Medicaid Oral Health Performance Improvement Projects: A How-To Manual for Health Plans

July 2015

This manual can be accessed online at: http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Dental-Care.html

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***Inside back cover*:** Percentage of Medicaid children ages 1–20 receiving a preventive dental service, FFY 2013, 50 states and the District of Columbia.

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PREFACE

Medicaid Oral Health Performance Improvement Projects: A Template and the two how-to manuals that accompany it (see below) are intended to **support state and health plan[1] implementation of an oral health performance improvement project (PIP) in Medicaid.** Performance improvement projects are not new to Medicaid managed care. States are required by federal regulation to include the requirement to conduct PIPs in their contracts with managed care organizations (MCOs) and prepaid inpatient health plans (PIHPs).[2] States may extend the PIP requirement to other types of contracted plans, including dental maintenance organizations (DMOs), behavioral health organizations (BHOs), and prepaid ambulatory health plans (PAHPs) that provide carved-out (e.g., dental only) or otherwise limited (e.g., outpatient only) services.

PIPs are a valuable quality improvement strategy because they do the following:

1. Facilitate data-driven, customized interventions at the point of oral health care delivery.
2. Create significant and uniform change in a state's Medicaid delivery system.
3. Maximize the strengths of each health plan and leverage local oral health priorities and resources.
4. Ensure plan accountability through incorporation into health plan contract requirements.
5. Leverage the expertise of external entities, such as external quality review organizations (EQROs),[3] which already provide analytic support to state Medicaid managed care programs.

PIPs are most effective when they align with other quality improvement initiatives, link to meaningful health plan and/or provider incentives, engage stakeholders in the planning and implementation stages, and are supported by technical assistance and capacity-building resources.

States have the flexibility to decide how many, and in what clinical and nonclinical areas, PIPs are conducted. To date, however, few states have used PIPs to advance children's oral health. **Health plans may need states to take the lead** in promoting oral health quality improvement and leveraging the significant opportunity PIPs present to improve oral health care quality. On their own, plans participating in a comprehensive risk arrangement (e.g., MCOs) may not prioritize oral health above other quality improvement concerns, particularly if they are responsible for multiple health care areas such as medical and behavioral health. Also, plans in dental carve-out arrangements may not have the financial or broader capacity to pursue a resource-intensive quality improvement effort. A state-led oral health PIP, however, can provide the needed wherewithal – **a concrete aim, data-driven analyses, specialized resources, and capacity-building support** – to motivate and lead health plans to improve performance.

Three resources have been developed to support state Medicaid agencies and their contracted health plans to develop Medicaid oral health PIPs:

1. *Medicaid Oral Health PIPs: A Template* ("PIP template")
2. *Medicaid Oral Health PIPS: A How-To Manual for States*
3. *Medicaid Oral Health PIPs: A How-To Manual for Health Plans*

The PIP template can be customized by **state Medicaid agency staff with responsibilities in children's oral health, quality improvement, and/or managed care oversight**. Subsequently, the template can be used by health plan staff during PIP implementation. The how-to manuals guide states and health plans on customization and use of the PIP template, respectively.

These resources have been developed through the **Oral Health Initiative**,[4] a federal effort through the Centers for Medicare & Medicaid Services (CMS) to improve children's oral health by providing performance data, tools, and technical assistance to states and their oral health stakeholders.

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[1] The term *health plan* is used in this document to refer to managed care organizations, prepaid inpatient health plans, dental maintenance organizations, and/or prepaid ambulatory health plans that administer oral health services and may perform oral health PIPs. Only MCOs and PIHPs are required by federal regulation to conduct PIPs.

[2] 42 Code of Federal Regulations §438.240(d).

[3] An EQRO is an organization that meets the competence and independence requirements set forth in 42 CFR 438.354, and performs external quality review (EQR), other EQR-related activities as set forth in 42 CFR 438.358, or both. An EQR is the analysis and evaluation of aggregated information on quality, timeliness, and access to the health care services that an MCO or PIHP, or their contractors, furnish to Medicaid recipients.

[4] Information on the Oral Health Initiative is accessible at http://medicaid.gov/Federal-Policy-Guidance/Downloads/CIB-07-10-2014.pdf.

HOW TO USE THIS DOCUMENT

What does the manual include?

This manual provides guidance to health plans around planning and implementing an oral health PIP using the PIP template. It seeks to ensure that the health plan's PIP is

- Aligned with federal regulations and subregulatory guidance for PIPs;[5]
- Consistent with CMS's protocols for PIP implementation and validation;[6]
- Focused on achieving tangible and sustainable improvements in oral health care utilization, quality, and/or timeliness;
- Based on continuous quality improvement principles;
- Supportive of CMS's national oral health goals;[7] and
- Practical to adopt.

Health plans can use this manual and the PIP template in conjunction with other resources that support PIPs, such as those provided by external quality review organizations.

How is the manual organized?

