable Mentally Handicapped | 72 | 60 |
| Specific Learning Disabled | 606 | 544 |
| Multi-Handicapped | 9 | 9 |
| Severely/Profoundly Mentally Handicapped | 7 | 5 |
| Traumatic Brain Injured | 6 | 4 |
| Trainable Mentally Handicapped | 8 | 17 |
| **Total** | 933 | 748 |

Table 10E. Developmentally disabled children in the CHCCS and OCS 2002-2003.[356]

During fiscal year 2002-2003, 771 children were followed in the interagency Child Services Coordination (CSC) program led by Orange County Health Department. The project coordinator processed 330 new referrals on children birth to 5 years of age. Of these 330 referrals, 47 cases had identified parental substance abuse and another 63 had identified parental mental illness[357]. To qualify for this program, a child must be identified as having or being at risk for developmental delays.

**Disparities**
Developmental disability is likely to impact people from a variety of populations. Often children with developmental disabilities qualify for Medicaid and disability services and they are likely to be able to access some treatment and intervention programs regardless of their ability to pay. Before the age of three, specialty services are not free to families. After age 3, when services are free through the school systems, some families and providers identify a need for more intensity of services than those available for free through the public system. Insurance providers typically cover medical diagnoses (at least for a limited number of visits); however, they often deny claims associated with developmental delay/disabilities. Therefore, parents often become advocates for their developmentally delayed children in all aspects of their lives, such as

[355] Personal Communication, Tom Maynard, Director, OPC-MH, 11/20/03
[356] Exceptional Education Program numbers from CHCCS and OCS school websites
[357] Personal Communication, Beckie Hermann, OCHD Family Home Visiting Program supervisor, 11/20/03

accessing inclusive educational, medical, recreational, and specialty services. While all children benefit if they have a parent as an advocate, the needs of developmentally delayed children in particular may be overlooked by service providers, so those children who have a parent who has the time, resources, and energy to serve as a vociferous advocate may reap health and health-related benefits that developmentally delayed children without an advocate do not

**Residents' concerns**

As with developmentally disabled adults, the families of children who are not developmentally disabled tend not to think of developmental delay as a significant health concern, while families with a child who is disabled note that the disability impacts many aspects of their lives. Residents who live with a child with a developmental disability are particularly concerned about the opportunities afforded those children in our public education system (see below for further discussion). In general, families are satisfied with the high quality of medical treatment and research that is available in this community, but encourage all aspects of our community that provide opportunities to children, from recreation to health and nutrition and wellness, to be intentionally inclusive of children with developmental delays.

**Resources**

Children with developmental disabilities require comprehensive, carefully-coordinated services in order to thrive. Orange-Person-Chatham Area Program (OPC) devotes 50% of its budget to serving developmentally disabled children through its services and its contractors. Services include case management. Many parents of children with pervasive developmental disorders (PDDs), such as autism, were using services provided by Division TEACHH at UNC; in fact, some families with children with PDDs had moved to this area specifically so that they could gain access to this world-renowned resource.

Orange County Health Department coordinates the Child Service Coordination Program for a central access point to the community for Early Intervention Services for children with behavioral and developmental disabilities or identified risks for delays. Developmental evaluations are conducted to confirm or rule out developmental issues and then appropriate referrals are made to appropriate services such as PACT Team (Early Intervention developmental services) and KidSCope (child mental health services) at OPC area program or Families in Focus (intensive home visiting services) and Child Service Coordination at Orange County Health Department. Child Service Coordinators from the previously mentioned agencies provide case management, family advocacy and parent education to families with children with special needs.

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**Gaps and unmet needs**

There are often delays in getting children with special needs into services, sometimes because the families do not follow through, and other times because there are not enough providers available to evaluate the children or serve the numbers of children who need services. Low-income families, or families with children with special needs, may experience a gap in service during the summer time when school is not in session,

as summer programs are often expensive, limited in size and scope, and are not set up to be inclusive of children with developmental disabilities. There are also not enough bilingual service providers to assist the growing number of developmentally disabled Hispanic children in the community.

Parents of developmentally delayed children clarified where gaps exist in the services their children receive. Overall, they were satisfied with the services provided by OPC, and felt that their children were given access to the medical and intensive treatment services they needed. However, they felt that their children were not given the same high quality of resources once they entered the public school system. Parents of younger children worried about the transition period from early intervention into the public schools and the extent to which their children were thoughtfully integrated or given special instruction. The parents of older children lamented the lack of vocational education given to their children. As one parent explained, "*Great, you've finished high school and you're done with your IEP [Individualized Education Plan]. Now what? What are you going to do after high school?*" Parents felt a deep sense of frustration with the high schools' focus on preparation for college, which they felt occurred often to the exclusion of preparing children who were not going to go on to college for a productive, fulfilling career track.

**Emerging issues**

As our economy continues to rely on highly skilled, highly educated professionals, we need to ensure the economic viability of all types of employment, so that our citizens who are not able to go on to college can still engage in productive, rewarding work. This is necessary on a number of levels: children with developmental disabilities need the opportunity to grow up to be independent, productive, and satisfied adults. The burdens that they face if our community does not meet their needs at a young age are significant and impact all aspects of their life and health.

There are many unknowns related to the impact of the reorganization of the NC Early Intervention System as therapies and other services are outsourced to private contractors.

With continued growth of the Hispanic community the need for bilingual providers will continue to grow. And with growth in the general Orange County population, more service providers will continue to be needed.

# Chapter 11: Environmental Health

Most public health advances in the past century were the result of improvements in environmental conditions, especially in the sanitation field. Protecting our water and food supplies and the health of residents in public settings is critical to our daily lives. North Carolina, through its local health departments, has a well-developed food, lodging, and institutional inspection program that protects residents as they enjoy local restaurants, lodging facilities, swimming pools, place their children in day care facilities, or reside in institutions. Orange County also has a long history of strict rules governing the siting and construction of individual wastewater treatment systems and wells. Well water testing to determine whether water is suitable for drinking is also important in preventing disease in residents. The Orange County Health Department provides these services to all residents of the county to ensure that the quality of the food we eat, the air we breathe and the water and the soil that we use will help us maintain the health of the entire community. Health Department staff also act as consultants and liaisons to other regional, state and federal agencies to ensure that every Orange County resident can find relief from a wide variety of adverse environmental exposures and circumstances. These conditions include lead-based paint exposures in homes, indoor air quality problems and the use of arsenic treated wood in home construction. While these conditions can usually be controlled when detected early, they can lead to severe health consequences for residents if left unmitigated.

## This Chapter includes the following sections:

- **A) Air Quality**
- **B) Water Quality**
- **C) Food Safety**
- **D) Other Environmental Exposures**

## A) Air Quality

**Healthy Carolinians 2010 objectives for air quality:**

***Ensure that all North Carolinians breathe air that meets the new health-based standard for ozone. (baseline standard to be established)***

***Increase the percent compliance rate for major and minor emission sources to 90 percent***

There is currently no data available for Orange County related to this objective.

### Impact

Concerns about air quality emerged as a major theme during primary data collection. Residents worry that poor air quality directly impacts their health by increasing rates of respiratory concerns such as asthma and allergies; they also worry that it indirectly impacts on their health by discouraging or limiting outdoor exercise when the air quality is poor. (See Chapter 5 - Chronic Disease, for more on Asthma)

The quality of the air we breathe has become an issue of greater importance over the years as the number of ozone days has increased due to traffic congestion and urban sprawl. Poor air quality both indoors and out can severely impact the health of the lungs. Fragile lung tissue is easily damaged by pollutants in the air, resulting in increased risk of asthma and allergies, bronchitis, lung cancer and other temporary or chronic respiratory disorders and diseases.

### Contributing factors

In direct proportion to their worries about air quality, residents worry about traffic congestion. Increased automobile traffic directly contributes to poor air quality, but is also a concern in its own right, as residents worry about commute times, noise pollution, and decreased bicycle and walking safety along busy roads. Ozone is of particular concern because it is an intense irritant. At levels routinely found in the air in the Triangle area during summer months, ozone can damage the lungs and airways, causing them to become inflamed, reddened and swollen. This response can cause coughing, burning sensations and shortness of breath. Research on the effects of prolonged exposure to relatively low levels of ozone has found reductions in lung function, inflammation of the lung lining and breathing discomfort[358]

Substandard housing often contributes to the exacerbation of asthma due to window air conditioning units that harbor molds, carpeting that is not maintained or easily cleaned, dryers that are not properly ventilated, roach infestations and the likelihood that more people with lower incomes smoke.

### Data

Orange was one of 11 counties recently recommended to be declared in 'non-attainment' with federal ozone standards by the NCDEHNR, Division of Air Quality.

[358] NC Department of Environment and Natural Resources, Division of Air Quality. "What are the health effects of ground-level ozone?" accessed on 11/7/03 at: http://daq.state.nc.us/airaware/aqfaq.shtml

"The NC Division of Air Quality evaluated data on air monitoring, motor vehicle use, population density, air quality modeling and other factors in helping to develop the recommendations… Non-attainment areas will be the focus of air quality plans for controlling ozone and other air pollutants. These plans would include specific proposals for curbing ozone, such as measures to reduce emissions from cars, trucks, industries and power plants. The designations also give EPA the authority to review proposed highway projects and long-range transportation plans."[359] The report lists traffic as the major cause of problems in this area (as compared to industry in other parts of the country, for example.)

In addition, The American Lung Association ranked the Raleigh-Durham Metropolitan area as the 13th most ozone-polluted area in the country in 2002. [360] The total number of Code Orange days in 2002 was 22 in the Triangle and the number of Code Red days was 7. This brings the total number of high ozone days when people are recommended not to be outside during the middle hours of the day to 29 for 2002. The number of ozone days has been increasing over time and is worse in years like 2002 that are extremely hot with little rain.

The number of Vehicle Miles Traveled (VMT) in Orange County includes the amount that both County and non-County residents use their vehicles on county roads. VMT has increased by 53% in Orange County between 1990 and 2000.[361] This increase is largely due to the opening of I-40 through Orange County in 1998, but in addition the number of residents has increased and 42.4% of Orange County residents commute to work out of county and another 40.7% of workers live out of county and commute to work in Orange County[362].

The County and the Town of Chapel Hill have made a commitment to reduce emissions from vehicles by purchasing several alternative fuel vehicles for staff use. The Orange County Commission for the Environment continues to advocate for additional methods of reduction (A full review of air quality in Orange County can be found in the publication, *State of the Environment 2002,* presented by Orange County Commission for the Environment).

**Disparities**

Children are at greatest risk from ozone exposure because their lungs are still developing and they spend more time outside playing. Asthmatics and others with respiratory disorders also suffer from ozone because it aggravates the lungs and result in more asthma attacks and respiratory distress. "Emergency room visits for asthma have increased as much as 36 percent on high ozone days, according to some studies.

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[359] *Areas Recommended for Ozone Non-Attainment Designation*, NC Department of Environment and Natural Resources, Division of Air Quality, Press release July 15, 2003

[360] American Lung Association; State of the Air Report 2002: http://www.lungusa.org/air2001/index.html

[361] State of the Environment 2002, Orange County Commission for the Environment, pg 17

[362] Business Today, August 2003, Chapel Hill-Carrboro Chamber of Commerce, (data from OC Office of Economic Development)

High childhood exposure to ozone pollution may reduce lifetime lung function"[363]. Even those with no diagnosed lung problems or history of pulmonary dysfunction may be affected negatively by poor environmental air quality.

