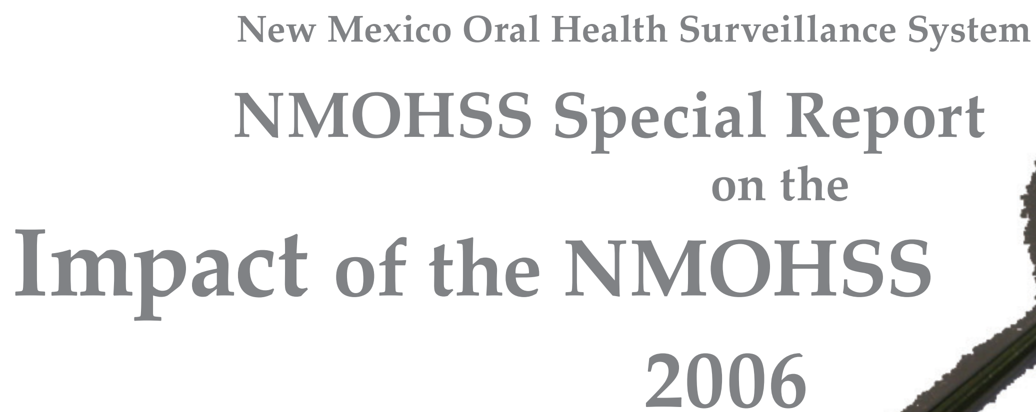
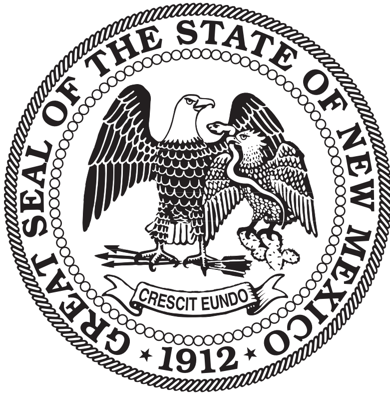
New Mexico Oral Health Surveillance System

NMOHSS Special Report on the Impact of the NMOHSS 2006



Office of Oral Health
Health Systems Bureau

NEW MEXICO DEPARTMENT OF HEALTH



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New Mexico Oral Health Surveillance System (NMOHSS)
Special Report on the Impact of the NMOHSS

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Summary

The NM Oral Health Surveillance System (NMOHSS) evolved over the past three years into a functioning collaboration that collects aggregate oral health data, produces reports, and improves oral health program planning efforts.

National and world experts emphasize the importance of an oral health surveillance system. One of the goals of Healthy People 2010, a project of the U.S. Department of Health and Human Services, is for every state to have a functioning oral health surveillance system by 2010.[1] The Centers for Disease Control and Prevention (CDC) collects information from national surveys and from each state for the National Oral Health Surveillance System (NOHSS). CDC has stated that monitoring the status of oral disease in a state's population is essential for, among other things, setting achievable objectives. National guidelines and implementation tools for state-level oral health surveillance systems have recently become available.

New Mexico has a good start toward this essential public health activity, but will need an ongoing commitment of personnel, cooperation, and state funding to advance the NMOHSS and realize its potential contribution to the improved oral health of all New Mexicans.

1. Healthy People 2010

Oral Health in America: A Report of the Surgeon General highlighted the importance of oral health.[2] Later, Healthy People 2010 defined seventeen oral health objectives under the oral health goal, "Prevent and control oral and craniofacial diseases, conditions, and injuries and improve access to related services."

The target of Healthy People 2010 Objective 21-16 is to establish an oral and craniofacial health surveillance system in every state and the District of Columbia by 2010.[3] By establishing and maintaining the NMOHSS, New Mexico can achieve one of the HP 2010 goals and make it possible to track progress toward the other sixteen oral health goals.