This manual is organized by 10 chapters mirroring the 10 sections of the PIP template:

I. Background and Context
II. Select the PIP Topic
III. Identify the Population
IV. Define the PIP Aim
V. Select the Performance Measures
VI. Create a Data Collection Plan
VII. Plan the Intervention
VIII. Implement the Intervention and Improvement Strategies
IX. Analyze Data to Interpret Results
X. Plan for Sustained Improvement

Each chapter provides health plans with suggested strategies, activities, and resources for effectively planning and implementing quality improvement interventions that will fulfill the goals of the PIP; each chapter ends with guidance on completing the corresponding section of the PIP template. The manual concludes with appendices of tools for health plans and a glossary of terms.

[5] 42 Code of Federal Regulations §438.240(d).
[6] http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/EQR-Protocols.zip.
[7] Increase by 10 percentage points the proportion of Medicaid and CHIP children ages 1 to 20 (enrolled for at least 90 days) who receive a preventive dental service and increase by 10 percentage points the proportion of Medicaid and CHIP children ages 6 to 9 (enrolled for at least 90 days) who receive a sealant on a permanent molar tooth.

ORAL HEALTH PIP HOW-TO MANUAL FOR HEALTH PLANS

The content in this manual is addressed to health plans that will be implementing quality improvement interventions to fulfill the goals of the state's oral health performance improvement project (PIP).

I. Background and Context

*In the **Background and Context** section of the PIP template, the state shares its rationale for the oral health PIP with the health plan. The health plan subsequently describes its oral health priorities and quality improvement work to date as context for its PIP.*

Read this chapter to understand the fundamentals of an oral health PIP.

What is an oral health PIP?

A PIP is designed to achieve, through ongoing measurement and intervention, significant improvement in clinical or nonclinical areas of health care delivery, sustained over time. PIPs must involve the following:

- Measurement of performance using objective quality indicators
- Implementation of system interventions to achieve improvement in quality
- Planning and initiation of activities for increasing or sustaining improvement
- Evaluation of the effectiveness of the interventions

State Medicaid agencies use PIPs to address deficits in specific areas of the health care delivery system. PIPs are generally conceptualized by the state and implemented – through targeted quality improvement interventions – by health plans.

States are required by federal regulation to include the requirement to conduct PIPs in their contracts with MCOs and PIHPs. States may extend the PIP requirement to other types of contracted plans, such as DMOs, BHOs, or PAHPs that provide carved-out (e.g., dental only) or otherwise limited (e.g., outpatient only) services. States can require these plans to conduct PIPs through state regulation, or these plans may be obligated through subcontracting arrangements with an MCO/PIHP.

States often require PIPs in multiple focus areas (e.g., asthma, behavioral health, medical record review) within and/or across health plans, addressing numerous areas for improvement in the delivery system.

An **oral health PIP** is an effort to improve oral health care for children and youth enrolled in Medicaid/Children's Health Insurance Program (CHIP) across three key areas:

- **Utilization:** The degree to which members are receiving or using a particular service.
- **Quality:** The degree to which services (1) increase the likelihood of desired health outcomes of members and (2) are evidence based and delivered according to professional standards of care.
- **Timeliness:** The degree to which the provision of services – prevention, treatment, and follow-up – are aligned with the urgency of the need for services. It is also the age appropriateness of services for children and youth, per their developmental stage.[8]

[8] Timeliness also refers to abidance to standards for timely access, such as hours of operation and seven-day availability of services when medically necessary.

SPOTLIGHT: External Quality Review Organizations

Per federal regulation, states that contract with an MCO or PIHP must validate PIPs based on CMS protocols; validation can be performed by the state, an external agent appointed by the state, or an EQRO. EQROs can also be used by states to provide technical assistance to health plans – including those not bound to conduct PIPs by regulation – around PIP planning and implementation. The EQRO can assist the health plan with the following critical activities during the oral health PIP:

- Analyzing data to determine where opportunities for improvement exist
- Structuring the PIP to ensure that it asks the right questions.
- Developing a data collection plan.
- Applying quality improvement tools to analyze barriers or gaps (e.g., fishbone diagram, key driver diagram, focus groups, surveys).
- Identifying and evaluating effective interventions.
- Identifying measures to track implementation progress.
- Using statistical or other methods to analyze results (e.g., subgroup analyses, drill-down analyses).
- Developing strategies to facilitate sustained improvement beyond the timeline of the PIP.

Completing the *Background and Context* Section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

I. Background and Context

Describe your health plan's oral health priorities and quality improvement work to date, including the following:

- Covered oral health services
- Market size, geography, and scope
- Characteristics of provider network
- Performance on utilization, quality, and timeliness of oral health services
- Current/past quality improvement initiatives
- Leadership support for quality improvement activities

II. Select the PIP Topic

*In the **Select the PIP Topic** section of the PIP template, the state and/or health plan reports the "topic," or focus of the oral health PIP.*

***Read this chapter to understand how to** (1) review key oral health data; (2) identify high-priority oral health care areas for improvement, and (3) assess available resources available for the oral health PIP, as groundwork for identifying the ideal PIP topic. The state may prescribe a PIP topic or provide the health plan with the flexibility to select a topic within specified parameters.*

When identifying a PIP topic, health plans should defer to any requirements and/or guidance provided by the state. Often the state will prescribe a topic, but if not, health plans should identify the greatest areas for improvement through the PIP by (1) assessing available data on utilization, quality, and timeliness of oral health care; (2) identifying high-priority issues for the organization and/or high-risk populations; and (3) identifying their quality improvement needs and strengths.

