Rhode Island

Oral Health

Surveillance Plan

Rhode Island Oral Health Program, Rhode Island Department Of Health
http://www.health.ri.gov/disease/primarycare/oralhealth/index.php

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Donald L. Carcieri, Governor
State of Rhode Island

David R. Gifford, MD, MPH, Director
Department of Health

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i. Table of Contents *(cont.)*

ii. Acknowledgements

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Center for Health Data & Statistics, RI Department of Health

RI KIDS COUNT

RI Department of Human Services

Program Services Team & Surveillance, Investigations, & Research Team, Division of Oral Health, Centers for Disease Control & Prevention

iii. List of Abbreviations

- ASTDD — Association of State & Territorial Dental Directors State Synopsis
- BDSIS — Birth Defects Surveillance & Information System
- BRFSS — Behavioral Risk Factor Surveillance System
- BSS — Basic Screening Survey
- CDC — Centers for Disease Control & Prevention
- CSTE — Council of State & Territorial Epidemiologists
- DHPSA — Dental Health Professional Shortage Areas
- DSN — Dental Safety Net
- EPSDT — Early & Periodic Screening, Diagnostic & Treatment Services
- HEALTH — RI Department of Health
- HP2010 — Healthy People 2010
- HS — Head Start
- MMIS — Medicaid Management Information System
- MCH — Title V-MCH Program Data
- NOHSS — National Oral Health Surveillance System
- OHP — Oral Health Program, Office of Primary Care, Division of Community Health & Equity, HEALTH
- PRAMS — Pregnancy Risk Assessment Monitoring System
- MSDS — Mandatory School Dental Screenings/ RI Rules & Regulations for School Health Programs
- RI CR — RI Cancer Registry
- RI DL — RI Dental Licensure Data
- RI HIS — RI Health Interview Survey
- RI SD — RI School Demographic Data
- RIOHSS — RI Oral Health Surveillance System
- SBHC — School-Based Health Center
- SES — Socioeconomic Status
- US CD — US/RI Census Data
- WFRS — Water Fluoridation Reporting System
- WIC — Women, Infants & Children
- YRBS — Youth Risk Behavior Survey

I. The Rhode Island Oral Health Surveillance System: An Introduction

The Rhode Island Oral Health Program (OHP) within the Division of Community Health and Equity, RI Department of Health (HEALTH), developed the RI Oral Health Surveillance System (RIOHSS), which utilizes a two-pronged approach to the development of oral health surveillance:

1) Use of established data sets for the surveillance of oral disease, and

2) Development of new survey data on early childhood caries, oral and pharyngeal cancer and dental service utilization.

The primary focus of RIOHSS is to monitor trends in **oral disease**, such as early childhood caries, edentulism, and oral and pharyngeal cancer; **efficacy of preventive services**, such as dental sealants, community water fluoridation and fluoride varnish and mouthwash; and **dental service utilization**, through such programs as RIte Care, Medicaid, and RIte Smiles. By analyzing these trends over time, essential oral health information will be available for stakeholders and policymakers to evaluate current systems and identify potential resources needed to improve the oral health of all Rhode Islanders in the future.

The development of RIOHSS will provide a forum for Rhode Island to coordinate oral health surveillance between public, private and not-for-profit agencies, thereby creating a data network that is beneficial in assessing oral health needs statewide. The creation of this data network increases Rhode Island's ability to compare the oral health of its residents to that of national standards, such as the National Oral Health Surveillance System (NOHSS), jointly developed by the Centers for Disease Control and Prevention (CDC) and the Association of State and Territorial Dental Directors (ASTDD), and Healthy People 2010, which is maintained by the US Department of Health and Human Services.

This surveillance plan will outline national oral health indicators, current and potential oral health data sets in Rhode Island, and the maintenance of these data sets, including their target populations, data collection schedule and protocols, anticipated analysis, dissemination and use of the information, and confidentiality of the data. Additionally, a section on evaluating the quality, efficiency, and usefulness of RIOHSS and the ***RI Oral Health Surveillance Plan*** is included to maintain the long-term effectiveness of the system.

I.A. Purpose

The purpose of the Rhode Island Oral Health Surveillance System is to establish and maintain ongoing monitoring, timely communication of findings, and the use of data to initiate and evaluate oral health interventions and policies. The need for oral health surveillance nationally and locally is predicated on a number of facts and assumptions:

- The significance and burden of oral diseases;
- Sound scientific evidence that oral diseases, their costs (direct dental/medical costs and the indirect costs of suffering and activity limitation), and untoward consequences (pain, discomfort, activity limitation, and even hospitalization, disfigurement and death) may be controlled by effective prevention and management of disease;
- Suggestive evidence that interventions to control or prevent oral diseases may result in measurable (population) reductions in morbidity, activity limitation, and mortality;
- The proven ability of well-planned public health interventions to assure delivery of effective prevention and disease management in various settings;
- The need for ongoing monitoring of state activities and timely communication of findings to stakeholders and the public;
- The fundamental importance of complete, accurate, and timely data in the design, management, and evaluation of effective public health interventions; and
- The significance of local differences in the burden of oral diseases, the prevalence of oral diseases, access to primary oral healthcare, and adherence to standards of dental and medical care for oral diseases.

I.B. Stakeholders

Table IB.1 lists the oral health surveillance stakeholders in Rhode Island, comprised of organizations that use data for the promotion of healthy lifestyles and the prevention and control of oral disease, injury, or adverse exposure.

Table IB.1 Stakeholders Participating in the Rhode Island Oral Health Surveillance System.

