

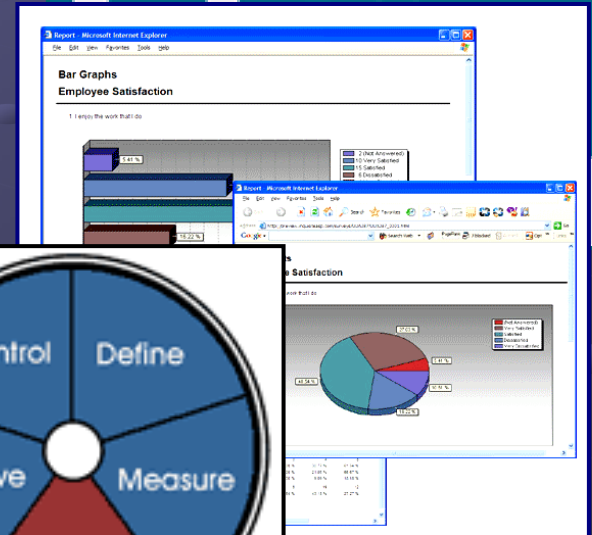
# State Oral Health Programs: Need for Analytical Capacity



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# Purpose of Presentation

To offer a framework for state oral health programs to address their need to build analytical capacity



# Highlights of Presentation

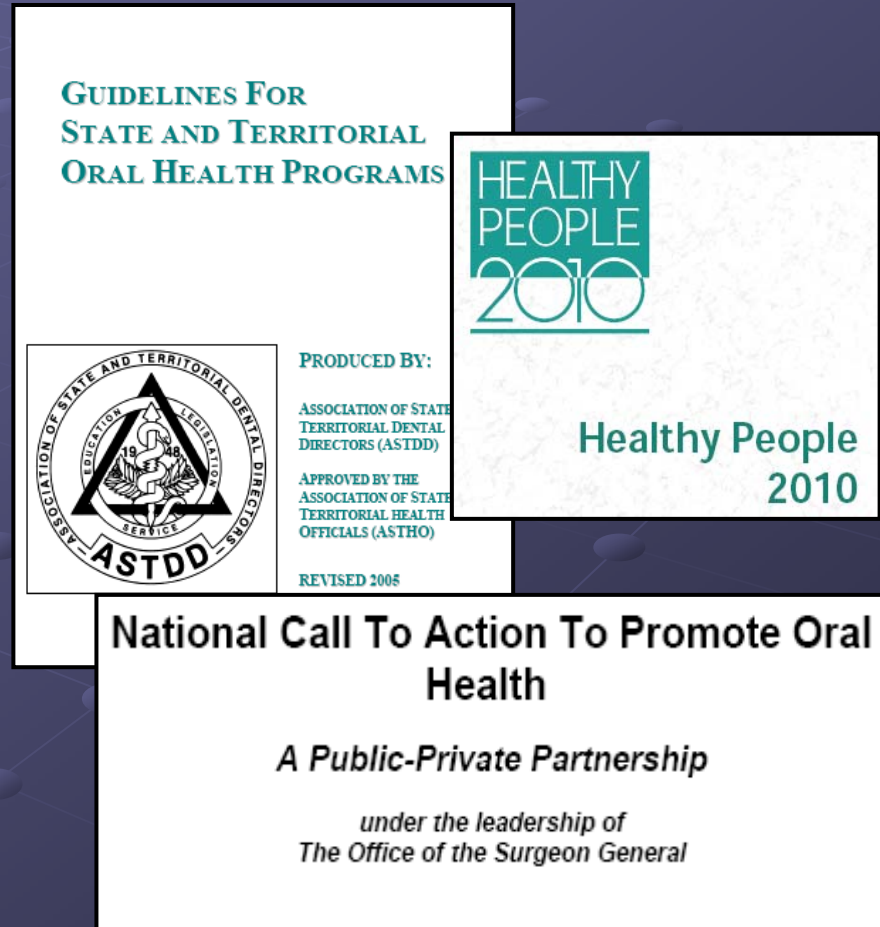


- Effective state oral health programs
- Analytical capacity for state oral health programs
- Approach to building analytical capacity



# Effective State Oral Health Programs

- ASTDD Guidelines / Public Health Functions
- Healthy People 2010
- National Call to Action to Promote Oral Health



# Essential Elements of State Oral Health Programs

- 1999 ASTDD Project
- State dental directors from 43 states participated
- 10 essential elements of state oral health programs identified

Building Infrastructure &  
Capacity in State and  
Territorial Oral  
Health Programs



Prepared by:  
Association of State and Territorial  
Dental Directors (ASTDD)

