NORTH CAROLINA COMMUNITY HEALTH ASSESSMENT PROCESS

Phase 1
Establish the CHA Team

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Phase 2
Collect Primary Data

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Phase 3
Collect Secondary Data

Objective:
- Collect secondary data for the county

Activities:
- Understand the different types and sources of data
- Gather county statistics
- Learn tips for interpreting statistics

Tools:
- Calculations Spreadsheet (online at www.healthycarolinians.org)

Appendix: (Appendix at www.healthycarolinians.org)

Statistical Primers

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Phase 4
Analyze and Interpret Primary and Secondary Data

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Phase 5
Determine Health Priorities

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Phase 6
Create the CHA Document

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Phase 7
Disseminate the CHA Document

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Phase 8
Develop Community Health Action Plans

Essential Services #1	Monitor health status to identify community health problems
Benchmark #1	LHD shall conduct and disseminate results of regular community health assessment
Accreditation Activity 1.1.b	Reflect the demographic profile of the population
Accreditation Activity 1.1.c	Describe socioeconomic, educational & environmental factors that affect health
Accreditation Activity 1.1.d	Assembly/analyze secondary data to describe the community health status
Accreditation Activity 1.1.g	Use scientific methods for collecting and analyzing data
Accreditation Activity 1.1.h	Identify population groups at risk
Benchmark #19	LHD shall identify populations that are not receiving preventive services or are otherwise underserved with respect to health care.
Additional Accreditation Benchmarks may apply to the CHA (verify by Accreditation Site visit and LHD self-assessment instrument)	

Phase 3: Collect Secondary Data

In this phase, the CHA Team will continue the CHA process by summarizing the statistics that are available for the county from other sources. These data are considered secondary data; they are not primary data for the CHA Team because another agency or organization has collected them. Secondary data by county is available from both state and local agencies and organizations. An important source of health information is the NC State Center for Health Statistics (SCHS) which has links to the online County Health Data Book and other sources of secondary data. Local data is available from a number of different sources like area agencies, organizations, and businesses.

Counties are collections of people, places, interests, values, experiences, traditions, and policies. By collecting information about the different aspects of the county, the CHA Team will understand more about the specific factors in the community that influence health in the broadest sense of the word. Data collection and analysis is more than gathering and examining lists of numbers. **It is crucial that the CHA Team interpret the data collected and decide what this data mean for the county**. It may help to think of the general definition of data as *information* that ultimately will assist the county in identifying problems and solutions.

Before collecting and reviewing county data, it is very important to ensure that the CHA Team has a thorough understanding of statistics. The data presented in the County Health Data Book are relatively easy to pull together and interpret, but doing the analyses carries some responsibilities in terms of drawing appropriate conclusions. It is especially important that the CHA Team consider data collected locally as these data were not collected for CHA. The SCHS *Statistical Primer*s in Appendix C and D have statistical tips and covers topics like small numbers and age-adjusting rates. The CHA Team can contact the SCHS with questions concerning data interpretation.

Secondary Data Sources from the State Center for Health Statistics

The County Health Data Book is the main tool to help counties complete their assessments. The County Health Data Book is updated yearly with county-level data and is located on the SCHS website. The SCHS also provides links to other sources of data such as BRFSS (Behavioral Risk Factor Surveillance System), CHAMP (Child Health Assessment and Monitoring Program), and PRAMS (Pregnancy Risk Assessment Monitoring System) on its web site www.schs.state.nc.us/SCHS/data/databook.

Other Secondary Data Sources

Many CHA Teams who are undertaking a health assessment need a wider range of data than is contained in the County Health Data Book. The *Resource Guide for Community health Assessment in North Carolina* (Resource Guide) found in Appendix H contains information about where to find data from other sources collected by other state, local or federal agencies, academic institutions, and non-profit organizations. This Resource Guide provides access to community-level data that have not been traditionally included in SCHS publications. Examples include data on housing, economic status, environment, mental health, crime, and social services. Exploring this information will yield a more well-rounded view of the community and factors that may affect the health of its residents.

Collect Data for Comparisons

When collecting data for the county's CHA, be sure to also collect the same information on the state and peer counties for comparison. Comparing the county to the state will help the CHA Team to see how healthy the county is compared to the rest of the state on a certain health indicator. Comparing the county to peer counties will show how healthy the county is compared to similar counties in terms of demographic determinants of health. When comparing statistics between two populations (county and state or county and another county), be sure to use **age-adjusted rates** which account for differences between the population sizes and age distributions of the two groups. See the *Statistical Primer – Age-Adjusted Death Rates* in Appendix D for more information.