**Residents Concerns**
Residents we spoke with during focus groups and interviews are deeply concerned about the known and unknown negative effects that poor air quality has on their health and especially the health of our youngest and oldest citizens. Residents are equally concerned that our community needs to begin looking at solutions. In particular, residents want decision-makers to think about land use and planning that will decrease congestion and increase walkability. They also hope that more resources can be devoted to public transportation options that will decrease the number of commuters driving their own vehicles. Air pollution impacts all residents from across the county yet, perhaps because they have been used to rural surroundings until more recently, residents in the northern part of the county tended to raise more concerns about rising rates of air pollution than those in the southern part of the county.

**Resources**
Orange County Health Department is part of an Asthma Coalition addressing the issues of asthma in children. The Asthma Coalition's mission is to improve asthma management in school-aged children. The coalition members include representatives from school nursing, public health, medical providers, university and youth advocates. The coalition is involved in education and awareness; health fairs, in-services, school newsletter inserts, as well as, environmental health assessments, advocacy and participation in grant projects.

UNC Hospitals offers special projects and drug treatment trials for children and adults who are asthmatic.

Being declared in "non-attainment" with the EPA ozone and air quality standards by the NCDEHNR may ultimately benefit the county by bringing resources in to address the issue.

**Gaps/unmet needs**
It would be helpful for Orange County to develop a comprehensive vision and plan to decrease vehicle miles traveled (VMT).

There is no permanent air quality monitor in Orange County and so it is difficult to measure changes.

Children are often absent from school or reporting to the emergency department due to uncontrolled asthma. Orange County currently lacks a system that alerts the medical provider and school nurse of such an occurrence. Gaps in such communication not only lead to more emergency visits but also to missed opportunities for education and

[363] NC Department of Environment and Natural Resources, Division of Air Quality. "What are the health effects of ground-level ozone?" accessed on 11/7/03 at: http://daq.state.nc.us/airaware/aqfaq.shtml

training for the family. The Asthma Coalition is exploring what would work for Orange County and advocating for systems change.

The paucity of affordable housing in Orange County forces many of those who work in the County to live elsewhere and thereby longer commutes are necessary increasing the VMT's in the region.

**Emerging issues**
As our county continues to grow and commuting zones continue to expand, officials will need to think creatively about ways to lower vehicle traffic in order to reduce ozone pollution. Otherwise, residents' emerging concerns about the impact of poor air quality on their respiratory health will continue to grow.

A dilemma exists with encouraging children to get more physical activity and the potential dangers of ozone exposure while outdoors. More definitive research is needed.

In the future, policies regarding construction, building materials, cleaning, heating/air conditioning, pest control and smoking would empower housing agents and residents to work towards healthier living environments.

## B) Water Quality

**The Healthy Carolinians objectives for water quality are yet to be developed**
**Impact**
Water is critical to life and water quality is important to all living things for survival. Approximately 30-35% of Orange County residents obtain water from wells and most others rely on public surface water reservoirs. Once groundwater supplies are exhausted it is a slow process to recharge the aquifers. Wells can become contaminated by pollutants entering the ground water system through many routes. Once contaminated, the water supply may never again be useful. Management of water resources is critical to sustaining quality of life, agriculture and manufacturing in the region.

**Contributing factors**
Increases in population create greater demands on the existing sources of water and also produce larger quantities of wastewater that must be processed. Lack of rain, such as during the drought of 2002, resulted in many wells and surface water impoundments (ponds, lakes, etc.) going dry or being substantially depleted.

**Data**
The average amount of water being used per person from the three water utilities in Orange County increased by 15% between 1985 and 2000.[364] In 1985 the county's three municipal water systems used 124 million gallons of water per day and by 2000 the number was up to 142 million gallons per day[365].

[364] State of the Environment 2002, Orange County Commission for the Environment, pgs 39-48
[365] Ibid

There has been an increase in the number of wells reported to be contaminated by underground storage tanks, with 98 incidents reported to the NC DEHNR, Division of Waste Management between 1996-2001. Only 43% of those cases were "closed out" which means the contamination was removed or the well was returned to a natural state.[366] There is currently no source of comprehensive statistics related to well contamination from other sources such as spills, poor well construction, and surface water influence.

**Disparities**
A number of citizens from the Northern part of the county noted disparities that still exist between those who use town water and those who use well water. Residents felt that well water could have sanitation problems and, as the population density increases, wells become less sanitary/more prone to poor water quality. People who use city water systems don't have these problems. Residents felt there were already disparities in water quality between those who have wells and those who use city water, and as the population density in the Northern parts of the county increases, we need careful planning if we want to ensure that water quality for existing and new resident's doesn't suffer even more. Residents also note that there are problems with their well water including iron levels that make drinking it objectionable. The inability to tie into public water supplies limits the remedies available to rural residents.

**Residents Concerns**
Although residents acknowledge that our water quality is better than the water quality in many other parts of the country, they still hope it can be improved. In particular, residents sense that well water is unsafe and sewage infrastructure is poor in the rural parts of the county and are therefore concerned. They worry that septic and sewer systems designed to serve small numbers of residents are being overburdened by rapid increases in population density without parallel increases in water treatment infrastructure.

**Resources**
A coalition named "H2 Orange" formed to address the severe drought in 2002 and has helped to raise awareness about water issues in the county.

Many volunteer groups work to monitor surface water quality through stream watch programs sponsored by the NC Department of Environment and natural resources and the Haw River Assembly. These groups record water quality standards on various streams in the county 4 times per year and report the results to the state.

**Gaps/unmet needs**
A regular system of monitoring and reporting both surface water and ground water quality is needed.

Continued development of water supplies and wastewater systems standards that assure sustainability for all areas of Orange County would also be helpful.

[366] Ibid

**Emerging issues**
Some residents worried that over-crowding development in the rural parts of the county was putting an unacceptable level of strain on the well-water and sewage infrastructures there. As our county's population will continue to grow and create suburban areas in formerly rural ones, we must be careful to ensure that our water facilities are sustainable and compatible with development.

## C) Food Safety

**The Healthy Carolinians Objective 2010 for Food Safety is :**

***Increase the number of local health departments making 100 percent of the inspections of food and lodging required by statue (GS 138.248)***

For the 02-03 FY, the inspection rate for Orange County was approximately 93%; up from 83% and 81% from the 01-02 and 00-01 FY's respectively.

***Decrease the proportion of critical item violations found in food, lodging and institutional facilities.***

The rules for NC do not address "critical items" as does the FDA Food Code, therefore there is no established way to assess or track these items in Orange County

**Impact**
Safe handling of food through all phases of production, processing, preparation, and storage is critical to the reduction of food borne illnesses. While many think of only gastro-intestinal problems related to food borne illnesses, serious consequences such as reactive arthritis and neurological damage may result from some food borne diseases.

**Contributing factors**
Food handling practices, infected food-handlers, hand washing frequency, cross contamination of food contact surfaces, presence of rodents and insects and improper sanitation of food contact surfaces can all result in food borne illness.[367]

**Data**
Since 1996, Cooperative Extension and the Orange County Health Department have together trained 1,131 Orange County food service managers and workers in the ServSafe education program. The ServSafe program is conducted in English and in Spanish. In that same time period there have been only two food borne disease outbreaks in an inspected facility in the county.[368].

**Disparities**
The young, the old and chronically ill or immune compromised individuals are more seriously affected by food borne illness and may be more likely to suffer severe consequences, even death, from a food borne illness.

[367] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, pg 92
[368] Ron Holdway, OCHD, Environmental Health Division Director, personal communication 11/04/03

**Residents Concerns**
Residents did not voice concerns about food safety.

**Resources**
The Environmental Health Division of the Orange County Health Department is responsible for inspecting all food, lodging and institutional facilities within the county. Inspecting, permitting and grading are conducted pursuant to NC general statutes and the administrative rules associated with those statutes. For these activities, the Health Department staff are acting as agents of the State of North Carolina.

**Gaps/unmet needs**
Increased reporting is needed from private physicians and emergency medical providers in regards to actual or suspected food borne disease transmissions in Orange County.

Increased educational efforts on safe food preparation and service is needed for groups that are not normally regulated, but may serve food to large numbers of persons at given events. Examples of these groups include churches and civic organizations.

**Emerging issues**
Emerging pathogens, antibiotic resistance, and a diverse and transient population all contribute to an increased likelihood and severe consequence of food borne disease transmission in Orange County. Of further concern is the fact that events with an influx of large numbers of persons occur within the County on a regular basis (e.g., sporting events, Hog Day, graduation). The Health Department is pursuing methods to increase surveillance capacity within the County and our region, but much work still needs to be done.

## D) Other environmental exposures
Various other environmental factors can affect the community's health including lead exposure, radon, rodents and insects, and other problems related to sanitation and environmental exposures.

**Healthy Carolinians 2010 objectives for other environmental exposures:**

***Increase the number of high-risk one and two-year old children, enrolled in Medicaid, screened for lead poisoning to 100%***
In Orange County in 2002, 34.1% of Medicaid eligible one and two year olds were screened for lead[369].

[369] 2002 North Carolina Childhood Lead Screening Data by County, Prepared by the Children's Environmental Health Branch of NCDEHNR

***Reduce the percent of one and two-year old children with blood lead levels greater than or equal to 10 micrograms per deciliter to less than .5%*.**

The percent of Orange County one and two year olds who were screened for blood lead levels in 2002 and whose blood lead levels were greater than 10 micrograms per deciliter was 1.6%[370].

**Impact**
The effects of lead exposure are insidious and dramatic, especially in developing children under the age of six. Lead poisoning can cause learning disabilities, behavioral problems, and, at very high levels, seizures, coma, and even death.[371]

Other environmental exposures may lead to increased arboviral and zoonotic diseases, intoxications, and increased short and long-term cancer risks.

Indoor air quality in homes and in public venues can also be detrimental to public health and the enjoyment of life in Orange County.

**Contributing factors**
Situations contributing to lead poisoning in children include the high number of houses in Orange County built prior to 1978 and the low percentage of children being screened by private physicians.

Emerging arboviral diseases such as West Nile Virus and Eastern Equine Encephalitis deserve public health attention as they begin to impact our community.

Smoking is still prevalent in the community.

Orange County is situated in a relatively humid climate and thus the potential for mold may be greater than some other areas of the country.

**Data**
In the year 2002, 555 one- and two-year old children in Orange County were screened for blood lead levels. This was 21.7% of the 2,558 children in this age group and 34.1% of the target population of Medicaid eligible children[372], up from only 16.4% of Medicaid eligible children who were screened during the period from 1995-2000[373]. Nine of the children screened in 2002, or 1.6%, had lead levels of greater than 10 micrograms per deciliter, which is a decrease from 3.7% who had elevated lead levels during the previous data period. A total of 736 children between the ages of 6 months to 6 years

[370] Ibid
[371] Centers for Disease Control, National Center for Environmental Health website, http://www.cdc.gov/nceh/lead/about/about.htm, accessed 11-3-03
[372] 2002 North Carolina Childhood Lead Screening Data by County, Prepared by the Children's Environmental Health Branch of NCDEHNR
[373] County Health Data Book, NC SCHS, NCDHHS, 2002. 1995-2000 NC Childhood Lead Screening Data by County. Pg D-13

were screened in 2002, and 4 of those children were found to have elevated blood lead levels[374].