# Ten Essential Elements of State Oral Health Programs

- Surveillance System
- Leadership
- State Coalition
- State Plan
- Communication & Education
- Linkages / Partnerships
- Population-based interventions
- Community capacity
- Health systems interventions
- Leveraging resources

# State Oral Health Programs Need for Analytical Capacity

- Build, establish and maintain essential elements of state oral health programs
- Build stronger programs to perform public health functions, help achieve Healthy People 2010, and respond to the Call to Action

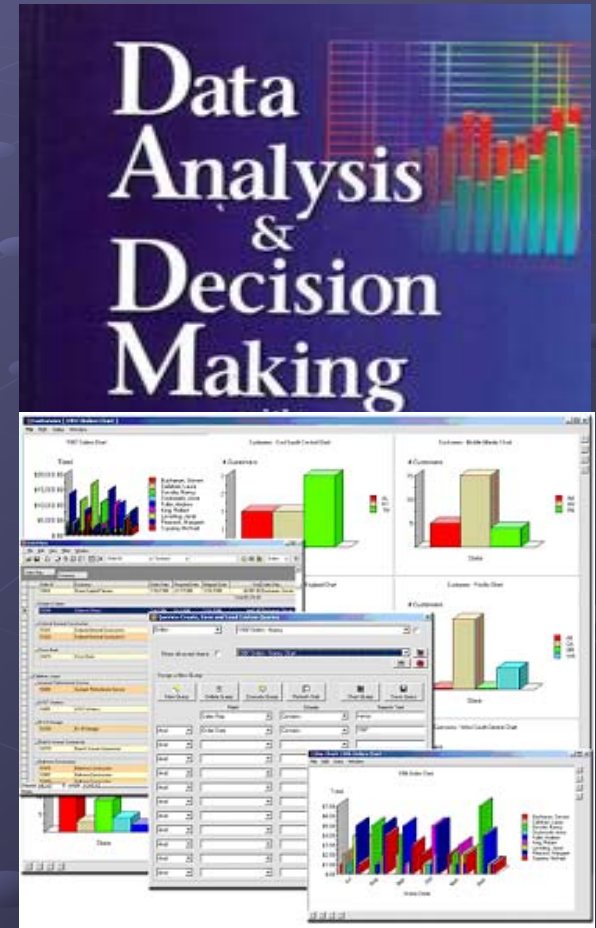




# Definition of Analytical Capacity

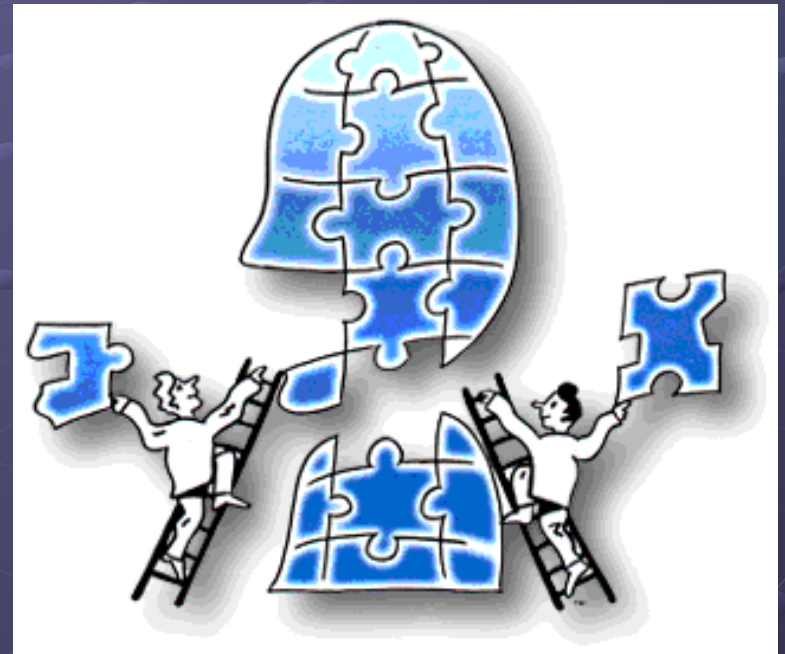
**Analytical capacity** is the ability to deliver analyses that aid public health programs to:

- make decisions
- set priorities
- achieve goals



# Definition of Analysis

Analysis is an investigation of the component parts, studying constituent parts and their interrelationships in making up a whole.



# Analysis

What type of analysis should be performed by state oral health programs?



# Analysis



Study the causes, distribution, and control of oral disease in populations.

# Applied Epidemiology Competencies

Effective practice of epidemiology in a  
governmental public health setting.