Local Secondary Data Sources

Gather local secondary data from area agencies, organizations, and the major business(es) on their services, clients, students, sales, events, etc. These data are kept by organizations for many reasons including managing businesses, serving the clients/students/customers, reporting profits and losses, and making future decisions unique to the organizations. They are not kept in the anticipation of a CHA document. Therefore, these data may not fit neatly into the data format developed by the CHA Team. Still they can prove valuable by providing a clearer or different picture of the county. The information kept by these groups may be confidential. The CHA Team needs to determine rules of confidentiality and assure that they will be followed so organizations will comfortably share their data and individuals will readily share their information. See the *Resource Guide* in Appendix H for suggestions of where to find local secondary data.

The possible sources of local secondary data are varied and the types of data may be unique. Again, think broadly. Ask if information is available and explain the CHA process and goals and

how their organization's data might relate to health in the county. The following are some possible sources and examples of the types of data available.

Examples of Data from Other Agencies

- ✓ The local homeless shelter may conduct an annual local "point-in-time" count of the homeless
- ✓ The local "Smart Start" initiative may release reports on the state of the county's children
- ✓ Local disability advocates/independent living centers may have done a disability assessment
- ✓ Local economic development office periodically releases data on the local economy
- ✓ Area colleges or universities may have done research studies in the county
- ✓ Local planning offices may have done environmental assessments
- ✓ Local senior citizens' council may collect information on area seniors
- ✓ Local mental health, developmental disabilities, and substance abuse agencies may collect prevalence and treatment data for their catchment area.

Sources of Local Secondary Data

Public School System
- Enrollment numbers
- Graduation/drop-out rates
- Test scores

Library
- Local history/Information unique to the county

Chamber of Commerce
- List of businesses
- Employment/Unemployment rates
- Area economic data

Civic organizations
- Sources of involved community members
- Lists of charitable projects

Religious groups
- Membership numbers
- Lists of members and community needs

Employment Security Commission
- Employment/Unemployment rates

Community college/local university
- Enrollment/graduation numbers
- Fields of study available to students
- Academic research about the community

Law enforcement agencies
- Crime incidence
- Arrests/convictions numbers
- Incidence of domestic violence
- Motor vehicle crash information

Non-profit organizations
- Types of services performed
- Number of people eligible for service
- Number of people served
- Plans for the future

Large employers
- Products made
- Economic impact to the community

Since several team members may be gathering data, establish a format to keep basic descriptive data about the agency, organization, or business. Collect enough information about the agency, organization, or business so CHA Team members can identify the source of the data, credit them with cooperation, thank them for their help, or return for more information or clarification.

Example of How to Organize Local Data

- **Name and description of agency/organization/business**: Record the name of the agency/organization/business, contact person, telephone number, address, days/hours of operation, purpose, and brief description of the agency/organization/business. Obtain a copy of the annual report.
- **Employees/directors**: List the number of employees, name of the owner/administrator.
- **Population served**: Identify the population that the agency/organization serves (i.e., geographic location, gender, age, race, etc.). Note numbers.

- **Data available**: Describe the types of data they keep. Obtain copies if available.

Review Local Data

Local data that have been collected must be reviewed to determine:

- What the data will add to the current knowledge of the county?
- Is any of the information surprising or shocking, or does it confirm what CHA Team members thought?
- If data from different sources conflict, try to determine why. When interpreting data, remember that the source or data collection methods may have influenced or biased the data.

Despite the potential for unknown biases, local data may save the CHA Team time and lead them to valuable resources in the county. Note which groups supplied data and remain open to including other local data discovered during the assessment process. Summarize findings but keep the original data available because information that may not appear helpful in the beginning may prove to be helpful later. Keep a list, possibly in a computer database, of those who contributed local data and involve them again if possible and practical. Provide these groups with a copy of the CHA along with a thank you letter for their assistance. Involving local agencies with the CHA process can be an opening to future partnerships with these agencies for funding, volunteers, or other types of support. A simple data request can be the start of a collaborative relationship for future projects.

Types of Secondary Data Needed

The following sections discuss the types of secondary data needed in order to meet accreditation standards and complete a CHA document. Suggestions on where to find the necessary data are included.