There have been no confirmed human cases of West Nile Virus disease or of Eastern Equine Encephalitis in the county, but there have been multiple confirmed West Nile positive birds and one confirmed case of Eastern Equine Encephalitis in a horse from Orange County.

**Disparities**
The percentage of children in lower socioeconomic classes with elevated blood lead levels is disproportionate to children in higher classes in similar housing and environmental situations[375]. The reasons for this inequity are manifold, but efforts should be and are being made to reduce the gap.

It appears from the public health experience in the US since 1999 that older adults are more susceptible than the rest of the population to West Nile Virus disease.

**Residents Concerns**
One area of concern for many residents was related to sanitation in schools. Some students, parents, and school-based providers cited concerns about building safety combined with concerns about children's lack of knowledge regarding practices like hand-washing. Proposed solutions by residents included careful monitoring by school staff for levels of air contaminants and mold, and increased education for students on the importance of personal sanitation and hygiene.

**Resources**
Environmental Health staff members are the delegated authority to enforce abatement when a lead hazard is confirmed in a child under six years of age.
Orange County has rules for smoking in public places that were adopted by the local board of health.

Environmental Health staff can offer advise, consultation and referrals on a wide variety of environmental concerns including general sanitation issues, chemical exposures, vector control and indoor air quality concerns.

Orange County Health Department offers basic indoor air quality assessments and referrals for residents.

**Gaps/unmet needs**
The use of lead based paint was banned in 1978. Since approximately 60% of all Orange County houses were constructed prior to 1980, a majority of homes in Orange County have some potential to contain lead-based paint. Based on these numbers,

[374] 2002 North Carolina Childhood Lead Screening Data by County, Prepared by the Children's Environmental Health Branch of NCDEHNR
[375] Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, pg 92

residents still need to have more children screened and more homes inspected for lead-based paints.

Physicians in the community need to be encouraged to screen more children for lead.

There is a lack of indoor air quality consultants in the region.

**Emerging issues**
Arboviral and zoonotic diseases.

The need for better defined indoor air quality standards

The need for better understanding of the toxic effects of mold in residential settings and workplaces.

# Chapter 12: The Community Process

Identifying the community's health-related priorities and generating community ideas to serve as the foundation for community action plans is an integral part of the Community Health Assessment process. Chapter 1 of this report describes the methods used to collect the various types of data used in the prioritization process. This chapter provides an overview of the process used to generate priorities and action items. Because the ways that people define health impact their health priorities, the chapter describes themes that emerged when we asked community members to tell us about their definition of health. Finally, this chapter lists ideas that focus group participants had to improve health, and describes the action steps arrived at during the community forums.

## Community Definition of Health

Overwhelmingly, residents defined a healthy community as a community in which people are eating nutritiously, getting exercise, and generally maintaining a healthy weight. Residents told us that a healthy community is one in which people have plenty of safe and convenient opportunities to exercise, and in which they are aware of the importance of exercise and a healthy, balanced diet. Residents also think that the ability to maintain one's mental health is an important part of a healthy community. Maintaining mental health has many components: in a healthy community, residents are exposed to few stressors and other threats to their mental health, feel a sense of balance in their lives, and are able to seek treatment for mental health problems if they need to. Another important aspect of a healthy community according to the people we spoke with is a sense of connectedness and community support. A very important part of feeling connected and supported is the ability to feel safe in one's own community. Other important aspects of a healthy community, according to Orange County residents, are low rates of substance abuse and tobacco smoke, good environmental health, and the ability for all residents to access healthcare resources, regardless of their ability to pay.

## Prioritization Process

The process for identifying community perceptions of health and community priorities began with focus groups and interviews. During those discussions, we asked, "What does being healthy mean to you personally?", "Thinking about your community, what aspects of health are the most important to the people who live there?", and, "What would a healthy community look like to you?". The answers to these questions helped us determine what the people we talked to felt were the most important parts of health. Also during interviews and focus groups, we asked participants, "Thinking back over all the topics we've discussed, what specific things would you do (if you were in charge) to improve the health status of community residents?" The answers to this question were specific actions, and the ideas collected will help form the action plans that will be developed in January 2004, some of those actions are listed later in this chapter.

After the focus groups and interviews were finished, the data collected was analyzed to determine the most important concerns that residents had about health. There were fourteen concerns that were selected based on the analysis as being significant to the community. These themes were then presented to the community in the form of a

prioritization survey and over 700 people responded to the survey. The survey asked people to choose the five topics from the list of fourteen that were the most important to them. The top 5 topics selected by the prioritization survey were used as a focus for discussion at the three community forums, where participants formed small groups and generated action items to address each topic. The action items generated at the forums, combined with the action items generated during focus groups by the community, will be the foundation of the community action plans that will be developed and presented to the community and the State Office of Healthy Carolinians, beginning in January of 2004.

## Community Priorities

The list below shows the 14 priority areas that were determined to be of greatest concern to the community. These concerns are listed here in the order selected by the community in the priority survey, described in Chapter 1, from most important to least important. The percentage listed after each item reflects the number of people who completed the survey that selected that item as one of their top five most important issue areas.

1. Many people who live here cannot afford the costs of living and the costs of staying healthy in this community. (16.6%)
2. Many people don't have health insurance or are underinsured. (13.2%)
3. Barriers such as transportation, lack of insurance, and knowing about services keep people from using preventive health services and education, causing health conditions to become worse before seeking treatment. (10.7%)
4. Overweight, obesity and related health conditions are of concern to all ages. (8.9%)
5. Substance abuse is a problem in our community, and we need more ways of preventing it and treating those who are addicted. (8.3%)
6. Mental health services are either too expensive or the waiting lists are too long. (7.7%)
7. There is not enough dental care for low-income adults and those without dental insurance. (6.5%)
8. There is a need for a central place where people can ask questions about health services, get important health information, and find the names of providers who can help them. (6.1%)
9. The healthcare system is very complicated, and people don't understand how to use it. (4.8%)
10. There are not enough mental health, nutrition and recreation services for teens. (3.8%)
11. There is a difference between services that are available in the Northern and Southern parts of the county. (3.7%)

12. There is a lack of providers and services that are sensitive to all cultures, including services that are offered in other languages. (3.4%)
13. Seniors have difficulties accessing services. (2.9%)
14. The air and water pollution in this county have a negative effect on our health. (1.8%)

Based on over 700 responses to the community prioritization survey, the community felt that the most important statement for the community to address was, “many people who live here cannot afford the costs of living and the costs of staying healthy in this community.” Because this is such a broad topic that touches issues far beyond the realm of Healthy Carolinians and the Health Department, it was decided to bring the next five priorities to community forums for action planning. These were items 2 through 6 listed above referring to the number of people without health insurance, barriers to accessing preventive care, overweight and obesity, substance abuse prevention and treatment and mental health services.

## Action Steps from Focus Groups and Interviews

Community members had two opportunities to generate action items related to their concerns. First, during community forums and interviews, community members could respond to the question, “Thinking back over all the topics we’ve discussed, what specific things would you do (if you were in charge) to improve the health status of community residents?” Over 400 action items were suggested during focus groups and interviews. Listed below are the most frequently-cited action items related to the community priorities identified during the prioritization survey. Dental health is included here as well; although it was not a topic included in the community forums, it was closely ranked for number 6 in the final analysis with mental health and therefore action items for dental health are included.

### Lowering Barriers

- Create mobile delivery for some services (like vaccines) that can travel to places in need
- All health programs should conduct outreach by partnering with neighborhood residents and going into neighborhoods where people need the most care
- Create more clinics like the Piedmont system
- Make transportation a comprehensive system throughout the county, or provide ‘on demand’ transportation to some popular agencies, such as OPC or Prospect Hill Clinic
- Train providers in cultural competence, and increase the number of bilingual services

### Lack of Insurance

- Work towards universal health coverage
- Subsidize insurance so that it costs less for individuals to buy
- Work with the Chamber of Commerce to establish groups of small businesses/self-employed who can purchase group rates on insurance

- Create an easy-to-use resource that lets people know (1) which types of insurance coverage their families are eligible for and (2) where they can purchase the cheapest insurance
- Find a local source for short-term ‘emergency’ insurance for those who are experiencing a family change or crisis

**Substance Abuse**
- Provide substance abuse information in communities through outreach efforts
- Partner with schools to review substance abuse curriculum and offer suggestions
- Create better links between recovery services, vocational services, and mental health services
- Create more treatment options both in-patient, half-way, and out-patient
- Create a separate adolescent treatment program
- Support and expand drug treatment court

**Nutrition and Obesity**
- Overhaul the school lunch program to reflect a more nutritious diet
- Healthy fast-food options available at local stores
- More nutrition education, especially to children and senior citizens
- Subsidize purchasing healthy food like fresh produce
- Build more walk/bike trails in our community that connect to useful places
- Partner with the Department on Aging to create opportunities for seniors to exercise more
- Reverse recent declines in PE time in school: Put PE back in the curriculum
- Increase intramural sports options at schools so that all children who want to can play
- Increase the availability of parks and recreation programs so that all children who want to can get there and get home after school

**Mental Health**
- Add mental health services to places like Piedmont clinics, where it is low-cost and convenient
- Increase mental health services at the schools/more providers at the high schools
- Include family counseling (and other mental health benefits) in insurance coverage
- Provide group homes in the community for teens who need out-of-home care
- Re-vamp crisis response to suicidal patients who go to the emergency room
- More group homes for mentally disabled adults
- More services targeted and appropriate for Hispanic clients with mental health needs
- Create home-based and community-based ‘wrap-around’ programs to reach out to mentally ill
- Offer screening, information, and referral at places where people congregate
- More comprehensive services for families and children affected by domestic violence

**Dental**

- Create a referral list of dentists who take Medicaid/sliding scale
- Provide funding to increase the services provided at the OCHD dental clinic (more providers)
- Educate dentists on why people can't afford dental care and the barriers to getting dental care, and ask dentists to provide volunteer services
- More dental education in schools and to the community to prevent dental problems
- Raise funds for a dental van that can travel to neighborhoods in need
- Offer dental services at Piedmont clinics

## Action Steps from Community Forums

During community forums, five topics were presented to participants for discussion. Because the forums required discussion in small groups, not every topic was discussed at every forum. Instead, attendees were asked to vote on the topics they would like to discuss, and then groups were formed around the most popular topics.

In addition, two groups were held to train the 19 forum facilitators in the force field analysis model. The topics chosen and results generated in those two sessions are included here as well.

**Obesity** was selected by three groups as their focus. The first group decided on the goal of encouraging existing school lunch vendors to provide healthy options to school children at reasonable costs. They determined important steps to be:

- Identifying the current contractors
- Identifying local collaborating agencies such as Orange On the Move and working with them
- Learning the school finance and governance structure and engaging school stake-holders
- Involving students and parents in advocating with the schools for change.

The second group who worked on nutrition decided that an important immediate goal is engaging schools in providing fitness education and physical exercise opportunities to young people. They decided that important action steps included:

- Contacting the school board and inter-school agencies such as the school health advisory council
- Collaborating with existing exercise and nutrition projects such as the Cooperative Extension program, Orange on the Move
- Solicit support from other community structures such as churches
- Research best practices for teaching the importance of exercise and nutrition to children.

