Improving Oral Health Care Delivery in Medicaid and CHIP

A Toolkit for States

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Medicaid/CHIP
Health Care Quality Measures

This toolkit is a product of the Medicaid/CHIP Health Care Quality Measures Technical Assistance and Analytic Support Program, sponsored by the Centers for Medicare & Medicaid Services (CMS). The program team is led by Mathematica Policy Research, in collaboration with the National Committee for Quality Assurance, Center for Health Care Strategies, and National Initiative for Children's Healthcare Quality.

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INTRODUCTION

The Centers for Medicare & Medicaid Services (CMS) is working to improve the quality of health care by aligning its efforts around three goals–better care, healthy people/healthy communities, and affordable care–and to measure progress toward achieving these goals. Ensuring access to quality oral health care for children in Medicaid and the Children's Health Insurance Program (CHIP) in a way that achieves these goals is a priority for CMS. Recent efforts by CMS and states to improve the quality of oral health care for children have increased the use of preventive and dental treatment services by children in Medicaid and CHIP, but differences persist among states and compared to children who are privately insured (HHS 2012). To promote continued progress, CMS developed an Oral Health Initiative and set national oral health goals for Medicaid and CHIP programs (CMS 2011). A key component of the initiative is to "improve the usability of data that are collected, which is essential to improving the quality of care and measuring progress." Through this initiative, CMS is working with states to improve their data on children's oral health care services and develop oral health action plans that identify gaps, target interventions, and monitor progress.

How to Use this Toolkit

This Toolkit was developed to help states achieve the goals of the CMS Oral Health Initiative through a data-driven quality improvement (QI) process that can be tailored to each state's needs and priorities. Improving oral health care delivery for children enrolled in Medicaid and CHIP can be challenging but is achievable. Between federal fiscal year (FFY) 2007 and FFY 2011, all but three states showed improvement in children's access to preventive oral health services, and 24 states improved by at least 10 percentage points (CMS 2013a). As states strive to continue improving oral health care and meet the goals of CMS's Oral Health Initiative, a systematic QI process can help focus QI efforts on successful strategies that are targeted to the needs of the state.

This Toolkit is designed to support states' efforts to use available data to identify and address gaps and variations in use of oral health care in their Medicaid and CHIP programs, based on a model of continuous QI. This Toolkit describes a six-step process that states can use to analyze their data on oral health care access, and then design, implement, and evaluate targeted QI efforts.

The process described in this Toolkit uses oral health care access and quality measures as a foundation for identifying QI goals and areas to target for improvement (Steps 1 through 3), planning and implementing targeted interventions (Steps 4 and 5), and evaluating progress toward QI goals (Step 6). This approach is consistent with QI methods that have been developed and implemented in other settings, but the discussion in this Toolkit adapts the process to focus on issues that are relevant to oral health care in Medicaid and CHIP.

This Toolkit includes resources and guidelines to help states tailor implementation of each QI step to the needs and environment in the state. Throughout the Toolkit, we provide examples from states that have used data-driven QI processes to improve the use and quality of oral health care in their Medicaid and CHIP programs. We encourage networking among states to share experiences, resources, and lessons learned. One example of such networking is the Center for Health Care Strategies' Medicaid and CHIP Oral Health Learning Collaborative.

Although the Toolkit describes a sequential process of planning, implementing, and evaluating QI efforts, states are encouraged to use the Toolkit in the way that best meets their needs. States may choose to follow all six steps in the QI process, or they may prefer to adopt specific components that are relevant to state-specific goals or needs. In addition, appendices provide resources to support states' efforts to assess and improve the quality of their oral health data.

This Toolkit was developed as part of the Technical Assistance and Analytic Support (TA/AS) Program to support state collection, reporting, and use of the Core Set of Children's Health Care Quality Measures for Medicaid and CHIP (see Appendix A). Additional support is available to help states use this Toolkit; please contact the TA/AS Program at MACQualityTA@cms.hhs.gov.

BACKGROUND: ORAL HEALTH COVERAGE AND ACCESS AMONG CHILDREN IN MEDICAID AND CHIP

All children enrolled in Medicaid and CHIP have coverage for dental services, although specific benefit packages vary by state and by program. At a minimum, children under age 21 who are enrolled in Medicaid or CHIP Medicaid Expansion programs are entitled to coverage for dental services under the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit. The EPSDT benefit provides comprehensive and preventive health care services, including dental services, to children who are enrolled in Medicaid. Under EPSDT, states must cover all necessary health care services for treatment of all physical and mental illnesses or conditions discovered by any screening or diagnostic procedures. Dental services provided under the EPSDT benefit include, at a minimum, care needed for relief of pain, infections, restoration of teeth, and maintenance of dental health as well as emergency, preventive, and therapeutic services for dental disease. As of October 1, 2009, minimum dental benefits for CHIP were mandated in the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA). States with separate CHIP programs must provide dental services "necessary to prevent disease and oral health, restore oral structures to health and function, and treat emergency conditions."[1] Under CHIPRA, states were also given the option of offering "dental-only" coverage to children in families that are income-eligible for CHIP and who are covered by employer-sponsored insurance or other group health plans that provide limited or no dental benefits.

Despite the availability of dental benefits in Medicaid and CHIP, many publicly-insured children do not receive recommended dental care. A national survey of health care service utilization in 2008 found that 47 percent of publicly-insured children had an annual dental visit, compared to 57 percent of privately-insured children (Soni 2011). The percentage of publicly-insured children receiving annual dental visits varied across racial and ethnic groups, with 54 percent of white, non-Hispanic children reportedly receiving visits, compared to 43 percent of Hispanic children and 40 percent of black, non-Hispanic children. Moreover, only about 37 percent of all children from low-income families with household income at or below the federal poverty level (FPL) reported dental visits, versus about 64 percent of children from families with incomes greater than 400 percent of the FPL (Soni 2011).

Although there is still room for improvement, dental service utilization among children enrolled in Medicaid has increased over the past decade (HHS 2012). Between 2000 and 2011, the mean percentage of Medicaid-enrolled children who had a preventive dental visit increased considerably, from 21 percent to 44 percent (HHS 2013).[2] Despite this overall increase, the

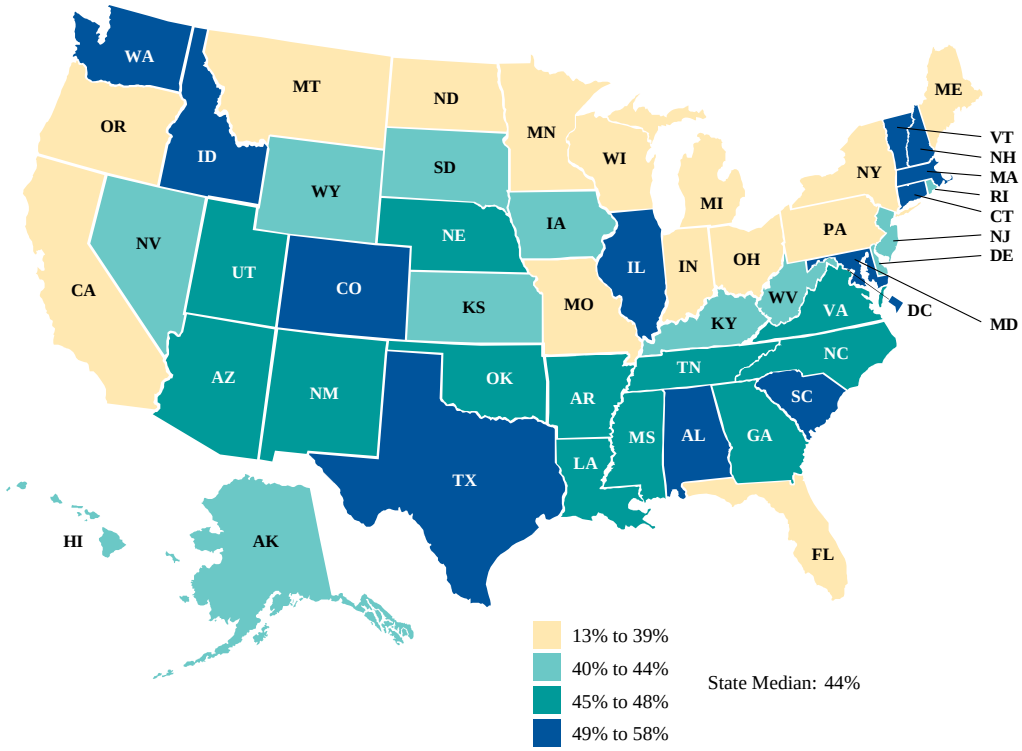
[1] In addition to mandating that separate CHIP programs must cover all necessary preventive, restorative, and emergency dental services, CHIPRA prohibited cost-sharing for preventive and diagnostic dental services and extended the 5 percent cost-sharing limit to include oral health care services. For more information on Medicaid and CHIP dental benefits, see http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Dental-Care.html.

[2] For more information on state-level reporting of preventive dental and dental treatment rates in FFY 2011, see http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/2013-Ann-Sec-Rept.pdf. (pp. A.41–A.44). For more information on setting baselines and goals, see http://medicaid.gov/Federal-Policy-Guidance/Downloads/CIB-04-18-13.pdf.

percentage of Medicaid-enrolled children ages 1 to 20 receiving dental services in 2011 varied substantially by state; the percentage of children receiving any preventive dental services ranged from a low of 14 percent in Florida to a high of 58 percent in Vermont, while rates for dental treatment services ranged from a low of 8 percent in Florida to a high of 51 percent in New Mexico (Figures 1 and 2).[3]

Despite improvements in utilization over time, the current rates of annual dental visits among publicly-insured children in most states still fall short of the Healthy People 2020 goal of 49 percent of all children over age 2 receiving a dental visit each year (Healthy People 2020). Current utilization rates also fall far short of recommended oral health preventive care guidelines for children and adolescents. Specifically, pediatric dental experts recommend two routine dental checkups per year beginning at age one (American Academy of Pediatrics 2003; American Academy of Pediatric Dentistry 2002). Thus, CMS's Oral Health Initiative was established in 2010 to further improve access to and quality of these services for publicly-insured children.

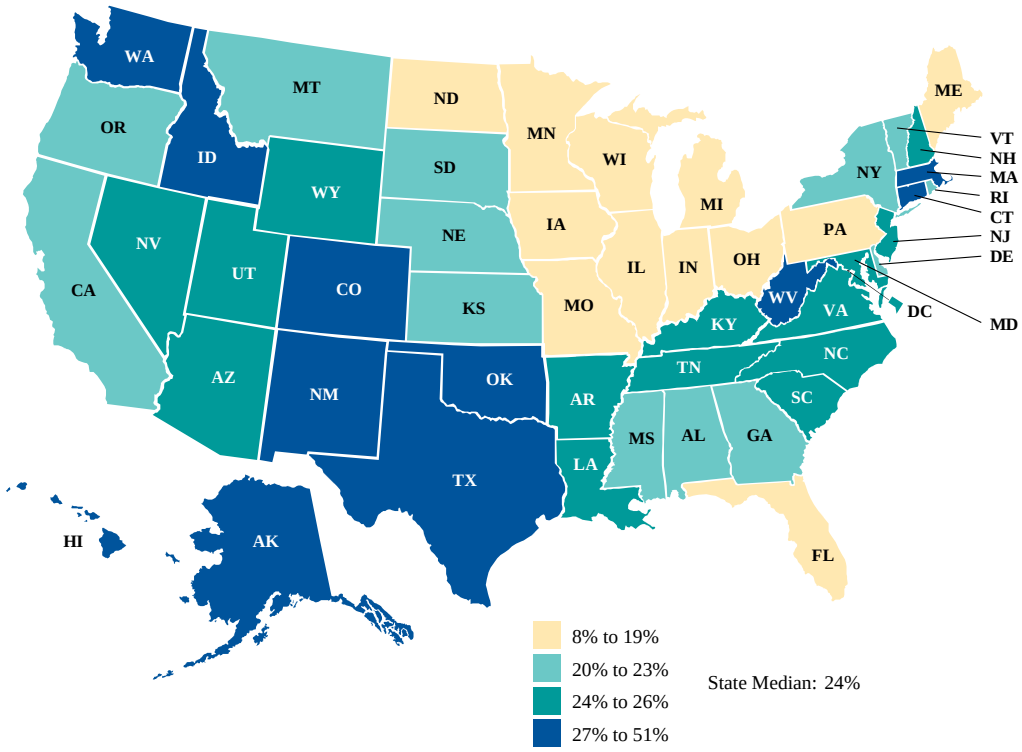
Figure 1. Geographic Variation in the Percentage of Children Ages 1 to 20 Receiving Preventive Dental Services, FFY 2011



Source: FFY 2011 Form CMS-416 reports. Refer to the 2013 Secretary's Report for additional details (HHS 2013).

[3] Variation in dental treatment rates across states may occur for a variety of reasons, including differences in enrollee needs.

Figure 2. Geographic Variation in the Percentage of Children Ages 1 to 20 Receiving Dental Treatment Services, FFY 2011



Source: FFY 2011 Form CMS-416 reports. Refer to the 2013 Secretary's Report for additional details (HHS 2013).

The CMS Oral Health Initiative

Recognizing the need for additional federal and state efforts to improve access to pediatric oral health care, CMS and its federal and state partners announced the CMS Oral Health Initiative in April 2010 (CMS 2011). The Initiative identifies two national oral health goals:

1. Increase the rate of children ages 1 to 20 enrolled in Medicaid or CHIP for at least 90 continuous days who receive any preventive dental service by 10 percentage points; the national baseline is 42 percent and the national goal is 52 percent by FFY 2015.
2. Increase the rate of children ages 6 to 9 enrolled in Medicaid or CHIP for at least 90 continuous days who receive a dental sealant on a permanent molar tooth by 10 percentage points; CMS is considering how to best operationalize this goal.

In April 2011 CMS released the Oral Health Strategy to support states' efforts to achieve these oral health goals. The strategy describes a range of activities that federal and state governments can undertake, in conjunction with other stakeholders, to improve access to dental services for children. In particular, CMS is working with states to develop oral health action plans that outline their strategies for addressing the most critical barriers to oral health access for their publicly-insured children and achieving the goals of the initiative. Other activities by CMS include strengthening technical assistance to states, improving outreach to providers, developing outreach to beneficiaries, and partnering with other government agencies (CMS 2011).In April 2013, to help states meet these and other state-specific oral health care goals, CMS and its partners, the Center for Health Care Strategies and the DentaQuest foundation launched the Medicaid Oral Health Learning Collaborative (CHCS 2013). Seven states (Arizona, California, Minnesota, New Hampshire, Texas, Virginia, and Washington) are participating in the initiative. Quality improvement teams from each state include leadership from state Medicaid dental, quality improvement, and information technology departments.