Always state the population data source and whether reporting a rate, percent, or count. When comparing numbers, be sure that the numbers come from the same source and time period.

Population Demographics (County Health Data Book)

Consider key demographic groups in the county. Demographics refer to the population size and characteristics. These can include race/ethnicity, age, and sex, but also other components of the population that have unique health issues. For example, look at the percent of people living in urban versus rural areas, increases in births or in elderly populations, or increases in certain ethnic groups. Knowing this information can help plan services needed by special groups in the population such as the need for translators, elder or child care, or rural health clinics.

The County Health Data Book shows population projections estimated from the latest Census for each year for North Carolina and each county by age-race-sex groups. Population estimates are based on the number of expected births, deaths, and net migrations. Compare the demographics of the county to the state, neighboring or peer counties using percents instead of counts (actual number of people). Percents are special kinds of rates that allow comparisons of how much of the population is made of one group of people, out of the total population, where a standard population size of 100 is applied to the rate.

Example: To calculate the percentage of minority females ages 15–44, add the numbers for the six age groups (i.e., 15–19, 20–24, 25–29, 30–34, 35–39, and 40–44), divide by the total county population, and then multiply the result by 100 to get a percentage.

$$\text{\% minority females age 15-44} = \frac{\text{(females 15-19 + females 20-24+…+females 40-44)}}{\text{Total county population}} \text{ X } 100\%$$

Sub-population Data (County Health Data Book)

Gather data on sub-populations by race, gender, age, geographic areas, and socioeconomic status from the resources in the section on population demographics. Look for increases in the size of population subgroups which might indicate a need for more resources to serve the health needs of these subgroups. Data may not be available on small sub-population groups due to health data confidentiality issues. See Phase 4 for a discussion on how to interpret data based on small numbers.

Population Groups with Health Disparities (Cecil G. Sheps Center for Health Services Research)

It is important to summarize health disparities data in the county. This summary information will be used to help establish the CHA Team's priorities. Data on uninsured individuals can be found at the Cecil G. Sheps Center for Health Services Research. The NC Center for Minority Health and Health Disparities publishes reports on population sub-groups and health disparities with some detail on the county level. These and other sources of data on health disparities can be found in the *Resource Guide* in Appendix H.

Socioeconomic Factors

Important socioeconomic factors include average household income levels, unemployment rates, percent of kids on free or reduced lunch, and percent of people living below the poverty line. For this and other socioeconomic data, use information from websites for North Carolina state agencies like Employment Security Commission, Department of Commerce, Department of Public Instruction and Industrial Commission. Agency contact information is located in the *Resource Guide* in Appendix H. For county-level information on school expenditures and enrollment, higher education, and SAT scores, visit LINC or contact the local school administration. The US Census Bureau has county-level information on highest level of educational attainment.

Environmental Factors

The definition of environment can include the indoor and outdoor environment as well as the "built" or structural environment of a county. Generally, the aim of environmental public health is to maintain good air and water quality (with low levels of pollutants) and to monitor the safety and sanitation of food, lodging, pools, and child and elder care facilities. Because of the toxic effects of lead, be sure to collect data on positive blood lead tests in the county by visiting the Childhood Lead Surveillance site maintained by the NC Department of Environment and Natural Resources. For information on compliant inspections for food, lodging, pools, and daycares in the county, contact an Environmental Health Specialist at the public health department. Information on environmental tobacco smoke is typically not available by county; however, NC BRFSS collects information on smoking habits and tobacco usage.

The built environment is a hot topic in public health today. This includes the structures in place in a county that facilitate good health behaviors such as well-lit, safe walking trails that connect neighborhoods with shopping centers or affordable farmers' markets that give citizens easy access to fresh fruits and vegetables. The Parks and Recreation or City/County Planning departments may be good sources of information on the built environment.

Health Indicators

Pregnancies and Births (County Health Data Book)

