Assessing the Public's Health: Community Diagnosis in North Carolina

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Synopsis

The community diagnosis process in North Carolina has evolved over a period of years. It began in 1974 and gained great impetus during and after 1983. It serves to address the "true" health problems of the State's citizenry through the identification and communication of these problems from the local level to the State. In this "bottom-up" planning process, conducted biennially, the State health department prepares 100 county-specific health data books and an accompanying guide that advise local health department personnel on the concepts, methods, and materials of community diagnosis.

The data books and guides are presented at a series of workshops to county health department personnel who subsequently analyze the data in the light of their local situations and report back to the State their county's priority health problems and strategies for solving them. This county information is then used by the State health director to determine funding requests to the legislature. In the end, it is hoped that the products of this process serve the ultimate goal of allocating resources according to priorities to meet the documented health needs of North Carolinians.

"The Future of Public Health," authored by a committee of the Institute of Medicine, defines a health planning and leadership role for a local health authority that is fundamental to the protection of the community's health. Community diagnosis provides for the kind of needs assessment that is crucial to that role.

EPIDEMIOLOGISTS HAVE LONG ESPOUSED the idea of health agencies studying community health problems. As noted by Schuman in 1963, " . . . health agencies on the firing-line should be natural initiators of studies in the very domain of their responsibilities and activities" (*1*).

In 1968, Dr. B. G. Greenberg of the University of North Carolina School of Public Health stated that public officials had the responsibility to design public programs purposefully by "measuring the needs in a community." This measurement process he termed "Community Diagnosis" (*2*).

Twenty years later, the Institute of Medicine (IOM) reported on its 2-year study of the future of public health in America (*3*). This study was undertaken to address a growing perception that "this nation has lost sight of its public health goals and has allowed the system of public health activities to fall into disarray."

The IOM report asserts that "effective public health action must be based on accurate knowledge of the causes and distribution of health problems . . ." and recommends that "every public health agency regularly and systematically collect, assemble, analyze, and make available information on the health of the community, including statistics on health status, community health needs, and epidemiologic and other studies of health problems."

But how does the local health agency get started on this task when it has little or nothing in terms of technical resources? In the Schuman work (*1*), it is said there is no way to start but to start. It is clear, however, that not every agency is capable of doing the required research independently. Nevertheless, all should be capable of cooperation. Thus, in North Carolina, the State's public health agency has taken the lead in developing a cooperative venture with local health departments throughout the State. The result is the community diagnosis process, now conducted biennially, as we will describe subsequently.

Background

After a number of years of alternative strategies to health planning (*4,5*), the community diagnosis process in North Carolina began to evolve in 1974 with implementation of the planning and budgeting system (PBS) (*6*). This planning approach began at the service delivery level, where local health departments identified and prioritized their needs and continued at the region, division, and department levels. When this process was completed, a priority list of health needs was developed and presented to the legislature for funding.

Coincidental with the implementation of PBS, the State's health statistics agency prepared for the first time 100 county-specific data books. Titled "Baseline Statistics for Needs Assessment" (*7*), these books included county-level census data, population projections, and information about the sources of vital statistics data deemed to be most useful in determining the health needs of each county's residents.

In 1976, the State health department again produced 100 county-specific publications, these called "Population and Program Statistics for Public Health Needs Assessment" (*8*). In addition to the statistical information described heretofore, these reports included State and county-specific statistics for 30 public health programs so that local health departments might better develop a profile of a particular human service need.

About this time, standards that govern services rendered by local health departments became a prime focus and PBS became less important, leading to adoption of the consolidated planning process in 1981. This upward planning process required local health departments to submit to the State health agency a county profile of health needs. The process to develop the profile was later called "community diagnosis," following Greenberg's lead (*2*).