Department of Health and Human Services

Centers for Disease Control and Prevention



Council of State and  
Territorial Epidemiologists

<http://www.cste.org/competencies.asp>

# Analytical Capacity for State Oral Health Programs

1. Recognize, identify and validate health problems pertinent to the population
2. Conduct, oversee and organize health surveillance
3. Identify and investigate acute & chronic conditions or other adverse outcomes in the population



# Analytical Capacity for State Oral Health Programs

4. Apply and assure principles of good ethical and legal practice to study design, and data collection, dissemination and use
5. Organize and manage data from surveillance, investigation, or other sources
6. Analyze data from epidemiologic investigation or study



# Analytical Capacity for State Oral Health Programs

7. Summarize results of the analysis and draw conclusions
8. Recommend, determine and formulate interventions and control measures in response to epidemiologic findings
9. Evaluate programs

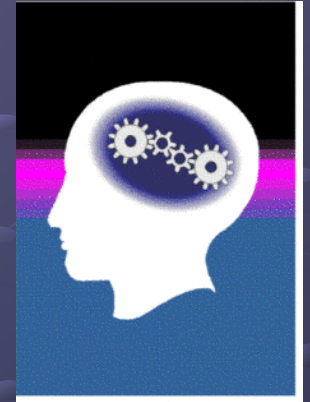




# Building Analytical Capacity

## Examples of Analytical Skills

- Use critical thinking to determine whether a public health problem exists
- Decide on surveillance data needs
- Synthesize key findings from surveillance
- Recommend priorities of public health problems
- Define cultural / social / political framework for recommendations or interventions
- Utilize scientific evidence in preparing recommendations for action or interventions
- Develop program logic models & theories of action