- Pregnancies by County: Data include the number of induced abortions, live births, and fetal deaths (greater than 20 weeks gestation) by maternal age and race for both the total population of the state and counties and a subset of unmarried women. Early spontaneous abortions are not reported. Percentages can be calculated from these data to show the extent to which various age-race-marital groups contribute to a county's total pregnancies. Trends in teen pregnancy rates are used to evaluate the efficacy of sex education programs or to demonstrate the need for changes to current interventions.
- Live Birth Rates: These data show births over a five-year period expressed per 1,000 population by race for the state and by county.
- Pregnancy Rates, Fertility Rates, and Abortion Rates: These data show pregnancy rates, fertility rates, induced abortion rates, and abortion fractions for women ages 15 through 44. These statistics are reported separately for young women ages 15 to 19. Fertility rates represent only live births, whereas pregnancy rates represent all reported pregnancies regardless of outcome (i.e., live births, fetal deaths, or induced abortions). Early spontaneous abortions are not reported. The pregnancy, fertility, and abortion rates are expressed per 1,000 female county residents of reproductive age (15-44 years old), unless another age group (i.e. women ages 15-19) is specified.
- Indicators of Need for Family Planning Services: Two indicators, identified by the NC Division of Public Health, Women's and Children's Health Section, suggest the need for family planning services:
  - Short (less than 6 months) interval from last delivery to conception,
  - Number of births at risk due to high parity (number of children delivered) by age of mother (under 30 and over 30).

  These two indicators are presented in separate tables in the County Health Data Book.
- Perinatal Health Indicators: Data are available on several indicators of perinatal health such as low birth weight, birth by Cesarean section, and prenatal care timing. Data on births to mothers who smoke while pregnant are also included.

TIP: Check out the ***Basic Automated Birth Yearbook (BABY Book)*** for additional data

The *BABY Book* provides tabulations for categories such as race, birth weight, prenatal care, maternal age, marital status, birth order, maternal education, and selected medical risk factor information recorded on birth certificates. At the SCHS website, click on "County-Level Data," then "Other Publications Containing County-Level Data."

Mortality (County Health Data Book)

- Fetal, Neonatal, Postneonatal, and Infant Deaths: Fetal, neonatal, postneonatal (deaths among infants aged 28–364 days), and infant deaths by race over a five-year time period are represented in separate tables. Because these numbers are often very small, be sure to look at the raw numbers as well as the rates. For counties with very few people, even pooling (adding together) five years of data cannot generate sufficient numbers to produce a reliable estimate; therefore these data should be interpreted carefully.

- General Mortality—Unadjusted Death Rates: Deaths are reported in the person's county of residence, not the county where the death occurred. Unadjusted (crude) death rates show the all-cause mortality during a five-year period, expressed as resident deaths per 100,000 population. The unadjusted death rates for the county can be compared to the corresponding state rates to assess the county's relative mortality conditions during the five-year period. Do not compare rates if the county's unadjusted rate has fluctuated widely in recent years. Death rates for all causes should be fairly stable over time. Large fluctuations in all-cause mortality rates may indicate changes in the population demographics.

- Age-Specific Death Rates for the Leading Causes of Death: Age-specific death rates have been calculated per 100,000 population by age groups in a five-year period for the leading causes of death in each county. These are the causes of death with the highest death rates for this time period.

- Age-Adjusted Race-Sex Specific, Race-Specific, and Sex-Specific Death Rates by Selected Causes: The age-adjusted death rates are those that *would be expected* if the age composition of each county and the state were exactly the same as that of a "standard" population. These rates eliminate the effects of differing age compositions, and as such are indicative of the "risk" or "force" of mortality, rather than that of the absolute number of deaths. For example, a county with a high percentage of elderly adults would be expected to have a higher mortality rate than a county with a high percentage of children under 18.

TIP: **Having trouble understanding crude versus adjusted rates?**
Check out the *SCHS Statistical Primers* in Appendix D for a discussion on adjusted rates.

The County Health Data Book tables use the projected United States 2000 population as the standard for age adjustment, in keeping with the national practice. All rates are per 100,000 population. However, the rates in these tables are **not** comparable to the rates in similar tables that were published in editions of the County Health Data Book before 2000, which used the age distribution of the 1940 United States population. A comparison *can be* done between tables that were adjusted to the 2000 United States population standard. See *Statistical Primers – Age-Adjusted Death Rates* in Appendix D for further discussion of this issue.

In assessing the relative mortality conditions of the county, be particularly aware of rates based on small numbers of deaths. Interpret these rates cautiously since random fluctuation in the rate may make any rate comparisons risky.

Morbidity (County Health Data Book)

- Communicable Disease Case Rates: Information is available on the number of cases and incidence rates of AIDS, gonorrhea, and syphilis per 100,000 population for a five-year period in the state and for each county. An incidence rate is the rate of newly diagnosed cases in the population over a certain time period. Again, be cautious about drawing conclusions from rates based on small numbers of cases.