RI State Agencies

- RI Department of Children, Youth & Families*
- RI Department of Education
- RI Department of Elderly Affairs*
- RI Department of Health*
  - Center for Epidemiology
  - Center for Health Data & Analysis
  - Center for Public Health Communications
  - Division of Community Health & Equity
    - Access to Care Team (Office of Primary Care & Rural Health, Oral Health Program, et al)
    - Chronic Care & Disease Management Team (Diabetes Control Program, et al)
    - Health Disparities Team
    - Health Promotion & Wellness Team (Initiative for Healthy Weight, Tobacco Control Program, et al)
    - Office of HIV/AIDS & Viral Hepatitis
- RI Department of Health (cont.)*
  - Division of Family Health
    - Birth Defects Program
    - Early Childhood Health & Development
    - Families Raising Children with Special Needs
    - Family, Youth & School Success
    - Title V – Maternal & Child Health
    - WIC Program
  - Division of Health Services Regulation
    - Office of Health Professions Regulation
  - Vital Records
- RI Department of Human Services*
  - Division of Health Care Quality
  - Medicaid, RIte Care & RIte Smiles Programs
- RI Department of Mental Health, Retardation & Hospitals*

* These Departments are within the RI Executive Office of Health & Human Services

I.B. Stakeholders *(cont.)*

Table IB.1 Stakeholders Participating in the Rhode Island Oral Health Surveillance System. *(cont.)*

Community Agencies & Organizations

- Blue Cross Blue Shield of RI
- Blue Cross Dental of RI
- Community College of RI
- Community Health Centers
- Delta Dental of RI
- Neighborhood Health Plan of RI
- Oral Health Professional Advisory Council
- RI Dental Assistants Association
- RI Dental Association
- RI Dental Hygienists' Association
- RI Head Start Association
- RI Health Center Association
- RI Hospital (Samuels-Sinclair Dental Center)
- RI KIDS COUNT
- RI Oral Health Coalition (Senate Commission on Oral Health)
- St. Joseph Hospital (Pediatric Dental Center)
- The RI Foundation
- United Healthcare

I.C. Objectives

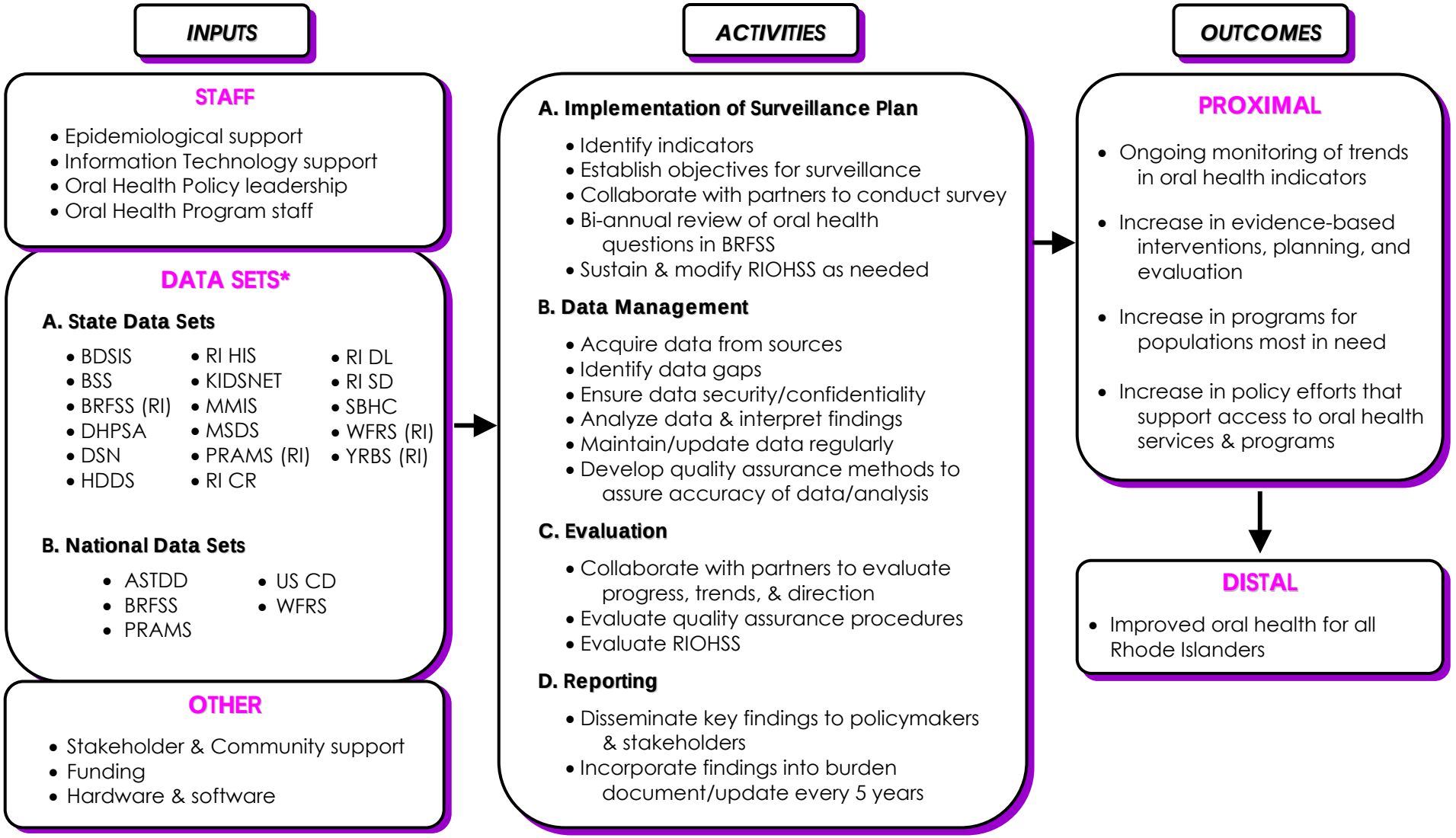
Assessment is the key objective of Rhode Island's public health efforts to address the nature and extent of oral health disorders and disease, and includes the collection, analysis, interpretation, and dissemination of data. These activities provide a mechanism to monitor oral disease trends within specific populations over time. This information can be used to ensure appropriate allocation of resources for disease prevention and oral health promotion opportunities as well as treatment services. Continued assessment and evaluation in these areas supports the development of oral health policy; thus, the implementation and maintenance of a comprehensive oral health assessment and surveillance system is a critical requirement of any oral health planning effort.