2. National Oral Health Surveillance System (NOHSS)[4]

The CDC's National Oral Health Surveillance System reports eight indicators of oral health:

For adults

1) Dental visits
2) Teeth cleaning
3) Tooth loss

For third-graders

4) Caries experience
5) Sealants
6) Untreated decay

7) Incidence of cancer of the oral cavity and pharynx

8) State-level data on water fluoridation

The website, http://www.cdc.gov/nohss/, posts national and state-level data for the indicators and provides links to a wealth of information about oral health. The CDC suggests that a statewide oral health surveillance system include at least these eight indicators. Neither the NOHSS nor the NMOHSS contain any data at the individual level; these surveillance systems contain only aggregate data. According to the CDC:

> Monitoring the status of oral disease in a state's population is essential for setting achievable objectives, as well as for planning, implementing, and evaluating public health programs. It also is important for illustrating the burden of oral disease and for gaining support and securing resources for the state oral health program.[5]

3. National programs and assistance

State pilot programs

The absence of an oral health surveillance system in any state in 1999 reveals previous lack of funding for and disregard of the importance of oral health. Since then, CDC and other federal agencies have funded pilot projects in several states, which received multi-year grants to develop oral health plans, surveillance systems, and service delivery programs dealing with water fluoridation, sealants, and lifespan services.

The New Mexico Department of Health received a grant from Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services

to improve oral health in New Mexico; part of that grant has been used to develop the current NMOHSS. The development of state oral health plans and surveillance systems has been difficult, because there were no nationally approved guidelines for these tasks. However, the nationally funded pilot projects are starting to produce processes, guidelines, and reports that can be used by all states to develop their programs. Recently, federal agencies are providing assistance through their web sites (see below) and materials sent directly to state programs.

Each state has its own measures, involving population demographics; governmental boundaries, structures, responsibilities, and funding capacities; and oral health care needs, services, providers, financing systems, and integration with the broader health care system. These measures require a carefully planned selection and modification of the available examples of processes, programs, and systems. The pilot states have amassed knowledge about what did and did not work, and have recommended modifications. Some of this information is published, and some must be shared personally.

Web-based resources

CDC posts Infrastructure Development Tools for oral health surveillance.[6] Assistance from federal agencies to state programs includes a compact disc sent in March 2006 to state dental directors by CDC's Division of Oral Health of the National Center for Chronic Disease Prevention and Health Promotion. The disc provides a reference tool with background information, national data, graphic templates, and references for creating state-level reports on the burden of oral disease.

Recently, the Healthy People 2010 web site added information to facilitate progress toward their goals, including spreadsheets that track national progress.[7] Governmental web sites offer reports from national survey data and analyses. State-run web sites post their data and reports with links to national web sites. Many non-governmental entities involved in oral health have increased their web presence.

4. Surveillance in other states

In 2003, New Hampshire released some of the earliest oral health surveillance system publications, created with the help of an epidemiologist loaned by CDC to the New Hampshire Department of Health & Human Services. Although their format differs from the document that CDC now encourages, the reports provide useful information on the eight NOHSS indicators.[8]

In May 2005, Colorado released a report that focused on the economic impact of oral disease, made possible by grants from HRSA and CDC.[9] Using information from the state's oral health surveillance system, a health economist produced medical costs, productivity losses and estimated net savings of public health measures. It is possible that some of their conversions of oral health data to financial impact could be replicated with New Mexico's data.

In December 2005, Nevada produced an impressive 58-page report on the burden of oral disease in Nevada. This document was developed in collaboration with CDC, and much of the text is similar to that found in the reference tool recently provided by CDC to all the states. CDC continues to assist Nevada through a large multi-year oral health grant, which enabled an open-mouth survey of seniors and another of preschoolers, allowing Nevada to report data for these two vulnerable populations. The report is posted on the state's web site.[10]

As of April 2006, there were few reports on the web demonstrating the impact of statewide oral health surveillance systems. Evaluation of programs requires time to gather baseline and outcome data, consistent measurements, and consideration of influences outside of the program. The best results are often achieved from the synergy created by the efforts of multiple players. The real impact of an OHSS will be in the improvement of oral health programs. Changes in how agencies gather and report data in order to participate in an oral health surveillance system will provide additional tools for self-monitoring and evaluation.