- Age-Adjusted Cancer Incidence Rates: County and state level data on age-adjusted cancer incidence rates per 100,000 are available for various types of cancers for a five-year period, adjusted to the 2000 United States population. The rates in these tables are **not** comparable to the rates in editions of the County Health Data Book (before 2000) that were adjusted to the age distribution of the 1940 United States population. Compare rates to tables in editions that

were adjusted to the 2000 United States population. Note that the rates for sex-specific cancers (i.e., prostate and female breast) use either male or female population in the denominator and therefore, are not comparable to other cancer incidence rates. For these rates, the population at-risk is limited to the people are able to get the specific cancer.

- Inpatient Hospital Utilization (Discharges, Admissions, and Charges): The County Health Data Book has a link to information related to inpatient hospitalization utilization for each year. Note that the inpatient hospitalization information by the year is broken down by county of residence and major diagnostic categories. Many of these categories correspond to the groups that are used for mortality data in the SCHS publication *North Carolina Vital Statistics Volume 2: Leading Causes of Death*. Because these data are listed by county of residency only for North Carolina residents served in North Carolina hospitals, these numbers may be smaller than the actual usage in counties that border other states.

TIP: Check out the NC Division of Public Health's website at www.asthma.ncdhhs.gov for additional data and information on **asthma** in North Carolina,

General Health Status (SCHS)

- Adult Health: The Behavioral Risk Factor Surveillance System (BRFSS) collects a wide range of data about risk factors and health behaviors such as smoking, physical activity, body mass index, nutrition, and high blood pressure. Data on screenings for breast cancer (mammograms), cervical cancer (Pap test), colorectal cancer (colonoscopy), and prostate cancer (prostate exam) are also available for most years. BRFSS compiles data for each region of North Carolina and for some counties with a large enough sample size. Data can be accessed through the SCHS website by clicking on the link to BRFSS.
- Children's Health: The Youth Risk Behavior Survey (YRBS) monitors priority health-risk behaviors and the prevalence of obesity and asthma among youth and young adults. YRBS compiles data for each region of North Carolina and for some counties with a large enough sample size. Data can be accessed through the SCHS website by clicking on the link to YRBS. County-level data on the health and well-being of children can be found at the North Carolina Action for Children website and through KIDS COUNT Data Center which is operated by the Annie E. Casey Foundation.

Health Care Facilities and Providers (Cecil G. Sheps Center, SCHS)

Information on health care providers can be found at the Cecil G. Sheps Center at www.shepscenter.unc.edu. The SCHS also provides reports every few years on staffing of local health departments. The North Carolina Center for Geographic Information and Analysis (CGIA) provides a free online mapping tool called NC OneMap. One Map (www.nconemap.com) has the capability to map hospital locations, transportation, and other county services, and can be used to see which areas are far from health care services.

Parks and Recreational Facilities

Local parks and recreation organizations list parks and community recreational centers. The town or city planner may also be able to provide a map of the greenways, walking trails, and sidewalks. Record the locations and utilization of the local Ys. Find out if the county encourages physical activity among the county residents through the placement of safe and accessible exercise facilities.

Smoke-free Facilities

All public school districts and restaurants in North Carolina are now smoke-free. Many counties have or are advocating for smoke-free policies in hospitals, health departments, and other public buildings and worksites. The NC Division of Public Health, State Tobacco Prevention and Control Branch has county-level data on healthcare costs associated with smoking and smoke-free worksites including health and social services departments.

CHECKPOINT

Before leaving Phase 3, check to see if the following tasks are completed:

- ✓ Arranged training for CHA Team members regarding statistical analysis and data interpretation.
- ✓ Reviewed *SCHS Statistical Primers* in Appendix C and D.
- ✓ Gathered and reviewed all necessary secondary data from the County Health Data Book.
- ✓ Checked out the SCHS web site and the Resource Guide in Appendix H for other types of data to get a well-rounded picture of the county.
- ✓ Gathered data from the county, the state, peer counties, and neighboring counties (optional).
- ✓ Gathered data on changes in the county's health over several time periods.

PHASE 3 TOOLS

Download the Excel spreadsheet, *Phase 3 Calculations Spreadsheet*, under CHA Resources at www.healthycarolinians.org. This spreadsheet is pre-programmed to calculate the percent differences between the county and a neighboring county or peer counties, the county and the state, and trends over time within the county with any data that entered.

Appendix has a large group of websites for data by topic at http://www.healthycarolinians.org/assessment/resources/survey.aspx