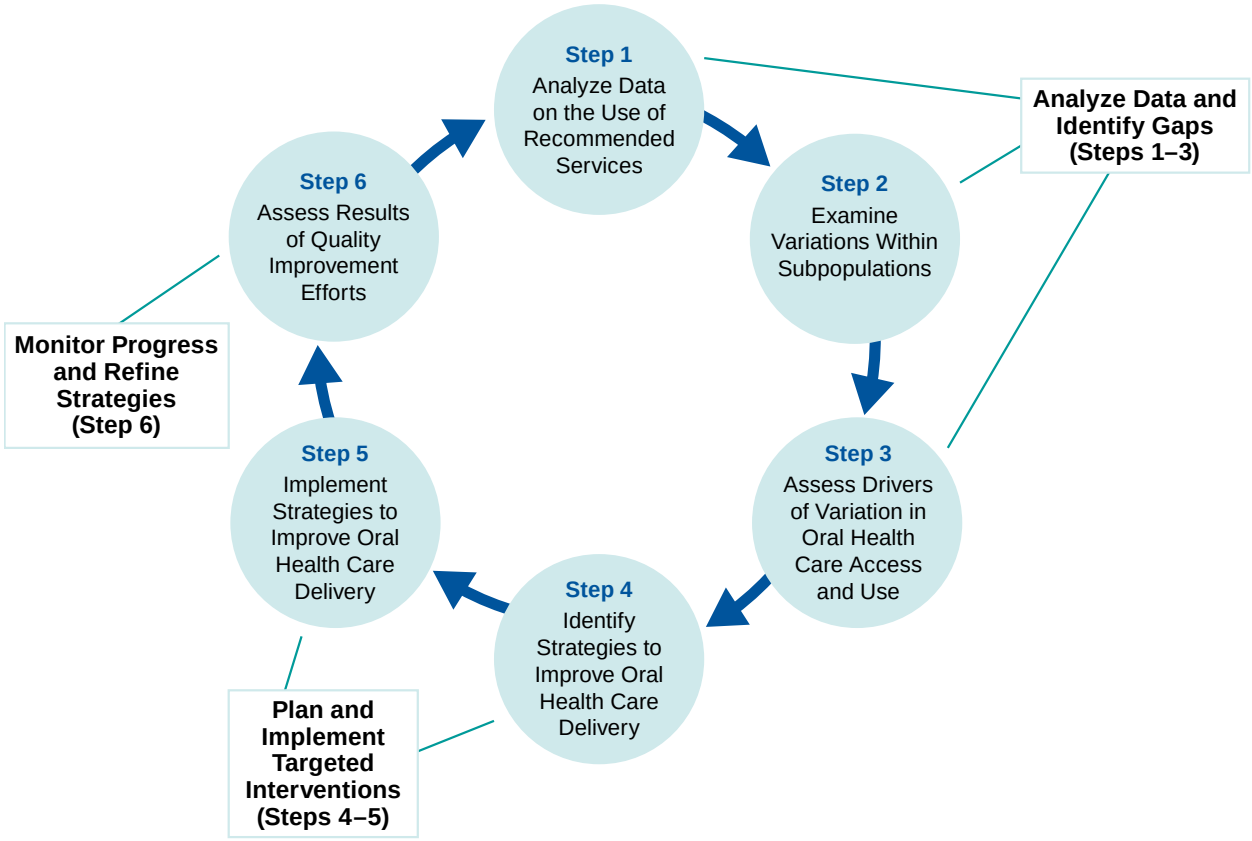
In September 2013, CMS released Keep Kids Smiling: Improving Oral Health Through the Medicaid Benefit for Children & Adolescents, a guide describing four types of strategies states can use to promote oral health for children and adolescents enrolled in Medicaid, including strategies that focus on: (1) improving state Medicaid program performance through policy changes, (2) maximizing provider participation, (3) directly addressing children and families, and (4) partnering with oral health stakeholders (CMS 2013c). In addition, CMS created educational and promotional materials that states, health care and dental providers, and other community organizations can use for outreach and education for parents and families on the importance of oral health care (CMS 2013d).

To track progress in improving oral health care for children enrolled in Medicaid and CHIP, the CMS Oral Health Strategy encourages states to collect and report oral health measures in the CMS 416 and related to the Core Set of Children's Health Care Quality Measures for Medicaid and CHIP (see Appendix A). The rest of this Toolkit describes a data-driven process for oral health care QI. The appendices contain additional information on calculating and reporting the measures, checking the accuracy of data, calculating the measures for subpopulations, and using external data as benchmarks.

AN APPROACH TO USING ORAL HEALTH MEASURES FOR QUALITY IMPROVEMENT

This Toolkit describes six steps that states can follow to plan and implement oral health QI activities. Figure 3 provides an overview of the process, beginning with analyzing data and identifying gaps (Steps 1–3), followed by planning and implementing targeted interventions (Steps 4–5), and finally, monitoring progress and refining strategies (Step 6). See Appendix B for an example of a state that used a similar process to improve its Medicaid program performance in oral health.

Figure 3. Overview of a Quality Improvement Process Using Oral Health Measures



Analyze Data and Identify Gaps: QI Steps 1–3

In the first steps of the process, states assess the current use of recommended dental services within the Medicaid and CHIP population and identify areas for improvement. The key steps in this phase include:

Step 1. Analyze Data on the Use of Recommended Services. Conduct a baseline analysis of service use among the population. Integral to this analysis is a thorough assessment of data quality and completeness to ensure that baseline rates and trends accurately represent oral health care in the state.

Step 2. Examine Variations within Subpopulations. "Drill down" within the Medicaid and CHIP population to assess potential disparities in oral health care and identify target areas for improvement.

Step 3. Assess Drivers of Variation in Oral Health Care Access and Use. Use data to examine the critical factors underlying variation in oral health care in the state, including assessing what factors account for higher rates of use among some populations and lower rates among others. Common drivers of variation include differences in provider participation, enrollee utilization, and differences in program administration and service delivery. Evidence from claims and survey data as well as discussions with providers and stakeholders may all be helpful in determining the factors underlying the variation.

Plan and Implement Targeted Interventions: QI Steps 4–5

In the next phase of the QI process, states use their findings to select and implement QI strategies that are targeted to the particular needs of the state. The key steps in this phase include:

Step 4. Identify Strategies to Improve Oral Health Care Delivery. Choose QI strategies that are targeted to the needs and resources of the state. Strategies may focus on improving administrative procedures, increasing provider participation, improving enrollee service utilization, and developing collaborative relationships to strengthen the performance of the oral health care system.

Step 5. Implement Strategies to Improve Oral Health Care Delivery. Implement the strategies selected in Step 4, engaging a range of stakeholders in the efforts.

Monitor Progress and Refine Strategies: QI Step 6

Work in the final phase of the process focuses on monitoring progress toward oral health care improvement goals.

Step 6. Assess Results of Quality Improvement Efforts. Evaluate whether implemented strategies are achieving desired outcomes. Use the results of these assessments to revise goals and strategies for continued improvement and to set up efforts to begin the process again with these refined goals.

The next section of the Toolkit helps states get started with an oral health QI process by establishing an oral health QI team. We then describe how to apply the six steps to analyze data and identify gaps, plan and implement targeted interventions, and monitor progress and refine results.

GETTING STARTED: ESTABLISHING AN ORAL HEALTH CARE QUALITY IMPROVEMENT TEAM

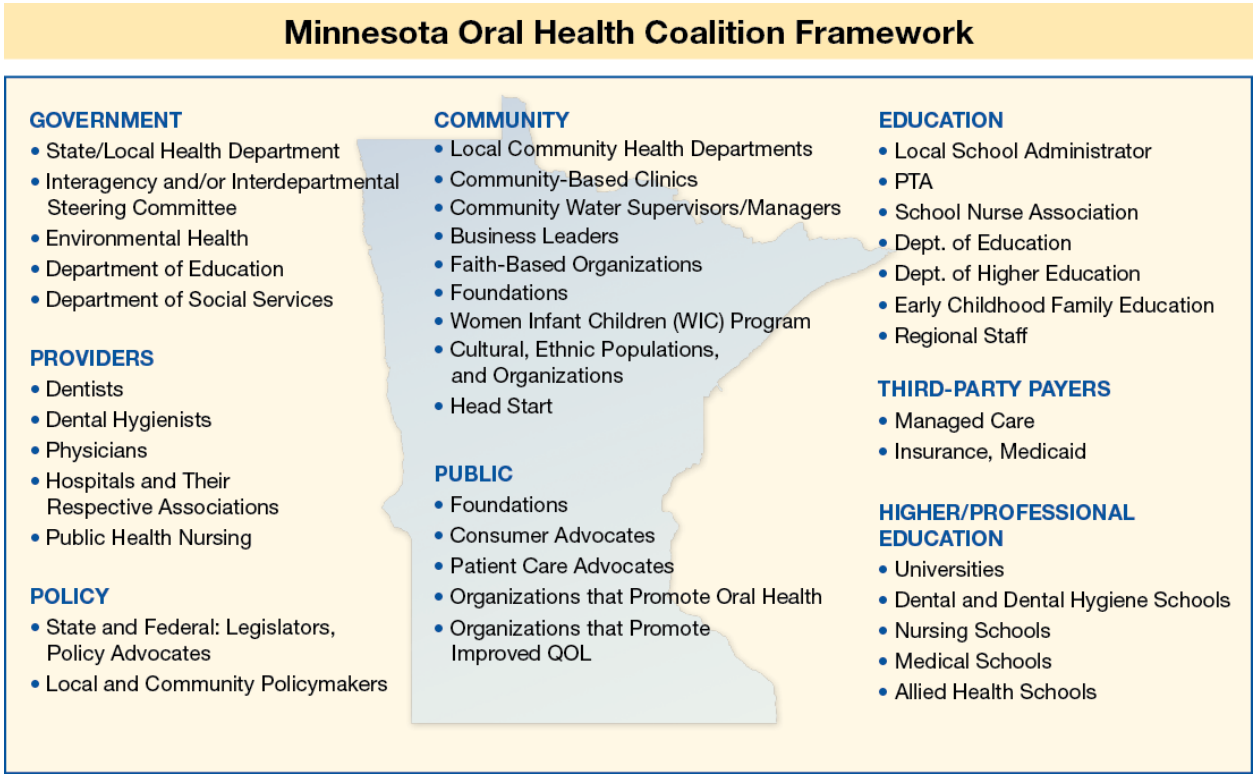
The most successful efforts to improve oral health care involve time and commitment among staff both within and external to the Medicaid and CHIP agencies, including staff familiar with the population served by Medicaid and CHIP programs and the structure of the oral health program, as well as staff that have data analytic experience. Ideally, state Medicaid and CHIP agencies implementing this QI process will partner with both public and private entities to ensure that all stakeholders are working in a coordinated way to achieve common goals related to improving oral health care in the state. Obtaining support from a diverse team across the state can help to improve the effectiveness and efficiency of oral health care QI efforts.

In each state, the potential list of oral health care QI partners will vary depending on Medicaid and CHIP program administration, the delivery system, and other demographic and political characteristics. QI teams may commonly include representatives from state and local government agencies (such as Medicaid/CHIP, public health, foster care), managed care organizations (MCOs), dental and medical providers, community advocates, and other stakeholders. QI teams will likely consist of a subset of all potential partners, and partners will be different in each state. As an example, Figure 4 shows the potential partners that the Minnesota Oral Health Coalition identified for its oral health care QI efforts. The potential partners include a diverse group of stakeholders from state and local government, providers and payers, community organizations, and other community members. In other states, the relevant partners may differ or be more limited depending on the oral health program for children and the specific QI goals.

A note about oral health services performed by primary care medical practitioners:

Throughout this toolkit there are references to engaging with the medical community as an important part of the effort to improve the delivery of dental and oral health services to children. This approach is consistent with the CMS Oral Health Initiative (OHI). Even though the explicit goals of the OHI focus on services provided by dental professionals (that is, preventive dental services including sealants), the oral health services provided by primary care medical practitioners are no less important. These services include oral health risk assessments, oral health education and anticipatory guidance, fluoride varnish applications, and referrals to dental providers, for children of all ages but especially for the youngest children. These services are critical to attaining and maintaining oral health and overall health.

Figure 4. Potential Oral Health Coalition Partners for Minnesota Oral Health Care Quality Improvement



Source: Minnesota Department of Health 2011.

States that use MCOs to deliver oral health services should also consider partnering with the external quality review organizations (EQROs) in their states to implement performance improvement projects (PIPs). In 2012–2013, three states reported to CMS on PIPs focused on improving annual dental visit rates among publicly-insured children that were operated by in their state.[4] EQROs in these states provided additional support and oversight for these projects, including reviewing the progress of the projects and offering feedback and guidance on the activities and evaluation criteria used in the projects.

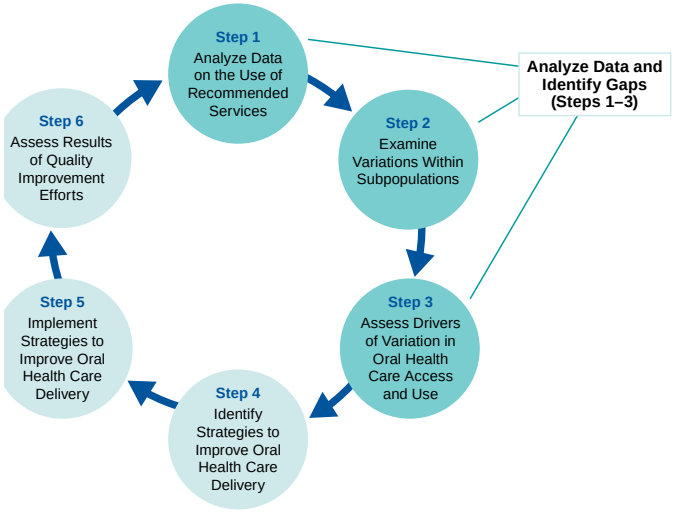
By involving key stakeholders throughout the process and including team members with expertise related to the state oral health program and data analytic techniques, states may be able to implement QI processes more efficiently and effectively. The next sections provide more detail about each of the six steps, including examples from states that have used data-driven QI processes.

[4] The three states include Georgia, Missouri, and New Jersey. Summary information about the performance improvement projects in these states is reported in the 2013 Annual Report on the Quality of Care for Children in Medicaid and CHIP (DHHS 2013). More detailed information about each project is available in the 2012–2013 EQR technical reports for these states.

ANALYZE DATA AND IDENTIFY GAPS: QI STEPS 1–3

QI Step 1: Analyze Data on the Use of Recommended Services

The first step in the QI process focuses on establishing baseline rates of quality measures that are aligned with the state's QI goals. High-quality data are essential for accurate assessments of oral health care access and utilization. Thus, states should ensure that their oral health data are as reliable and accurate as possible for the measurement period and population before using the data to establish baselines, assess performance, and identify areas for improvement.



Two of the most common sources of data quality issues are:

1. Logical inconsistencies in oral health measures based on inaccurate calculations of eligible populations or individuals receiving services, and
2. Exclusions of enrollees or services from the data that may result in under-reporting.

To address these issues, states should routinely check their data for logical inconsistencies in measure calculation and systematically assess whether incomplete or inaccurate service utilization data could lead to erroneous assessments of access and use. Appendices C and D describe data quality checks that states can use to assess the quality and completeness of their data.

QI Step 2: Examine Variations within Subgroups

Historically, the focus of most states' reporting efforts has been on aggregate performance– that is, measures of the number or percentage of enrollees who obtained any services or certain types of services (such as preventive or treatment services). Although aggregate performance data are useful for monitoring performance of an entire program–such as Medicaid or CHIP– aggregate data do not provide information on variation of service utilization within the program that can be used to target interventions. For example, service utilization may vary by demographic characteristics within the enrolled population, categories of eligibility, geographic areas, delivery system characteristics, provider payment mechanisms, levels of payment, mechanisms used to administer benefits, or the performance of organizations with which the state contracts to administer dental benefits. Compiling and analyzing information on these and other factors not only helps program administrators and policy makers understand the extent of variation within the larger population, but also can form the basis for developing strategies for improving program performance and evaluating the impact of program changes on subpopulations as well as on aggregate program performance.

Exhibit 1 lists some of the demographic characteristics and oral health program features that may be related to differences in dental service utilization. States can review dental service data to assess utilization across the subgroups that are most relevant for the publicly-insured children in their state.

Exhibit 1. Checklist of Factors Potentially Related to Differences in Dental Service Utilization

To what extent does dental service utilization vary based on demographic characteristics of enrollees in your state? Demographic characteristics may include:

- ✓ Enrollee age
- ✓ Race/ethnicity
- ✓ Primary language
- ✓ Geography (regional variations, urban versus rural)
- ✓ Length of enrollment (months of continuous enrollment in public insurance and in each type of program)
- ✓ Category of eligibility (pathway to eligibility, disability status)

To what extent does dental service utilization vary based on delivery system characteristics? Delivery system characteristics may include:

- ✓ Managed care participation (variations across enrollees covered on a fee-for-service [FFS] basis, or through some type of managed care arrangement, including primary care case management [PCCM], comprehensive managed care plans, or prepaid dental health plans)
- ✓ Benefit administration (MCO, dental benefits plan, or administrator)
- ✓ Type of provider (safety net versus private dental offices or clinics, dentists versus non-dentist, oral health care providers versus primary care providers)
- ✓ Provider access (open network versus assigned providers)
- ✓ Reimbursement methods (capitation versus non-capitation reimbursement methods, prospective payments)
- ✓ Program type (Medicaid/CHIP Medicaid Expansion, separate CHIP versus commercially insured populations)

To what extent does dental service utilization vary based on the type of dental service?