Aware that the results of earlier efforts fell short of the goal of community health assessment, the State's health statistics agency dramatically expanded its efforts in 1983 with the production of 100 new county-specific health data books and an accompanying report, "Guide for a Community Health Diagnosis: A Special Report for Local Health Departments" (*9*). The county-specific data book brought together, under one cover, all of the known health-related State and county data available from standard reports and computer printouts, and the guide attempted to advise the user on the concepts, materials, and methods of community diagnosis. For the first time, the term "community diagnosis" was defined as a means of examining aggregate health and social statistics, liberally spiced with the investigator's subjective knowledge of the local situation, to determine the health needs of the community.

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These materials and underlying concepts were presented at a series of six workshops attended by local health department personnel across the State. Since 1983, selected data in the health data book have been updated annually and the series of workshops conducted biennially.

At the 1987 workshops, the State health agency attempted to go a step further in assisting local health departments by presenting the methods and materials of community diagnosis in the form of a model diagnosis developed for one county. The results were encouraging; at least some counties were able to examine their data and their local situations and to produce fairly comprehensive reports of health-related needs. Other counties, however, still did not have a toehold on how to examine and assess their data.

In early 1989, the State health agency conducted a sample survey of participants in the 1987 workshops in an attempt to determine how best to meet their future needs. The result was a cry for help in the organization and structure of the data analysis. So the State health department prepared a new data book for each county and wrote an all-new "Guide for a Community Diagnosis" (*10*) that included worksheets for use in the analysis of data, questions to answer about community perceptions and behavior, and pointers on program evaluation.

The 1991–92 Approach

Based on participants' comments and responses to a sample survey conducted in 1990, the "cookbook" approach used in the 1989 workshops was deemed highly successful, so the same approach was planned for 1991. Past results and several new national and State initiatives suggested,

however, the need to review and define the counties' reporting requirements.

In previous cycles of community diagnosis, the State health agency had requested the reporting of health needs without defining the term. The result had been a mishmash of problem and need statements that were sometimes difficult to categorize, so some sort of standardization was deemed essential. Meanwhile, the following various initiatives and their protocols also needed to be considered:

- "Healthy People 2000" (*11*), the national objectives of the Public Health Service that focused on the health problems of people.
- "Healthy Communities 2000: Model Standards" (*12*), community objectives of the American Public Health Association that address the national objectives.
- "APEXPH: Assessment Protocol for Excellence in Public Health" Part II (*13*), a guide from the National Association of County Health Officials to identify priority community health problems and programmatic objectives in a manner consistent with "Healthy People" and "Healthy Communities."
- North Carolina House Bill 183, Section 1, Subsections (a)(2) and (a)(4) that address the State health agency's role in assessing health status and health needs in every county and in monitoring and evaluating local achievement of health outcome objectives (*14*).

To standardize reporting and to be responsive to these initiatives, local health agencies are now requested under the community diagnosis protocol to report two types of community health problems, defined as follows:

1. Health status problem, a situation or condition of people that is considered undesirable, is likely to exist in the future, and is measured as death, disease, or disability (as in APEX).

A health problem reported in this category must be measurable at the county level. It may be a leading cause of death, premature or otherwise, a leading cause of hospitalization, a leading communicable disease, or another unhealthy condition for which there are quantified data. Examples are infant mortality, cancer, heart disease, injuries, Acquired Immune Deficiency Syndrome (AIDS), gonorrhea, measles, substantiated child abuse or neglect, and so forth. Outcomes for particular subpopulations at risk also may be identified, such as homicide among nonwhite males.

This definition asks counties to look at their people's problems that are measurable and have known public health significance. It is exactly the same as the APEX definition of a health problem, and it is also responsive to the mandates of North Carolina House Bill 183 relative to health status and health outcome objectives. This focus on health outcomes is essential for assuring protection of the public's health.

2. Other health problem, a situation or condition of people, the environment, or the health delivery system that contributes directly to a health status problem.

A problem reported in this category may or may not be measurable at the county level. It may be a known environmental threat, an unhealthy behavior, or a deficit in the provision of preventive or primary health care. Again, certain outcomes for particular subpopulations at risk also may be identifed, such as pregnancy among teenagers.

Some of these problems will relate to health status problems identified earlier; others may not correlate well with current levels of morbidity and mortality.