Assessing Available Data on Utilization, Quality, and Timeliness of Oral Health Care

1. **Assess how your oral health care performance compares to the following:**
    - National health plan Medicaid averages
    - Other health plans serving Medicaid enrollees in the state
    - Commercial health plan averages in the state
    - Goals set by set by state or federal authorities, such as CMS and the Centers for Disease Control and Prevention
    - Other data, such as regional or public health reports

RELEVANT RESOURCES

- State Medicaid Oral Health Performance Trends
- Commercial Oral Health Performance
- Healthy People 2020
- Centers for Disease Control and Prevention's Oral Health Strategic Plan

About the CMS Oral Health Initiative

The goals of the CMS Oral Health Initiative (federal fiscal years 2011–2015) are to

- Increase the rate of children ages 1–20 enrolled in Medicaid or CHIP who receive a preventive dental service by 10 percentage points over a five-year period ending in federal fiscal year 2015 and
- Increase the rate of children ages 6–9 enrolled in Medicaid or CHIP who receive a dental sealant on a permanent molar tooth by 10 percentage points over a five-year period.

Related Resources

- CMS Oral Health Initiative Strategy and 2014 Update
- Secretary's Report: Use of Dental Services in Medicaid and CHIP
- State Baselines, Goals, and Progress

2. **Assess how oral health care utilization, quality, and timeliness vary by service type (e.g., preventive dental visits, application of sealants, restorative procedures).**

3. **Assess how utilization, quality, and timeliness for a given dental service vary by delivery system and member characteristics, such as the following:**
    - *Member demographics:* age, gender, race/ethnicity, primary language, geography, education, literacy, length of enrollment, and eligibility category, including foster care status.
    - *Dental and medical risk factors:* children with special health care needs, asthma, childhood obesity.
    - *History of dental service use*: no dental visit in at least one year, absence of sealants.
    - *Benefit administration*: comprehensive managed care, carve-out, dental benefits manager.

- *Provider type*: safety net, dental providers, primary medical care providers.
- *Provider network scope and adequacy:* open versus assigned providers, dental home, directly contracted versus dental network vendors, enrollee-to-dentist ratios, travel distances, appointment wait times, utilization per geographic area.
- *Provider participation rates:* percentage of state-licensed dentists enrolled in Medicaid, percentage billing at least one claim in a year, percentage billing at least $10,000 annually, percentage of enrolled primary care physicians billing for fluoride varnish.
- *Reimbursement methods*: fee-for-service, capitation, prospective payments, value-based purchasing arrangements, variance in payment rates.
- Other data that might be available in your state, such as public health prevalence rates.

- **Assess how oral health care utilization, quality, and timeliness vary among dental providers in your network.** Consider further grouping the providers by
  - Size of practice (solo versus group practice, number of providers);
  - Geographic location;
  - Staffing model (e.g., general versus pediatric, use of dental hygienists and support staff);
  - Delivery setting (e.g., mobile units, schools, federally qualified health centers);
  - Number and focus of customer complaints; and/or
  - Member satisfaction.

Identify High-Priority Areas and High-Risk Populations

Understand which aspects of oral health care quality are a priority for stakeholders.

- These may span various aspects of oral health care delivery, such as prevention, treatment services, clinical outcomes, practice infrastructure (e.g., use of electronic health records among dental providers), member satisfaction, costs (e.g., preventable dental-related emergency room visits), and oral health literacy. Health plans should meet with stakeholders to identify the highest-priority areas.

SPOTLIGHT: Stakeholder Engagement

To ensure a successful oral health PIP, find early and regular opportunities to obtain input from staff, providers, and members on how to improve care delivery. Gaining the trust of those who will be integral to the PIP is essential, as is establishing common goals. The following activities can help build stakeholder support and consensus around the PIP:

- Convene conversations with and seek input from
  - Dental providers and provider associations, including safety-net providers;
  - Members and caregivers;
  - Community advisory boards;
  - Oral health coalitions;
  - Public health and child-serving agencies; and
  - Community organizations.

- Use private meetings, public forums, focus groups, surveys, websites, and social media to understand the priorities of these groups and to vet specific visions for the oral health PIP.

- As the oral health PIP develops, allow for specific input into components of the project, particularly those that place new requirements on providers, require multilevel or multisector collaboration, and/or are resource intensive.

- Create an oral health PIP advisory committee that includes representatives from these stakeholder groups and meets regularly through the planning and implementation phases of the oral health PIP.

Related Resource

- Stakeholder Engagement in Design, Implementation, and Oversight

Focus on issues or align with projects for which quality improvement infrastructure already exists.

- These issues or projects may include (1) early childhood caries prevention and treatment, (2) transformation into a dental home, (3) partnerships with an oral health coalition, (3) public health improvement initiatives, (4) medical-oral health collaborations, (5) dental electronic health record adoption programs, and/or (6) quality measure reporting.

Identify aspects of oral health care delivery for which data are accessible and meaningful.