Objectives

- Assess oral health burden by monitoring the status of oral health and disease of Rhode Islanders;
- Incorporate data on a variety of national and local indicators that assess overall oral health;
- Identify data and knowledge gaps by supporting, enhancing, and expanding RIOHSS;
- Define the scope of oral health needs and access to oral health services;
- Measure the utilization of oral health services by children and adults in Rhode Island; and
- Monitor preventive services, such as community water fluoridation, dental sealant placement and retention, and use of fluoride varnish and mouthrinses.

II. Rhode Island Oral Health Surveillance System Components

II.A. RIOHSS Logic Model



* See page ii for List of Abbreviations

II.B. Oral Health Indicators Under Surveillance in Rhode Island

Oral health surveillance in Rhode Island has been shaped primarily by two US standards:

1) The *National Oral Health Surveillance System* (NOHSS), a collaborative effort between the Centers for Disease Control and Prevention's (CDC) Division of Oral Health and the Association of State and Territorial Dental Directors (ASTDD); and

2) *Tracking Healthy People 2010* (HP2010), a compendium of indicators selected by the federal government to track the nation's progress towards year 2010 public health objectives.

Additional standards, including recommendations from the American Cancer Society and the Council for State and Territorial Epidemiologists (CSTE), have been utilized. Table IIB.1 contains oral health objectives monitored by RIOHSS. Data sets used to monitor these objectives are explained in Section IIC. See Appendix IIIA for lists of national oral health standards by organization.

Indicators that are not currently monitored by RIOHSS are listed in Appendix IIIB for future consideration.

Table IIB.1 Oral Health Indicators Monitored by RIOHSS

Indicator	RI Data Sets	National Oral Health Surveillance Standard
Caries Experience		
• Percent of children, age 6-8 years, with history of decay.	BSS	NOHSS
• Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.	BSS (children)	HP2010
Untreated Caries		
• Percent of children, age 6-8 years, with untreated decay.	BSS	NOHSS
• Reduce the proportion of children, adolescents, and adults with untreated dental decay.	BSS (children)	HP2010

II.B. Oral Health Indicators Under Surveillance in Rhode Island *(cont.)*

Table IIB.1 Oral Health Indicators Monitored by RIOHSS *(cont.)*

Indicator	RI Data Source	Nat'l Oral Health Surveillance Standard
Tooth Loss		
• Percent of adults ≥ 65 years who are edentulous.	BRFSS	NOHSS
• Increase the proportion of adults who have never had a permanent tooth extracted because of dental caries or periodontal disease.	BRFSS	HP2010
• Reduce the proportion of older adults who have had all their natural teeth extracted.	BRFSS	HP2010
Cancer of the Oral Cavity and Pharynx		
• Mortality from cancer of the oral cavity or pharynx.	RI Cancer Registry	CSTE
• Incidence of invasive cancer of the oral cavity or pharynx.	RI Cancer Registry	CSTE
• Oral cancer examination every 3 years for persons over age 20 and annually for those over 40.		American Cancer Society
• Percent of adults, ≥ 40 years with oral cancer examinations in the past year.	*Potentially add to 2008 BRFSS*	NOHSS
• Increase the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancers.		HP2010
Dental Sealants		
• Percent of children, age 8 years, with sealants.	BSS	NOHSS
• Increase the proportion of children who have received dental sealants on their molar teeth.	BSS	HP2010
Fluoridation Status		
• Percent of population on public water systems receiving fluoridated water.	WFRS	NOHSS
• Increase the proportion of the US population served by community water systems with optimally fluoridated water.	WFRS	HP2010

II.B. Oral Health Indicators Under Surveillance in Rhode Island *(cont.)*

Table IIB.1 Oral Health Indicators Monitored by RIOHSS *(cont.)*

Indicator	RI Data Source	Nat'l Oral Health Surveillance Standard
Dental Visits; Teeth Cleaning		
• Percent of adults with dental visits in the past year.	BRFSS	NOHSS
• Percent of adults who have had their teeth cleaned in the past year.	BRFSS	NOHSS
• Increase the proportion of children and adults who use the oral health care system each year.	HIS (children) BRFSS (adults)	HP2010
• Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year.	MMIS	HP2010
Community Oral Health Services		
• Increase the proportion of school-based health centers with an oral health component.	*Potentially add to 2007 DHPSA*	HP2010
• Increase the proportion of local health departments and community-based health centers, including community, migrant, and homeless health centers that have an oral health component.	*Potentially add to 2007 DHPSA*	HP2010
Craniofacial Services		
• Increase the number of States and the District of Columbia that have a system for recording and referring infants and children with cleft lip, cleft palate, and other craniofacial anomalies to craniofacial anomaly rehabilitative teams.	Birth Defects Surveillance & Information System	HP2010
Oral Health Infrastructure Development		
• Increase the number of Tribal, State (including the District of Columbia), and local health agencies that serve jurisdictions of 250,000 or more persons that have in place an effective public dental health program directed by a dental professional with public health training.	ASTDD State Synopsis	HP2010

II.C. Oral Health Data Sources

The data sets listed in Table IIC.1 have been used to address specific foci of oral health surveillance for presentation in a variety of formats, including *Medicine and Health/Rhode Island*, *Health Policy Brief: Oral and Pharyngeal Cancer in Rhode Island*, http://www.health.ri.gov/disease/primarycare/oralhealth/index.php (the OHP web page on HEALTH'S website), and presentations made to a variety of audiences throughout the state.