To what extent have utilization differences changed over time?

- ✓ Have disparities in service utilization across groups narrowed or widened?
- ✓ Has this pattern varied by type of dental service?

The checklist in Exhibit 1 is not exhaustive, but rather is intended to illustrate the types of factors that have been used by state Medicaid and CHIP programs for strategic analyses of program performance, program redesign initiatives, program evaluations, and QI activities. The sections below offer examples of data analyses that investigate differences in utilization based on some of the factors included in the list.

Variations Across Subgroups of Enrollees

Tables 1 and 2 compare dental service utilization in Medicaid (Table 1) and CHIP (Table 2) within the same state for a given calendar year across enrollees' demographic characteristics. In this example, the tables highlight that there is room for improvement in preventive care access among all Medicaid and CHIP children. The tables also reveal the extent of variation in dental service utilization rates across demographic characteristics, types of dental services, and programs. For example, in 2012 children ages 6 to 12 in both Medicaid and CHIP had the highest rates of preventive care service use. Based on this finding, the state may want to focus particular effort on improving preventive service use among children under age 6, particularly children under age 3, and over age 12.

The tables also show that overall CHIP enrollees had higher rates of preventive and treatment service use than children in Medicaid. The state may want to assess whether factors contributing to higher rates for children in CHIP could be used to improve service use among children enrolled in Medicaid.

Table 1. Utilization of Dental Services by Children in Medicaid in 2012, by Selected Characteristics: Composite State Example

Demographic Characteristics	Total Population		Enrollees Receiving Preventive Care		Enrollees Receiving Treatment Services	
Age	.	.	.	.	.	.
1–2	25,000	9%	2,250	9%	1,750	7%
3–5	62,500	23%	22,600	36%	10,300	16%
6–9	72,500	26%	31,800	44%	19,150	26%
10–12	50,000	18%	19,350	39%	11,300	23%
13–19	65,000	24%	16,800	26%	10,750	17%
Residence	.	.	.	.	.	.
Non-Urban	125,000	45%	43,425	35%	25,375	20%
Urban	150,000	55%	49,375	33%	27,875	19%
Race/Ethnicity	.	.	.	.	.	.
White Non-Hispanic	108,750	40%	37,850	35%	22,500	21%
Black Non-Hispanic	91,250	33%	29,150	32%	16,050	18%
Other Non-Hispanic	33,750	12%	11,275	33%	6,250	19%
Hispanic	41,250	15%	14,525	35%	8,450	20%
Total	275,000	.	92,800	34%	53,250	19%

Source: Illustrative data were developed for this table.

Table 2. Utilization of Dental Services by Children Enrolled in CHIP in 2012, by Selected Characteristics: Composite State Example

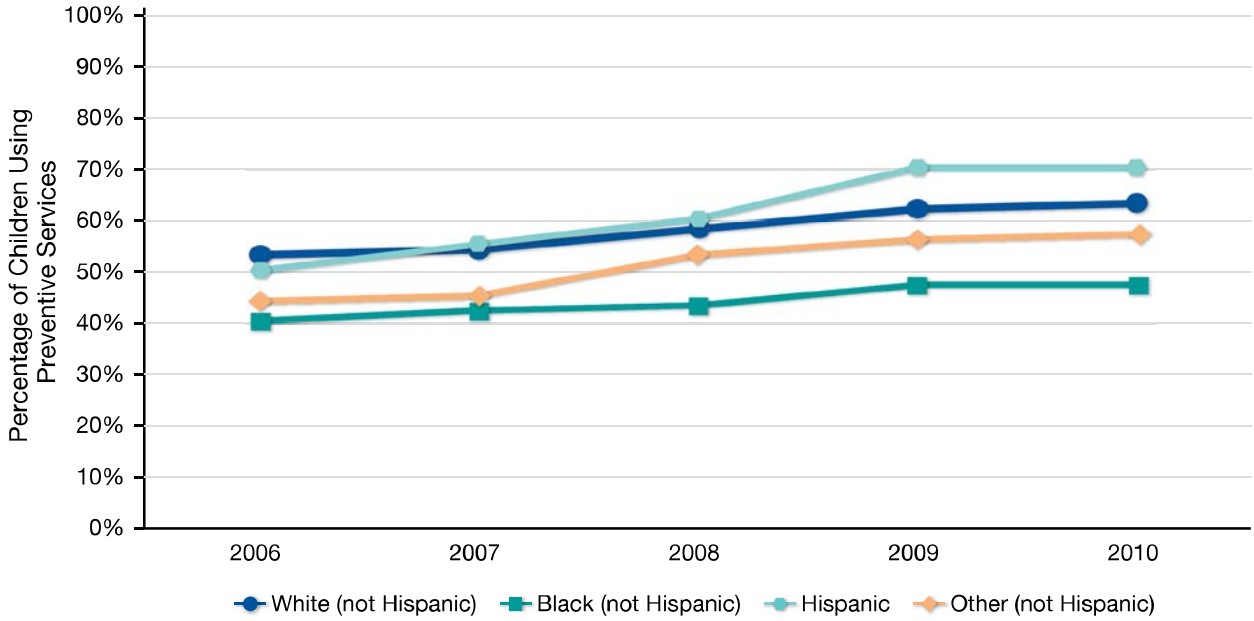
Demographic Characteristics	Total Population		Enrollees Receiving Preventive Care		Enrollees Receiving Treatment Services	
Age	.	.	.	.	.	.
1–2	10,000	6%	3,000	10%	800	8%
3–5	37,500	23%	13,875	37%	6,375	17%
6–9	43,500	27%	18,670	43%	12,915	30%
10–12	30,000	19%	12,000	40%	7,500	25%
13–19	39,000	24%	12,870	33%	8,680	22%
Residence	.	.	.	.	.	.
Non-Urban	71,500	45%	28,700	40%	17,895	25%
Urban	88,500	55%	31,715	36%	18,375	21%
Race/Ethnicity	.	.	.	.	.	.
White Non-Hispanic	64,000	40%	24,735	39%	14,720	23%
Black Non-Hispanic	53,500	33%	19,210	36%	11,185	21%
Other Non-Hispanic	19,000	12%	6,800	37%	4,120	22%
Hispanic	23,500	15%	9,670	42%	6,245	27%
Total	160,000	.	60,415	38%	36,270	23%

Source: Illustrative data were developed for this table.

Variations Over Time

In addition to using data for same-year comparisons across demographic characteristics (such as age, residence, or race/ethnicity), states may want to analyze data over time to assess trends for different subpopulations of enrollees, as illustrated in Figure 5. In this example, preventive service use across racial/ethnic groups is compared over time. This type of analysis can help states investigate whether differences among groups in dental service utilization are specific to a certain time period, whether they persist over time, and whether gaps are widening or narrowing. Here, the analysis highlights that the percentage of Hispanic enrollees using preventive services has increased over time, at a higher rate than among other racial/ethnic groups. A state could use this information to assess what interventions were effective in raising rates among Hispanic children and whether these interventions could also be effective in raising rates among other racial/ethnic groups.

Figure 5. Racial/Ethnic Differences in Utilization of Preventive Services: 2006-2010, Composite State Example



Source: Illustrative data were developed for this figure.

Variations in Utilization by Type of Service

In addition to examining service utilization for all types of dental services combined, analyses can focus on specific services that may be tied to strategic program objectives, such as increasing the use of preventive dental services or increasing the application of dental sealants on permanent molars. Table 3 uses illustrative data to compare the percentage of Medicaid and CHIP children in a state who received dental services in 2009 and 2010. Comparisons in a single year offer insights about current differences in utilization and tracking these patterns over time will help to reveal if differences are consistent for these populations or if they change over time. As this illustrative example shows, children enrolled in CHIP in 2010 had higher rates of preventive care than those enrolled in Medicaid, and the gap widened between 2009 and 2010. In this example, the state may want to investigate whether any factors contributing to the increase in preventive care use among CHIP children could also be implemented for children in Medicaid. This is part of Step 3 in the QI process.

Table 3. Comparison of Dental Service Utilization in Medicaid and CHIP, 2009 and 2010: Composite State Example

.	2009		2010	
Type of Service	Medicaid	CHIP	Medicaid	CHIP
Any Dental Service	35%	35%	36%	39%
Preventive Care	32%	33%	34%	38%
Dental Treatment	19%	21%	20%	23%
Sealants	18%	14%	18%	18%

Note: Illustrative data were developed for this table. Percentages include children continuously enrolled for at least 90 days who had at least one service or visit.

Use of Benchmarks

To provide context about overall performance as well as performance by subgroup, states may consider comparing performance to benchmark rates. For example, states may compare their rates to national rates reported by CMS or against goals established by CMS's Oral Health Initiative. These benchmarks provide an external reference for assessing performance and progress. Appendix E provides more information about using national and state-level data sources as benchmarks for assessing dental service utilization.

QI Step 3: Assess Drivers of Variation in Oral Health Care Access and Use

After identifying variations in service utilization, states are ready to consider what factors account for these differences. Variations in the utilization of dental services by enrollee subgroups can be of considerable magnitude and may be influenced by many factors. Identifying the factors related to these variations can help states develop hypotheses about the underlying drivers of variation and target QI efforts (Step 4). In general, variation in dental service utilization may be attributed to three broad drivers of variation:

- Provider participation
- Program administration and delivery systems
- Enrollee or community factors

The checklist in Exhibit 2 identifies how each of these drivers can create variation in oral health care utilization. States can use this checklist to consider the extent to which each driver is relevant and potentially influencing variation in dental service utilization among publicly-insured children. In assessing these factors, states should consider what issues, needs, and barriers appear to be most relevant in their state. As discussed in Step 2, differences in utilization may be related to characteristics of enrollees, characteristics of provider participation, features of the oral health care delivery system, or factors related to the way that benefits are administered.

Exhibit 2. Common Drivers of Variation in Dental Service Utilization

States should assess the relevance of each of the factors below to determine which may be driving variations in dental service utilization among children enrolled in Medicaid and CHIP.

Variation influenced by inadequate provider participation. Examples:

- ✓ Differences in the number or distribution of available providers
- ✓ Differences in the types of providers that participate (dentists and dental specialists, other providers)
- ✓ Differences in the cultural competency or language skills of available providers
- ✓ Differences in provider adherence to recommended clinical guidelines

Variation influenced by program administration. Examples:

- ✓ Differences in administrative policies, procedures and practices across entities responsible for delivering oral health services (including differences within and across types of MCOs)
- ✓ Differences in provider reimbursement rates or payment mechanisms
- ✓ Differences in the efficacy of program changes across subpopulations, such as differences in changes in participation among some subpopulations following a policy change by the state

Variation influenced by enrollee or community factors. Examples:

- ✓ Differences in outreach efforts among enrollee subpopulations
- ✓ Differences in the ability of enrollees to make and keep oral health appointments (such as availability of transportation, convenience of office hours)
- ✓ Differences in access related to partnerships with other public health and social welfare agencies or community groups

The relevance of these and other factors as drivers of variation in oral health care utilization will differ within and across states and over time. States can use qualitative data (such as key informant interviews and focus groups) as well as quantitative data (such as surveys and administrative data) to identify which factors, or combination of factors, are driving the variations in dental service utilizations that the state wants to address. This type of analysis will help states focus their efforts in Step 4, which involves selecting strategies to improve oral health care quality in their state.

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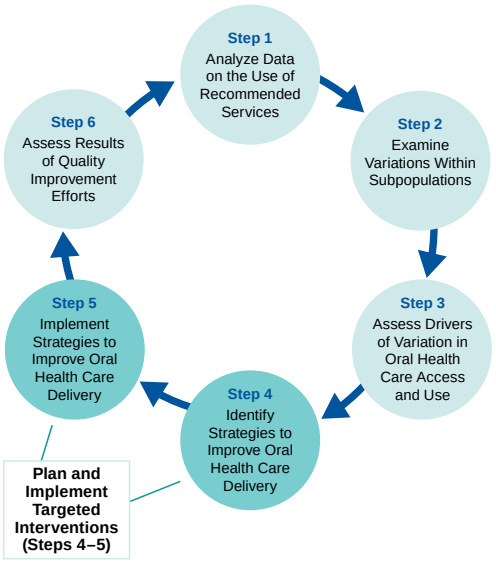
PLAN AND IMPLEMENT TARGETED INTERVENTIONS: QI STEPS 4–5

QI Step 4: Identify Strategies to Improve Oral Health Care Delivery

By analyzing differences in dental service utilization (Step 2), states can identify the most critical gaps or variations in access within their Medicaid and CHIP programs. After identifying the drivers of variation that may contribute to these gaps or variations in dental service utilization (Step 3), states can choose targeted interventions to improve the delivery of oral health care.



Linking Drivers of Variation to Strategies for Improving Oral Health Care Delivery

As discussed in Step 3, a variety of factors may be related to differences in oral health care utilization in a state, but three types of differences drive most variation:

- Provider participation
- Program administration and service delivery
- Enrollee and community factors

The next step in the QI process is to identify strategies for improving oral health care delivery that will address the drivers of variation in the state. States have developed and used a range of strategies to improve the quality of their Medicaid and CHIP oral health programs. Tables 4a-4c group these strategies according to the three broad drivers of variation in oral health care utilization. Within these groups, the strategies are further categorized into four common types of interventions:

- Program Administration interventions target Medicaid/CHIP policies and operations and are generally implemented at a statewide level
- Provider-Focused interventions influence the participation of individual providers and encourage best practices in oral health care
- Enrollee-Focused interventions occur at the level of the individual enrollee or family and encourage active patient participation in oral health care
- Collaborative interventions leverage resources and expertise across multiple state and local participants to maximize coordination and participation toward the goal of improving oral health care utilization in the state

Table 4A. Strategies to Address Provider Participation Barriers

Administrative	Provider-Focused	Enrollee-Focused	Collaborative
• Eliminate delays in provider reimbursements and ensure that clean claims are paid promptly. • Strategically increase provider payments based on gaps in access (including gaps in geographic, sociodemographic, and specialty care access). • Consider contracting out the administration of oral health benefits to a single "administrative services only" vendor with experience managing dental benefits and recruiting providers in the region. • Use clear, concise, accurate and up-to-date materials to recruit providers.	• Pursue efforts to change state practice acts to allow dental hygienists to evaluate children's oral health and provide preventive services without a dentist's prior exam, and to directly reimburse dental hygienists serving Medicaid/CHIP children. • Train primary care medical providers and their teams to conduct and bill for oral health risk assessments, furnish fluoride varnish applications, and make referrals for preventive and treatment dental services. • Sponsor trainings for general dentists in how to manage toddlers and young children in a clinical setting. • Through the state's dental association, cultivate local "champions" among Medicaid-participating dentists to engage in peer-to-peer recruiting and mentoring of new participating dental providers. • Offer targeted pay for performance incentives to dental plans and providers. • Encourage dental and dental hygiene students to pursue training opportunities in underserved areas (e.g., through placement in dental clinics within community health centers) and support creative efforts to increase student interest and willingness to practice in underserved communities. Collaborate with dental and dental hygiene schools and loan repayment programs.	• Deliver communications to families frequently, at a minimum at enrollment and renewal, about the importance of dental care to their child's overall health and how to access care. • Support providers in reducing no-shows by creating a centralized no-show reporting and follow-up system. • Embark on efforts to increase the oral health literacy of enrollees, including the importance of using good oral health practices at home.	• Partner with school-based health centers to integrate preventive dental services, including sealants, into school health programs. • Partner with state chapters of the American Academy of Pediatrics to work with their specially-trained Oral Health Advocates in securing more pediatrician participation in oral health prevention. • Partner with the state's primary care association and community clinics to develop and implement strategies to improve access such as outside-the-four-walls approaches to delivering dental care to children. • For States with significant Native American populations, partner with local Tribes and the Indian Health Service to identify and implement strategies for improving access to dental care for Native American children. • Collaborate with external partners to seek grant funding for efforts to increase access to dental care.