The third group decided that increasing collaboration between existing groups interested in opportunities for exercise would be the most important goal. Their action steps included:

- Creating workshops on health promotion and networking opportunities for service providers
- Creating a coalition of Orange County community-based organizations to meet on a regular basis
- Advocating for a healthy lifestyle coordinator for each school district
- Developing educational materials and a web-site for all levels

**Mental health** was also selected by two groups during the forums. The first group decided that improving access - and specifically transportation – would be their goal, and they identified:

- Conducting a transportation needs assessment
- Educating the public about existing transportation resources
- Using community venues and churches as allies in education and advocacy
- Developing a transportation plan that accounted for health-related trips

The second group to select mental health focused on a goal of improving access to current services. The action steps they identified included:

- Partnering with local agencies and supporting their efforts
- Increasing outreach to Latino communities
- Creating alliances with politicians who can advocate with us
- Investigating which best practices are currently recommended
- Continuing to engage the community by sharing information and holding more forums.

**Substance abuse** was chosen by one group as their area of focus. They focused on a goal of raising awareness about substance abuse problems in our community's youth, and selected action items including:

- Creating a diverse Healthy Carolinians committee to facilitate collaboration
- Reviewing best practices on the topic
- Identifying community stake-holders
- Collecting information and creating a model education program
- Presenting that program to stake-holders

The one group that focused on reducing **barriers to health care** focused on transportation, and focused on a needs assessment as their primary goal. Action steps in the needs assessment included:

- Reviewing existing recent reports regarding transportation needs
- Assessing other communities' models for feasibility here
- Recruiting champions from other county agencies (and possibly county government, if any are identified)
- Generating broad community support

Lastly, the group that focused on **insurance** during the community forums determined that finding collaborators on the issue would be an important first step. Their action items included:

- Enlisting the Triangle United Way in gathering a list of local providers
- Identifying leaders in medicine, politics, and business
- Communicating effectively with UNC Hospitals
- Collecting data from private practitioners about their interest in helping with care for the uninsured
- Contacting existing volunteer organizations and projects in other communities to assess feasibility

All of the ideas generated during focus groups, interviews, and community forums will become a part of the action plans that will shape our community's health priorities for the next four years.

# List of Appendices

## Appendix A. Community Assessment Team Members

| First | Last | Agency |
|---|---|---|
| Marcia | Adams | EMS |
| Myra | Austin | Dept. on Aging |
| Renee | Bynum | OC DSS |
| Susan | Clifford | Orange County Health Department (OCHD) |
| Angela | Cooke | OCHD Dental |
| Cheryl | Cureton | JOCCA |
| Eliza | DuBose | Early Head Start |
| Louise | Echols | OCHD-Health Promotion |
| Alfredo | Fort | INTRAH |
| Pilar | Fort | Early Head Start |
| Isabel | Geffner | Community Backyard |
| Sue | Gray | UNC Student Health |
| Diane | Halloran | UNC Women's Hospital |
| Peggy | Hamlet | Orange Chatham Justice Partnership |
| Gwen | Harvey | Assistant County Manager |
| Sharron | Hinton | OC Managers Office |
| Misty | Hitesman | INTRAH |
| Maria | Hitt | OCHD- Healthy Carolinians Coordinator |
| Ron | Holdway | OCHD- Environmental Health |
| Amy | Holloway | Family Violence Prevention Center |
| Trish | Hussey | Freedom House |
| Donna | King | OCHD-Health Promotion |
| Ginny | Knapp | Chamber of Commerce |
| Adrienne | Knowles | Adolescent Pregnancy Prevention Coalition NC |
| Danielle | Matulla | Triangle United Way |
| Tom | Maynard | OPC Mental Health |
| Anna | Mercer-McLean | Community School for Children Under Six |
| Carolyn | Outerbridge | Early Head Start |
| Hector | Perez | El Centro Latino |
| Gwen | Price | DSS |
| Christina | Riordan | OC Rape Crisis |
| Michele | Rivest | OC Partnership for Young Children |
| Robbie | Roberts | UNC Hospitals-Planning Department |
| Aviva | Scully | OCHD Intern |
| Wayne | Sherman | OCHD Personal Health Services |
| Sheila | Sholes-Ross | Communities in Schools |
| Amy | Sommer | OCHD-Project Assistant |
| Rosie | Summers | OCHD- Director |
| Julie | Sweedler | UNC Hospitals-Women's Resource Center |
| Katie | Volgler | Communities in Schools |
| Angela | Wilcox | Early Head Start |
| Stephanie | Willis | Chapel Hill-Carrboro City Schools |
| Edwina | Zagami | Chapel Hill-Carrboro City Schools |

## Appendix B: List of Focus Groups

| Name | N | Brief Description |
|---|---|---|
| Efland-Cheeks Seniors | 6 | Senior citizens living in the Northern part of the county |
| Teen Talk | 13 | Teens participating in a peer education program |
| School Nurses | 8 | Nurses from Chapel Hill-Carrboro City Schools |
| OCJJP providers | 8 | Members of the Orange County Justice Partnership who work with juveniles |
| Asian Parents | 14 | Parents of children enrolled in a Chinese class |
| Spanish-Speaking Dads | 11 | Fathers of Latino children enrolled in a local daycare |
| Spanish-Speaking Moms | 11 | Mothers of Latino children enrolled in a local daycare |
| OCHD Providers | 7 | Healthcare staff at Hillsborough clinic |
| OCHD Providers II | 8 | Healthcare staff at Chapel Hill clinic |
| Advocates for Children' Committee | 11 | Members of a Healthy Carolinians committee |
| Volunteers For Youth- Teens | 7 | Teens in a local after-school program |
| OCJJP Providers | 7 | Members of the Orange County Justice Partnership who work with adults |
| DSS- Child Protective Services | 8 | Providers at a county social services agency |
| IFC Shelter | 8 | Residents at a local housing shelter for men |
| Carrboro Town Employees | 6 | Employees of a local municipality |
| Chamber of Commerce | 5 | Members of the Chamber of Commerce |
| ARC Self-Advocates | 19 | Self-advocates from the A.R.C. |
| Hillsborough DSS | 7 | Providers at a county social services agency |
| Hillsborough Area Physicians | 3 | Physicians |
| Women's Shelter (Project Homestart) | 13 | Residents at a local housing shelter for women |
| Seniors: C.H.S.C. | 6 | Senior citizens living in the Southern part of the county |
| Seniors: Cedar Grove | 10 | Senior citizens living in the Northern part of the county |
| UNC Hospital Staff | 11 | Staff from UNC Hospitals |
| MHA Support Group | 5 | Support group for people with mental illness |
| FVPC: English | 5 | Clients of a domestic violence agency |
| ARC Parents | 6 | Parents of children with special needs |
| Dentists' Group | 6 | Dentists |
| OPC Providers | 3 | Providers of mental health services |
| Northern Orange Latino Providers | 4 | Professionals who work with Spanish-speaking families |
| Freedom House Clients | 12 | Clients of a substance abuse treatment program |
| Seniors: Northside | 5 | Senior citizens living in the Southern part of the county |
| Seniors: Central Orange Center | 16 | Senior citizens living in the central part of the county |
| Efland-Cheeks MEN | 4 | Members of a men's support group from the Northern part of the county |
| **TOTAL** | **273** | **33 groups total** |

## Appendix C. Focus Group Leaders, Interviewers, and Note-takers

- Marcia Adams, Orange County EMS
- Meghan Agresto, Family Violence Prevention Center
- Myra Austin, Department of Aging
- Evonne Bradford, Mental Health Association of Orange County
- Susan Clifford, Orange County Health Department
- Angela Cooke, Orange County Health Department
- Cheryl Cureton, Joint Orange-Chatham Community Action
- Alfredo Fort, Intrah
- Pilar Fort, Early Head Start
- Diane Halloran, UNC Hospital Women's Clinic
- Misty Hitesman, Intrah
- Maria Hitt, Orange County Health Department
- Trish Hussey, Freedom House of Recovery
- Donna King, Orange County Health Department
- Adrienne Knowles, Adolescent Pregnancy Prevention Coalition
- Danielle Matulla, Triangle United Way
- Jenny Palmer, Planned Parenthood
- Aviva Scully, Orange County Health Department
- Wayne Sherman, Orange County Health Department
- Amy Sommer, CHA Research Assistant
- Julie Sweedler, UNC Hospital Women's Clinic
- Tamara Dempsey-Tanner OC Partnership for Young Children
- Katie Vogler, Communities in Schools
- Stephanie Willis, Chapel Hill-Carrboro City Schools
- Ellen Young, Orange County Health Department
- Edwina Zagami, Chapel Hill-Carrboro City Schools

## Appendix D: Training Materials

### Conducting Focus Groups
### Recruiting Participants

**The ideal group…**

- is characterized by *homogeneity*. Participants should have something in common that relates to the topics and groups identified during CHA brainstorming sessions. Homogeneity is important for successful analysis and the group's comfort (remember: an "expert" or an "authority" destroys the group's participation).
- include enough variety so that contrasting opinions will be heard.
- is made up of six to twelve people. Do not conduct a focus group with less than four people.

**Selecting participants**

These general guidelines for selecting participants will help ensure that our methodology is sound.

- Set exact specifications: As much as possible, describe the demographic and observable characteristics of the people you want in your group.
- Beware of selection bias: Do not select a list of participants from memory or because they have approached you with specific concerns, or because they are more readily accessible.
- Remember that service-users and non-users may be different from each other in some ways. If you are working with only one or the other, be sure to note that in the description of your group that you provide on your cover sheet.

**Finding Participants**

There are many good ways to find focus group participants. Here are some suggested strategies:

- Use an existing list of people who fit the group characteristics you have chosen. This includes any list of clients, members, or service providers that you have access to.
- Piggy-back a focus group after another meeting or event. For example, recruit parents who usually come to PTA meetings to participate before or after a scheduled meeting.
- Use a location (people's workplace, recreational site, or a service provider) to recruit people. It is important to further narrow recruitment to select a group of people who share some common characteristics related to the health assessment. (See the list of potential focus groups for suggestions.)
- Ask a community member or community leader to nominate people who fit the characteristics of the group you are going to conduct. Try to contact a few people to make nominations for you.