# Examples of Analytical Capacity Among State Oral Health Programs

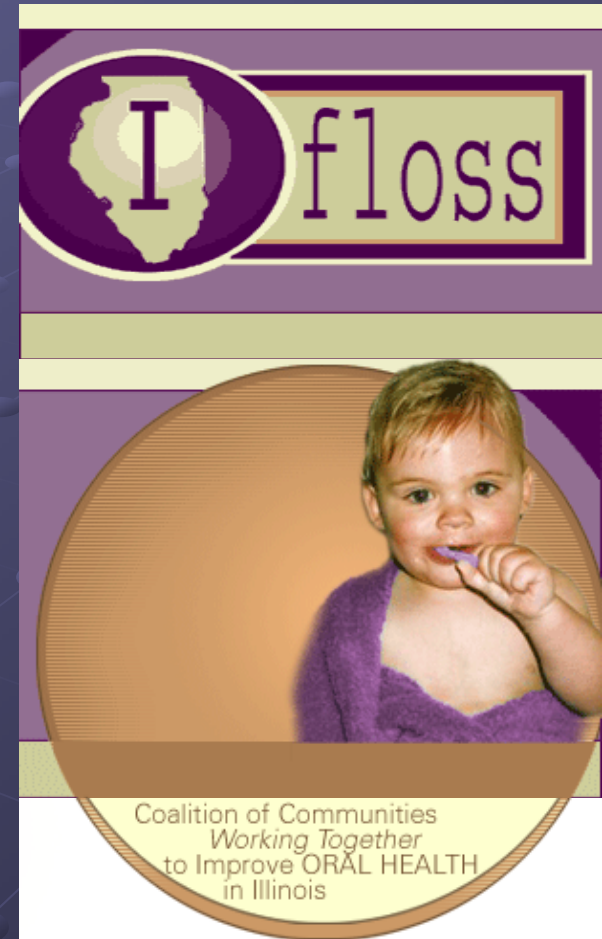


# Illinois Oral Health Surveillance System

## Illinois Oral Health Plan

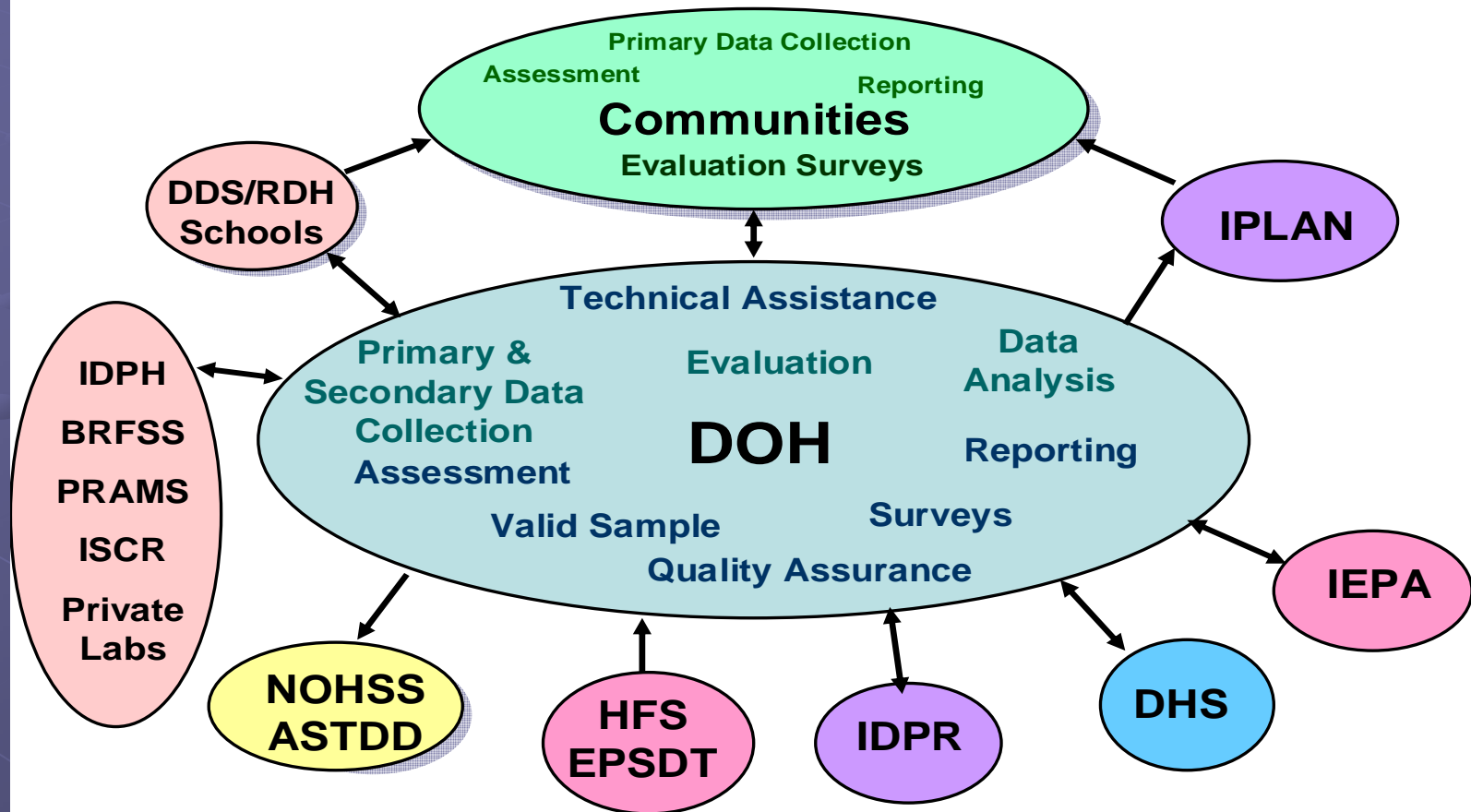
### Policy Goal #4

**Develop an oral health surveillance system** or a common set of data that can be used to define the scope of oral health needs and access to oral health services, to monitor community water fluoridation status, and to measure the utilization of dental services by the entire population in Illinois.