Based on these definitions, each county health agency is asked to report up to five prioritized health status problems and up to five prioritized other health problems. For each problem reported, the health department is asked to specify one or more interventions that it plans to develop and implement in the next 2 years and to identify the corresponding *new* resource requirements. For reporting purposes, intervention is defined as a process or action intended to address an existing or potential community health problem. This includes *specific* actions needed for environmental control, behavioral risk reduction, and the provision of preventive and primary health care.

On an optional basis, the county health department's operational needs may be reported. These are administrative-type needs perceived by the health department as being amenable to assistance by the State. They may include assistance in relation to policy development, space planning, computer skills training, program management, personnel and fiscal management, community relations, networking with sister agencies, and other areas where central or regional staff members might provide a focus or actual technical assistance. The State health agency will assess these results and attempt to address as many needs as possible during the second year of the biennium (1992-93).

These definitions and reporting requirements are

Counties having few nonwhites should complete this worksheet for whites only.

Worksheet 3.1
Fetal, Neonatal, Postneonatal, and Infant Death Rates 1986–90
(See items 11–14 of page II-3 of the Data Book)

	U.S. Rate 1988	Average range*	Your county	Your county is
Whites				
Fetal Death Rate	6.4	5.4–8.2	_____	Low ____ Average ____ High ____
Neonatal Death Rate	5.4	4.8–7.2	_____	Low ____ Average ____ High ____
Postneonatal Death Rate	3.2	2.5–3.7	_____	Low ____ Average ____ High ____
Infant Death Rate	8.5	7.3–10.9	_____	Low ____ Average ____ High ____
Nonwhites				
Fetal Death Rate	11.2	10.2–15.2	_____	Low ____ Average ____ High ____
Neonatal Death Rate	9.7	9.4–14.2	_____	Low ____ Average ____ High ____
Postneonatal Death Rate	5.4	4.3–6.5	_____	Low ____ Average ____ High ____
Infant Death Rate	15.0	13.8–20.6	_____	Low ____ Average ____ High ____

*20 percent above and below the state rate.

responsive to House Bill 183 (*14*), which requires the State health agency to assess and monitor health status and health needs in every county. They are also compatible with "Healthy Communities 2000" (*12*) and APEX (*13*). Thus, for local health departments choosing to undertake "APEX Part II: The Community Process," there is no conflict. The community diagnosis definition of a health status problem was taken from APEX, and the interventions requirements of community diagnosis are consistent with APEX's impact and process objectives. At the same time, "Healthy Communities 2000: Model Standards" may aid local health departments in formulating their specific objectives and interventions.

Data Books and Guides

In June 1991, 1990 data for the 100 county-specific health data books began to become available. These books contain pertinent health data available on a county level and corresponding data for the State. Nine color-coded sections of data correspond to the following topics: population at risk, pregnancy and live births, fetal and infant mortality, general mortality, morbidity, health care resources, public health program data, environmental program data, and public health fiscal resources.

The companion volume, "Guide for a Community Diagnosis: A Report for Local Health Departments" (*15*), provides definitions and explains how to use the county data and other local information to perform the local needs assessment. It is the State's attempt at a "cookbook" approach, providing worksheets to lead users through data analysis and to aid them in relating other local information to a particular health matter. It also includes discussions on the importance of community diagnosis, prioritization of health problems, and program evaluation. Finally, it provides a glossary as well as instructions for submitting requisite information to the State office for use in preparing the expansion budget request to the legislature.

Each worksheet pertaining to data analysis is tied to one or more of the color-coded data series in the data book or to data in the "North Carolina Health Statistics Pocket Guide," which is prepared biennially and includes a large amount of county-level and statewide data. For these data items, as well as some in the health data book, a county may compare itself to the State as well as other counties.

The box represents a worksheet from the guide's section on fetal and infant mortality. The data are race-specific, because North Carolina counties vary tremendously in their racial composition.