5. Development of NMOHSS

Collaborators

The Health Systems Bureau (HSB) of the New Mexico Department of Health (NMDOH) has taken the lead in developing the OHSS, with the input of the Oral Health Advisory Council. The

process of developing the NMOHSS has involved much discussion, research on the web, study of the reports of other states, and examination of available data. Collaboration involves the HSB and twenty-one other entities, including eight other programs in the NMDOH: Birth Defects Prevention and Surveillance System (BDPASS), Behavioral Risk Factor Surveillance System (BRFSS), Children's Medical Services (CMS), Office of Oral Health (ODH), Pregnancy Risk Assessment and Monitoring System (PRAMS), Rural Primary Health Care Act (RPHCA), Women Infants Children (WIC) nutrition, Youth Risk and Resiliency Survey (YRRS); four other State departments (Children, Youth and Families; Environment, Health Policy Commission Human Services); the Indian Health Service (Albuquerque Area and Navajo Area), the New Mexico Tumor Registry of the University of New Mexico Health Sciences Center; and non-governmental entities (Delta Dental of NM, NM Dental Association, NM Dental Hygienists Association, NM Health Resources, Inc., and NM Medical Society). For many of these collaborators, oral health is only a small part of their mission; their data collection and reporting often do not focus on oral health. Most of these collaborators have provided aggregate data to the NMOHSS; others have provided information on their programs, but limited resources have hindered providing data.

Data collection and reports

Reports

The NMOHSS collects the eight indicators of the NOHSS, although six are not currently being generated for the statewide population on an annual basis. NMOHSS gathers data from its collaborators and requests that the data cover a one-year time period. The annual report includes summary numbers, as well as data by demographics or regions. In addition, the NMOHSS will house more detailed information (but not at the individual level) that can be provided in the form of special reports or requests. Information gathered by NMOHSS will fill gaps, as well as provide data on other important aspects of the oral health care system in NM.

The NMOHSS has produced its first annual report and special reports on the oral health of children, pregnant women, and the border region. However, the format of NMOHSS reports, the intended audiences, and their distribution processes are still being developed.

Challenges in data collection and reporting

Some of the statistics used in the NOHSS were not available. All three NOHSS statistics for children are based on a Basic Screening Survey (BCS) that has only been performed once in New Mexico, during the 1999-2000 school year. Only statewide population estimates are available, and data are insufficient for analysis by demographic characteristics or regions. There is no funding to repeat this survey until 2007-2008 at the earliest.

The NMOHSS has developed alternative data for children, including the services provided to selected populations (Delta Dental, Medicaid, and Indian Health Service patients; Head Start participants; and DOH Sealant Program participants). However, this requires more resources than using previously analyzed BCS survey data, and only provides information on subsets of the population. These alternative numbers are more difficult to report and to use for program planning.

Available data may be inconsistent. Time periods for data in NMOHSS reports may vary, because the NMOHSS depends on other agencies to generate and share data. The NMOHSS has no control over the timing of data releases by other agencies.

Data for loss of teeth illustrate inconsistency of available data. The Healthy People 2010 defines objective #21-4 (reducing to 20% the proportion of adults who have had all their natural teeth extracted) for adults aged 65 to 74 years. Estimates are derived from a BRFSS question, which categorizes the number of teeth lost. It is impossible to compare progress by states or over time when different categories are published in reports (for example, total tooth loss one year, but fewer than six teeth lost the next year). Fortunately, the NMOHSS should have aggregate data for all categories of dental loss for every year that the BRFSS included the oral health questions, allowing comparisons of any of the categories. Unfortunately, sample sizes may be too small for reliable estimates: only 18% of the NM BRFSS sample in 1999 was of age 65 years or older (641 respondents).

Survey data are potentially biased by inability to contact potential respondents, non-response, or small sample numbers. These factors may pose more of a problem in certain geographic areas or among certain demographic groups. Readers must pay attention to methodology and confidence intervals when judging the validity and precision of estimates.