- Data for the PIP should not be burdensome to collect or analyze. Select a PIP topic that can be measured through available and reliable data such as claims or other administrative data, provider files (which do not require extensive medical record review), communications between health plans and members, and member satisfaction surveys. Data with available benchmarks at the health plan, state, or national level are also helpful for evaluating the progress and impact of a PIP.

Determine the time frame for documenting positive changes.

- PIPs can range in length from six-month to multiyear projects. CMS requires that PIPs report at least three measurement points: baseline, remeasurement #1, and remeasurement #2. Consider the minimum time frame needed to see meaningful improvement within each measurement period.

Identify populations that are at higher risk of experiencing poor oral health and that represent the greatest opportunity for improvement.

- These may include Medicaid-enrolled children and youth who (1) represent diverse racial/ethnic groups; (2) have limited English proficiency; (3) are in foster care; (4) have special health care needs (e.g., developmental disabilities); (5) live in underserved areas (e.g., rural or poor urban); (6) have a family history of dental disease; (7) have or are at-risk for obesity, asthma, or other chronic medical conditions; (8) have serious behavioral health conditions; and/or (9) have high rates of emergency room and/or operating room use for dental needs.

- High-risk members within your organization may also be those experiencing disparities in oral health care compared to other members.

SPOTLIGHT: Identifying and Addressing Disparities in Care

Consider the following National Quality Forum principles for identifying how "disparities sensitive" a particular service, quality measure, or aspect of care may be:[9]

- **Prevalence:** How prevalent is the condition (e.g., caries in children) targeted by the quality measure in the disparate population?
- **Impact of the condition:** What is the impact of the dental condition on the health of the disparate population relative to other conditions (e.g., pain, interference with development, lost school days, quality of life, stigma)?
- **Quality gap:** How large is the gap in quality between the disparate population and the group with the highest quality for that measure?
- **Communication:** Does the process for achieving the outcome depend heavily on provider communication/ outreach with patients? How might gaps in language, culture, or literacy play a role?

When looking for racial/ethnic disparities, consider aspects of care – provider communication, self-management, lifestyle choices, and availability and cost of resources – that are most likely to differ among patients based on language, culture, health literacy level, and/or geography. Use race, ethnicity, language, income or other demographic data to stratify performance measures to understand the impact of these factors on oral health care access, quality, and timeliness. Make this a regular part of your performance measurement and quality improvement process beyond the PIP.

[9] Weissman JS, Betancourt JR, Green AR, et al. "Commissioned Paper: Healthcare Disparities Measurement." Washington, DC: National Quality Forum, 2012.

Related Resources

Policy Context

- Racial and Ethnic Disparities in Dental Care for Publicly Insured Children
- Improving Access to Oral Health Care for Vulnerable and Underserved Populations

Data Collection, Training, and Application of REL Data

- Explanation of Federal Standards for the Collection of Race, Ethnicity and Language Data
- America's Health Insurance Plans: Data Collection on Race, Ethnicity and Language

Implementing Quality Improvement Interventions to Address Racial/Ethnic Disparities

- Roadmap to Reduce Disparities

Workforce Training

- Think Cultural Health: Cultural Competency Programs for Oral Health Professionals

Identify the Quality Improvement Needs and Strengths of Your Organization

Although there may be multiple oral health priorities for your organization, it is necessary to decide which are most important and/or feasible to address within the context of a PIP. Health plans should also consider parameters provided by the state, such as the time frame for improvement, the type of data required, the frequency of reporting to the state, and available technical assistance. Health plans can ask the following questions of their organizations to identify priority topics:

Internal Strengths and Weaknesses

- In which aspect(s) of oral health care utilization, quality, and timeliness do we perform well?
- In which aspect(s) of oral health care utilization, quality, and timeliness do we have significant room for improvement?
- What resources do we already have in place to assist us in implementing the PIP? For example:
  - Leadership commitment;
  - Data sources and processes;
  - Staff knowledge and interest;
  - Aligned quality improvement programs;
  - Related policies and regulations;
  - Provider engagement;
  - Member and family support; and/or
  - Partnerships with community-based organizations.
- What resources are missing that can be developed through the PIP, or that limit our choice of topic?

External Opportunities and Constraints

- What trends support our focus on a particular area?
  - State or local policy (e.g., delivery redesign through State Innovation Model awards, network adequacy requirements, community water fluoridation standards);
  - Legislative priorities;
  - Public health initiatives; and/or
  - Social or economic changes in the community.
- What existing relationships with the following can be leveraged?
  - Other health plans;
  - Dental providers;
  - Members and families;
  - Oral health coalitions;
  - Maternal and child health advocates;
  - Public health agencies;
  - Child-serving programs (e.g., Head Start); and/or
  - Community-based organizations.

- What new policies might constrain health plan operations?
- What community priorities may conflict with – or support – the PIP?