# Illinois Oral Health Surveillance System Data Partners

## Illinois Oral Health Surveillance System (IOHSS) Model



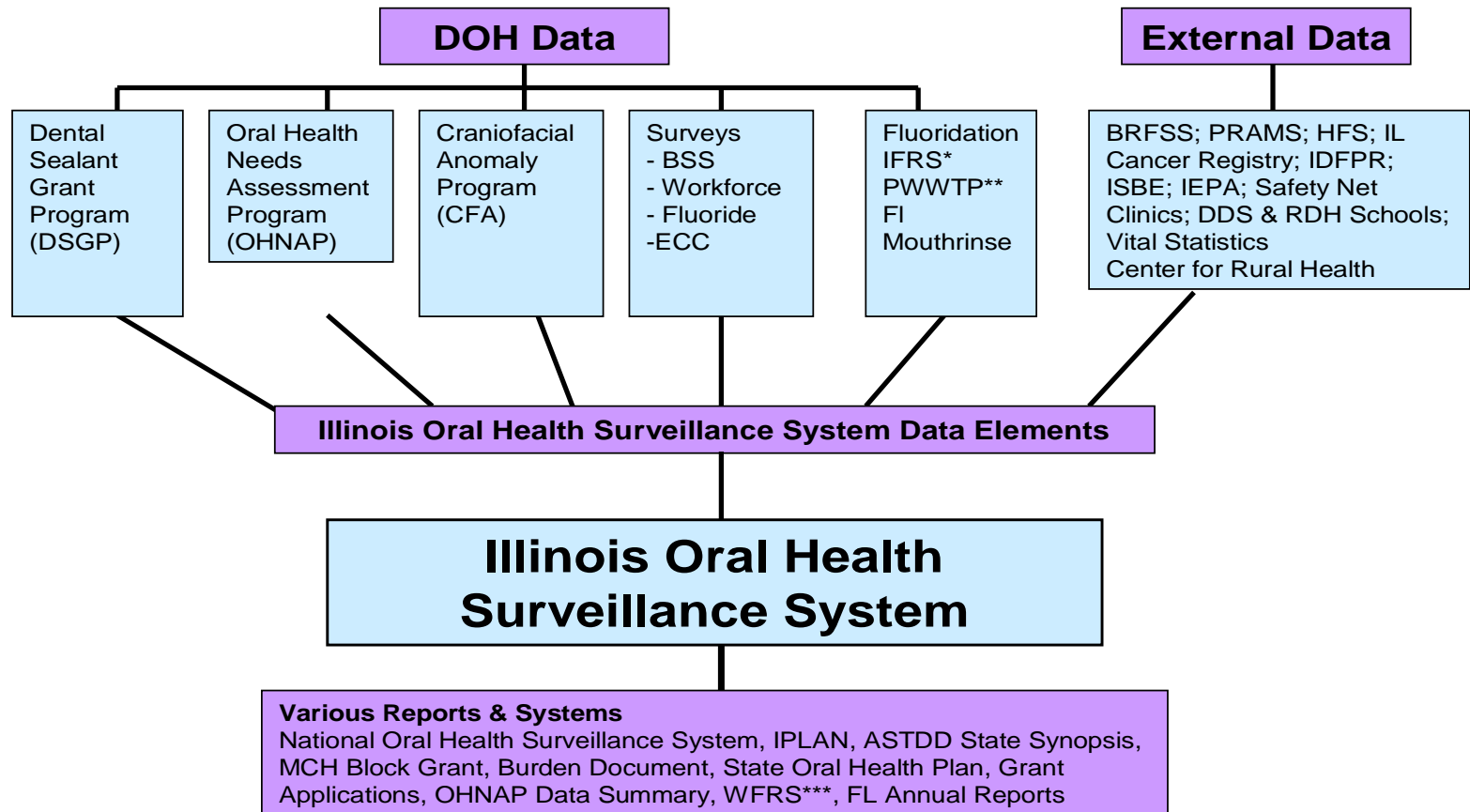
# Illinois Oral Health Surveillance System Surveillance Databases

- Statewide oral health surveys
- Water Fluoridation Reporting System (WFRS)
- Behavioral Risk Factor Surveillance System (BRFSS)
- Youth Risk Behavior Surveillance System (YRBSS)
- Pregnancy Risk Assessment Monitoring System (PRAMS)
- State cancer registry
- Orofacial cleft data
- Medicaid dental claims data
- Synopsis of state dental programs



# Illinois Oral Health Surveillance System

## Data Flow Chart



# Burden of Oral Disease in Nevada



Nevada State Health Division  
Department of Health and Human Services  
Bureau of Family Health Services

# Nevada Oral Health Plan

## ***The Burden of Oral Disease in Nevada - 2005***

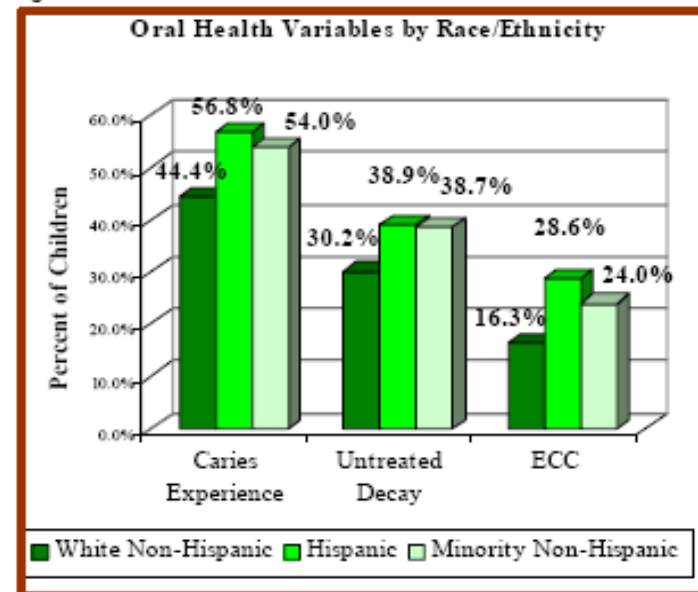
In 1948, the World Health Organization defined health as "a complete state of physical, mental, and social well-being, and not just the absence of infirmity." As new research continues to discover associations between chronic oral disease with heart and lung diseases, low birth-weight, and diabetes, it is becoming clear that a person cannot attain a complete state of good health without good *oral* health.