Table 4B. Strategies to Address Program Administration and Delivery System Issues

Administrative	Provider-Focused	Enrollee-Focused	Collaborative
• Provide immediate beneficiary eligibility verification to providers, through member identification cards, automated voice response systems, or online inquiries. • Consider reducing or eliminating prior authorization requirements. • Implement electronic claims processing and universal claims forms. • Streamline and expedite provider enrollment processes. • Include in managed care contracts a requirement for Performance Improvement Plans focused on dental services.	• Ensure clear, concise, easy-to-use, accurate, and up-to-date communications with providers about Medicaid/CHIP dental coverage, participation and administrative requirements, and other resources (ex: Medicaid Provider Manual). • Provide a dedicated provider services website or telephone hotline with accessible and knowledgeable representatives to provide prompt problem resolution. • Make no-cost language interpretation services easily accessible to providers.	• Send letters, brochures, booklets, or other personalized communications to new members and at membership renewal that specifically describe the dental benefits and how to access care. • Allow parents to choose a dental home for their children, or assign each child to a dental home. • Provide parents with easy-to-access real-time assistance in locating a participating dentist, making an appointment, and securing transportation to the appointment. Ensure this service is well-known to providers and parents. • Ensure that all communications are culturally sensitive and available in relevant languages.	• Establish frequent communication and a high level of trust between the Medicaid/ CHIP dental program staff and the Medicaid/CHIP managed care staff to support effective cross department collaboration. • Establish frequent communication and a high level of trust between the Medicaid/ CHIP dental program staff and the state's Office of Oral Health to support effective cross agency collaboration. • Create and/or participate in formal advisory or collaborative groups such as advisory boards, oral health coalitions, or task forces to address barriers to care, including strategies and education for efficient program change. Participants may include state Medicaid/CHIP agencies, state policymakers, dental providers, and community representatives with ties to Medicaid/CHIP enrolled children, for example schools, WIC programs, community health centers, and Head Start programs.

Table 4C. Strategies to Address Enrollee and Community Factors

Administrative	Provider-Focused	Enrollee-Focused	Collaborative
• Promptly inform providers and MCOs of changes to patient contact information to ensure continuity of care. • Update provider directories. • Formulate specific strategies for identifying and serving hard-to-reach populations (e.g., children with special health care needs, children age 3 and younger, children in geographically isolated communities, foster children, children at highest risk for oral disease, etc.). • Track use of dental services by Medicaid/CHIP children by plan, provider payment method, and amount, to identify gaps in services and plan interventions. • Cover dental services for adults enrolled in Medicaid. • Implement a dental home initiative. • Reimburse primary care physicians and other medical providers for providing preventive dental services. • Add at least one true consumer representative to the Medicaid Advisory Committee and support him/her to participate actively and effectively.	• Conduct outreach and education to primary care medical providers on the importance of dental screenings and referrals by age one: “first dental visit by first birthday.” • Create an easy-to-use referral mechanism for primary care medical providers to locate participating general dentists willing to see very young children and participating pediatric dentists accepting new patients. • Remind providers of the importance of sealants at ages 5–7 and 10–11, as soon as permanent molars have fully erupted. • Train oral health providers on culturally sensitive care and work to ensure that oral health providers can meet the linguistic needs of patients, such as through no-cost interpretation services.	• Conduct culturally and linguistically appropriate outreach and education on the importance of regular, preventive dental care for children of all ages, including: mass media campaigns, educational information for new and renewing members, and use of social media. • Target outreach programs to the importance of good oral hygiene practices in the home and preventive care for young children. • Send personalized reminders about overdue or upcoming dental check-ups by phone, text, email or mail. • Offer case management services, including interpreter services, through the state Medicaid/CHIP agency, an MCO, the ASO, or the state or local public health department for enrollees who need additional support with making and keeping dental appointments. • Use periodic consumer assessment surveys such as CAHPS to gather information from enrollees and their parents on satisfaction with MCOs and providers. Include results in publicly available Medicaid health and dental plan ratings.	• Identify and work with a high-profile dental "champion" in state leadership. • Hire a dental director in the Medicaid/CHIP agency to facilitate outreach to providers and oversee oral health care utilization initiatives. • Facilitate close collaboration between the State’s public health agency and the Medicaid/CHIP agency on all issues related to oral health. • Collaborate with Title V and other Public Health programs to identify eligible children, help them enroll, and remind parents about dental coverage and the importance of dental care. • Include dental providers and organizations in medical home and health home initiatives.

Selecting a Strategy

The selection of the most appropriate strategies for a particular Medicaid or CHIP program depends on the driver of variation that the state wants to address and the political, demographic, and fiscal environment within the state. Answering the questions listed in Exhibit 3 may help states select the most appropriate strategy, or combination of strategies, to improve the use of recommended dental services among their publicly-insured children. At this point in the process, states are encouraged to consult with a variety of stakeholders within the QI team and beyond to obtain feedback on the feasibility of possible strategies and also to promote stakeholder support and participation.

Exhibit 3. Questions to Ask When Selecting Oral Health Care Utilization Strategies

- What utilization gaps need to be addressed? For what populations of children? How have other states or communities successfully addressed similar gaps?
- How will the strategy address gaps in oral health care utilization in the state?
- What existing programs/resources/networks in the state can we build upon to implement this strategy? How can this strategy be incorporated into the current Medicaid/CHIP program?
- How have other states implemented this strategy? What are the lessons learned from their efforts?
- What are the challenges to implementing this strategy? Can we obtain support for this strategy from the necessary stakeholders (e.g., legislators, state Medicaid/CHIP leadership, provider organizations, managed care plans, community leaders, and consumer groups)?
- What resources will be required to implement this strategy?
- What is the evidence base for using this strategy to improve oral health care utilization?
- Will this strategy be more effective if it is combined with other strategies?

As discussed in QI Steps 1–3, disparities in oral health care utilization may have multiple causes. States may choose strategies from each of the four types of interventions (administrative, provider-focused, enrollee-focused and collaborative) to address a single driver of dental service utilization (such as low provider participation). Or, states may decide to implement one type of intervention (such as improving collaborative partnerships) to address multiple drivers. The best mix of strategies and interventions for each state will depend on the drivers of variation that were identified in the data analysis process and the resources available in the state. As an example, Exhibit 4 describes the process Maryland used to select strategies to improve oral health care access in its Medicaid population.

Exhibit 4. Maryland: Healthy Smiles

Analyze Data and Identify Gaps (QI Steps 1–3)

In June 2007, after the highly-publicized death of a Medicaid-enrolled child from an untreated dental infection, Maryland created a Dental Action Committee to bring together stakeholders to assess data on four indicators of use of oral health services: (1) the percentage of covered children with any dental visit, (2) the percentage with a preventive visit, (3) the percentage with a restorative visit, and (4) the percentage visiting the emergency room with a dental diagnosis. They assessed data on all Medicaid children and also stratified by age, MCO, region, county, and procedure code. The committee also assessed the adequacy of the dental provider network by region, compared the competitiveness of reimbursement rates in Maryland with rates in neighboring states, and surveyed dentists about their experiences working with Medicaid patients.

Plan and Implement Targeted Interventions (QI Steps 4–5)

Based on these assessments, Maryland identified the need for changes that would address gaps in dental access in the state, including interventions to:

- Increase provider participation (selected list of state interventions)
  - Increased payment rates for 12 targeted dental procedure codes
  - Contracted with a statewide ASO to address administrative barriers to provider participation. For example, the ASO streamlined credentialing, expedited payment of clean claims, upgraded provider services, and created a provider portal and missed appointment tracker
  - Offered a free pediatric mini-residency program to enrolled general dentists
- Increase enrollee service utilization and participation (selected list of state interventions):
  - Created a fluoride varnish program for children ages 0 to 3 through physicians providing periodic well-child check-ups
  - Offered new safety-net provider sites (in partnership with dental schools, clinics, and county health departments)
  - Conducted a unified oral health education program targeted to parents, providers, and policymakers

Monitor Progress and Refine Strategies (QI Step 6)

Maryland tracked performance on oral health care access measures during and after implementation of these reforms. The state analyzed administrative data and found that the percentage of continuously enrolled children ages 4 to 20 receiving an annual dental visit increased from 44 percent in 2005 to 64 percent in 2010. Similarly, the percentage of children under age 20 receiving a preventive dental service increased from 28 percent in 2006 to 43 percent in 2009. Finally, the number of participating dentists in the state increased from 743 dentists in July 2008 to 1,190 in August 2011.

In reviewing progress, participants in the reforms noted that implementing multiple reforms simultaneously was challenging, but they found that comprehensive reform was successful at attracting more dentists to participate. They also noted that although increasing reimbursement rates was important, equally important was "cutting bureaucratic burdens, educating the public about the importance of regular dental care, and rebranding the Medicaid program for providers and recipients."

Source: Adapted from Roddy and Tucker 2012.

QI Step 5: Implement Strategies to Improve Oral Health Care Delivery

After selecting strategies to improve oral health care utilization, states can develop a plan to implement these strategies. A comprehensive implementation plan includes multiple components:

- Delineating responsibility for guiding the implementation of each element of the plan
- Identifying key QI activities and project milestones
- Outlining a timeline for each phase of the plan
- Identifying necessary resources and key participants and collaborators
- Identifying measurable goals and outcomes of the QI activities

Developing an implementation plan for oral health QI strategies is likely to be similar to the process by which a state implements other policy or administrative changes in its Medicaid/CHIP programs. Two factors, however, may be particularly relevant for designing and implementing oral health QI strategies: (1) the state's methods for administering and offering dental services, and (2) the complexity of the planned changes. Exhibit 5 lists several issues for states to consider when assessing how these factors will affect their implementation plan. Although the list is not exhaustive, it can serve as a starting point for discussions with the QI team.

Exhibit 6 illustrates how oral health program administration and the complexity of selected oral health strategies may influence state implementation plans for increasing the placement of dental sealants on permanent molars. The exhibit presents two hypothetical scenarios: (1) increasing provider payments for placing dental sealants, and (2) conducting provider outreach and education to raise awareness of children who are eligible for but did not receive sealants during their last dental visit. The example highlights how states with different program administration methods or that implement different combinations of QI strategies may not be able to simply adopt implementation plans that were used in other states due to variation in contracting mechanisms, staffing resources, provider networks, and stakeholder relationships.

Implementation plans should include goals and milestones for assessing implementation progress. States should include both process and outcome measures. Process measures include milestones for implementing the plan and timelines for completing each task, while outcome measures include trends in dental service utilization or oral health status. Ideally, to assess whether interventions are having the expected effects, states should calculate outcome measures on a quarterly basis, such as trends in dental services utilization over time and variations across subpopulations. This approach will help states determine their progress relative to their baseline rates and assess where to focus additional efforts.

Exhibit 7 describes how Washington State developed a plan to implement numerous strategies to improve dental service utilization among children under age 6 after identifying that this population was underserved and had high rates of dental disease.

Exhibit 5. Factors to Consider when Developing an Oral Health QI Implementation Plan

The method of administering and operating dental services in the state, including:

1. The number of different entities involved in administering and delivering dental services. Key issues may include:
   - Can the state directly implement the action plan? If not, how many entities will need to be involved?
   - Do these entities have experience working together? Are there any barriers to communication across the entities?
   - Is there likely to be opposition to the planned changes from any stakeholders? If so, is there a plan for addressing this opposition?

2. Differences in the entities administering and delivering dental services across subpopulations of Medicaid and CHIP enrollees. Key issues may include:
   - Does the state need to develop different strategies to reach subpopulations of Medicaid/CHIP enrollees based on different delivery systems?

3. The complexity of the implementation plan. Several factors may make planned changes more or less complex:
   - How many strategies does the state plan to implement? If multiple strategies, how does implementation need to be coordinated across strategies?
   - How many and what types of dental providers, enrollees, and other community groups are involved in the changes?
   - To what extent does successful implementation depend on individuals who are 'external' to the Medicaid or CHIP agency?
   - Will the state need to contract with new partners or modify existing contracts?
   - Does implementation of the strategy involve a single step or policy change (such as raising a payment rate)? Or, is it a longer, multi-step process (such as enhancing provider knowledge and skills)?

Exhibit 6. Illustrative Approaches to Increasing the Placement of Dental Sealants on Permanent Molars Among Medicaid/CHIP Enrollees: Two Scenarios

Scenario	State 1: State Administers a FFS Dental Benefit	State 2: State Contracts with MCOs for Medical and Dental Benefits
Overview of Dental Program Administration and Delivery System	This state operates a FFS dental program and maintains direct responsibility and control of key program functions, such as maintaining provider recruitment and networks, authorizing benefits and payments, determining provider payment mechanisms, and establishing provider reimbursement rates.	This state delegates responsibility for dental benefit administration and operation to contractors through global managed care contracts that include dental services as covered benefits.[a] Implementation of improvement strategies may occur through initiatives that involve contractors devising new strategies within the parameters of existing MCO contracts with state agencies or may be accomplished through changes in contract requirements (for example, by specifying particular activities to be undertaken to achieve improvements or allowing the contractors to identify their own strategies).
Scenario 1: Increase Provider Payments for Sealant Placement (Assumes Budget Approval Has Been Received)	Implementing a reimbursement rate increase would involve determining the new sealant reimbursement rates (subject to budget approval), informing providers of the rate increase, and modifying the claims payment system. Because the state maintains the network and pays the claims, this effort is centralized at the state level.	Because the state includes dental services in the global managed care agreements, it is usually the MCO that sets the provider reimbursement rates rather than the state. Thus, the state will need to use an indirect approach, such as revising managed care contracts to require MCOs to increase provider payments or implementing other MCO performance incentives for increasing dental sealant rates.
Scenario 2: Conduct Outreach to and Education of Providers to Increase Sealant Placement Among Children Who Are Eligible for But Have Not Received Sealants	This state could either conduct outreach to providers directly or contract with a private entity to conduct the outreach. One outreach effort might involve a provider education initiative to raise awareness of the preventive effectiveness of sealants and the reimbursement available for providing this service to all eligible children. Concurrently, the state could supply providers with information about children who were eligible for but had not yet received sealants and the amount of potential reimbursement dollars involved. This would involve an MMIS query to identify children within targeted age ranges (that is, ages 6 to 11 for first permanent molars and ages 12 to 15 for second permanent molars) who received dental services from a participating provider but have no record of sealant placement. A state's ability to implement this strategy would depend on its data analytic capabilities and could require data system modifications and as well as contracting with a vendor to provide the necessary data analysis and communications with participating providers.	This state has several options and the approach may vary among MCOs depending on their data capacity and contractual arrangements. For example, the state may choose to require the MCOs to conduct analyses that identify eligible children who have not received dental sealants. (This analysis can be conducted directly by the MCO or through a subcontracted entity.) Alternatively, the state can conduct this analysis for all or some of the MCOs, assuming that MCOs submit service utilization data to the state. Likewise, outreach to providers can take place centrally at the state level or by individual MCOs, depending on the contractual arrangements, staffing resources, and overlapping networks among MCOs. For example, the state could require each MCO or dental benefit contractor to inform providers every six months about children who had visited the dentist during the past six months and who were eligible for a sealant but did not receive one. If multiple MCOs operate in the state, the state might need to work with each organization individually to develop a plan.