Completing the *Select the PIP Topic* Section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

II. Select the PIP Topic
What is your PIP topic?
How did you select the PIP topic? Include rationale and key data.

III. Identify the Population

*In the **Identify the Population** section of the PIP template, the state and/or health plan characterizes the population of focus for the oral health PIP.*

***Read this chapter to understand how to** (1) identify the population of focus for the oral health PIP, (2) determine useful stratifications of the population data, and (3) identify key data source and processes to collect the data.*

PIP population refers to the health plan members who receive the intervention implemented through the PIP. Although the goal of the PIP may broad (e.g., "improving utilization of preventive services"), a PIP should identify a subpopulation to target. The selection of this particular group of members will depend on the PIP topic and where the greatest opportunity to "move the needle" lies. For example, a new public health campaign targeted at schools may be increasing oral health literacy among 6–9-year-olds but may not be addressing the oral health needs of younger children. A PIP that focuses on increasing the use of preventive services for 3–6-year-olds could fill that gap. Alternatively, health plans may decide to focus additional efforts on 6–9-year-olds, because these children are already involved in the school program and thus may be more likely to engage with an outreach intervention. Some PIP topics may also implicitly prescribe a narrow PIP population, based on the clinical relevance or nature of the issue being addressed – for example, the "application of dental sealants for children ages 6–9" or the "reduction of disparities in treatment services experienced by African-American children."

Stratify the PIP Population

An important component of identifying the PIP population is characterizing it as specifically as possible through additional data. Stratification of population data by descriptive variables can help health plans (1) understand the range in demographics and care needs of the members receiving the PIP intervention, (2) create a more culturally and linguistically appropriate intervention, (3) track and compare the progress of specific subpopulations during implementation, and (4) interpret PIP results to identify which strategies worked (and which did not) for specific populations. Health plans should consider which of the following variables will enhance their understanding of the PIP population:

Demographic information

- Age;
- Gender;
- Race/ethnicity;
- Language; and
- Area of residence.

Structural and behavioral information

- Access to fluoridated water;
- Oral care (e.g., brushing, flossing) behaviors;
- Consumption of sugary snacks and beverages;
- Member satisfaction;
- Oral health care provider; and
- Relevant dental and/or medical diagnoses and use of dental services (e.g., topical fluoride treatment, diabetic status).

High-risk status

- Chronic medical or behavioral health diagnosis;
- High number of emergency room or hospital visits;
- Family history of caries, or other indicators of risk for caries;
- Involvement in child welfare or juvenile justice; and
- Special health care needs.

SPOTLIGHT: Children at High Risk of Oral Health Disease

Caries Risk Assessment

The latest guidelines for caries risk assessment highlight key factors contributing to high-risk status for infants, children, and adolescents. Some nonclinical factors include (1) presence of caries in the parent, (2) socioeconomic status, (3) intake of sugary snacks and beverages between meals, and (4) recent immigrant status.

Related Resources

- American Academy of Pediatrics Oral Health Risk Assessment Tool
- American Academy of Pediatric Dentistry Guideline on Caries-risk Assessment and Management for Infants, Children, and Adolescents
- DentaQuest Institute's Early Childhood Caries Collaborative
- CAMBRA: Best Practices in Caries Management

Oral Health Care for Children with Special Health Care Needs

Children with special health care needs – those with developmental disabilities, behavioral issues, or physical limitations – are a high-risk population with particular oral health challenges. Their parents/caregivers may require assistance in identifying Medicaid-contracted dentists who are familiar with their needs, extra time and attention during the dental visit, and additional support around home care and prevention. The following approaches can improve oral health care access, quality, and timeliness for these children:

- **Pre-appointments:** These give children and their caregivers a chance to become familiar with the dentist, exam room, and equipment before an examination or procedure, helping them feel more comfortable and cooperative.
- **Accessibility:** Areas inside and outside the dentist's office must be accessible; wheelchairs should be able to fit through the front door and into the examination room.
- **Specialized clinical training:** Some general dentists and most pediatric dentists receive special training to treat children with special needs. If health plans can identify those with training and/or experience caring for this population, caregivers may choose such providers. These practitioners will be better prepared to communicate appropriately with the child and caregiver; provide the required time, attention, and clinical guidance; and impart appropriate advice for healthy dental behaviors.
- **Sedation:** Children with special needs may have unpredictable and/or exaggerated responses to sedation. Sedation should thus be customized: some children may require general anesthesia, whereas others require only mild to moderate oral sedation.
- **Access to supportive resources:** Advocacy groups provide assistance with navigating the dental care system and emotional support to children with special needs and their families. Family Voices is a network of family members of children with special needs that provides information to families on a variety of topics, including oral health.

Adapted from Dental Care for Children with Special Needs

Related Resource

Guideline on Management of Dental Patients with Special Health Care Needs

Stratifying the PIP population has advantages beyond the oral health PIP as well. Poor utilization, quality, or timeliness for the highest-risk members, for example, can affect quality measure performance in other areas (e.g., medical) and lead to higher costs (e.g., dental-related emergency room visits or hospital stays). Understanding how subsets of the PIP population are being served can help the health plan create targeted programs that have an impact on clinical efficiency beyond the PIP.