Additional data sets are currently under development or being considered for future development by RIOHSS, along with their potential uses, strengths, and weaknesses. See Appendices IIIC and IIID for more information.

Table IIC.1 Data Sets Currently Utilized by RIOHSS

Association of State & Territorial Dental Directors (ASTDD) State Synopsis

Conducted by ASTDD, the State Synopsis surveys dental directors in all US states and territories. Information collected includes state demographics, oral health infrastructure, access and services for Medicaid recipients, dental workforce in RI, early and periodic screening, diagnostic, and treatment (EPSDT) services, special care policies, oral health budget, and oral health prevention programs.

Basic Screening Survey (BSS)

The BSS is a statewide survey of the oral health status of target populations, to be repeated on a periodic basis. A BSS of RI 3rd graders is planned for Spring 2007. Data to be collected will include untreated and treated decay, presence of dental sealants on permanent molars, treatment urgency, and other age-specific indicators. This data will inform the Title V Maternal & Child Health (MCH) performance measure #7 regarding sealant prevalence of 3rd graders in Rhode Island. See Appendix C for information on development of BSS surveys for Head Start/Early Head Start children and elders in community-based and nursing facilities.

II.C. Oral Health Data Sources *(cont.)*

Table IIC.1 Data Sets Currently Utilized by RIOHSS *(cont.)*

Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is an annual telephone survey administered to non-institutionalized adults ages 18 and older in all 50 states and 4 US territories with funding and specifications from CDC. The BRFSS monitors the adult population for access to health care, certain health conditions, and behaviors that contribute to the leading causes of disease and death in the United States. Rhode Island has participated in the BRFSS since 1984. Core oral health questions are included on a biennial basis.

Birth Defects Surveillance & Information System (BDSIS)

The BDSIS, which is maintained by the RI Birth Defects Program, Division of Family Health, HEALTH, uses hospital discharge data to identify babies born with birth defects such as cleft lip and/or cleft palate.

Dental Health Professional Shortage Areas (DHPSA)

Conducted every three years by the OHP, the DHPSA is a state-based survey of licensed RI dentists designed to determine populations underserved by the dental workforce. Survey data is analyzed and results are submitted to the Division of Shortage Designation, Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services. Community health centers and hospitals located in designated underserved geographical areas are eligible for federal funds. RI Dental Licensure data and US/RI census data are utilized to determine dentists licensed in RI and geographical populations, respectively.

Dental Safety Net (DSN)

In September 2005, Rhode Island KIDS COUNT conducted a survey of the dental safety net providers in Rhode Island in order to better understand the delivery of dental services to Rhode Island's underserved children and adults. Sites that comprise the dental safety net include hospital-based dental clinics, community health centers, and school-based health centers (SBHC).

II.C. Oral Health Data Sources *(cont.)*

Table IIC.1 Data Sets Currently Utilized by RIOHSS *(cont.)*

RI Health Interview Survey (RI HIS)

The RI HIS is a telephone survey that collects and analyzes data for all members of contacted households on a variety of health topics including: health status, health care utilization, health care coverage, health behaviors, preventive services, environment, and some health conditions. The survey was discontinued in 2005.

Medicaid Management Information System (MMIS)

Maintained by the RI Department of Human Services, the MMIS monitors usage of medical services and related expenditures through professional, hospital and emergency department claims (for fee-for-service Medicaid enrollees). Dental service claims for fee-for-service Medicaid, RIte Care, and RIte Share enrollees not in the RIte Smiles program also are monitored.

RI Cancer Registry

Established in 1986 and collaboratively managed by HEALTH and the RI Hospital Association, the RI Cancer Registry, is a statewide surveillance database that contains information on all cancer diagnoses in RI. The Registry produces official cancer statistics for the State and supplies cancer data to researchers (using strict guidelines for protecting patient confidentiality). Rhode Island General Laws require health care providers in RI to report all new cancer diagnoses to the Registry.

Youth Risk Behavior Survey (YRBS)

The YRBS is an anonymous and voluntary self-administered survey conducted biennially among random samples of high school students (grades 9-12) in over 60 states and municipalities. CDC developed the YRBS to monitor risk behaviors related to the major causes of mortality, disease, injury, and social problems among youth and adults in the United States. Rhode Island has participated in the YRBS since 1995. Findings are representative of 9th to 12th grade public high school students statewide.

II.C. Oral Health Data Sources *(cont.)*

Table IIC.1 *(cont.)* **Data Sets Currently Utilized by RIOHSS**
Water Fluoridation Reporting System (WFRS) Operated by the CDC, the WFRS database includes basic demographic information of public water systems, such as utility name, address, population served, fluoridation status (e.g., not adjusted, adjusted, natural, variable, or consecutive), natural fluoride concentrations, counties and communities served, system type, and which systems buy or sell water to other systems. Water systems that adjust the fluoride of their water to the optimal level for decay prevention also collect data on average fluoride concentrations to monitor fluoridation and water quality. The OHP uploads fluoridation data monthly into the WFRS system, which can be viewed in the "My Water's Fluoride" section of the CDC website, which can be viewed at http://apps.nccd.cdc.gov/MWF/CountyDataV.asp.