Note: These scenarios are hypothetical to illustrate the influence of administrative and delivery systems on the implementation of oral health care strategies.

[a] Some states contract with prepaid health plans that are responsible for providing dental benefits only (sometimes as a capitated 'carve out' from a global managed care arrangement).

Exhibit 7. Washington State: Access to Baby and Child Dentistry (ABCD)

Analyze Data and Identify Gaps (QI Steps 1–3). Analysis of dental service utilization data revealed low utilization among Medicaid children ages 0 to 6. Primary care physicians observed high rates of untreated disease and reported a lack of available oral health providers for this population. Washington's oral health QI team identified barriers to access as well as strategies that would address these barriers. Partners in the process included Medicaid administrators, University of Washington School of Dentistry, dental societies/organized dentistry, private practice dentists, local health departments/community groups, Washington Dental Service Foundation, and the state's Department of Health Women, Infants, and Children program. The team identified low provider participation and need for family education about appropriate utilization as the primary barriers to access.

Plan and Implement Targeted Interventions (QI Steps 4–5). The team selected interventions to address the primary barriers to access, including:

Provider-focused strategies (selected list):

- Enhanced fees for dental providers serving Medicaid-enrolled children ages 0 to 6 (ABCD trained and certified)
- Training for dental providers on clinical and behavioral aspects of serving young children
- Provider assistance, including assistance with billing, no shows, and compliance
- Peer to peer recruiting
- Delivery of a bundle of dental preventive services during primary medical care well-child visits for enhanced reimbursements, including screening, risk assessment, fluoride varnish, family education, and referrals

Enrollee-focused strategies (selected list):

- Outreach to engage organizations that work with low-income families to identify and refer young children and set up referrals between primary medical care providers and dentists
- Family orientation to better prepare families and reduce no shows
- Family Oral Health Education every six months in the dental practice
- Track no shows and work with families and their dentists to ensure success

The ABCD program started in Spokane County in 2000 and spread statewide by 2012. The state attributes positive results to several aspects of the implementation process:

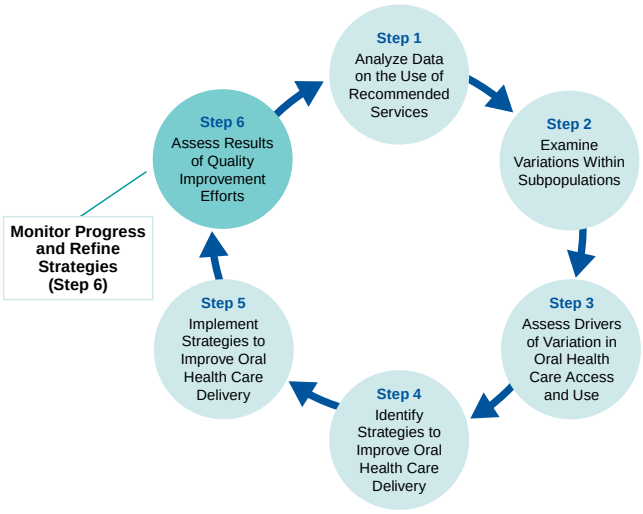
- Intervention addressed all identified barriers to care
- Continuous engagement of all stakeholders, with frequent gatherings to discuss successes and challenges and clearly delineated roles
- Careful expansion designed to secure long-term commitment, with two or three counties brought into the program each year
- Committed Managing Director and retention of strong local coordinators keep the program sustainable
- Tracking and celebrating results with support from legislators

Monitor Progress and Refine Strategies (QI Step 6). From FFY 1997 to FFY 2011, the percentage of children ages 0 to 6 using any dental services increased from 21 percent to 49 percent. Utilization among children under age 2 increased from 3 percent to 29 percent. From 1997 to 2010, the percentage of low-income preschoolers with untreated caries dropped from 21 percent to 13 percent. Research has found children in ABCD counties use dental services at a higher rate than children in other counties. Evaluations also found that the program improved oral health, increased access to care, increased dentist participation and willingness to serve young children, and that the program's cost per child was less than the cost of one filling.

Source: Adapted from Smith 2012.

QI Step 6: Assess Results of Quality Improvement Efforts

Data analysis should be an ongoing component of a state's QI activities. This data-driven approach recognizes that Medicaid/CHIP oral health QI teams will continually monitor progress and refine strategies based on quantitative and qualitative feedback on the effectiveness of specific interventions. A core focus of the assessment is monitoring trends in oral health performance measures to assess progress towards goals. Monitoring should occur in the aggregate (statewide) as well as by subpopulation (defined, for example, by age, race/ethnicity, geographic area, program, and delivery system).



States can engage in ongoing assessment activities in several ways. These activities can be conducted directly by state agencies, through the external quality review (EQR) process (including as mandated topics for performance improvement projects for managed care plans), or contracted out to non-governmental agencies, including academic institutions. Exhibit 8 includes general issues states can consider to guide their assessments of the efficacy of their oral health QI efforts.

Monitoring and analysis of trends can help states determine whether the strategies they implemented are achieving desired goals. In some cases, monitoring is used in an iterative fashion to test the short-term effectiveness of various strategies or program changes and inform ongoing planning. In other cases, monitoring is used for broader analyses of program design and performance (such as effects of rate increases on provider participation and utilization patterns). Exhibit 9 describes how Virginia used administrative and survey data to conduct ongoing tracking of the progress of its Smiles for Children program and to refine intervention strategies over time.

Exhibit 8. Issues to Consider When Assessing Impact and Effectiveness of Quality Improvement Efforts

Monitoring Utilization Rates

- Have rates of dental service utilization increased, decreased, or remained static?
- Do changes in rates vary by enrollee characteristics (such as enrollee age, race/ethnicity, primary language, geography, length of enrollment, category of eligibility)?
- Do changes vary by type of service? By provider type?
- Do rates meet or make progress toward benchmarks (such as Healthy People 2020 or CMS's Oral Health Initiative)?

Evaluating Effectiveness of Intervention Strategies

- Have provider participation rates increased, decreased, or remained static?
- Has the state seen improvements in the efficiency of program administration and delivery?
- Has the state seen changes in the utilization patterns of dental services?

Planning for Future Efforts

- What challenges or barriers did the state encounter when implementing intervention strategies?
- What worked well when implementing intervention strategies?
- How can future intervention strategy efforts be more effective?

Exhibit 9. Virginia: Smiles for Children

Analyze Data and Identify Gaps (QI Steps 1–3). In 2005, Virginia implemented the Smiles for Children program to improve access to dental services for children enrolled in Medicaid and CHIP. Based on analyses of claims data and data on the number of providers participating in Medicaid/CHIP and serving Medicaid/CHIP enrollees, the program identified two goals: (1) increase dental provider participation in Medicaid and CHIP, and (2) increase dental service utilization among Medicaid and CHIP children.

Plan and Implement Targeted Interventions (QI Steps 4–5). Working with a team of stakeholders, including the state's dental provider associations, MCOs, and advocacy groups and other groups serving low-income children, Virginia identified several barriers to oral health care utilization. The team then developed and implemented interventions to address these goals, including (selected list):

- Administrative Changes. "Carved out" dental services from medical managed care and contracted with a single benefits administrator. Improved administration of dental benefits, including changes to credentialing, billing, and authorization and increasing the flexibility of these systems based on feedback from providers. Raised reimbursement rates for dental services.
- Provider-focused Changes. Increased support for providers through trainings, outreach, and rapid response to provider issues. Streamlined process for providers to communicate with the dental benefits administrator, including local plan representatives available to providers. Covered two fluoride varnish applications per year by primary care medical providers.
- Enrollee-focused Changes. Conducted community outreach, including outreach targeted to special populations, such as teenagers and pregnant women. Mailed postcards to enrollees with no dental visit in the previous nine month period. Partnered with organizations serving Medicaid and CHIP enrollees, including Head Start and other local and state agencies, to reach members.

Monitor Progress and Refine Strategies (QI Step 6). After rolling out Smiles for Children, Virginia reviewed claims and other administrative data and surveyed providers and other stakeholders for feedback and found that they were making progress toward their goals. From 2005 to 2012, the percentage of Medicaid and CHIP children age 0 to 20 using any dental services increased from 24 percent to 56 percent. The state also exceeded its original goal of enrolling 1,500 providers, with 1,721 participating dental providers by SFY 2012 (from a baseline of 620 providers in SFY 2005). Moreover, the number of participating providers who actively treated Medicaid and CHIP patients increased. After the initial gains in provider enrollment and dental service utilization, the QI team continued working to identify additional areas for improvement. Analysis of administrative data and feedback from providers indicated that sealant use remained low and that broken appointments remained a key issue. In response, the team implemented new interventions to address these issues:

- Preventistry Sealant Program. After dental claims analysis revealed low rates of sealant application for eligible children, the team implemented a new sealant strategy. The dental plan administrator began sending reports to providers that identified patients eligible for sealants and biannual reports indicating the provider's progress in providing sealants to all eligible children.
- Broken Appointment Tracking. In 2011, the team started a web-based system for providers to log missed appointments. Upon receiving information in the log that a patient missed an appointment, the dental plan administrator contacts the patient (or parent) to explain the importance of regular dental care. Data from the online Broken Appointment tracker is being analyzed for patterns in member characteristics for "chronic appointment breakers," such as ages, enrollment length, and whether they were new/recurring patients. The system also tracks reasons for broken appointments, to help the team target strategies to reduce the number of broken appointments.

Source: Adapted from Virginia Department of Medical Assistance Services 2012 and discussions with program stakeholders.

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NEXT STEPS

The CMS Oral Health Initiative envisions public-private partnership at the state level that uses a data-driven approach to improving the quality of oral health care for children in Medicaid and CHIP. States and CMS are also working to improve the completeness and quality of data on dental service utilization for publicly-insured children. This Toolkit describes a process that uses available data on oral health services for publicly-insured children to design effective QI plans that are targeted to the needs of each state.

As states increasingly use oral health data to assess utilization trends, implement strategies, and evaluate the effectiveness of these strategies, more evidence may be available on the effectiveness of different strategies. As more evidence becomes available, the list of strategies can be refined or targeted to help states more efficiently decide how to address gaps or variations in oral health care delivery. States can support this effort by continuing to improve the quality and completeness of dental service data, reviewing data over time in the context of new interventions, and sharing the results of their efforts with CMS and other stakeholders.

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APPENDIX A

ORAL HEALTH PERFORMANCE MEASURES

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ORAL HEALTH PERFORMANCE MEASURES

Three CMS-supported oral health performance measures that states may use as a basis for monitoring and improving Medicaid and CHIP program performance are:[1]

1. Percentage of children ages 1 to 20 receiving preventive dental services
2. Percentage of children ages 1 to 20 receiving dental treatment services
3. Percentage of children ages 6 to 9 receiving a dental sealant on a permanent molar tooth

The first two measures are reported as part of the Core Set of Children's Health Care Quality Measures for Medicaid and CHIP (CMS 2013b).[2] The third measure is a goal of the CMS Oral Health Initiative. Together, these quality measures serve as critical indicators of oral health care delivery in a state. They are consistent with measures that Medicaid and CHIP programs currently report to CMS through the ESPDT Participation Report: Form CMS-416 and the CHIP Annual Report (Section IIIG).

- Medicaid Annual EPSDT Report. State Medicaid agencies must annually report EPSDT performance data using the Form CMS-416 for children covered by Medicaid and CHIP Medicaid Expansion programs (Schneider, Hayes, and Crall 2005). The Form CMS-416 contains seven oral health care utilization measures: (1) any dental services, (2) preventive dental services, (3) dental treatment services, (4) sealant on a permanent molar, (5) dental diagnostic services, (6) oral health services provided by non-dentists, and (7) any dental or oral health service.[3] The two oral health quality measures that are part of the Child Core Set (Preventive Dental Services; Dental Treatment Services) are derived from the

[1] States may engage in additional oral health QI efforts involving other performance and quality measures. For example, states that provide oral health services to publicly-insured children through managed care plans must contract with an External Quality Review Organization (EQRO) to conduct an annual quality review of performance measures and performance improvement projects (PIPs) reported by the managed care plans. All plans must report some performance measures and engage in PIPs, which may include oral health topics. The performance topics used by the plans vary across states and, within states, across plans. EQR technical reports validate performance measures and the PIPs reported by the plans. These reports may be resources for states interested in assessing performance on oral health services for children in managed care plans. For more information on EQR requirements, see http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Quality-of-Care-External-Quality-Review.html.

[2] The technical specifications and resource manual for the Core Set of Children's Health Care Quality Measures for Medicaid and CHIP can be found online at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/Medicaid-and-CHIP-Child-Core-Set-Manual.pdf

[3] For the purpose of the Form CMS-416 report, dental services include services performed by a dentist or under the supervision of a dentist. Oral health care services also include services provided by a licensed practitioner who is not a dentist (such as a pediatrician or an independently practicing dental hygienist not under the supervision of a dentist). The Form CMS-416 and associated instructions can be found online at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Early-and-Periodic-Screening-Diagnostic-and-Treatment.html.

- Form CMS-416. Performance on these measures for FFY 2011 is summarized in the 2013 Annual Report on the Quality of Care for Children in Medicaid and CHIP (HHS 2013).
- CHIP Annual Report. States report data on dental preventive and treatment services provided to children enrolled in separate CHIP programs and the separate CHIP component of combination programs in Section IIIG of their CHIP Annual Report (Assessment of State Plan and Program Operation – Dental Benefits). Section IIIG also includes measures of any dental services, the number of children ages 6 to 9 that received a sealant on a permanent molar tooth, and the number and percentage of children with state-sponsored supplemental dental coverage. States report these data into the CHIP Annual Reporting Template System (CARTS).

Table A.1 identifies the data elements related to utilization of dental services collected in each data source.

Table A.1. Data Elements Included in the EPSDT Participation Report and CHIP Annual Report

Data Elements	EPSDT Participation Report (Form CMS-416 Lines 12a to 12f)	CHIP Annual Report (Section IIIG)
Utilization Measures (Numerators)	Total Eligibles Receiving Any Dental Services	Total Eligibles Receiving Any Dental Services
	Total Eligibles Receiving Preventive Dental Services	Total Eligibles Receiving Preventive Dental Services
	Total Eligibles Receiving Dental Treatment Services	Total Eligibles Receiving Dental Treatment Services
	Total Eligibles Receiving a Sealant on a Permanent Molar Tooth	Total Eligibles Receiving a Sealant on a Permanent Molar Tooth
	Total Eligibles Receiving Dental Diagnostic Services	
	Total Eligibles Receiving Oral Health Services by a Non-Dentist	
	Total Eligibles Receiving Any Dental or Oral Health Services	
Eligible Population (Denominators)	Individuals under age 21 enrolled in Medicaid or CHIP Medicaid Expansion programs and that are eligible for EPSDT services for at least 90 continuous days	Individuals under age 19 enrolled in a Separate CHIP program for at least 90 continuous days
Age Categories	Numerators and denominators reported for seven age categories (<1, 1–2, 3–5, 6–9, 10–14, 15–18, 19–20) and one aggregate category (0–20)	Numerators and denominators reported for six age categories (<1, 1–2, 3–5, 6–9, 10–14, 15–18) and one aggregate category (0–18)
	Dental Sealants measure includes two age categories (6–9 and 10–14) and one aggregate age category (6–14)	Dental Sealants measure includes one aggregate age category (6–9)

States that report dental services provided to publicly-insured children using the EPSDT report and the CHIP Annual Report should be aware of two key differences in the populations captured by these data sources:

- Differences in the eligible populations. The EPSDT report includes services provided to children enrolled in Medicaid or CHIP Medicaid Expansion programs. Section IIIG of the CHIP Annual Report includes services provided to children enrolled in Separate CHIP programs.
- Differences in the age groups for which rates are reported. The EPSDT report captures services provided to children ages 0 to 20, and permanent molar sealants provided to children ages 6 to 14. Section IIIG of the CHIP Annual Report captures dental treatment and preventive services provided to children between ages 0 to 18, and permanent molar sealants provided to children ages 6 to 9.