**Getting Participants to Attend**

- Have a clear understanding of the study's importance. Practice explaining its purpose to people to see if they understand.
- Personalize invitations (if used) by using letterhead and signing each one.
- Remind participants the day before (e.g. a phone call)
- Provide incentives (e.g. tell them there will be refreshments served)

**Conducting Focus Groups**
**Moderator Do's and Don'ts**

## Effective moderators…

- Have a good memory
- Communicate clearly in speech and in writing
- Listen attentively to all session participants
- Demonstrate respect for participants
- Make participants feel comfortable and supported
- Effectively explain the purpose of the listening sessions
- Demonstrate enthusiasm about the project
- Clearly explain how the data will be used and who will have access to it
- Clarify each question for participants
- Facilitate and guide discussion by being able to:
  – Prevent domination of discussion by an individual or subset of the group
  – Model good listening
  – Maintain a neutral, impartial role
  – Avoid answering or addressing issues raised
  – Provide positive reinforcement for participant input
  – Include participant(s) who are being left out of discussion
- Keep the discussion focused without dominating it
- Respect and use silences, hesitations, contrary positions and other unexpected occurrences, for the benefit of deepening and diversifying the discussion
- Dress and behave appropriately for the group they are interviewing
- Introduce themselves in ways that define common ground with those being interviewed

## Blocks to good sharing/Moderators need to avoid:

- Talking too much (remember: a good moderator "disappears" most of the time)
- Not allowing silence to work
- Leading participants
- Advocating a particular position or solution
- Appearing judgmental
- Appearing to approve or support one position (e.g., head nodding)

## Key Facilitative Behaviors

- Prompt for specifics and details
- Keep everyone participating
- Respect and use periods of silence
- Remain neutral at all times
- Relax and have fun

## Conducting Focus Groups
## Setting up for the Listening Session

### Location/Site

- Accessible to community people in that community
- Familiar
- Comfortable with adequate heating, ventilation, lighting
- Neutral
- Non-threatening location for that community

### Room

- Comfortable
- Enough seating for number of participants expected
- Capacity to move seats around, if possible
- Ability to close door to room if other activities going on
- Quiet
- Electrical outlet for tape-recorder
- Space for child care, if needed. Otherwise, be considerate of participants who may need to bring infants.
- Good lighting

### Seating Arrangements

- In a circle of chairs or circle around a table.
- Moderator seated in circle, as one more participant.
- Assistant moderator seated directly opposite moderator
- Seat so that all participants can see moderator and vice-versa
- Seat so that assistant moderator can hear all participants clearly
- Avoid *unequal* seating arrangements as much as possible (i.e., where some participants are quite close to moderator and some far away from moderator)

## Conducting Focus Groups
## Note Taking Tips for Assistant Moderators

Note taking is a primary responsibility of the assistant moderator. (The moderator is not expected to take detailed written notes during the discussion in order to maintain maximum eye contact with participants during the session. They may make brief notes to themselves in order to keep track of probes or issues to return to). Note taking is important even if the session is also being taped in order to highlight strong quotes and themes, record observed non-verbal activity, or any discussion missed in the event of the audio tape failure. Here are some tips:

- Have plenty of legal pad paper available for note taking and 2 pens, in case one runs out of ink.
- To help keep track of participants' names and who is saying what, make a sketch in your note pad of the seating arrangement with initials or first name of each participant. While participants' names will not appear in the final written summary of the listening session, it is helpful to indicate participants' initials by their specific comments in your handwritten notes.
- When capturing notable quotes, listen for well-said quotes. Capture word for word as much of the statement as possible. Listen for sentences or phrases that are particularly enlightening or eloquently express a particular point of view. Place name or initial of speaker after the quotations. Usually, it is impossible to capture the entire quote.
- In your notes, write phrases or key words that best capture or express the key ideas that are being discussed. (This will help in identifying key themes later when you write the summary.)
- Note the non-verbal activity. Watch for the obvious, such as head nods, physical
- excitement, eye contact between certain participants, or other clues (e.g. body language) that would
- indicate level of agreement or disagreement, support or interest.
- Indicate areas of strong consensus in your notes. Place an asterisk by key points or ideas where there was agreement by several people. You can also record in brackets other observed signs of consensus (for example, "lots of yes's here" or "lots of head-nodding here").

## Appendix E: English Focus Group Discussion Guide

### Focus Group Discussion Guide

INTRODUCTION

- Thank you for taking the time to join us today.
- Introduce yourself and the recorder

(THE FOLLOWING SCRIPT IS FOR YOU TO SUMMARIZE. YOU DO NOT NEED TO READ IT WORD FOR WORD. YOU DO NEED TO COVER CONFIDENTIALITY AND THE RIGHT TO WITHDRAW WITHOUT PENALTY.)

I'm working with Healthy Carolinians of Orange County, a group of agency and community members who are interested in learning about the health of Orange County residents. Today we'd like to hear your opinions about the physical, mental, and environmental health of your community. This information, along with information gathered from interviewing community leaders and looking at existing statistics, will help us plan future programs that meet the needs of residents of Orange County.

No names will be attached to any of the information we collect. We will be sharing what we learn with community and agency members during open forums in the fall. In the winter we will write a report about our county's health, to submit to the state. If you would like to be invited to a community forum, please write your address on the sign-in sheet I gave you.

While we talk today, I want you to feel free to share your opinions even if they are different from others. and react to each other's thoughts. There are no right or wrong answers. I am here to help facilitate discussion and listen to what you have to say. (Note-taker's name) will be taking notes. If there are no objections, we will be tape recording this discussion to make sure we don't miss any comments. Try and speak up so the tape can pick up your answer. Since this is a group discussion, you do not have to wait for me to call on you to speak. Anything we say here is confidential. I ask that when you all leave today that you remember to respect others' privacy and not share any information outside of this discussion. We'll talk for about 1 and ½ hours.

You are here because you voluntarily agree to participate in this group discussion. However, if for any reason you feel uncomfortable and do not want to continue in the session, you are free to withdraw at any time. This will not affect in any way your status or any services you receive in the future from Orange County or this agency. Is this OK with everyone?

---

OPENING QUESTIONS

- Let's start by going around the room one at a time and introducing ourselves and sharing one brief interesting thing that others in the group might not know.

---

INTRODUCTORY QUESTIONS

- Today we'll be talking about people's health here where you live – in your community. First I'd like to ask what it's like living in your community?
  PROBE: What are some of the best things about living in your community?

- Since we will be talking about health, what does being healthy mean to you personally?
  PROBE: What about physical health? Mental health? Environmental health?

- What would a healthy community look like to you?

---

TRANSITION QUESTIONS

- Thinking about your community, what aspects of health seem most important to the people who live there?

- In what ways are those similar to or different from the aspects of health and healthcare that are important to *you*?

- What do you perceive to be the most healthy things about your community?

---

KEY QUESTIONS (The most time *probing* should be spent on these questions. Follow answers with phrases like, "Tell me more about…" *or* "Could you give me an example…" *or* "In what ways…")

- Now, thinking about less healthy things, which things concern you the most about the health of your community?
  PROBE: Which of the topics the group has mentioned are *most* concerning to you?

- Thinking about your own experiences, tell me about the availability of different kinds of healthcare services in your community.
  PROBE: Tell me about the ways that the services are provided – e.g. going to the hospital, or a clinic, or community centers or through health information initiatives.

- Are there groups of people within your community whose healthcare needs seem to be overlooked, or not met?
  PROBE: Who? In what ways? Why do you think that might be?

**Thinking back over all the topics we've discussed, how are the health issues we have identified related to any other concerns you may have about living in your community?**

- Thinking back over all the topics we've discussed, what specific things would you do (if you were in charge) to improve the health status of community residents?

PROBE: Are there things you would do to improve aspects of healthcare like access to care, health communication and information, quality of care, subsidies/cost, types of services available?

---

ENDING QUESTIONS

- We want to make sure that the health programs in this community will help *you*. With that in mind, is there anything that we have not asked or that you would like to add?

---

CLOSING

- Thank you

- Our discussion today will help Healthy Carolinians and their partners know more about the health of Orange County. Remember, our goal is to prioritize the health needs of this county so that we can design programs and services that really meet people's needs. We will be making our lists of priorities at forums of community members in the fall. Community members like you will be invited to forums to hear about the health topics that groups like this one have talked about, and to help prioritize the county's health needs. If you would like Healthy Carolinians to contact you when the forums are coming up, please fill out this form. [HAND OUT ADDRESS FORMS.] We need your name and address to contact you about the forum, but it will not be associated with anything you've said today.

- Incentive for participation

## Appendix F. Spanish Focus Group Discussion Guide

### EVALUACIÓN DE LA SALUD DEL CONDADO DE ORANGE
### UNA GUÍA PARA PLATICAR EN EL GRUPO FOCAL

## INTRODUCCIÓN

- Gracias por tomar el tiempo para reunirse con nosotros hoy.

- Preséntese y a el/la secretario/a.

## (USTED PUEDE RESUMIR EL SIGUIENTE DIÁLOGO. NO NECESITA LEER CADA PALABRA. NECESITARÁ HABLAR ACERCA DE LA CONFIDENCIALIDAD Y EL DERECHO DE RETIRARSE SIN CONSECUENCIAS.)

Estoy trabajando con el grupo de *Healthy Carolinians* del condado de Orange, un grupo de individuos, miembros de agencias y de la comunidad que están interesados en aprender acerca de la salud de los residentes del condado de Orange. Hoy nos gustaría escuchar sus opiniones acerca de la salud física, mental, y del medio ambiente de su comunidad. Esta información, con otros datos recopilados de entrevistas con líderes de la comunidad y estadísticas actuales, nos ayudará a planear programas en el futuro para satisfacer las necesidades de los residentes del condado de Orange.

No vamos a usar nombres con los datos que recopilamos. Vamos a compartir lo que aprendemos con miembros de agencias y la comunidad en el otoño durante foros abiertos a todos. En el invierno se enviará un informe escrito al gobierno del estado. Si usted quiere una invitación al foro en la comunidad, favor de escribir su dirección en la hoja de firmas suministrada.

**Mientras hablamos hoy, quiero que se sientan libres de compartir sus opiniones, aunque sean diferentes de otras personas, y compartir sus reacciones a los pensamientos de otros. No hay respuestas correctas o incorrectas. Estoy aquí para facilitar la conversación y escuchar lo que tienen que decir. (El nombre del secretario/a) va a tomar notas. Si no tienen objeciones, vamos a grabar la conversación con una grabadora para asegurar que captamos todos los comentarios. Por favor trate de hablar en voz alta para que la grabadora pueda captar su respuesta. Esta es una conversación del grupo, por lo tanto no tienen que esperar hasta que les llame su nombre para hablar. Cualquier cosa que digamos aquí será considerado como privado. Les pido que cuando salgan hoy, por favor respete la confidencialidad de los otros y no comparten la información fuera de esta sesión. Hablaremos por aproximadamente una hora y media.**

Ustedes están asistiendo porque está de acuerdo en participar voluntariamente en esta conversación del grupo. Sin embargo, si por cualquier razón alguno de ustedes se siente incómodo/a y no desea seguir en esta sesión, pueden retirarse en cualquier momento. Esto no afectará de ninguna manera su situación ni los servicios que reciba del condado de Orange ni de esta agencia. ¿Están todos de acuerdos con lo que he dicho aquí?

**PREGUNTAS PRELIMINARES (OPCIONAL)**

- Comenzamos con cada uno presentándose al grupo y compartiendo en breve una cosa interesante que los otros en el grupo tal vez no sepan.

---

**PREGUNTAS INTRODUCTORIAS**

- Hoy hablaremos acerca de la salud de la gente aquí, donde ustedes viven – en su comunidad. Primero, quiero preguntarles, ¿cómo es vivir en su comunidad?

  EXPLORACIÓN: ¿Cuáles son algunas de las cosas mejores de vivir en su comunidad?

- Ya que estamos hablando acerca de la salud, ¿qué significa para usted personalmente estar saludable?

EXPLORACIÓN: ¿Qué significa la salud física? ¿la salud mental? ¿la salud ambiental?

- ¿Qué sería, para usted, una comunidad saludable?

---

**PREGUNTAS DE TRANSICIÓN**

- Pensando acerca de su comunidad, ¿cuales aspectos de salud parecen ser más importantes para las personas que viven aquí?