On an arbitrary basis, the average range for each statistic assessed in the worksheets was set at 20 percent above and below the State value. Although it may be preferable to compute variances or perform cluster analysis to determine the benchmarks against which a county should measure

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itself, this was not done because counties may examine many statistics not covered by the worksheets and they would be unable to perform the required calculations.

At the end of each of the guide's sections on data analysis (sections corresponding to topics in the health data book), a final worksheet asks for other local information related to a health problem in the county. These questions are meant simply to aid local health officials in thinking about situations that may contribute to an identified problem. For example, through this process, it was revealed that teenagers were not using a family planning clinic located directly across from a large high school because they did not want to be observed going there by their teachers.

Community Diagnosis Workshops

Following a "dress rehearsal" by planners and statisticians, the 2-day community diagnosis workshops began in mid-October and continued through mid-November 1991. In addition to a video and slide show about community diagnosis and general instructions about analysis, topics covered on the first day were population at risk, pregnancy and live birth, and fetal and infant mortality. Day two dealt with general mortality, morbidity, health care resources, public health program data, environmental program data, and public health fiscal resources.

Planners and statisticians presented their segments in a style that was as down-to-earth as possible, stressing the availability of State and regional staff members for consultation. Regional health educators, who usually bear the brunt of this need for consultation, attended a community diagnosis session.

The workshop leaders stressed hands-on participation, using a lecture coupled with the worksheets. Attendees filled out worksheets using their county's data to get some of the statistical data down on paper while statisticians were on hand to answer questions. Help with the worksheets was also offered at night. One of the workshops was held at the Microelectronics Center of North Carolina in Research Triangle Park where it was videotaped. Health agency workers from several counties who did not participate in the workshops and some who did have requested copies of this training tape.

The last workshop was held November 19–20, 1991, giving local health departments until February 1, 1992 to complete the reporting forms and their community diagnosis documents. The counties were given no format to use for the community diagnosis document; instead it was suggested that they create such a document in a form that would be useful to them, be it a short work plan or public relations piece, or a lengthy description of the county, its health problems, and proposed intervention strategies.

Results

Attendance at the six workshops exceeded 300, with 96 of the State's 100 counties represented. Based on evaluation forms completed by these attendees, each of the workshops was successful. The mean scores of 10 evaluation criteria ranged from 4.0 to 4.4, based on a scale of 1 (very dissatisfied) to 5 (very satisfied). For 8 of the 10 evaluation criteria, the highest satisfaction ratings came from participants at the smallest workshop. At all workshops, participants were particularly satisfied with the handouts (health data books and the guide) and the instructors' knowledge of their subjects.

On the negative side, some workshop participants complained that the training was redundant (they had attended before) or not needed (the very structured guide was sufficient). These complaints will need to be addressed in future cycles of community diagnosis.

Meanwhile, as in the past, health problems identified in the course of community diagnosis and reported by local health departments to the State health agency will be categorized, weighted according to priority status, and summarized for use by the State health director in determining expansion budget requests to the legislature. The reporting of planned intervention strategies and new resource requirements associated with each reported problem should contribute to a much better understanding and accounting of local health needs than was possible in the past.

In addition to this use of community diagnosis, the products of this process should also

- provide to State-level programs and their regional office personnel information that fosters better planning, promotion, and coordination of prevention and intervention strategies at the local level; and
- serve health planning and advocacy needs at the local level. Here, the local health authority provides the leadership to ensure that documented community health problems are addressed.

In the last biennium, largely as a result of community diagnosis and media attention to the problem, the State legislature appropriated $10 million to combat the State's infant mortality problem. The result has been 16 new initiatives to foster the recruitment and retention of prenatal care providers, to enhance maternity and child services provided through Medicaid, and to enhance basic services for family planning patients, pregnant women, and children.

Conclusion

The community diagnosis process is alive and well in North Carolina! It has the enthusiastic support of both State and local health officials, and it is viewed by health planners and statisticians at the State level as one of their more important responsibilities. Finally, of course, the bottom line is that community diagnosis serves the State's citizenry well as government goes about the business of allocating resources on a priority basis to meet the documented health needs of North Carolinians.

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