States should consider the differences between these two data sources as they use the data to assess dental service utilization statewide or within subpopulations of enrollees. Table A.2 summarizes how each of the suggested oral health performance measures can be derived using data from each source. States may also use the worksheets in Appendix F to calculate total and age-specific rates for the three oral health measures. In particular, states that are planning to use these measures for QI should note that although both data sources include services provided to children less than one year of age, this age group should be excluded when deriving these oral health measures.

Additional resources provide guidance for understanding and calculating the oral health performance measures. Exhibit A.1 includes references to some of these resources. In addition, this appendix includes the EPSDT Participation Report Form CMS-416 template (Exhibit A.2) and the CHIP Annual Report (Section IIIG) Dental Benefits template (Exhibit A.3).

Table A.2. Algorithms for Deriving Oral Health Performance Measures

Measure	.	EPSDT Participation Report Form CMS-416	CHIP Annual Report Section IIIG: Dental Benefits
Preventive Dental Services	Rate Description	Percentage of Medicaid and CHIP Medicaid Expansion Program Enrollees Ages 1–20 who Received Preventive Dental Services	Percentage of Separate CHIP Program Enrollees Ages 1–18 who Received Preventive Dental Services
·	Numerator	Line 12b. Total Eligibles Receiving Preventive Dental Services (Exclude <1 Age Group)	Question 1a. Total Enrollees Receiving Preventive Dental Services (Exclude <1 Age Group)
·	Denominator	Line 1b. Total Individuals Eligible for EPSDT for 90 Continuous Days (Exclude <1 Age Group)	Question 1a. Total Individuals Enrolled for at least 90 Continuous Days (Exclude <1 Age Group)
Dental Treatment Services	Rate Description	Percentage of Medicaid and CHIP Medicaid Expansion Program Enrollees Ages 1–20 who Received Dental Treatment Services	Percentage of Separate CHIP Program Enrollees Ages 1–18 who Received Dental Treatment Services
.	Numerator	Line 12c. Total Eligibles Receiving Dental Treatment Services (Exclude <1 Age Group)	Question 1a. Total Enrollees Receiving Dental Treatment Services (Exclude <1 Age Group)
.	Denominator	Line 1b. Total Individuals Eligible for EPSDT for 90 Continuous Days (Exclude <1 Age Group)	Question 1a. Total Individuals Enrolled for at least 90 Continuous Days (Exclude <1 Age Group)
Dental Sealant on a Permanent Molar Tooth	Rate Description	Percentage of Medicaid and CHIP Medicaid Expansion Program Enrollees Ages 6–9, 10–14, and 6–14 who Received a Sealant on a Permanent Molar Tooth	Percentage of Separate CHIP Program Enrollees Ages 6–9 who Received a Sealant on a Permanent Molar Tooth
.	Numerator	Line 12d. Total Eligibles Receiving a Sealant on a Permanent Molar Tooth (6–9, 10–14, and 6–14 Age Groups)	Question 1b. Children Receiving a Sealant on a Permanent Molar Tooth (6–9 Age Group)
.	Denominator	Line 1b. Total Individuals Eligible for EPSDT for 90 Continuous Days (6–9, 10–14, and 6–14 Age Groups)	Question 1a. Total Individuals Enrolled for at least 90 Continuous Days (6–9 Age Group)

Exhibit A.1. Selected Oral Health Quality Resources

- CMS Oral Health Strategy (CMS): http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/CMS-Oral-Health-Strategy.pdf
- Initial Core Set Measures Resources Manual and Technical Specifications (CMS): http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/CHIPRA-Initial-Core-Set-of-Childrens-Health-Care-Quality-Measures.html
- Improving Access to Oral Health Services in Medicaid and CHIP: How States Can Report the Dental Measures in the Initial Core Set of Children's Health Care Quality Measures (CMS): http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/TA1-Dental.pdf
- The CMS Form-416 Report: Understanding its Use in Assessing Dental Care Utilization in Medicaid's Early and Periodic Screening, Diagnostic and Treatment (EPSDT) Service for Children. A Technical Issue Brief: http://nmcohpc.net/resources/416technicalbrief.pdf
- Advancing Oral Health in America (Institute of Medicine): http://www.hrsa.gov/publichealth/clinical/oralhealth/advancingoralhealth.pdf
- Dental Health Policy Analysis Series – Dental Medicaid 2012 (American Dental Association): http://www.ada.org/sections/professionalResources/pdfs/12_med.pdf
- State Oral Health Plans (Centers for Disease Control and Prevention): http://www.cdc.gov/OralHealth/state_programs/OH_plans/index.htm
- Healthy People 2020 Oral Health Objectives: http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=32
- Children's Dental Health (The Pew Charitable Trusts): http://www.pewtrusts.org/our_work_detail.aspx?id=574

Exhibit A.2. Form CMS-416: Annual EPSDT Participation Report

.		Age Groups							
State _____ FFY _____		Total	<1	1–2*	3–5	6–9	10–14	15–18	19–20
1a. Total Individuals Eligible for EPSDT	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
1b. Total Individuals Eligible for EPSDT for 90 Continuous Days	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
1c. Total Individuals Eligible Under a CHIP Medicaid Expansion	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
2a. State Periodicity Schedule	.	.	.	.	.	.	.	.	.
2b. Number of Years in Age Group	.	.	.	.	.	.	.	.	.
2c. Annualized State Periodicity Schedule	.	.	.	.	.	.	.	.	.
3a. Total Months of Eligibility	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
3b. Average Period of Eligibility	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
4. Expected Number of Screenings per Eligible	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
5. Expected Number of Screenings	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
6. Total Screens Received	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
7. Screening Ratio	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
8. Total Eligibles Who Should Receive at Least One Initial or Periodic Screen	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.

Exhibit A.2 (continued)

. State _____ FFY _____		Age Groups							
		Total	<1	1–2*	3–5	6–9	10–14	15–18	19–20
9. Total Eligibles Receiving at Least One Initial or Periodic Screen	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
10. Participant Ratio	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
11. Total Eligibles Receiving Any Dental Services	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
12a. Total Eligibles Receiving Any Dental Services	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
12b. Total Eligibles Receiving Preventive Dental Services	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
12c. Total Eligibles Receiving Dental Treatment Services	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
12d. Total Eligibles Receiving a Sealant on a Permanent Molar	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
12e. Total Eligibles Receiving Dental Diagnostic Services	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
12f. Total Eligibles Receiving Oral Health Services by a Non-Dentist	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
12g. Total Eligibles Receiving Any Dental or Oral Health Service	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
13. Total Eligibles Enrolled in Managed Care	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.
14. Total Number of Screening Blood Lead Tests	CN	.	.	.	.	.	.	.	.
	MN	.	.	.	.	.	.	.	.
	Total	.	.	.	.	.	.	.	.

Source: The Form CMS-416 and associated instructions can be found online at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Early-and-Periodic-Screening-Diagnostic-and-Treatment.html

*Includes 12-month visit.

CN = Categorically Needy; MN = Medically Needy.

Exhibit A.3. CHIP Annual Teport SECTION IIIG: DENTAL BENEFITS

Please ONLY report data in this section for children in Separate CHIP programs and the Separate CHIP part of Combination programs. Reporting is required for all states with Separate CHIP programs and Combination programs.

If your state has a Combination program or a Separate CHIP program but you are not reporting data in this section on children in the Separate CHIP part of your program, please explain why.

Explain: [7500]

1. Information on Dental Care for Children in Separate CHIP Programs (including children in the Separate CHIP part of Combination programs). Include all delivery types, e.g., MCO, PCCM, FFS.

   Data for this table are based on the definitions provided on the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) Report (Form CMS-416).

   a. Annual Dental Participation Table for Children Enrolled in Separate CHIP programs and the Separate CHIP part of Combination programs (Please ONLY include children in Separate CHIP programs receiving full CHIP benefits or supplemental benefits).

CHIP Annual Report Section IIIG

State_____	Age Groups						
FFY_____	Total	<1	1–2	3–5	6–9	10–14	15–18
Total Individuals Enrolled for at Least 90 Continuous Days[1]	.	.	.	.	.	.	.
Total Enrollees Receiving Any Dental Services[2]	.	.	.	.	.	.	.
Total Enrollees Receiving Preventive Dental Services[3]	.	.	.	.	.	.	.
Total Enrollees Receiving Dental Treatment Services[4]	.	.	.	.	.	.	.

[1]Total Individuals Enrolled for at Least 90 Continuous Days – Enter the total unduplicated number of children who have been continuously enrolled in a separate CHIP program for at least 90 continuous days in the Federal fiscal year, distributed by age. For example, if a child is enrolled January 1st to March 31st, this child is considered continuously enrolled in CHIP for at least 90 continuous days in the Federal fiscal year. If a child was enrolled from August 1st to September 30th and October 1st to November 30th, the child would not be considered to have been enrolled for 90 continuous days in the Federal fiscal year. Children should be counted in age groupings based on their age at the end of the Federal fiscal year. For example, if a child turned 3 on September 15th, the child should be counted in the 3–6 age grouping.

[2]Total Eligibles Receiving Any Dental Services - Enter the unduplicated number of children enrolled in a separate CHIP program for at least 90 continuous days and receiving at least one dental service by or under the supervision of a dentist as defined by HCPCS codes D0100 – D9999 (CDT codes D0100 – D9999).

[3]Total Eligibles Receiving Preventive Dental Services - Enter the unduplicated number of children enrolled in a separate CHIP program for at least 90 continuous days and receiving at least one preventive dental service by or under the supervision of a dentist as defined by HCPCS codes D1000 – D1999 (CDT codes D1000 – D1999).

[4]Total Eligibles Receiving Dental Treatment Services - Enter the unduplicated number of children enrolled in a separate CHIP program for at least 90 continuous days and receiving at least one treatment service by or under the supervision of a dentist, as defined by HCPCS codes D2000 – D9999 (CDT codes D2000 – D9999).

Report all dental services data in the age category reflecting the child's age at the end of the Federal fiscal year even if the child received services while in two age categories. For example, if a child turned 10 on September 1st, but had a cleaning in April and a cavity filled in September, both the cleaning and the filling would be counted in the 10–14 age category.

b. For the age grouping that includes children 8 years of age, what is the number of such children who have received a sealant on at least one permanent molar tooth? [5] [7]

[5]Receiving a Sealant on a Permanent Molar Tooth - Enter the unduplicated number of children enrolled in a separate CHIP program for 90 continuous days and in the age category of 6–9 who received a sealant on a permanent molar tooth, as defined by HCPCS code D1351 (CDT code D1351).

Report all sealant data in the age category reflecting the child's age at the end of the Federal fiscal year even if the child was factually a different age on the date of service. For example, if a child turned 6 on September 1st, but had a sealant applied in July, the sealant would be counted in the age 6–9 category.

2. Does the State provide supplemental dental coverage? _____

If yes, how many children are enrolled? _____ [7]

What percent of the total number of enrolled children have supplemental dental coverage? _____ [5]

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APPENDIX B

STATE PROFILE: CONNECTICUT

ANALYSIS OF DATA TO ASSESS PROGRAM PERFORMANCE AND DRIVE QUALITY IMPROVEMENT

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STATE PROFILE: CONNECTICUT

ANALYSIS OF DATA TO ASSESS PROGRAM PERFORMANCE AND DRIVE QUALITY IMPROVEMENT

Over the last two decades, Connecticut has used a data-driven QI process similar to the process outlined in this Toolkit to monitor Medicaid and CHIP program performance and inform program improvements. In this appendix, we present Connecticut as a case study of how a state can use dental service data to identify trends in oral health care utilization, select strategies to improve service delivery, and evaluate the effects of these efforts to inform future QI activities. Connecticut's approach aligns with the six-step oral health services QI process described in this Toolkit.

Background

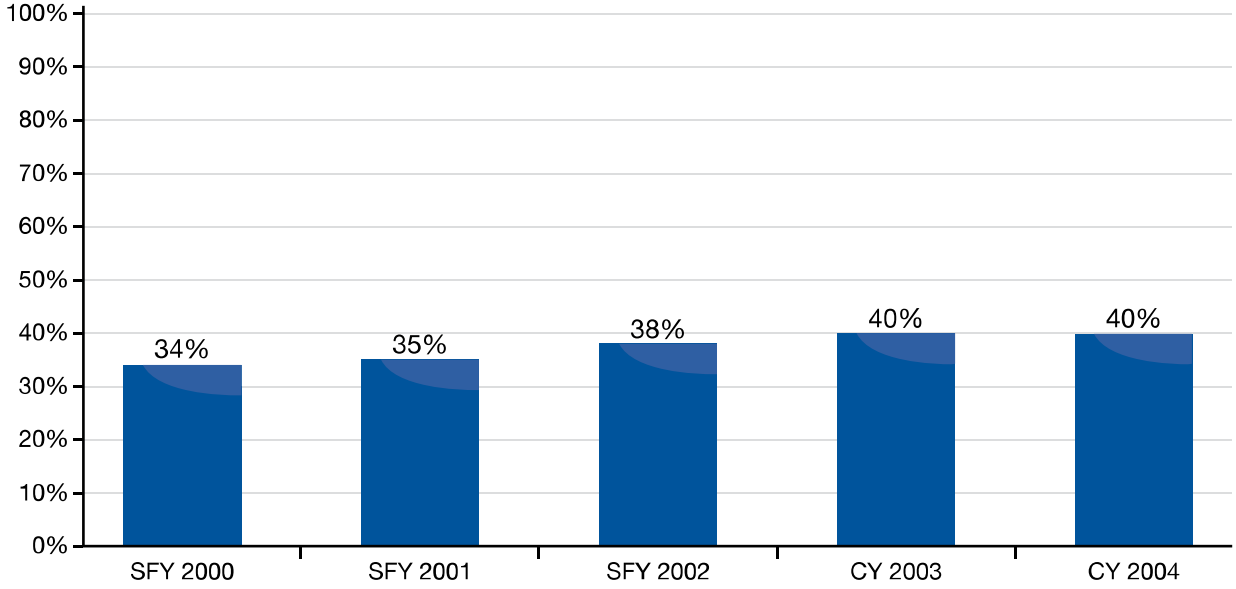
In 1995, Connecticut implemented a Medicaid managed care program for children and families to achieve cost savings for the state and to increase access to primary care. Previously, Medicaid services were administered by the state and provided on a fee-for-service (FFS) basis. Under the new managed care arrangement, Connecticut contracted with managed care organizations (MCOs), paying them a fixed amount per member per month (capitation) to provide all medically necessary services required under Medicaid, including medical and behavioral health care, dental care, vision and hearing care, and prescription drugs, assistance with appointment scheduling, transportation, and case management.

Since 1997, two groups–Connecticut Voices for Children and the Children's Health Council–have used data from the Connecticut Department of Social Services, primarily including claims data, to monitor utilization of children's oral health care. Reports from these groups on service utilization have helped the state identify areas for improvement in oral health care utilization. This case demonstrates how a data-driven process can lead to improvements in oral health care utilization.

Analyze Data and Identify Gaps: QI Steps 1–3

In 2005, Connecticut Voices for Children released a report on dental service utilization by children ages 3 to 19 who were continuously enrolled in the state's Medicaid managed care program in 2004. The report showed that less than half (40 percent) of the enrolled children received a preventive dental care visit during the 2004 calendar year. While this rate indicated a small increase or plateau in use of preventive services over the previous four years (Figure B.1), it also represented an area for improvement for the state.

Figure B.1. Utilization of Preventive Dental Services by Connecticut Children Continuously Enrolled in Medicaid, 2000–2004



Source: Connecticut Voices for Children 2005

The report also included a detailed analysis of service utilization patterns, which revealed significant differences in utilization across several subgroups of enrollees within the state (Table B.1):

- Age. Younger children (under age 12) had higher rates of preventive dental services than older children (ages 12 to 19).
- Racial/Ethnic Group. Utilization of preventive services was higher among children classified as Hispanic or in other racial/ethnic groups compared to children classified as White Non-Hispanic and Black Non-Hispanic.
- Geographic Area. Utilization rates for preventive services were substantially higher in one county and lower in other regions of the state.
- MCO Enrollment. Utilization was higher among children enrolled in two of the state's managed care plans than it was for children in the other three plans.