- ¿Son estos aspectos similares a los aspectos de salud y cuidado de salud que son importantes para usted, o son diferentes? ¿En qué maneras son diferentes o similares?

- ¿Cuáles son los aspectos más saludables de su comunidad, en su opinión?

---

**PREGUNTAS CLAVES** (Debe tomar la mayoría del tiempo en explorar estas preguntas. Continúe la discusión después de las respuestas con frases como, “Dime más acerca de . . .” *o* “¿Puedes dar un ejemplo . . .?” *o* “¿En qué manera . . .?”)

- Ahora, pensando en cosas menos saludables, ¿cuales son las cosas que le provoquen más inquietud acerca de la salud de la comunidad?

  EXPLORACIÓN: ¿Cuáles de los tópicos mencionados por el grupo le causan más inquietudes que cualquier otro?

- Pensando en sus propias experiencias, dígame qué piensa acerca de la disponibilidad de los diferentes tipos de servicios de salud en su comunidad.

EXPLORACIÓN: Qué piensa acerca de la manera en que los servicios están brindados– por ejemplo, visitando al hospital, la clínica, o centros de comunidad o por iniciativas de información sobre la salud.

- ¿Hay grupos de individuos dentro de su comunidad que no son atendidos en cuanto a sus necesidades de cuidado medico, o que parecen que sus necesidades médicas no están satisfechas?

EXPLORACIÓN: ¿Quién? ¿En que manera? ¿Porqué piensa usted que esto está pasando?

Pensando en los temas de salud mencionados hoy, ¿qué otras inquietudes tiene sobre vivir en esta comunidad?

- Pensando en todos los asuntos mencionados, ¿qué cosas haría usted (si fuera encargado/a) para mejorar el estado de salud de los residentes de la comunidad?

  EXPLORACIÓN: ¿Hay cosas que usted haría para mejorar aspectos del cuidado médico, como por ejemplo, el acceso al cuidado médico, comunicación e información sobre la salud, la calidad del cuidado médico, subsidios/costo, los tipos de servicios disponibles?

---

**PREGUNTAS FINALES**

- Queremos asegurar que los programas de salud en esta comunidad le van a ayudar a usted. Con esto en mente, ¿hay algo que no hemos preguntado hoy, o algo que usted quiera añadir?

---

**CONCLUSIÓN**

- Muchas gracias por su tiempo y buenas intervenciones
- Incentivo por participar

## Appendix G: Service Provider Interview Guide

**Introduction**
(This is an example; your introduction will depend on how well you know the person you are interviewing.)

"Hi, my name is ____. Thank you for agreeing to be interviewed as a part of Orange County's Community Health Assessment. I'm working with Healthy Carolinians of Orange County, a group of agency and community members who are interested in learning about the health of Orange County residents in order to plan programs that will best meet their needs. In addition to interviewing service providers, we are interviewing community leaders, conducting focus groups, and analyzing secondary data. In the fall, we will share the information we've collected in community forums and work on prioritizing health needs.

Our interview today will take no more than an hour. We will report all the information we collect in a way that does not identify you or your agency in any way. I would like to take notes (IF RECORDING: "and record") during our discussion so that I can keep track of what we talk about. Does all of this sound ok? Let's begin, then."

### A. Provider's Role

1. What is your title and role within your organization?
2. Do you consider yourself a Service Provider or a Community Member, or both?

### B. Agency Services

3. What are the most popular services that your agency provides?
4. Who in the community most often uses your agency's services? *(Probe: are there particular groups within the community who your agency targets, or who use your services more than others?)*
5. Who in the community has need for your services but is not being reached? *(Probe: Are there people who aren't being served promptly? Why do you think that might be?)*
6. Thinking about the needs you have identified, are there specific services that are currently not offered by your agency that you would like to implement?
7. What services that your agency provides are not fully taken advantage of?
8. What other agencies do you work with? *(Probe: What types of interactions do you have with them?)*
9. What does your agency do to meet the cultural and language needs of people who use your services? *(Probe: What about the needs of people with disabilities or other limitations?)*
10. How is your organization funded? *(Probe: How certain is your funding in the future?)*
11. How are the programs in your organization evaluated?
12. How do those evaluations impact your agency's work?

**C. Assets in the Community**

13. What programs, resources, or agencies (other than yours) are available for people to use in order to be healthy in this community? *(Probe: Which are used most? Which make the most impact on the community?)*

**D. Health Needs of the Community**

14. Thinking now about the larger community, beyond your organization's work, what are the two most important health problems that you perceive in this community?
15. How does your agency plan to help address those needs?
16. What are the biggest barriers that people face to accessing health services in the community at large? (*probe: access, transportation, insurance, provision of services)*
17. Are there specific groups of people in the community who you feel face particular challenges related to health? (*probe: youth, families, elderly)*

**E. Addressing Challenges and Making Decisions**

18. Tell me about community involvement in your agency's decision making.
19. How have community members addressed their community's health needs?
20. If you were going to address a health-related challenge in the community, whom would you try to involve in order to be successful? *(probe: individuals, organizations/agencies)*

**F. Conclusion**

"Finally, let me ask you if there is anything I have not asked about that you would like to tell me related to health in this community?"

"Thank you for taking the time to talk with me today. If you would like to continue to be involved in the health assessment process, please consider attending the community forums we will be holding in the fall."

## Appendix H. Community Member Interview Guide

**Introduction** (This is an example; your introduction will depend on how well you know the person you are interviewing.)
"Hi, my name is ____. Thank you for agreeing to be interviewed as a part of Orange County's Community Health Assessment. I'm working with Healthy Carolinians of Orange County, a group of agency and community members who are interested in learning about the health of Orange County residents in order to plan programs that will best meet their needs. In addition to interviewing community leaders, we are interviewing service providers, conducting focus groups, and analyzing secondary data. In the fall, we will share the information we've collected in community forums and work on prioritizing health needs.
Our interview today will take no more than an hour. We will report all the information we collect in a way that does not identify you by name in any way. I would like to take notes (IF RECORDING: "and record") during our discussion so that I can keep track of what we talk about. Does this sound ok?"

**A. Assets in the Community**

1. Tell me how you define your community? *(Probe: geographically, ethnically, racially)*
2. What programs, resources, or agencies are available for people to use in order to be healthy in this community?
3. Which are used most?
4. Which make the most impact on the community?

**B. Health Needs of the Community**

5. What do you think are the two most important health problems in this community?
6. Who in the community has need for services but is not being reached? *(Probe: Are there people who aren't being served promptly? Why do you think that might be?)*
7. Are there services that you know about that are not fully taken advantage of? *(Probe: Why do you think that might be?)*
8. Thinking about the community's needs, are there specific services that might be needed that are currently not offered?
9. What are the biggest barriers that people face to accessing health services? (*probe: access, transportation, insurance, provision of services)*
10. Are there specific groups of people in your community who you feel face particular challenges related to health? (*probe: youth, families, elderly)*
11. What are some things that agencies in your community do to meet the cultural and language needs of people in the community?
12. What are some special accommodations that agencies in the community provide for citizens who require special services in your community (e.g., handicapped issues)?

**C. Addressing Challenges and Making Decisions**

13. Tell me about your involvement in the decision-making process at agencies in this community.
14. How have community members addressed their community's health needs?
15. If you were going to address a health-related challenge in the community, whom would you try to involve in order to be successful? *(probe: individuals, organizations/agencies)*

**D. Conclusion**

"Finally, let me ask you if there is anything I have not asked about that you would like to tell me related to health in this community?"

*"Thank you for taking the time to talk with me today. If you would like to continue to be involved in the health assessment process, please consider attending the community forums we will be holding in the fall".*

## Appendix I: Themes from Primary Data Collection

These lists present the major themes (in bold) that emerged in the primary data collection and the sub-themes related to each. The numbers reflect how many times each sub-theme was mentioned in focus groups and interviews.

| | |
|---|---|
| **Nutrition and exercise** | |
| Poor dietary habits | 43 |
| School lunch is unhealthy | 23 |
| Need more physical activity | 19 |
| Costs of fitness too high | 15 |
| Need more 'walkable' spaces | 9 |
| **Mental Health** | |
| Too few mental health resources | 35 |
| Too few mental health resources for teens | 22 |
| Impact of mental illness on all other parts of health | 12 |
| **Access to Healthcare** | |
| People need a medical home | 46 |
| Co-pays cost too much | 20 |
| Problems with healthcare system confusion, conflicting rules | 18 |
| Primary care costs too much | 13 |
| Medicaid limits too low | 12 |
| Wait for services | 10 |
| Care is limited to 9-5 | 9 |
| **Disparities** | |
| Between North and South of county | 44 |
| Divisions/disparities in our population | 38 |
| Minorities face disparities in healthcare | 22 |
| Homeless people need more healthcare | 20 |
| Cost of living/housing too high | 17 |
| Minorities are discriminated against | 11 |
| **Health Information** | |
| Need to know where to turn for help | 29 |
| Need information on nutrition practices | 11 |
| Need to know where to buy cheap insurance | 9 |
| Need to provide more outreach | 5 |
| **Substance abuse** | |
| Major problem in the community | 29 |
| Need more treatment options | 29 |
| Problem for teens | 20 |
| Causes other related problems | 11 |
| **Dental care** | |
| Dental care is too expensive or wait too long | 19 |
| Insurance doesn't cover dental care | 13 |
| **Environmental Health** | |
| Air/smog pollution | 25 |
| Water quality | 11 |
| **Transportation** | |
| Transportation is a major barrier | 41 |
| **Education** | |
| Need more vocational education | 16 |
| Need more gym in the curriculum | 16 |
| **Adolescent Health** | |
| Need mental health services | 22 |
| Teens need more to do | 14 |
| Specific barriers to care | 13 |
| **Senior citizens** | |
| Are isolated from care and community | 17 |
| Need help with healthcare costs | 11 |
| Get less care than others | 9 |

**Appendix J. English Prioritization Survey** **Orange County Community Health Assessment**

# Community Health Priority Survey

Over the past several months, Healthy Carolinians of Orange County and its partners have been working together to assess the health of Orange County. We have done numerous focus groups and interviews and listened to the concerns of the community related to health issues. We have spoken with 300 people from all across the county and from every walk of life. From this process the following list of priority areas were identified. While all of these are important, we would like to concentrate on no more than 5 areas. You can help us by choosing the "top 5" for a concentrated focus.