According to *Oral Health in America: A Report of the Surgeon General*, a silent epidemic of oral disease exists in our nation. The fact that most oral disease is unseen and/or unacknowledged, does not lessen the pain, suffering, and economic impact that result from its presence.

The Burden of Oral Disease in Nevada - 2005 summarizes data collected from numerous sources. Oral health data is organized by age group: preschoolers from Head Start, children (estimated by 3<sup>rd</sup> grade students), adolescents, adults, and seniors. Incidence and mortality

It was evident from the survey results that racial/ethnic disparities existed in all three oral health indicators.

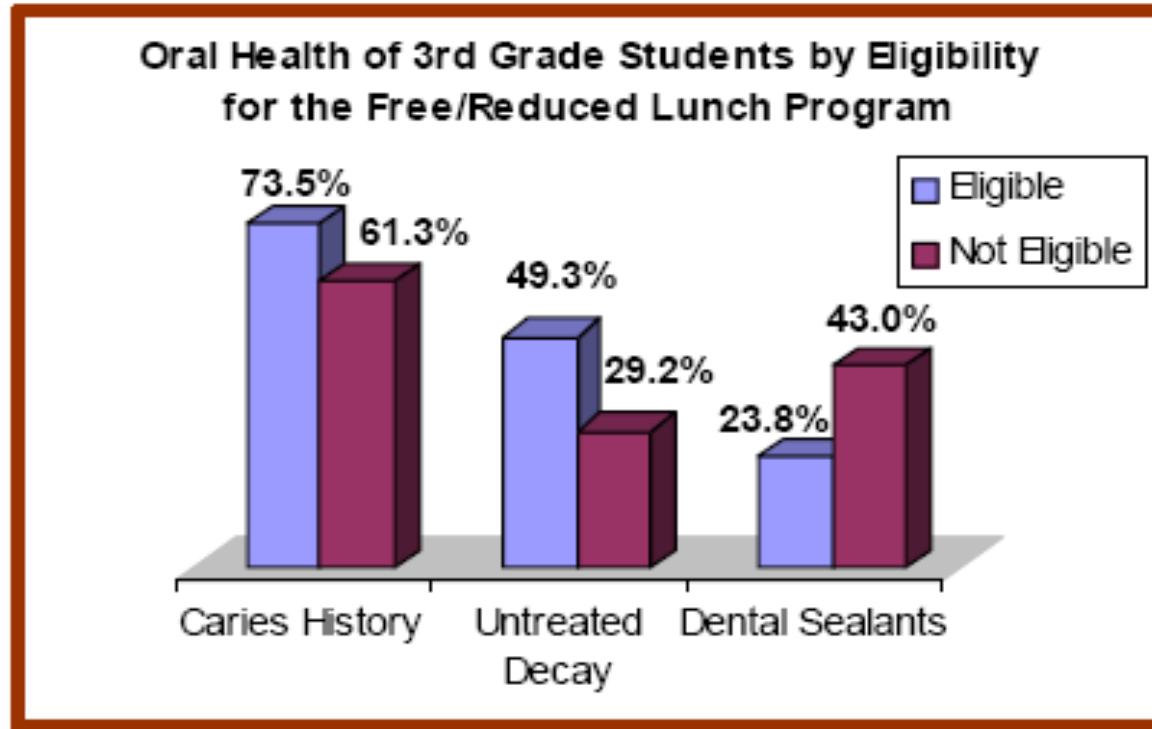
Figure 1.





# Oral Health Disparities in Nevada

Figure 3.



# Nevada's Progress Towards Healthy People 2010

- Reduce the proportion of children and adolescents with dental caries experience

	Nevada Now	HP2010 Target
Preschoolers	54%	11%
Children	67%	42%
Adolescents	60%	51%

- Increase the proportion of the population served by community water systems with optimally fluoridated water

	Nevada Now	HP2010 Target
Fluoridated	71%	75%

- Increase the proportion of children and adolescents with dental sealants

	Nevada Now	HP2010 Target
Children	33%	50%
Adolescents	46%	50%

- Increase the proportion of low-income children and adolescents who received any preventive dental services in the past year

	Nevada Now	HP2010 Target
Ages 0-18	11%	57%

# Colorado Water Fluoridation Costs and Savings

## PREVENTING CHRONIC DISEASE

PUBLIC HEALTH RESEARCH, PRACTICE, AND POLICY

VOLUME 2: SPECIAL ISSUE

NOVEMBER 2005

ORIGINAL RESEARCH

### Costs and Savings Associated With Community Water Fluoridation Programs in Colorado

Joan M. O'Connell, PhD, Diane Brunson, RDH, MPH, Theresa Anselmo, RDH, Patrick W. Sullivan, PhD

*Suggested citation for this article:* O'Connell JM, Brunson D, Anselmo T, Sullivan PW. Costs and savings associated with community water fluoridation programs in Colorado. *Prev Chronic Dis* [serial online] 2005 Nov [date cited]. Available from: URL: [http://www.cdc.gov/pcd/issues/2005/nov/05\\_0082.htm](http://www.cdc.gov/pcd/issues/2005/nov/05_0082.htm).

that serve populations of 1000 individuals or more. We used second-order Monte Carlo simulations to evaluate the inherent uncertainty of the model assumptions on the results and report the 95% credible range from the simulation model.