II.D. Target Populations

RIOHSS recognizes the need to identify oral health disparities among populations at risk for oral disease. RIOHSS has consistently analyzed oral health indicators by age, race, gender, socio-economic status, and geographic area.

Currently available data sets have been assessed for their usefulness in identifying disparities, as illustrated by Table IID.1.

Table IID.1 Target Population & Efficacy of RI Data Sets in Identifying Disparities by Age, Race, Gender, Socioeconomic Status (SES), and Geographic Area

Efficacy Key: ● *(Full)* ⊙ *(Partial)* ○ *(None)*

Data Source	Target Population	Age	Race	Gender	SES	Geography
ASTDD	State dental programs	●	○	○	●	○
BRFSS	Adults (18 yrs & older)	●	●	●	●	⊙
BSS	1. Head Start (age 3-5 yrs)	●	⊙	●	●	⊙
	2. 3rd graders (age 8-9 yrs)	●	○	●	⊙	○
	3. Elders (age 65+)	●	○	●	○	○
DHPSA	Underserved RI communities	○	○	○	●	●
MMIS	Medicaid/RIte Care recipients	●	●	●	●	⊙
RI Cancer Registry	All Rhode Islanders	⊙	●	●	○	⊙
WFRS	Fluoridated communities	○	○	○	○	●
YRBS	Middle & high school students	●	●	●	○	○

II.E. Data Collection Schedule

Table IIE.1 depicts the anticipated schedule of surveys to be conducted over the next ten years by RIOHSS.

Table IIE.1	Schedule for Survey Administration by Data Set – 10 year Projection									
Data Set	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
ASTDD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BRFSS (Oral Health questions)	✓		✓		✓		✓		✓	
BSS (3rd graders)		✓			✓			✓		
BSS (HS)			✓			✓			✓	
BSS (Elders)				✓			✓			✓
DHPSA		✓			✓			✓		
DSN					✓					✓
MCH	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MMIS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PRAMS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RI CR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RI DL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RI SD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
US CD					✓					
WFRS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
YRBS		✓		✓		✓		✓		✓

II.F. Data Collection Protocol

ASTDD State Synopsis

ASTDD's Data Committee develops and pilot-tests the State Synopsis questionnaire each year. The questionnaire is sent to the directors of dental programs in all 50 states, the District of Columbia, and to US-associated jurisdictions. Beginning in 2003, an electronic version of the questionnaire was distributed via e-mail. The questionnaire is distributed early in the publication year or in December of the prior year. Respondents are asked to provide the most recent data available or data for the most recently completed fiscal year.

Data reported in the RI State Synopsis is collected by the OHP from various primary data sources, including the MMIS and DHPSA.

BRFSS

The RI BRFSS is conducted by the Center for Health Data & Analysis, HEALTH, using the survey protocol found in ***Behavioral Risk Factor Surveillance System Operational and User's Guide***.

BSS

Coordinated by the OHP, the BSS will be an assessment of the oral health status of third graders in Rhode Island. The survey methodology was adapted from the ***Basic Screening Survey Planning Guide*** produced by the Association of State and Territorial Dental Directors (ASTDD).

According to the Mandatory School Dental Screening section of the ***Rules and Regulations for School Health Programs*****,** every RI student shall be given an annual dental screening by a licensed dentist or dental hygienist through the fifth grade and shall be screened at least once between the sixth and tenth grades. Provided, however, that dental screenings for children in kindergarten, third and ninth grades shall only be performed by a licensed dentist. The third grade will be surveyed for the following reasons:

1) Generally by age seven children begin to shed their primary teeth and the permanent teeth erupt; and
2) Eight years of age and in the third grade is the standard utilized in epidemiological studies conducted by other states and the standard used by the federal government for surveillance.

II.F. Data Collection Protocol *(cont.)*

BSS *(cont.)*

Surveyed schools will be randomly chosen from a pool of all RI public schools with third grade children using current RI school demographic data (RI SD). Randomly selected schools will be stratified to produce a statewide sample across the socioeconomic strata based upon percentage of children enrolled in the free and reduced school lunch program.

All screeners will attend training on the survey methods and protocol. The primary objective of the training will be to achieve consistency between screeners. Dentists conducting the BSS will be trained to uniformly identify:

- Treated and untreated decay on primary and permanent teeth using a mouth mirror and penlight,
- Dental sealants,
- Abnormal soft tissue,
- Orthodontic problems, and
- Treatment urgency.

The survey sample was designed to be inclusive of all income levels. The sample was not designed to represent racial/ethnic groups and interpretation of results should take this into account. Additionally, this study assesses risk at the population level rather than for individual children.

DHPSA

The OHP, in collaboration with the Office of Primary Care, HEALTH, conducts statewide surveys of all Rhode Island licensed dentists. Survey questions are designed to assess the total number of actively practicing clinicians in accordance with specific federal criteria for DHPSA designation. Survey data is analyzed and the results are submitted in an application to the federal agency responsible for reviewing and approving all DHPSA applications (Division of Shortage Designation, Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services).

DSN

The DSN survey was based on one developed by Gayle Byck, PhD at the Midwest Center for Health Workforce Studies. RI KIDS COUNT also involved the staff (administrators, dentists, and dental hygienists) of several dental safety net sites and the OHP in adapting the survey for use in Rhode Island. The DSN survey was distributed to 16 safety net providers in August 2005. Providers were asked to complete the survey via a web-based instrument or hard-copy paper survey by the end of September 2005.