The differences in service utilization that were identified in the data analysis suggested potential populations for special focus for the state's QI efforts.

Table B.1. Utilization of Preventive Dental Services by Connecticut Children Continuously Enrolled in Medicaid in 2004 by Selected Characteristics

.	Total Population		Enrollees Receiving Preventive Care	
Age	.	.	.	.
3–5	30,200	20.6%	11,404	37.8%
6–8	28,479	19.4%	14,080	49.4%
9–11	27,562	18.8%	13,143	47.7%
12–14	28,091	19.2%	11,154	39.7%
15–19	32,348	22.0%	8,903	27.6%
Race/Ethnicity	.	.	.	.
White Non-Hispanic	55,369	37.8%	21,359	38.6%
Black Non-Hispanic	38,295	26.1%	14,401	37.6%
Other Non-Hispanic	3,494	2.4%	1,517	43.4%
Hispanic	49,440	33.7%	21,407	43.3%
County	.	.	.	.
A	14,504	9.9%	5,794	39.9%
B	17,711	12.1%	8,394	47.4%
C	13,734	9.4%	4,808	35.0%
All Other	100,649	68.7%	39,688	39.4%
MCO	.	.	.	.
A	57,562	39.3%	22,343	38.8%
B	23,166	15.8%	9,623	41.5%
C	43,710	29.8%	17,749	40.6%
D	9,540	6.5%	3,747	39.3%
E	12,620	8.6%	5,222	41.4%
Total	146,598	.	58,548	40.0%

Source: Connecticut Voices for Children 2005.

Plan and Implement Targeted Interventions: QI Steps 4–5

Based on analysis of service utilization data and discussions with key stakeholders within the state, Connecticut implemented a series of strategies that were intended to increase utilization of oral health care for all Medicaid-enrolled children. These initiatives included a mix of system-level reforms, provider reimbursement strategies, and community outreach efforts (Connecticut Voices for Children 2011).

- Oral Health System Reforms. In 2008, Connecticut implemented a major reform to the administration of dental benefits in the state by 'carving out' oral health benefits from global managed care arrangements and increased reimbursement rates. In 2010, the state established a dental Administrative Services Only (ASO) contract with a single vendor.
- Provider Reimbursement. In 2008, Connecticut authorized direct reimbursement for oral health services performed by dental hygienists. This led to accreditation of dental hygienists as providers by the state's managed care plans. During the

same year, Connecticut substantially increased the Medicaid reimbursement rates for oral health services to enrolled children.

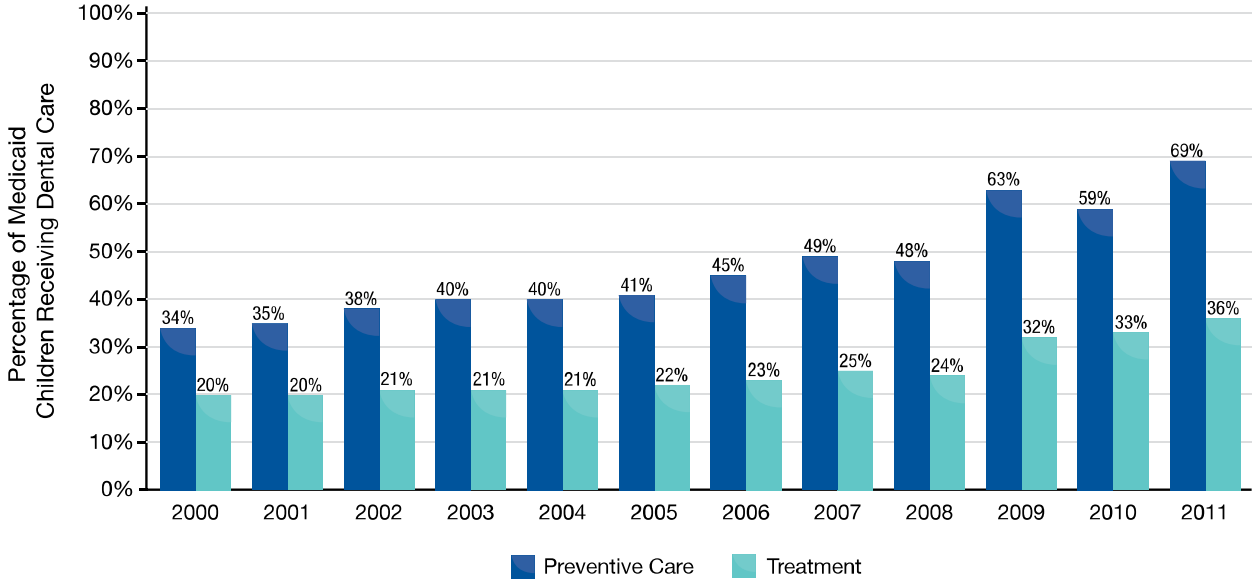
- Community Outreach. The Connecticut Dental Health Partnership conducted outreach to community agencies, faith communities, primary care providers, and hospital emergency departments to provide information about oral health care and how to access services.

Monitor Progress and Refine Strategies: QI Step 6

Ongoing data analyses by the Children's Health Council and Connecticut Voices for Children continued to help the state track program performance, assess trends in the new system, and identify variations within the population (for example, by demographic characteristics, geographic areas, and health plans). Periodic reports issued by these organizations provide independent monitoring of overall program and plan/contractor-specific performance and strategic recommendations that Connecticut has used to guide program operations and broader policy decisions over time. The results of these ongoing analyses continue to be used by agency officials, benefits administrators, and legislators.

As an example of recent trend analyses conducted in Connecticut, Figure B.2 shows overall performance trends for utilization of preventive and treatment services for children in Medicaid from 2000 to 2011.

Figure B.2. Oral Health Service Utilization for Children Enrolled in Medicaid, Connecticut, 2000–2011



Source: Lee 2011 and Lee, Feder, and Learned 2013.

Statewide analysis of oral health service utilization, as shown in Figure B.2, highlight Connecticut's overall progress in improving oral health care access. To identify areas for continued improvement, the external groups conducted additional in-depth analysis of oral health service utilization among subpopulations that were previously found to have lower utilization rates. For example, after the analysis of 2004 data showed differences in utilization by geographic area and managed care plan, the state conducted an analysis of oral health services utilization by county and managed care plan in 2005 (Table B.2). In 2005, preventive service use continued to vary across counties, from a high of 48 percent in County B to a low of 40 percent in other areas of the state. Of particular note, the rate of preventive dental service use in County C increased from 35 percent in 2004 to 43 percent in 2005. Rates of dental treatment did not vary substantially across counties in 2005 (23 percent in Counties A and B versus 21 percent in other areas of the state).

Table B.2. Utilization of Dental Preventive and Treatment Services by Children Continuously Enrolled in Connecticut's Medicaid Program in 2005, by County of Residence and Managed Care Organization (MCO)

.	Total Population		Enrollees Receiving Preventive Services		Enrollees Receiving Treatment Services	
County	.	.	.	.	.	.
A	14,113	9.7%	5,703	40.4%	3,260	23.1%
B	17,118	11.7%	8,141	47.5%	3,999	23.3%
C	13,725	9.4%	5,839	42.5%	3,120	22.7%
All Other	101,090	69.2%	40,197	39.7%	21,207	20.9%
MCO	.	.	.	.	.	.
A	57,741	39.5%	23,513	40.7%	12,276	21.2%
B	23,976	16.4%	10,304	42.9%	5,290	22.0%
C	40,952	28.0%	16,467	40.2%	9,130	22.2%
D	11,795	8.1%	4,636	39.3%	2,328	19.7%
E	11,582	7.9%	4,960	42.8%	2,562	22.1%
Total	146,046	100.0%	59,880	41.0%	31,586	21.6%

Source: Connecticut Voices for Children 2006

The state conducted additional assessments to learn more about factors that might be driving the differences in service utilization across counties. The state found that the counties differed in the number of participating providers, the urban-rural makeup of the county, and the presence of 'special' providers (including a dental school and school-based clinics in County B and dental residency and dental hygiene training programs in another county). These analyses helped the state to further target interventions to encourage overall improvement and address continued differences.

Examination of utilization rates across MCOs in 2005 revealed modest variation in preventive service utilization, ranging from a low of 39 percent for enrollees in Plan D to a high of 43 percent for enrollees in Plans B and E. The rates for dental treatment also varied, from a low of about 20 percent for Plan D (the same plan that had the lowest rate of preventive service utilization) to a high of 22 percent for Plans B, C, and E. The state's assessment revealed differences in the number of participating network providers by plan (in part related to the length of time that various plans had operated in the state) and differences in payment mechanisms and provider payment levels.

Lessons Learned from Connecticut's Experience

Connecticut's experience demonstrates how data can be used to drive QI in oral health services by identifying areas for improvement and exploring what factors might underlie performance and facilitate progress. Based on its findings from the data, Connecticut took a multi-pronged approach to address factors at the system-, provider-, and community-levels. Connecticut's ongoing monitoring of performance and progress documents the substantial strides that have been made in raising levels of children's preventive service utilization.

APPENDIX C

ASSESSING THE QUALITY AND COMPLETENESS OF BASELINE DATA

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ASSESSING THE QUALITY AND COMPLETENESS OF BASELINE DATA

Before using data to guide QI decision-making, states should thoroughly assess data quality and completeness to ensure that baseline rates and trends accurately represent oral health care in the Medicaid and CHIP populations. Efforts should be made to identify potential sources of under-reporting, coding issues, or other factors that can affect data quality. Enhanced estimates should be produced, where possible, to provide a more precise foundation for planning QI efforts (for example, taking into account services provided to Medicaid children in settings that may not be counted in Medicaid claims, or expanding the definition of oral health providers to include services provided by non-dentists).

Logical Inconsistencies

CMS has identified several common errors in Form CMS-416 dental data reporting and has developed data quality checks to detect these errors.[1] Table C.1 shows some of the common errors that CMS identified in Form CMS-416 data in federal fiscal year (FFY) 2011 and the data quality checks that can be used in quality assurance review.[2]

States should consider using these data quality checks to identify logical inconsistencies. As part of this review, states should assess the process (including data flows and programming code) used to derive the data. Such assessments will improve the quality of baseline and trend data for use in QI efforts. States can undertake a similar assessment of the quality of data for their separate CHIP program, if applicable.

Table C.1. Data Quality Criteria and Data Quality Checks Related to Common Form CMS-416 Errors Identified in FFY 2011 Data

Data Quality Criteria	Data Quality Checks
The average period of eligibility should not be greater than 12 months or less than three months	Line 3b should be between 0.25 and 1.0
The number of unduplicated individuals receiving a dental service should be less than or equal to the number of individuals eligible for EPSDT	Line 12a should not be larger than Line 1b
The number of individuals receiving any dental service should be greater than or equal to the number of individuals receiving a specific preventive, treatment, or diagnostic service	Line 12a should be greater than or equal to Line 12b, Line 12c, or Line 12e
The number of individuals receiving any dental service should be less than or equal to the sum of the number of individuals receiving preventive, treatment, and diagnostic dental services	Line 12a should be less than or equal to the sum of Line 12b, Line 12c, and Line 12e

[1] As part of CMS's review process, CMS communicates to each state any data quality issues that were identified in its Form CMS-416 data. States then have an opportunity to verify or revise previously reported data.

[2] The Form CMS-416 and associated instructions can be found online at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Early-and-Periodic-Screening-Diagnostic-and-Treatment.html.

Exclusions

Before using their data to evaluate oral health care quality, states should assess whether there are any systematic exclusions from the dental service records (the numerator) that could result in underreporting of dental service access and use. Whereas statewide rates provide an overview of dental services across the state, data completeness may be assessed more easily when rates are disaggregated into different groups within the state based on subpopulations of enrollees or delivery system characteristics. For example, these groups may include different programs (such as Medicaid or CHIP), delivery systems (FFS, PCCM, or MCO), and service providers (including dentists, primary care physicians, or school-based clinics).

Once rates have been stratified, states can identify whether services appear to be underreported for any groups. This information will help states interpret and use oral health measures for QI. Exhibit C.1 includes a checklist of services for which data may be more likely to be missing or incomplete. States can use this list in reviewing the completeness of their dental service utilization data.

States should strive to capture data that accurately represent the oral health care provided to all publicly-insured children. Awareness of the gaps and limitations in baseline data is critical for implementing subsequent steps in the QI process. Moreover, to the extent possible, states should engage actively in efforts to address areas for improvement in their data as an integral part of the QI process.

Exhibit C.1. Services that May Be Excluded from Utilization Data

- Services Provided by MCOs. States that administer Medicaid dental benefits primarily through managed care may have gaps in dental claims/encounter data if there are delays in reporting of services to the state by MCOs or if MCOs do not submit complete information about service utilization.
- Services Provided Under Prospective Payment Systems. States in which a large number of children receive dental care on a prospective payment basis may undercount the number of individuals receiving services. Federally Qualified Health Centers and/or Indian Health Services are examples of service providers that often provide services on a prospective payment basis. Services provided by these providers may not be reported to states as completely or in as timely a manner as services provided in other settings. Moreover, services that are not billed to the state may be excluded from dental claims/encounter data.
- Services Provided Under Outdated or Erroneous Data Systems. States that have undergone major changes in their electronic or computerized data systems may inadvertently not capture all services provided during the transition. For example, a state transitioning to a new Medicaid Management Information System (MMIS) may have difficulty tracking claims for services that were provided under the previous MMIS. Similarly, a state MMIS that experiences data submission or storage errors may provide incomplete information about service utilization.
- Services Provided Under Different or Incorrect Billing Procedures. Billing procedures may differ by program, plan, or provider, impacting the completeness of individuals or services accounted for in the data (for example, use of state-specific codes or provider-specific billing procedures). States can review claims/encounter data from all plans or providers to ensure that billing codes are used consistently and reliably across all sources.
- Services Provided by Nontraditional Dental Service Providers or not Billed to Medicaid. States should assess the completeness of data for children receiving care from nontraditional dental service providers, such as school-based health centers, doctors' offices, or other facilities/providers. If service utilization data from these providers are incomplete, states may want to implement strategies to encourage and support these providers in submitting more complete data.
- Services Provided to Children who Move across Programs or Delivery Systems. If children move between Medicaid and CHIP coverage or between FFS and managed care coverage they may be counted more than once (or not at all). States should ensure that their statewide counts of children are unduplicated counts.

Source: Schneider, Hayes, and Crall 2005.

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APPENDIX D

SOURCES OF DATA FOR ORAL HEALTH CARE QUALITY IMPROVEMENT

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SOURCES OF DATA FOR ORAL HEALTH CARE QUALITY IMPROVEMENT

One issue that states may confront when they assess the quality of oral health data is the need for additional person-level data for Medicaid and CHIP enrollees. If these data are not readily available from the systems used to report into the Form CMS-416 or CARTS, states should consider whether other existing state data sources may contain the information they need. Exhibit D.1 describes some common examples of other data sources that may be available.

Exhibit D.1. Obtaining Additional Data for Analysis of Subpopulations

States interested in investigating variations in dental service utilization within subpopulations of Medicaid and CHIP enrollees may consider conducting additional person-level data analysis to supplement the summary data reported in the Form CMS-416 and CARTS. The following reporting systems may provide person-level data for additional analyses.