**Please complete this survey only once**

**Please answer the following questions so we will know something about who has answered our survey. (Be sure to go to the back of the page to choose priorities)**

1. Do you live in Orange County? ___ Yes ___ No
2. What is your Zip Code? _____
3. Do you work in Orange County? ___ Yes ___ No
4. Do you utilize community resources or services in Orange County? ___Yes ___No
5. What is your age? _____
6. What is your gender? ___Male ___Female
7. What is your race? (choose one) ___ African-American ___ Caucasian ___ Asian
   ___ Native American ___ Mixed Race ___ Other
8. Are you Hispanic/Latino? ___ Yes ___ No

**Please turn to the back to choose your top five priority areas**

Thank you for taking time to complete this survey. This is an important step in our Community Health Assessment process. The next step will be three community forums to be held this fall. At the forums we will begin to discuss solutions to the top issues chosen in this survey. You are invited to attend one of these forums if you are interested. The forums will be:

- Thursday, October 23rd 6:00-8:00 PM at the Northern Orange Human Services Center
  5800 Hwy 86 North, Cedar Grove Light dinner and childcare will be provided
- Monday, October 27th 3:00-5:00 PM at the Central Orange Senior Center
  Off of Hwy 70 at the second Meadowlands entrance in Hillsborough
- Wednesday, November 5th 6:30-8:30 PM at OWASA (On the J bus route)
  400 Jones Ferry Rd, Carrboro Light dinner and childcare will be provided

To find out more about Healthy Carolinians of Orange County go to the following link: www.co.orange.nc.us/health/educat.htm then choose Healthy Carolinians of Orange County, or call Maria Hitt, Healthy Carolinians coordinator at 968-2022 Ext 291.
Please return this survey where you received it today OR
Mail to: Healthy Carolinians, 2501 Homestead Road, Chapel Hill, NC 27516
FAX to: Attention of Maria Hitt at 969-4777
The survey can also be completed on-line by going to the following link:
www.co.orange.nc.us/health/survey.htm

**Top Issues for Orange County**

Please take a few minutes to read over this list compiled from our focus groups and interviews. **Choose the 5 issues that YOU think are the most important for us to work on as a community and number them from 1 being most important to 5 being less important.**

- ❑ Many people who live here cannot afford the costs of living and the costs of staying healthy in this community.
- ❑ The healthcare system is very complicated, and people don't understand how to use it.
- ❑ Substance abuse is a problem in our community, and we need more ways of preventing it and treating those who are addicted.
- ❑ Mental health services are either too expensive or the waiting lists are too long
- ❑ Many people don't have health insurance or are underinsured
- ❑ Overweight, obesity and related health conditions are of concern to all ages
- ❑ There is a need for a central place where people can ask questions about health services, get important health information, and find the names of providers who can help them.
- ❑ Seniors have difficulties accessing services
- ❑ Barriers such as transportation, lack of insurance, and knowing about services keep people from using preventive health services and education, causing health conditions to become worse before seeking treatment.
- ❑ There are not enough mental health, nutrition and recreation services for teens
- ❑ The air and water pollution in this county have a negative effect on our health.
- ❑ There is a lack of providers and services that are sensitive to all cultures, including services that are offered in other languages
- ❑ There is not enough dental care for low-income adults and those without dental insurance
- ❑ There is a difference between services that are available in the Northern and Southern parts of the county

Are there any other issues that you think are important to the health of the community that you do not see listed here and would like to tell us about?

**(Please be sure to complete the other side of this page**

## Appendix K. Spanish Prioritization Survey

### Evaluación de Salud de la Comunidad del Condado de Orange
### Encuesta de las Prioridades de Salud de la Comunidad

Durante los últimos meses, la organización Healthy Carolinians del Condado de Orange y grupos afiliados han estado trabajando juntos para evaluar la salud del Condado de Orange. Hemos patrocinado muchas reuniones y entrevistas para escuchar las preocupaciones de la comunidad en relación a temas de salud. Hemos hablado con 300 personas por todo el condado y con gente de todas las profesiones y condiciones sociales. Por medio de este proceso se identificaron las siguientes áreas de prioridades. Aunque todos estos temas son importantes, nos gustaría concentrarnos en 5 áreas. Usted nos puede ayudar al elegir los 5 temas más importantes para concentrar nuestros esfuerzos.

**Por favor llene esta encuesta sólo una vez**

**Por favor conteste las siguientes preguntas para que sepamos algo de las personas que contesten nuestra encuesta. (Por favor elija las prioridades en el otro lado de la página)**

1. ¿Vive en el Condado de Orange? ___ Sí ___ No
2. ¿Cuál es su código postal? _____
3. ¿Trabaja en el Condado de Orange? ___ Sí ___ No
4. ¿Utiliza recursos o servicios para la comunidad en el condado de Orange? ___Sí ___No
5. ¿Cuántos años tiene? _____
6. ¿Cuál es su sexo? ___Masculino ___Femenino
7. ¿Cuál es su raza? (elija uno) ___ Afro-Americano ___ Blanco ___ Asiático
   ___ Indígena de Norte América ___ Raza mixta ___ Otro
8. ¿Es usted Hispano/Latino? ___ Sí ___ No

**Por favor vea el otro lado de la página para elegir las cinco áreas más importantes**

Gracias por tomar el tiempo para completar esta encuesta. Este es un paso importante en el proceso de hacer una Evaluación de Salud de la Comunidad. Como siguiente paso tendremos tres foros comunitarios este otoño. Durante los foros, vamos a comenzar a discutir soluciones a los temas más importantes que se eligieron por medio de esta encuesta. Lo invitamos a asistir a uno de estos foros si está interesado. Los foros se llevarán a cabo durante las siguientes fechas:

- **Jueves, 23 de octubre. 6:00-8:00 pm** en el Northern Orange Human Services Center 5800 Highway 86 North, Cedar Grove. Se proporcionará una cena ligera y cuidado de niños.
- **Lunes, 27 de octubre. 3:00-5:00 pm** en el Central Orange Senior Center por la Highway 70 en la segunda entrada de Meadowlands en Hillsborough.
- **Miércoles, 5 de noviembre. 6:30-8:30 pm**en OWASA (en la ruta de autobús J) 400 Jones Ferry Rd., Carrboro. Se proporcionará una cena ligera y cuidado de niños.

Para aprender más sobre la organización Healthy Carolinians del Condado de Orange, visite el sitio de Internet: www.co.orange.nc.us/health/educat.htm y seleccione Healthy Carolinians of Orange County o llame a Maria Hitt, coordinadora de Healthy Carolinians al 968-2022, Extensión 291.

Por favor devuelva esta encuesta a quién se la dio hoy O
**Envíela por correo a: Healthy Carolinians, 2501 Homestead Road, Chapel Hill, NC 27516**
**O por FAX a: Maria Hitt al 969-4777**
También se puede llenar esta encuesta por medio del Internet en la siguiente dirección: www.co.orange.nc.us/health/survey.htm (en ingles solamente)

**Temas más importantes para el Condado de Orange**

Por favor tome unos minutos para leer esta lista recopilada durante nuestras reuniones y entrevistas.

**Elija los 5 temas que <u>USTED</u> considera más importantes para que trabajemos en ellos en conjunto con la comunidad. Asigne números a cada uno, el "1" siendo el tema más importante y el "5" el menos importante.**

- ❑ Muchas personas que viven en esta comunidad, no tienen con que pagar los costos de vida y los costos de salud.
- ❑ El sistema de salud es muy complicado y la gente no entiende como usarlo.
- ❑ El abuso de drogas es un problema en nuestra comunidad y necesitamos más maneras de prevenirlo y de darle tratamiento a las personas con adicciones.
- ❑ Los servicios de salud mental son demasiado caros o las listas de espera son demasiado largas.
- ❑ Muchas personas no tienen seguro médico o el seguro que tienen es inadecuado.
- ❑ El sobrepeso, la obesidad y las condiciones de salud relacionadas son importantes para personas de todas las edades.
- ❑ Se necesita un lugar central en donde la gente pueda hacer preguntas sobre servicios de salud, obtener información importante de salud y encontrar nombres de proveedores quienes les puedan ayudar.
- ❑ Las personas de la tercera edad tienen dificultad en obtener acceso a servicios.
- ❑ Los obstáculos como el transporte, la falta de seguro y el no saber sobre los servicios impiden que las personas usen servicios de salud preventiva y educación, causando que sus condiciones de salud empeoren antes de buscar tratamiento.
- ❑ No existen suficientes servicios de salud mental, nutrición y recreación para adolescentes.
- ❑ La contaminación de aire y agua en este condado tienen un efecto negativo en nuestra salud.
- ❑ No hay suficientes servicios y proveedores con conocimiento de todas las culturas, incluyendo servicios que se ofrecen en otros idiomas.
- ❑ No existen suficientes servicios de cuidado dental para adultos de bajos recursos y para los que no tienen seguro dental.
- ❑ Hay una diferencia entre los servicios disponibles en la parte norte y sur del condado.

¿Hay otros temas importantes relacionados con la salud de la comunidad que no están incluidos en esta lista?

## Appendix L. Forum Facilitators and Volunteers

**Forum Facilitators:**

- *Myra Austin*
- *Evonne Bradford*
- *Tamara Dempsey-Tanner*
- *Amy Denham*
- *Louise Echols*
- *Beverly Foster*
- *Misty Hitesman*
- *Victoria Huntley*
- *Karen Isaacs*
- *Betty Markatos*
- *Danielle Matulla*
- *Robbie Roberts*
- *Aviva Scully*
- *Wayne Sherman*
- *Amy Sommer*
- *Matt Streng*
- *Colleen Svoboda*
- *Stephanie Willis*
- *Tammy Williams*

**Translators:**

- *Ellen Clancy*
- *Susan Clifford*
- *Emily Rodman*
- *Tina Siragusa*

**Other Volunteers:**

- *Rachel Arndt*
- *Donna Daniels*
- *Molly Grabow*
- *Sharron Hinton*
- *Jennifer Sharpe*
- *Julie Sweedler*
- *Stephanie Willis*

## Appendix M. Overview of Force Field Analysis

### Force Field Analysis

Force Field Analysis is a method for listing, discussing, and evaluating the various forces helping or hindering a proposed change within a community or group. When you are planning a change, force field analysis helps you look at the big picture by analyzing all of the forces impacting the change, both positive and negative. It helps you develop strategies to reduce the hindering forces and encourage the positive ones. Force field analysis can be used to solve existing problems or to plan more effectively for implementing change.

**Use Force Field Analysis to:**

- Plan for change in your community or organization
- Keep group members realistic about change and the challenges that may be encountered
- Address your groups' concerns and arrive at a consensus
- Establish action steps and strategies to help you work toward your goals

**Types of forces to consider:**

Available resources (money, people, time, power, etc.)
Traditions
Relationships
Attitudes of people
Rules and regulations
Present or past practices
People
Agencies
Institutional policies
Organizational structures
Values
Desires
Personal or group needs
Costs
Events
Services

**Once the helping and hindering forces have been identified, ask the following questions:**

- Are these forces valid?
- How do we know this?
- How significant is each force?
- What is each forces' strength?
- Which forces can be altered and which ones can not be changed?
- Which forces can be changed quickly?
- Which forces will require a long time to change?
- Which forces, if altered, would produce a rapid change in the situation?
- Which forces, if altered, would change the situation slowly?
- What skills, information, and resources are needed to change the forces?
- How can we get these things?

**Once a final goal is established, ask the following questions:**

- Which specific forces do we want to change?
- What step should be taken to change these forces?
- Who will be responsible for each step?