II.F. Data Collection Protocol *(cont.)*

RI HIS

The RI HIS is a statewide survey conducted by phone with an adult member of a randomly selected household. The adult with the most knowledge of the health and health care of all household members reports the information for each household member. Although this survey was discontinued in 2005, data collected in prior years are utilized in current burden documents, such as *The Burden of Oral Disease in Rhode Island*.

MMIS

The MMIS monitors usage of medical services and related expenditures through professional, hospital and emergency department claims (for fee-for-service Medicaid enrollees). Dental claims for fee-for-service Medicaid, RIte Care and RIte Share enrollees also are monitored.

RI Cancer Registry

RI General Laws require health care providers in Rhode Island to report all new cancer diagnoses to the RI Cancer Registry. Using this information, the RI Cancer Registry calculates the incidence of oral and pharyngeal cancer. Additionally, the RI Cancer Registry uses data from the Office of Vital Records at HEALTH, which registers, files, and maintains all death records for the state.

YRBS

With technical assistance and financial support from the CDC, over 50 states and US territories have administered the YRBS as part of the Youth Risk Behavior Surveillance System. In Rhode Island, CDC and the Center for Health Data & Analysis generate a random sample of public high school classrooms statewide. Students from these classrooms complete the YRBS questionnaire on their own during one class period. RI data, which are representative of the entire population of public high school students, are available for 1997, 2001, 2003 and 2005. The Center for Health Data & Analysis plans to administer the survey again in 2007 and every other year thereafter.

WFRS

Rhode Island's public water systems report data to the Office of Drinking Water Quality, HEALTH, on a monthly basis. The OHP then enters the data into the WFRS system. Data include general water system information, such as system type, counties, communities and populations served, and the water source for each system as well as natural and target fluoride concentrations. WFRS data are the basis for national reports on the percentage of the US population receiving fluoridated drinking water.

II.G. Data Analysis

The OHP maintains primary responsibility for data analysis of the BSS, DHPSA and WFRS. Data sets held by other organizations are analyzed and evaluated by their respective organizations. The OHP will request reports as needed.

The OHP has developed a standard operating procedure for approaching most data analysis, beginning with a preliminary analysis of raw data, proceeding through tabular analysis and selected tests of statistical significance or rates analysis, and ending with interpretation of results, frequently made on the basis of comparisons with national-level data.

Table IIG.1 RIOHSS Staffing

Staff	Effort	Team Responsibilities
Oral Health Consultant/ Surveillance Lead	0.4 FTE	• Coordinate surveillance plan • Maintain appropriate data sets • Develop new data sets • Manage, analyze, & interpret surveillance data • Collaborate with other data set managers • Prepare written products • Conduct literature searches • Publish & disseminate data reports • Conduct evaluation • Review & update surveillance plan annually
Oral Health Data & Communications Specialist	0.4 FTE	
Program Manager, Health Surveys, BRFSS Project Director	0.1 FTE	
Health Policy & Planning Analyst	0.05 FTE	

II.H. Data Dissemination & Use

Surveillance reports generated by HEALTH are disseminated through general mail, email listserv, and the HEALTH website to local, state, and federal partners and agencies. Information is disseminated through a variety of media, including the *ORALHEALTHri* newsletter, policy briefs and fact sheets. ***The Burden of Oral Disease in Rhode Island***, produced by the OHP, will be updated and disseminated every five years.

For data sets and analysis not held or conducted internally, the OHP receives reports from stakeholders on an ongoing basis. Additionally, most reports are available on the publication agency's website.

The following oral health surveillance reports and burden documents have been published and are in order by publication or dissemination date:

- Buechner JS, Waters WL (eds). *Oral Cancer in Rhode Island.* Medicine and Health/Rhode Island, 1996; 79(2): 72-73.
- *Rhode Island KIDS COUNT Factbook.* Rhode Island KIDS COUNT. 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006.
- Buechner JS, Kim H, Hesser JE. *Utilization of Preventive Dental Services.* Medicine and Health/Rhode Island, 1999; 82(4): 133-134.
- Fulton JP, Darcy DM, Chiaverini L. *Progress in the Control of Oropharyngeal Cancer in Rhode Island, 1987-2000.* Medicine and Health/Rhode Island, July 2003; 86 (7): 219-221.
- *Health Policy Brief: Oral & Pharyngeal Cancer in Rhode Island.* RI Department of Health. Aug 2003, 03-03.
- *Issue Brief: Access to Dental Care for Children in Rhode Island.* Rhode Island KIDS COUNT. October 2004.
- *Birth Defects Data Book.* RI Birth Defects Program. RI Department of Health. 2004.
- *Baseline Oral Health Indicators.* The Rhode Island State Action for Oral Health Access Project. RI Department of Human Services. April 2005.
- *Oral Health Care in Rhode Island Nursing Homes: The Crisis and Possible Solutions.* The Rhode Island Foundation. 2005.

II.H. Data Dissemination & Use *(cont.)*

- Hesser JE, Jiang Y, Ross M, Fuller D, Harvey E, Dixit S. *Tobacco Use and Poor Oral Health in Rhode Island Adults, 2004.* Presented at the 2006 Annual BRFSS Conference, Cathedral City, CA. March 21, 2006.

- Hesser JE, Jiang Y, Ross M, Fuller D, Harvey E, Dixit S. *Smoking and Other Factors Influencing the Tooth Loss of Rhode Island Adults, 2004.* Preventing Chronic Disease. Draft.

- *The Dental Safety Net in Rhode Island: Special Report.* Rhode Island KIDS COUNT. June 2006.