Identifying the Data Sources and Processes for Extraction

Although a rich and specific characterization of a PIP population can help create an effective PIP intervention, health plans need a feasible plan for obtaining the required data elements, relying on the following sources and processes:

Sources

- Enrollment files

- Encounter data (claims files)
- Registries
- Risk assessment reports
- Member surveys and/or complaint logs

Processes

- Automated data queries
- Data requests between departments
- Manual data review

Consider the kind of data support you may need from the state (e.g., Medicaid enrollment files of members) to identify and stay informed about the PIP population. Pay attention to changes among members involved in the PIP (e.g., disenrollment; changes of status in Medicaid eligibility, disability, or foster care; or changes in age, health or risk status, area of residence, and utilization) that exclude their participation in the PIP population criteria.

Population Sampling

Including all members in a particular aim is sometimes not feasible, in which case a sample to represent the entire population must be used. This may be needed when

- Data for the PIP cannot easily be obtained via automated processes (e.g., medical record extraction);
- Inclusion criteria limit the size of the intervention population (e.g., minimum months of enrollment);
- The nature of the intervention requires one-on-one engagement that cannot be done with all members in a limited time period (e.g., motivational interviewing for behavior change); and/or
- The population of the PIP aim is very broadly defined.

Health plans will need to identify a statistically appropriate number of patients for their intervention. Health plans may use probability sampling to identify an unbiased, randomly chosen sample set (e.g., use a random number generator to identify participating members), or can use non-probability sampling to identify specific features of the population (e.g., recently missed appointments) for inclusion. The latter is likely more useful for the PIP, which aims to be targeted in achieving its outcomes. The sample should also be representative – that is, similar in the distribution of member characteristics – of the broader population described in the PIP. A technical assistance provider such as an EQRO can help states identify and implement the best sampling options.

RELEVANT RESOURCES

- Sampling for QI Assessments
- Managing Data for Performance Improvement

Completing the *Identify the Population* Section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

III. **Identify the Population**
State Guidance:
What population is your PIP targeting? Indicate if a representative sample is used instead of the entire population. Include key stratifications (e.g., age, race/ethnicity) of the population.

Describe the data sources and protocols you will use to identify and stratify the PIP population.

IV. Define the PIP Aim

In the ***Identify the PIP Aim Statement*** section of the PIP template, the state and/or health plan reports the concrete objective of the PIP.

Read this chapter to understand how to *(1) identify the population of focus for the oral health PIP and (2) determine useful stratifications of the population data.*

The PIP aim, generally defined by the state, translates the PIP topic into a concrete goal statement. A good aim statement is SMART:

- **S**pecific: well-defined and clear, and has a better chance of being reached than a general aim.
- **M**easurable: tied to a starting point, target, and benchmark for achievement.
- **A**chievable: can actually be reached, as evidenced by past achievements and existing resources.
- **R**elevant: is pertinent to the organization's mission and quality improvement goals, and is agreed upon by stakeholders.
- **T**imely: has a set time frame within which it should be met.

The aim statement should include the desired change, the degree of improvement, and the period of time over which this change is expected to take place. For example, if the PIP topic is "Improving utilization of preventive services among young children," the aim statement might be, "In 12 months, increase the percentage of 6–9-year-old members who receive a dental sealant on a permanent molar tooth by 5 percentage points."

The goal can be a rate of improvement (e.g., an increase of 10 percentage points), or a specific target (e.g., rate of 75 percent). The aspiration should be bold (a stretch if achieved), yet attainable within the time allotted for the PIP. It should create a focus and sense of urgency within your organization but also be realistic based on what the evidence suggests is possible. In thinking through this, consider rates of improvement that other states have achieved[10] in similar time frames (please refer to state rates for children's preventive dental services use on the inside of the back cover of this report).

Completing the *Define the PIP Aim* Section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

IV. Define the PIP Aim
What is your PIP aim? The aim should include the desired change, the targeted degree of improvement, and the period of time over which this change is expected to take place.

[10] For data on state oral health performance trends (2000–2012, 2013):
http://www.medicaid.gov/medicaid-chip-program-information/by-topics/benefits/downloads/dental-trends-2000-to-2012.pdf;
http://content.govdelivery.com/attachments/USCMS/2013/04/18/file_attachments/205273/CIB-04-18-2013.pdf

For data on state oral health PIPs:
http://www.medicaid.gov/medicaid-chip-program-information/by-topics/quality-of-care/downloads/2014-child-sec-rept.pdf, page 16, table 6.

V. Select the Performance Measures

*In the **Select the Performance Measures** section of the PIP template, the state and/or health plan identifies the primary performance measures that will be used to evaluate the impact of the PIP, and identifies other measures that will aid implementation.*

***Read this chapter to understand how to** identify a targeted set of measures that comprehensively evaluate the impact of the PIP.*

Primary Measures and Secondary Measures

The PIP aim – whether prescribed by the state or determined by the state – generally points to the key quality metrics associated with the PIP. The measure that evaluates the impact of the PIP is called the **Primary Measure**. This measure is likely already tracked and reported by the health plan for the state and/or by the state for CMS. Common measurement sets for primary measures are the Early and Periodic Screening, Diagnostic, and Treatment (CMS-416 form) reporting set, the Core Set of Children's Health Care Quality Measures for Medicaid and CHIP, and/or those of CMS's Oral Health Initiative.