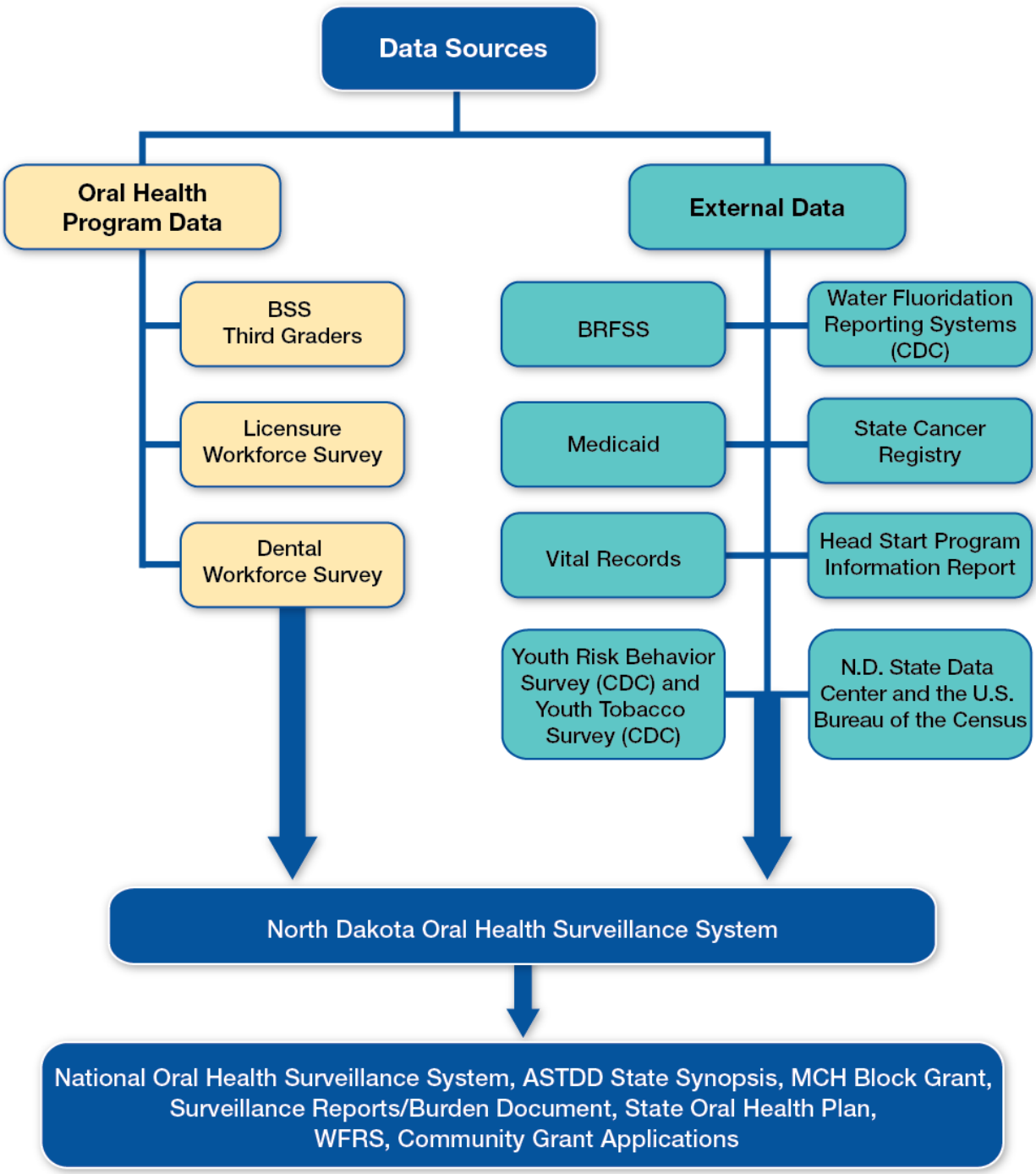
Medicaid Management Information System (MMIS) Data. States must maintain enrollment and claims data for all Medicaid and CHIP Medicaid Expansion enrollees in a statewide MMIS. Enrollment data should include person-level demographic information about enrollees (including age, sex, race/ethnicity, county of residence) as well as information about managed care plan enrollment. Claims data include service utilization and expenditure information for all enrollees covered on a fee-for-service basis. For managed care enrollees, monthly capitation claims show payments made to MCOs for coverage of these enrollees. Some states also track service utilization records that show the services utilized by enrollees in managed care. States report enrollment and claims data for Medicaid and CHIP Medicaid Expansion enrollees to CMS's Medicaid Statistical Information System (MSIS) and have the option of also reporting data for Separate CHIP enrollees. Some MSIS data are publicly available on the CMS website at: http://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/MedicaidDataSourcesGenInfo/MSIS-Mart-Home.html.

Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a national, ongoing telephone health survey system that tracks health conditions and risk behaviors in the United States. Data on dental service utilization and behaviors are available for demographic characteristics (such as race, age, and gender) as well as geographic region within the state. Additional information about the BRFSS is available online at: http://www.cdc.gov/brfss/about/index.htm.

Basic Screening Survey (BSS). The BSS is a tool developed by the Association of State and Territorial Dental Directors to assist state and local public health agencies monitor the burden of oral disease. The survey collects data on untreated tooth decay, treated tooth decay, urgency of need for dental care, and dental sealants on permanent molars. Additional information about the BSS is available online at: http://www.astdd.org/basic-screening-survey-tool.

Figure D.1 shows the data sources that North Dakota included in its oral health surveillance system. The state relied on a variety of data sources to assess oral health care quality and needs. The example highlights the value of working across state agencies as well as partnering with external groups to assemble data for QI.

Figure D.1. North Dakota Oral Health Surveillance System Data Flow Chart



Source: North Dakota Department of Health 2008.

Note: ASTDD = Association of State and Territorial Dental Directors; BRFSS = Behavioral Risk Factor Surveillance System; BSS = Basic Screening Survey; CDC = Centers for Disease Control and Prevention; MCH = Maternal and Child Health; WFRS = Water Fluoridation Reporting System.

APPENDIX E

USING EXTERNAL DATA AS BENCHMARKS

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USING EXTERNAL DATA AS BENCHMARKS

Existing national and state-level data sources can provide context and benchmarks for oral health care utilization in a state. This appendix describes some data sources states can use as resources for benchmarking.

EPSDT Participation Report (Form CMS-416)

The oral health performance measures described in this Toolkit are based on the Form CMS-416 data that states report annually to CMS. CMS publicly reports these data nationally and by state on the Medicaid website. Data from federal fiscal years (FFY) 1995 to 2012 are available at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Early-and-Periodic-Screening-Diagnostic-and-Treatment.html. States should use caution in comparing historical data to current data, as instructions for reporting a measure may have changed. For example, age categories reported on the Form CMS-416 have changed over time.

States can download the Form CMS-416 data to create a variety of benchmarks for each of the oral health performance measures, including, for example:

- National service utilization (total, and by age group)
- State service utilization (total, and by age group)
- Regional service utilization within the state (total, and by age group)
- Service utilization over time

In addition, national benchmarks of preventive dental services and dental treatment services are available in the 2013 Secretary's Report (http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/2013-Ann-Sec-Rept.pdf).

Healthy People 2020

Healthy People 2020 includes several national objectives that states can use as benchmarks. Although their specifications and data sources differ from the oral health performance measures, they can provide useful context for service utilization rates in a state. Relevant Oral Health 2020 goals include:

- OH-7 Target: Increase percentage of persons aged 2 years and older with a dental visit during the past year.
- OH-8 Target: Increase percentage of children and adolescents aged 2 to 18 years at or below 200 percent of the federal poverty level with a preventive dental service during the past year.
- OH-12.2 Target: Increase percentage of children aged 6 to 9 years who received dental sealants on one or more of their first permanent molars.

- OH-12.3 Target: Increase percentage of adolescents aged 13 to 15 years who received dental sealants on one or more of their first permanent molars and one or more second permanent molars.

Detailed information about the Oral Health 2020 goals is available online at: http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=32.

CMS Oral Health Initiative

CMS's Oral Health Initiative established oral health goals for each state. The goals are to:

- Increase by 10 percentage points the proportion of children enrolled for at least 90 continuous days in Medicaid or CHIP who received a preventive dental service by 2015
- Increase by 10 percentage points the proportion of children ages 6 to 9 enrolled for at least 90 continuous days in Medicaid or CHIP who received a dental sealant on a permanent molar tooth within 5 years of phase-in.[1]

To assess progress toward achieving these goals, states can compare their annual performance to the baseline data.[2] More detailed information about the initiative is available online at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/CMS-Oral-Health-Strategy.pdf. Additional information about baselines and goals is available online at: http://www.medicaid.gov/federal-policy-guidance/downloads/CIB-04-18-13.pdf.

[1] CMS has not yet set a baseline year or target date for this measure and is considering how to best operationalize it.

[2] State-specific baselines and target goals are available at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Downloads/Preventive-Dental-Services-FFY-2011.pdf.

APPENDIX F

CALCULATING ORAL HEALTH PERFORMANCE MEASURES

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CALCULATING ORAL HEALTH PERFORMANCE MEASURES

This appendix provides additional guidance on calculating the three oral health measures that can be used to assess progress on improving oral health care for children enrolled in Medicaid and CHIP.[1]

1. Percentage of children ages 1 to 20 receiving preventive dental services
2. Percentage of children ages 1 to 20 receiving dental treatment services
3. Percentage of children ages 6 to 9 receiving a dental sealant on a permanent molar tooth

Preventive Dental Services

States may use the instructions and worksheets below to calculate both total and age-specific rates of publicly-insured children receiving preventive dental services using data from the EPSDT Participation Report (Form CMS-416) and CHIP Annual Report (CARTS Section IIIG). For the purpose of the core set measures, children under age 1 are excluded from the total rate.

Table F.1. Instructions for Calculating Preventive Dental Services Measure

.	ESPDT Participation Report Form CMS-416	CHIP Annual Report (Section IIIG)
Rate Description	Percentage of Medicaid and CHIP Medicaid Expansion Program Enrollees Ages 1–20 who Received Preventive Dental Services	Percentage of Separate CHIP Program Enrollees Ages 1–18 who Received Preventive Dental Services
Numerator	Subtract the <1 column from the Total column of the Line 12b Total row	Subtract the <1 column from the Total column of the Total Enrollees Receiving Preventive Dental Services row in Question 1a
Denominator	Subtract the <1 column from the Total column of the Line 1b Total row	Subtract the <1 column from the Total column of the Total Individuals Enrolled for at Least 90 Continuous Days row in Question 1a
Calculation	(_____ ÷ _____) x 100 = _____ % Numerator Denominator Rate	(_____ ÷ _____) x 100 = _____ % Numerator Denominator Rate

To further analyze oral health service utilization patterns, states may wish to derive rates for each age group reported in the EPSDT Participation Report and CHIP Annual Report. Table F.2 provides a template for states to use when calculating and comparing total and age-specific rates. For each rate, states should be sure to use the appropriate total or age-specific column when

[1] The Form CMS-416 and associated instructions can be found online at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Early-and-Periodic-Screening-Diagnostic-and-Treatment.html. The technical specifications and resource manual for the Core Set of Children's Health Care Quality Measures for Medicaid and CHIP can be found online at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/Medicaid-and-CHIP-Child-Core-Set-Manual.pdf

determining the numerator and denominator for each rate. States should note that the CHIP Annual Report does not capture data on children over age 18.

Table F.2. Preventive Dental Services Worksheet

Rates	EPSDT Participation Report Form CMS-416	CHIP Annual Report (Section IIIG)
Total[1]	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 1–2	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 3–5	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 6–9	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 10–14	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 15–18	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 19–20	(_____ ÷ _____) x 100 = _____ %	NR

Note: The worksheet calculates rates as follows: (Numerator ÷ Denominator) x 100 = Rate (%).

[1] Excludes children less than 1 year of age.

NR = Not Reported.

Dental Treatment Services

States may use the instructions and worksheets below to calculate both total and age-specific rates of publicly-insured children receiving dental treatment services in their state using data from the EPSDT Participation Report (Form CMS-416) and CHIP Annual Report (Section IIIG). For the purpose of the core set measures, children under age 1 are excluded from the total rate.

Table F.3. Instructions for Calculating Dental Treatment Services Measure

.	EPSDT Participation Report Form CMS-416	CHIP Annual Report (Section IIIG)
Rate Description	Percentage of Medicaid and CHIP Medicaid Expansion Program Enrollees Ages 1–20 who Received Dental Treatment Services	Percentage of Separate CHIP Program Enrollees Ages 1–18 who Received Dental Treatment Services
Numerator	Subtract the <1 column from the Total column of the Line 12c Total row	Subtract the <1 column from the Total column of the Total Enrollees Receiving Dental Treatment Services row in Question 1a
Denominator	Subtract the <1 column from the Total column of the Line 1b Total row	Subtract the <1 column from the Total column of the Total Individuals Enrolled for at Least 90 Continuous Days row in Question 1a
Calculation	(_____ ÷ _____) x 100 = _____ % Numerator Denominator Rate	(_____ ÷ _____) x 100 = _____ % Numerator Denominator Rate

To further analyze oral health service utilization patterns, states may wish to derive rates for each age group reported on the EPSDT Participation Report and CHIP Annual Report. Table F.4 provides a template for states to use when calculating and comparing total and age-specific rates. For each rate, states should be sure to use the appropriate total or age-specific column when determining the numerator and denominator for each rate. States should note that the CHIP Annual Report Section IIIG does not capture data on children over age 18.

Table F.4. Dental Treatment Services Worksheet

Rates	EPSDT Participation Report Form CMS-416	CHIP Annual Report (Section IIIG)
Total[1]	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 1–2	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 3–5	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 6–9	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 10–14	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 15–18	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 19–20	(_____ ÷ _____) x 100 = _____ %	NR

Note: The worksheet calculates rates as follows: (Numerator ÷ Denominator) x 100 = Rate (%).

[1] Excludes children less than 1 year of age.

NR = Not Reported.

Dental Sealant on a Permanent Molar Tooth

States may use the instructions and worksheets below to calculate both total and age-specific rates of publicly-insured children in their state who received a dental sealant on a permanent molar tooth using data reporting in the EPSDT Participation Report (Form CMS-416) and CHIP Annual Report (Section IIIG).

Table F.5. Instructions for Calculating Dental Sealant Measure

.	EPSDT Participation Report Form CMS-416	CHIP Annual Report (Section IIIG)
Rate Description	Percentage of Medicaid and CHIP Medicaid Expansion Program Enrollees Ages 6–9 who Received a Sealant on a Permanent Molar Tooth	Percentage of Separate CHIP Program Enrollees Ages 6–9 who Received a Sealant on a Permanent Molar Tooth
Numerator	Subtract the <1 column from the Age 6–9 column of the Line 12d Total row	Use the value provided in Question 1b
Denominator	Subtract the <1 column from the Age 6–9 column of the Line 1b Total row	Use the Ages 6-9 column from the Total column of the Total Individuals Enrolled for at Least 90 Continuous Days row in Question 1a
Calculation	(_____ ÷ _____) x 100 = _____ % Numerator Denominator Rate	(_____ ÷ _____) x 100 = _____ % Numerator Denominator Rate

Using data reported on the EPSDT Participation Report, states may calculate two additional rates for this measure: (1) an aggregate rate of children ages 6–14 who received a dental sealant on a permanent molar tooth, and (2) a rate of children ages 10–14 who received a dental sealant on a permanent molar tooth. These additional rates are not captured by the CHIP Annual Report. Table F.6 provides a template for states to use when calculating and comparing total and age-specific rates.

Table F.6. Dental Sealant Worksheet

Rates	EPSDT Participation Report Form CMS-416	CHIP Annual Report (Section IIIG)
Total (Ages 6–14)	(_____ ÷ _____) x 100 = _____ %	NR
Ages 6–9	(_____ ÷ _____) x 100 = _____ %	(_____ ÷ _____) x 100 = _____ %
Ages 10–14	(_____ ÷ _____) x 100 = _____ %	NR

Note: The worksheet calculates rates as follows: (Numerator ÷ Denominator) x 100 = Rate (%).

NR = Not Reported.

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Health Care Quality Measures