## Directions:

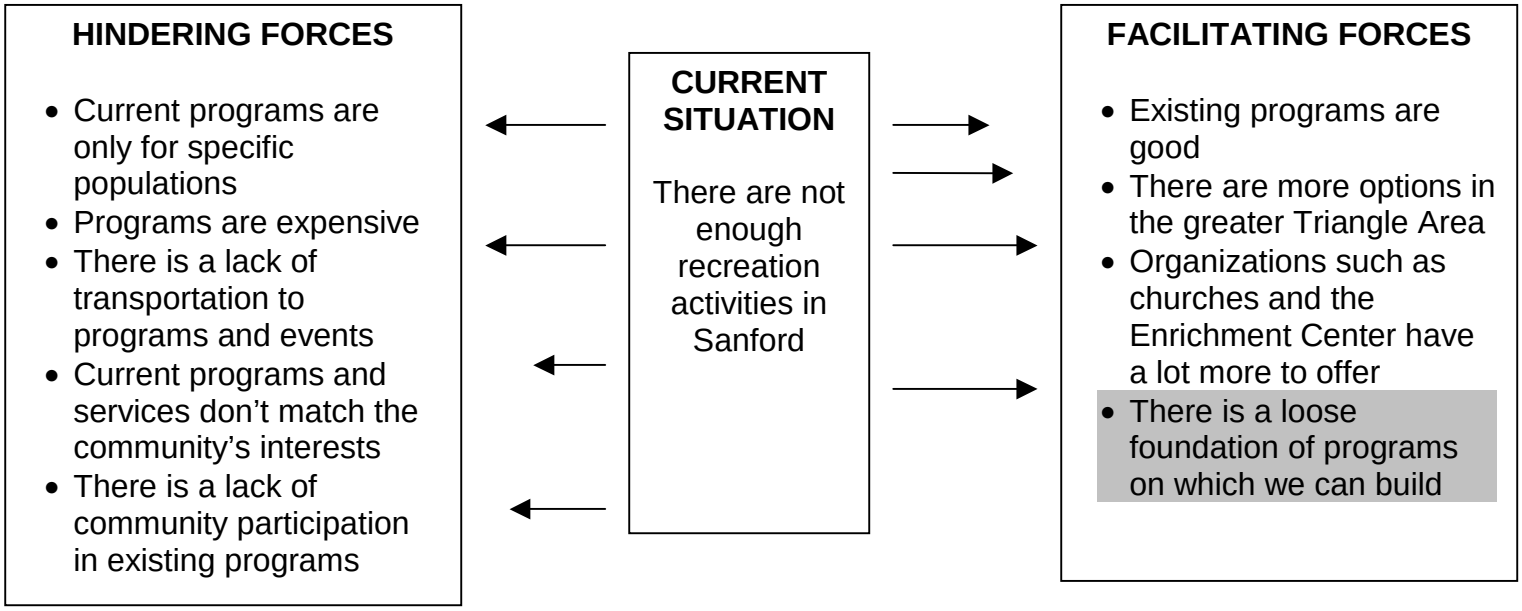
1. In a large group, participants should brainstorm themes or current situations related to the target issue. For example, a target issue may be “Improving Sanford” and different themes might include: Housing, Education, Crime, Recreation, and Growth.
2. Participants should rank the themes – the top 4-5 ranked themes will be the discussion topics for the small group sessions.
3. Participants should break up into small groups according to whichever theme they feel is most important.

**Once the participants have split up into small groups, each group facilitator will:**

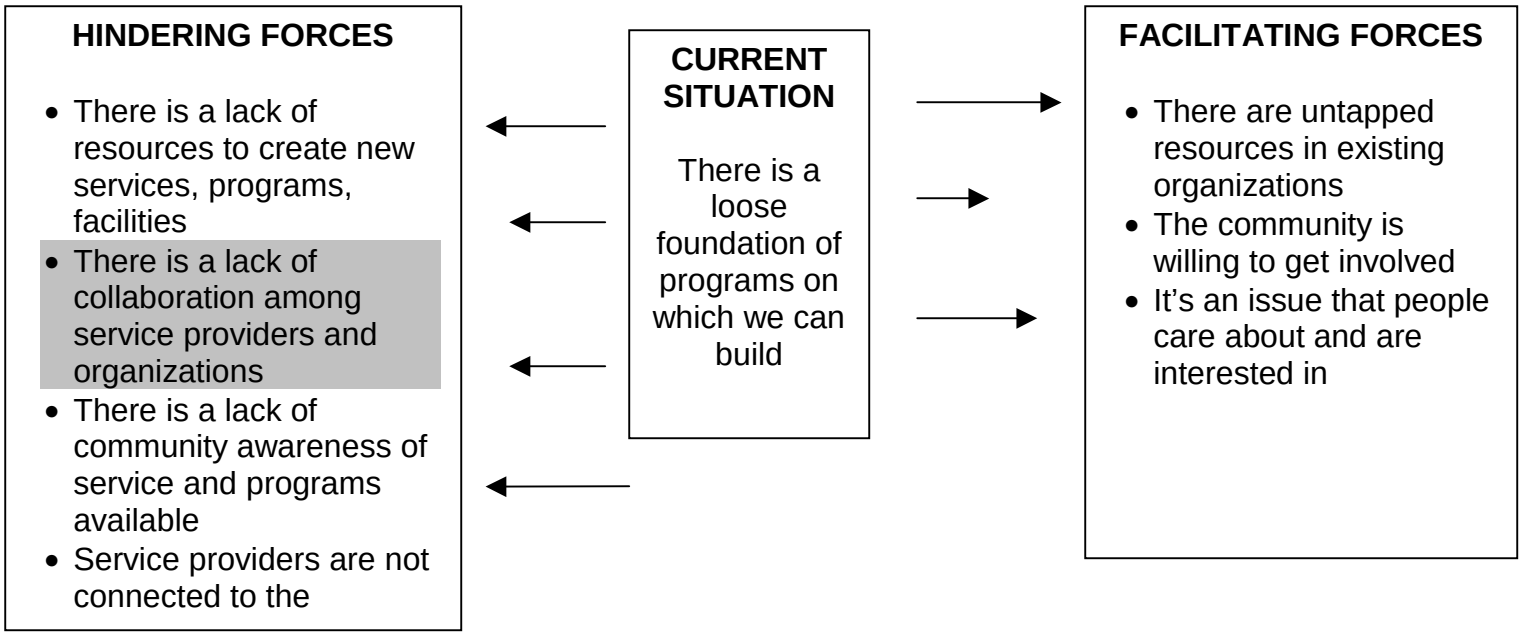
1. Ask the group to discuss the current situation for their particular theme and decide on a goal they want to achieve.
2. Write the goal on the far right side of the paper.
3. Ask the group to state the present situation and write that in the middle of the paper.
4. Next, the group should brainstorm all the helping and hindering forces that affect the present situation.
5. Write the helping forces on the left side of the paper and write the hindering forces on the right side of the paper, between the present situation and the goal.
6. Draw longer and shorter arrows under each helping and hindering force. The length of the arrows indicates their strength. The helping forces arrows are drawn towards the goal, and the hindering forces arrows are drawn away from the goal.
7. Explain that the group can move towards the goal by increasing the helping forces or reducing the hindering forces.
8. Ask the group to choose one helping force they could strengthen or one hindering force they could weaken. (choose only one, not one of each)
9. Using this chosen force as the new present situation, ask the group to identify a new goal regarding this force.
10. Brainstorm helping and hindering forces for the new goal, and draw a new diagram with the new present situation, new helping and hindering forces and arrows pointing towards or away from the goal.
11. Repeat this process until you have established a goal that the group can realistically achieve. Usually you will go through the process 2-3 times.
12. Once the final goal has been identified, ask the group to start listing action steps they can take to achieve the goal. For each action step, decide who in the group will be responsible for completing the action.
13. When you’ve finished this process, choose a representative to report your goal and your action steps back to the larger group.

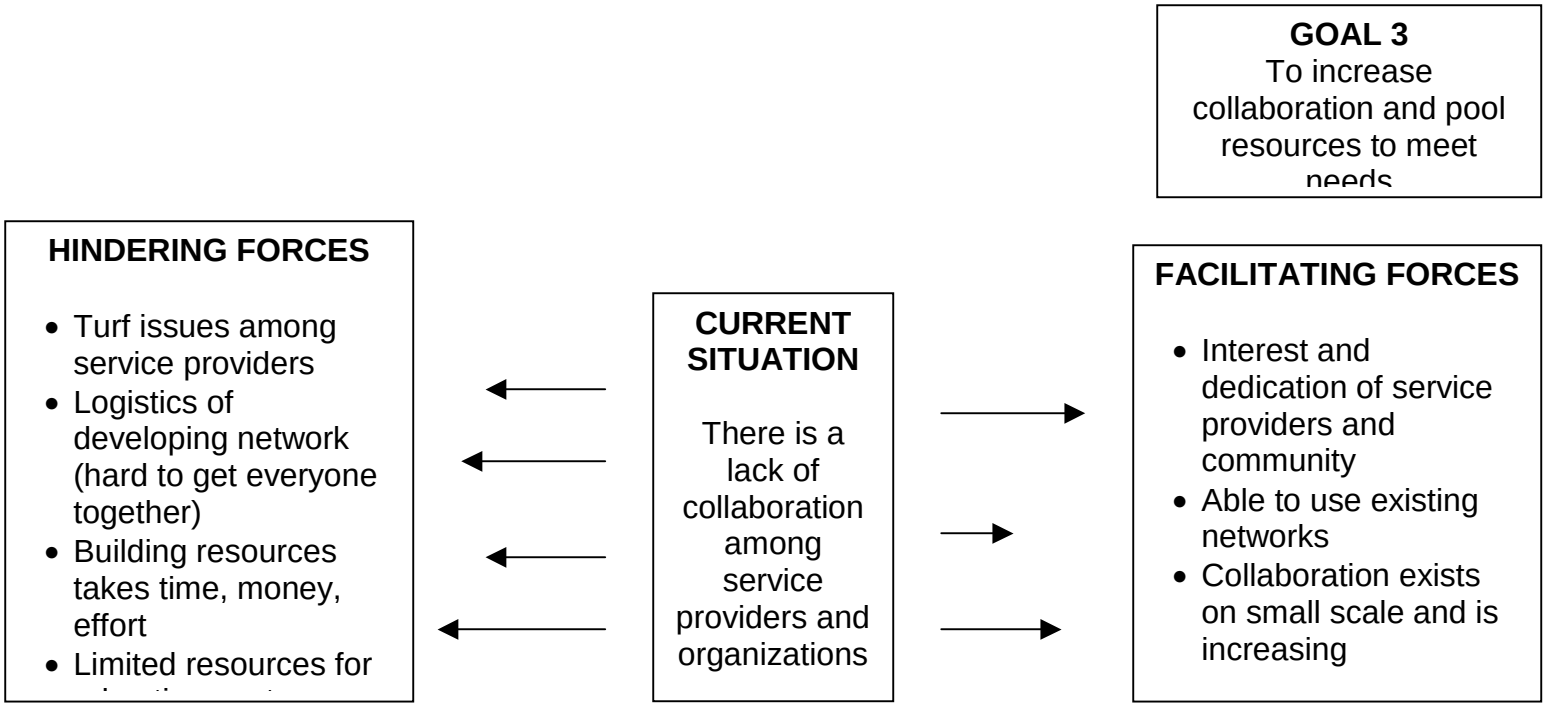
# Force Field Analysis Example

**GOAL 1**
To increase the amount of recreation opportunities in Sanford



**GOAL 2**
To strengthen and expand the current foundation of programs






**ACTION STEPS**

- Identify churches who are important players
- Come up with contact list of churches and resources
- Inventory other current resources/facilities/programs/services
- Meet in two weeks (organize and host meeting)
- Contact and meet with church leaders to discuss collaboration and communication
- Plan conference (community forum for recreation) with all the key players
- Start community newsletter to build awareness of recreation activities