In addition to these, consider other metrics, or **Secondary Measures**, that can contribute to a measurement set. These will provide a more complete picture of system performance, offering important ancillary information about your targeted members and overall care delivery. For example, the ultimate aim of the PIP may be to improve rates of dental sealant application for members ages 6–9, but a measure that tracks other preventive dental services received by those members may help identify how existing member communications can be leveraged or which members are receiving no care at all (versus some care) and, thus, are at higher risk for poor oral health. When identifying these measures, it may be helpful to think through various measure domains, as laid out in Exhibit 1.

Exhibit 1: Secondary Measure Classifications and Examples

Measure Domain	Definition	Example
Structure of care	A feature of an organization that affects its capacity to provide high-quality care	Ratio of dental providers (e.g., dentists, dental hygienists) to patients
Experience of care	A member's report concerning observations of, and participation in, health care	Percentage of members reporting unmet dental care needs
Management of care	A feature of an organization related to the administration or oversight of facilities, professionals, and staff that deliver health care	Percentage of providers receiving cultural competency training
Use of services	The encounters, tests, or interventions that are part of care but are not part of formalized quality measurement	Percentage of members who received oral prophylaxis
Costs of care	The monetary or resource units expended by an organization to deliver health care	Cost per dental-related emergency room visit
Clinical efficiency	Ability to maximize the number of comparable units of health care delivered for a given unit of health resources used	Percentage of dental-related emergency visits prevented

Source: Adapted from "Pediatric Oral Health Performance Measure Set Request for Proposal for Testing Data Source: Administrative Data." Dental Quality Alliance. 2012. Available at http://www.ada.org/~/media/ADA/Science%20and%20Research/Files/dqa-pediatric-measure-set-rfp.ashx

For a larger list of measures, consider the set compiled by the Dental Quality Alliance.

In dental quality measurement, process measures – those that refer to engagement of a member or system (e.g., application of dental sealants, months since last preventive dental service, and average wait time for dental appointment) – are more common than outcome measures. The latter refer to the actual impact on the member or system (e.g., absence of early childhood caries or presence of dental disease. The limited ability to report diagnoses in dental claims and the longer time frame needed for improvement in outcome measures make process measures more ideal for oral health PIPs. See Exhibit 2 for examples of process measures conducive to one-year projects, compiled by the Dental Quality Alliance. These are organized by common measurement categories in children's oral health: utilization, oral evaluation, prevention, and treatment.

Exhibit 2: One-Year Measures from the Pediatric Dental Quality Measure Set

Measurement Domain	Description
Utilization	Percentage of all enrolled children under age 21 who received at least one dental/oral health service within the reporting year.
Oral evaluation	Percentage of ▪ Enrolled children under age 21 and ▪ Enrolled children who received at least one dental/oral health service who received a comprehensive or periodic oral evaluation within the reporting year.
Prevention: Fluoride or sealants	Percentage of ▪ Enrolled children under age 21 and ▪ Enrolled children who received at least one dental/oral health service at elevated caries risk (i.e., "moderate" or "high" risk) who received topical fluoride application and/or sealants within the reporting year.
	Percentage of ▪ Enrolled children under age 21 and ▪ Enrolled children who received at least one dental/oral health service in the age categories of 6–9 years at elevated caries risk (i.e., "moderate" or "high" risk) who received a sealant on a first permanent molar tooth within the reporting year.
Treatment	Percentage of ▪ Enrolled children under age 21 and ▪ Enrolled children under age 21 who received at least one dental/oral health service who received a treatment service within the reporting year.

Source: Adapted from "Pediatric Oral Health Performance Measure Set Request for Proposal for Testing Data Source: Administrative Data." Dental Quality Alliance. 2012. Available at http://www.ada.org/~/media/ADA/Science%20and%20Research/Files/dqa-pediatric-measure-set-rfp.ashx

Qualitative Measures

Performance measures are vital to measuring the success of the PIP, but they do not tell the full story of dental care that is delivered. Health plans can use focus groups, surveys, and interviews to collect *qualitative* insights from members, health plan and provider staff, and key external partners. Such input can illuminate underlying root causes of poor oral health care, such as transportation difficulties, low oral health literacy, or misconceptions about appointment costs. It can also lend practical insights into barriers related to delivery at the practice site, such as outdated member contact information or challenges using an automated call system to make Spanish-language appointment reminders. Qualitative measures can serve as the secondary measures and/or supplement the overall measurement set, providing information that will aid PIP planning and implementation. Qualitative measure efforts can include pre- and post- intervention surveys of member experience, focus groups with caregivers to receive input on an oral health education tool, and/or interviews with dental providers to identify opportunities to improve dental visit efficiency.

PIP TIP

Qualitative data will be especially important for the PIP when the population is small. This can be because, for example, a rural area or particular racial/ethnic group may not offer a large enough sample size to perform quantitative analyses.

Health plans may benefit from technical assistance from EQROs or other entities around the development of focus groups, interviews, and surveys. They can also lean on their community advisory boards, oral health coalitions, and/or local community partners to help with neutral focus group mediation or tool development.