- *Closing the Gap – Improving Access to Dental Care in Rhode Island: A Report of the Rhode Island Oral Health Access Project.* Rhode Island Department of Human Services, The Rhode Island Foundation, and Rhode Island KIDS COUNT. 2006.

- *Oral Health and Health Risks Among Rhode Island Adults in 2004.* RI Department of Health. September 2006.

- *Cancer Surveillance Report: Cancer of the Oral Cavity and Pharynx in Rhode Island.* RI Department of Health. September 2006.

- *The Burden of Oral Disease in Rhode Island.* RI Department of Health. December 2006.

II.I. Privacy, Data Confidentiality, Storage & Release Policies

HEALTH Policy

In compliance with RI general laws (section 5-37. 3-1 et seq), HEALTH provides only the following information about an individual (or individuals) involved in a reportable disease incident:

- Age: "child", "teen", "adult", "senior adult",
- Gender,
- County of residence,
- Disease or Condition, and
- Status: "recovered or well," "under active medical treatment," "deceased".

Less information can be released if there is a reasonable expectation that knowledge of these characteristics will lead to the identification of the individual involved. HEALTH will not confirm the identity of any patient.

HEALTH observes a legal and ethical requirement to protect the confidentiality of individual health care information. According to RI statute, HEALTH may not reveal "confidential health care information which explicitly or by implication identifies a particular patient" (RIGL 5-37.3-3). The diagnosis of a reportable disease or condition is confidential health care information. However, the law also directs HEALTH to "publish and circulate, from time to time, information that the director may deem to be important and useful for diffusion among the people of the state" (RIGL 23-1-1).

Typically, such information includes aggregate numbers, rates, trends and other statistics that cannot be connected with individuals.

In extraordinary circumstances HEALTH may determine that public notification of single, reportable incidents is essential to the public's health. Such notifications may include the occurrence of infectious diseases and/or conditions involving abuse or safety along with the steps that the public can take to avoid disease/injury and promote health. The sole criterion for this action is to provide contextual information that in the judgment of the Director of Health is necessary to prevent misinformation or rumor – especially during times of high public anxiety or intense media interest.

This information must be released in such a way as to assure that the identity of the patient will not be revealed.

Policies at Other Agencies

Organizations responsible for other data sets maintain their confidentiality in accordance with their specific protocols and procedures.

II.J. Evaluation Plan

Summary

The RIOHSS will undergo periodic evaluation to determine its utility in monitoring oral health trends over time, determining the effectiveness of interventions, and planning future programmatic and policy initiatives. The OHP will engage stakeholders periodically in an evaluation of RIOHSS, following six tasks proposed in "Updated Guidelines for Evaluating Surveillance Systems" (Guidelines) published in *Morbidity and Mortality Weekly Report*, July 27, 2001/(50) RR13; 1-35:

- Engage RI stakeholders;
- Describe RIOHSS;
- Focus the evaluation design;
- Gather credible evidence regarding the performance of RIOHSS;
- Justify and state conclusions, make recommendations; and
- Ensure use of evaluation findings and share lessons learned.

Focus

Evaluation of RIOHSS should include recommendations for improving the quality, efficiency, and usefulness of the system, and should determine:

- Whether RIOHSS is adequate to support Rhode Island's public health agenda for preventing and controlling oral disease;
- Whether RIOHSS is sustainable at current levels of funding; and
- Whether recent surveillance products have reached stakeholders and have stimulated interest among them.

Appropriate evaluation of RIOHSS by statewide stakeholders will ensure the future of effective and applicable oral health surveillance in Rhode Island. By guiding the focus of oral health data generated, the burden of oral disease in Rhode Island will be assessed on a regular basis, which will then be available to educate policymakers and focus future oral health promotion and disease prevention interventions.

III. Appendices

III.A. Appendix A National Oral Health Objectives

National Oral Health Surveillance System (NOHSS)	
• Percent of children, age 6-8 years, with history of decay.	• Percent of children, age 8 years, with sealants.
• Percent of children, age 6-8 years, with untreated decay.	• Percent of population on public water systems receiving fluoridated water.
• Percent of adults, ≥ 65 years who are edentulous.	• Percent of adults with dental visits in the past year.
• Percent of adults, ≥ 40 years with oral cancer examinations in the past year.	• Percent of adults who have had their teeth cleaned in the past year.

Healthy People 2010	
21-1 Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.	21-4 Reduce the proportion of older adults who have had all their natural teeth extracted.
21-2 Reduce the proportion of children, adolescents, and adults with untreated dental decay.	21-5 Reduce periodontal disease.
21-3 Increase the proportion of adults who have never had a permanent tooth extracted because of dental caries or periodontal disease.	21-6 Increase the proportion of oral and pharyngeal cancers detected at the earliest stage.
	21-7 Increase the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancers.

III.A. Appendix A *(cont.)* National Oral Health Objectives

Healthy People 2010 *(cont.)*	
21-8 Increase the proportion of children who have received dental sealants on their molar teeth. 21-9 Increase the proportion of the US population served by community water systems with optimally fluoridated water.21-10. Increase the proportion of children and adults who use the oral health care system each year. 21-10 Increase the proportion of long-term care residents who use the oral health care system each year. 21-12 Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year. 21-13 Increase the proportion of school-based health centers with an oral health component.	21-14 Increase the proportion of local health departments and community-based health centers, including community, migrant, and homeless health centers that have an oral health component. 21-15 Increase the number of States and the District of Columbia that have a system for recording and referring infants and children with cleft lips, cleft palates, and other craniofacial anomalies to craniofacial anomaly rehabilitative teams. 21-16 Increase the number of States and the District of Columbia that have an oral and craniofacial health surveillance system. 21-17 Increase the number of Tribal, State (including the District of Columbia), and local health agencies that serve jurisdictions of 250,000 or more persons that have in place an effective public dental health program directed by a dental professional with public health training.