# Colorado's Dental Treatment Savings Achieved Through Averted Tooth Decay

- Existing community water fluoridation programs provide annual savings of \$149 million or \$60 per person.
- If 52 recommended water systems were fluoridated, Colorado would save an additional \$47 million annually.



# Cost-effectiveness of the Wisconsin School Sealant Program

## Wisconsin Seal-A-Smile Program



**Dental Sealants**

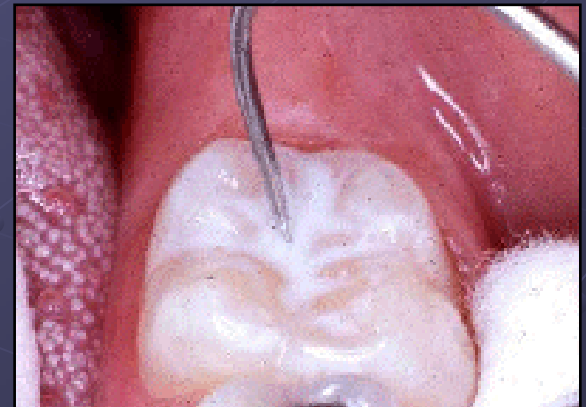
 "...effective in the primary prevention of tooth decay."<sup>1</sup>



*Oral Health in Wisconsin: A Fact Sheet*      Wisconsin Department of Health and Family Services  
Division of Public Health

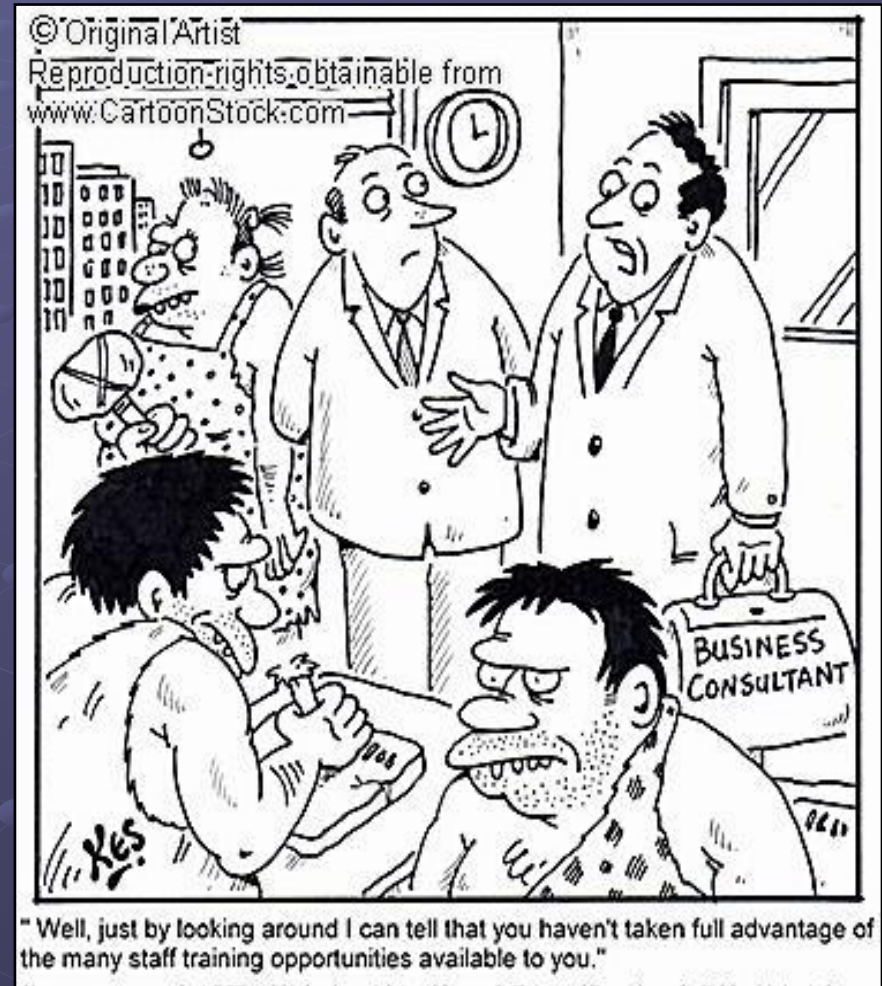
# Cost-effectiveness of the Wisconsin Seal-A-Smile Program

- Analysis showed that of the 10,538 sealants provided by the program, 4,857 teeth were saved from caries
- A cost-saving of \$270,500 for preventing the need to treat the caries



# Building Analytical Capacity Training and Tools

- Develop and enhance analytical skills and competence of staff
- Acquire the analytical tools and effectively use the tools.