Surveillance results in New Mexico

The NMOHSS has increased communication between the oral health system participants. Although not quantifiable, this is a major achievement, resulting in the generation of ideas from knowledge about other programs and collaborations. New data sharing includes the comparison of Medicaid to Delta Dental fee structures. Personnel have been alerted to resources pertinent to the oral health components of their programs, but not targeted at their agencies (e.g., the web cast and slide show from the National Conference of State Legislatures on gaps in children's oral health, with the latest information on early childhood caries). One program received advice on collecting useful data. The NMOHSS supplied information on oral health care to the Doña Ana County Commissioner to develop a comprehensive health plan for the county. NMOHSS also provided information on contact persons and agencies dealing with oral health.

NMOHSS developed a library of reference materials from various sources to help program planners and evaluators. The materials include paper publications, electronic documents, paper printouts of electronic documents, and web addresses. In addition, the library houses surveillance and burden (of oral disease) reports on oral health from other states, data reports that must be special-ordered (such as RPHCA annual roll-up reports), scientific studies related to oral health (such as the recent National Research Council's review of fluoride level guidelines), information on oral health topics (such as early childhood caries), and "how-to" information related to oral health surveillance systems.

In addition to this document, NMOHSS has produced an annual report and special reports on the oral health of children, pregnant women, and the border area. Collaborating agencies contributed to the reports.

Future goals of the NMOHSS

Ongoing NMOHSS activities include collaboration, data collection and analysis, reporting, and continuation and expansion of the program.

Collaboration

- Maintain communication with all collaborating agencies through quarterly status reports containing brief summaries of the work of the NMOHSS and upcoming deadlines; these reports may be emailed and/or provided as simple memos
- Notify (via email) the collaborating agencies of oral-health related events (such as web casts, conferences, major reports of national agencies, etc.
- Maintain communication with the Oral Health Advisory Committee (OHAC)
- Maintain and catalog a reference library in a searchable database; report the number of new acquisitions in the quarterly status reports to collaborating entities.

Data collection and analysis

- Update data from collaborating agencies at least annually
- Analyze data provided by the collaborating agencies and maintain original data files and analysis files in a data bank
- Develop a standardized method of receiving data, reporting, and obtaining review and approval from contributors
- Keep the original data and their products to monitor trends and create special and on-demand reports

Reporting

- Produce a report every 2 years based on the CDC toolkit for a state burden of oral disease report; this report would be available online at the DOH web site and would have a targeted paper distribution (NM executive and legislative officials, collaborating agencies, anyone requesting a paper copy)
- Produce special reports on topics meriting dissemination; these reports would be available online and would have a limited paper distribution (to include at least all collaborating agencies)

- Produce on-demand reports at the request of the OHAC and/or collaborating agencies, for limited circulation and targeting program planners and developers; these reports would not be available online
- Notify all collaborating agencies in advance of the public release of all reports
- Publicize the release of reports

Continuation and Expansion

- Increase the number of collaborating agencies
- Work with the OHAC, the Governor's Oral Health Council and the Health Policy Commission to encourage program planners to use the NMOHSS reports, the data bank, and the reference library.
- Perform periodic searches for new and updated material on the web

These goals are all achievable, and will result in an oral health surveillance system that will help improve the oral health of New Mexicans. An adequate level of funding and departmental support will be necessary to achieve the goals.

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2 U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General.* Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Dental and Craniofacial Research; 2000. NIH Publication No. 00-4713. Accessed 8/24/2006 at http://www.cdhp.org/Resources/USSurgeonGeneralPublicationsonOralHealth.asp

3 Healthy People Objective 21-16 (ref. #1) states:

> Surveillance systems are not just data collection systems, but involve at least (1) a timely communication of findings to responsible parties and to the public and (2) the use of data to initiate and evaluate public health measures to prevent and control diseases and conditions. An oral health surveillance system for a State should contain, at a minimum, a core set of measures that describe the status of important oral health conditions to serve as benchmarks for assessing progress in achieving good oral health.

4 National Oral Health Surveillance System. Accessed 8/24/2006 at http://www.cdc.gov/nohss/

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