American Cancer Society	Council of State & Territorial Epidemiologists (CSTE)
• Oral cancer examination every 3 years for persons over age 20 and annually of those over 40.	• Incidence of Invasive cancer of the oral cavity or pharynx.

III.B. Appendix B	Healthy People 2010 Oral Health Indicators *Not* Currently Monitored by RIOHSS
21-1	Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth. *(Children are monitored in BSS.)*
21-2	Reduce the proportion of adolescents, and adults with untreated dental decay. *(Children are monitored in BSS.)*
21-5	Reduce periodontal disease.
21-6	Increase the proportion of oral and pharyngeal cancers detected at the earliest stage.
21-11	Increase the proportion of long-term care residents who use the oral health care system each year.
21-16	Increase the number of States and the District of Columbia that have an oral and craniofacial health surveillance system.

III.C. Appendix C Data Sets Under Development by RIOHSS

Basic Screening Survey (BSS): Pre-School

The BSS is a statewide survey of the oral health status of target populations, to be repeated on a periodic basis. A BSS of pre-schoolers would target RI Head Start enrollees (age 3-5 years). Data to be collected will include untreated and treated decay, treatment urgency, and other age-specific indicators. These data monitor progress towards local, state and national goals for improving the oral health of pre-school age children. Anticipated collaborators include OHP, RI Head Start Association, Division of Family Health, Center for Health Data and Analysis and Health Disparities Team, HEALTH.

Basic Screening Survey (BSS): Elders

The BSS is a statewide survey of the oral health status of target populations, to be repeated on a periodic basis. A BSS of RI elders (age 65 and over) would target non-institutionalized elders and elders living in nursing facilities. Data to be collected will include untreated and treated decay, treatment urgency, and other age-specific indicators. Anticipated collaborators include OHP, RI Department of Elderly Affairs, community based and nursing facilities and the Center for Health Data and Analysis and the Health Disparities Team, HEALTH.

III.D.Appendix D Data Sets Selected for Future Development by RIOHSS

Pregnancy Risk Monitoring System (PRAMS)

The PRAMS survey targets randomly chosen mothers who have recently given birth, including all mothers who deliver a low birth weight baby. Collection and analysis of oral hygiene habits practiced by this population would identify groups of women and infants at high risk for oral health problems and would provide an opportunity to offer anticipatory guidance. Potential collaborators would include OHP, the Division of Family Health and the Health Disparities Team, HEALTH and multiple external community partners.

RI Women, Infants & Children (WIC) Assessment & Certification Form

The RI WIC Assessment & Certification Form is the intake form used by WIC nutritionists and targets low-income women, infants and children. Collection and analysis of oral health status, knowledge, and behaviors within this population would identify groups of women and infants at high risk for oral health problems and would provide an opportunity to offer anticipatory guidance. Education for this population could contribute to a decrease in low birth weight babies and Neonatal Intensive Care Unit (NICU) costs. Potential collaborators would include OHP, the Division of Family Health and the Health Disparities Team, HEALTH, and the Center for Child and Family Health, RI Department of Human Services.

KIDSNET

KIDSNET is a statewide universal children's preventive serves tracking system targeting children born in RI on or after January 1, 1997, including children born out of the state if they receive services at KIDSNET-participating providers and programs. Collection and analysis of oral hygiene habits practiced by this population would identify groups of children at high risk for oral health problems. Potential collaborators would include OHP, the Division of Family Health and the Health Disparities Team, HEALTH, and KIDSNET-authorized users.

III.E. Appendix E — Management Index of RI & US Data Sets

Abbreviation	Data Set	Managing Organization/Agency
• ASTDD	Association of State & Territorial Dental Directors State Synopsis	ASTDD
• BDSIS	Birth Defects Surveillance & Information System	Division of Family Health, HEALTH
• BRFSS	Behavioral Risk Factor Surveillance System	Center for Data & Analysis, HEALTH
• BSS	Basic Screening Survey	OHP, HEALTH
• DHPSA	Dental Health Professional Shortage Areas	OHP & Office of Primary Care, HEALTH
• DSN	Dental Safety Net	RI KIDS COUNT
• RI HIS	RI Health Interview Survey	Center for Data & Analysis, HEALTH
• KIDSNET	KIDSNET	Division of Family Health, HEALTH
• MCH	Title V-MCH Program Data	Division of Family Health, HEALTH
• MMIS	Medicaid Management Information System	RI Department of Human Services
• PRAMS	Pregnancy Risk Assessment Monitoring System	Division of Family Health, HEALTH
• RI CR	RI Cancer Registry	Center for Epidemiology, HEALTH; Hospital Association of RI
• RI DL	RI Dental Licensure Data	Division of Health Services Regulation, HEALTH
• RI SD	RI School Demographic Data	RI Department of Education
• US CD	US/RI Census Data	US Census Bureau
• WFRS	Water Fluoridation Reporting System	OHP, HEALTH; Drinking Water Quality, HEALTH
• WIC	RI WIC Assessment & Certification Form	Division of Family Health, HEALTH
• YRBS	RI Youth Risk Behavior Survey	Center for Data & Analysis, HEALTH

Oral Health Program
Office of Primary Care
Division of Community Health & Equity
Rhode Island Department of Health
3 Capitol Hill
Providence, RI 02908
Phone (401) 222-1171 / fax (401) 222-4415
www.health.ri.gov

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