# Staff Skills & Competence Experience & Responsibilities

Tier 1: Frontline Epidemiologists

Tier 2: Mid-level Epidemiologists

Tier 3: Senior level Epidemiologists

Applied Epidemiology Competencies

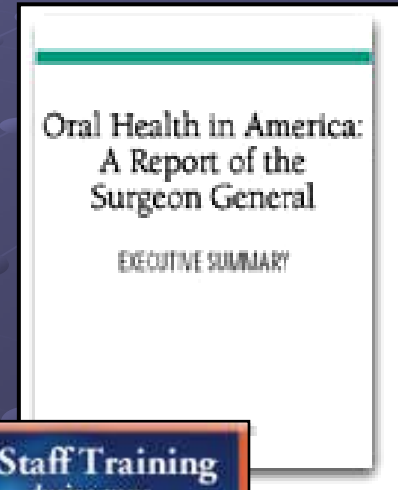
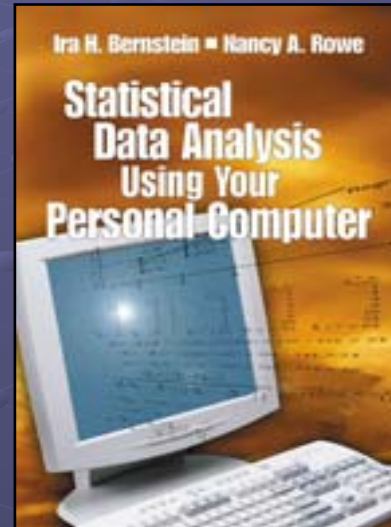




# Building Staff Skills & Competence

Training in:

- Analytical skills
- Oral health
- Use of protocols and tools



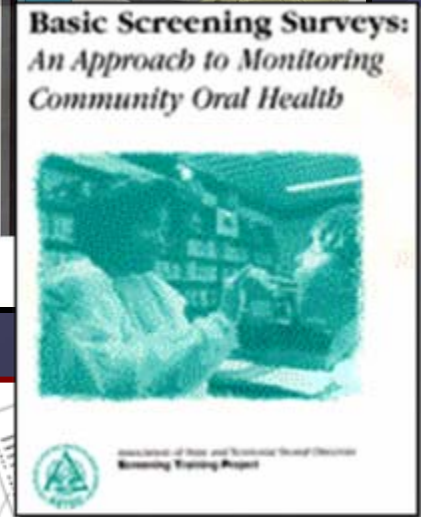
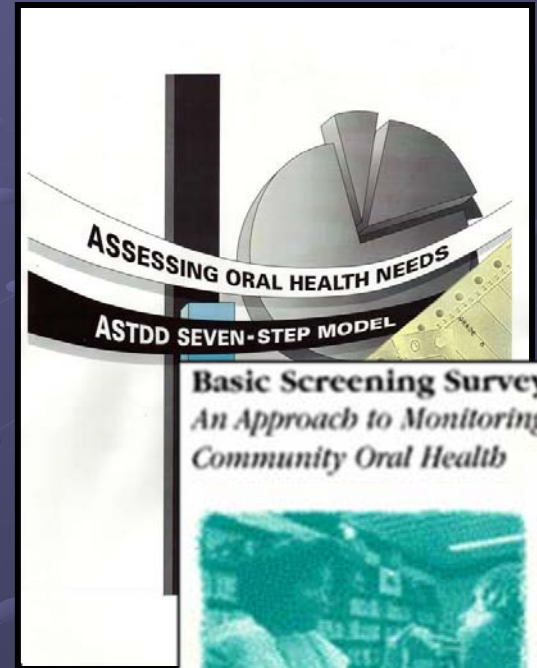
# Analytical Tools

## ● Survey & assessment tools

- Basic Screening Survey (BSS)
- Seven Step Model for Assessing Oral Health Needs

## ● Software & freeware for data management, statistical analysis, and informatics

- Geographical Informational Systems (GIS)
- Sealant Efficiency Assessment for Locals and States (SEALS)



# State Oral Health Programs The “Experts” for Information

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*“We have lots of information technology. We just don't have any information.”*

# Make Oral Health Matter

## Analysis to Understand the Bottom Line