RELEVANT RESOURCES

- Patient Experience Improvement Toolkit
- The CAHPS Improvement Guide: Practical Strategies for Improving the Patient Care Experience
- Qualitative Research Methods: A Data Collector's Field Guide

In addition, health plans can stratify performance measures by member- and provider-level characteristics to better understand how to address the PIP topic. For example, there may be disparities between African American and non-Hispanic, white populations in the use of dental sealants, underutilization of preventive dental services among very young children, or a decline in performance among providers in a particular county or in smaller practice sites. Stratified data will help identify variations in what the intervention should be for different members and providers, and/or how members and providers may respond differently to the same intervention. For example, for a PIP focused on improving rates of fluoride varnish application among young children, health plans may want to stratify by Medicaid eligibility category to identify subgroups (e.g., children in child welfare) that are not improving as fast and that require alternative strategies. Stratifying data by provider-level characteristics may also help target particular practice sites or providers with lower fluoride varnish rates.

Feasibility of Measure Set

When making decisions about measure selection, consider the following:

- Availability of required data
- Time needed for staff to familiarize themselves with measure specifications
- Data capacity to customize queries per measure specifications
- Alignment with other quality improvement programs or reporting requirements, which can reduce measurement burden/fatigue

To facilitate comparison or benchmarking, health plans can choose measures that are already vetted by federal entities or dental authorities, such as CMS, the Dental Quality Alliance, the Agency for Healthcare Research Quality, the Health Resources and Services Administration, and the National Child and Adolescent Health Initiative. The environmental scan compiled by the Dental Quality Alliance and that of the National Quality Forum offer useful compilations of potential measures.

Completing the *Select the Performance Measures* Section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

- **Measure Source:** This indicates the measure developer, set, or endorser from which the health plan gathers information about the measure.
- **Baseline and Goal:** These indicate the measure rates at which the project is starting (baseline) and where the project is looking to move the measures (goal) by the end of the PIP. The goal is specified in the PIP aim; it can be an absolute rate (e.g., 75 percent) or a degree of improvement (e.g., double, increase by 10 percent).
- **Remeasurement Period:** This is how often measure rates will be calculated over the course of the PIP. The baseline date marks the first measurement. Regular tracking at short intervals is crucial to implementing rapid-cycle improvements (this is explored in later chapters of the manual).
- **Benchmark:** This is a data measurement that allows the health plan to compare performance to that of an external entity or a standard (e.g., all-plan mean, the National Committee for Quality Assurance's national Medicaid average, CMS's Oral Health Initiative goal).

V. Select the Performance Measures	
List and define the primary and secondary measures that you will use to determine the impact of your PIP. For each measure, indicate the measure source, data specifications, measurement periods, benchmark, and goal. *Add sections for additional measures as needed (space for two primary measures and two secondary measures have been provided).*	
Primary/Secondary Measure	
Measure Source (e.g., Dental Quality Alliance, Agency for Healthcare Research & Quality, health plan)	
Numerator Specification	
Denominator Specification	
Baseline Measurement Period Date	
Re-measurement Period Dates	
Benchmark	
Goal	

VI. Establish a Data Collection Plan

*In the **Establish a Data Collection Plan** section of the PIP template, the health plan describes its data collection protocol.*

***Read this chapter to understand how to** identify the key elements of an effective data collection plan.*

Health plans need complete data and a reliable process for collecting, manipulating, and/or sharing the data among those involved in the PIP. A data protocol should be established at the beginning of the PIP planning process and communicated within the plan and across partners in the PIP (e.g., providers submitting data, member navigators, community educators). Health plans should assign lead staff and train them on key documentation and should create regular opportunities for staff to discuss data issues and provide updates (e.g., weekly staff meetings, shared electronic communications).

Procedures for Extracting Data

Health plans can create standardized procedures – for example, developing algorithms for determining measure numerators and denominators – for identifying and extracting the required data. Procedures should include definitions of key terms (e.g., of the inclusion criteria); clarity on data sources; and protocols for maintaining data integrity and security. Health plans should communicate these procedures to other parties that are collecting the data, such as providers, community health workers, and/or community partners.

Protocols for Validating Data

Validation ensures that the data are accurate and consistently reliable. Although data such as administrative claims submitted to state Medicaid agencies likely already go through a process to ensure data validity, data from other sources (e.g., provider interviews) may need new validation procedures. This is critical in the case of focus groups, surveys, or data gathered verbally from members (e.g., race/ethnicity/language identification) where interpretations of the participating staff member can vary. For these data, health plans can conduct activities such as inter-rater reliability tests, where staff cross-check results with each other.

Adequate Training and Resources for Staff

Knowing how to manipulate member identifiers, appropriately query information systems, and/or identify errors in the system are important health plan staff competencies that may require additional training. Training is key to ensure accuracy and consistency across staff, particularly for processes that require manual (not automated) work – for example, matching enrollment data (e.g., race and ethnicity) with administrative claims (e.g., receipt of dental preventive service) during disparities analysis.

Key Data Work Flows

In a data-heavy project such as a PIP, it is especially important for health plan staff to understand data sources, pathways for transmission, and requirements for storage. This includes creating process flow charts that indicate, for each performance measure and measurement period, the involved staff, such as health information technology, quality improvement (QI), and administration, as well as who is accountable to which timelines.

Regular Maintenance of Data Sources

Data will likely come from a combination of automated (e.g., encounter systems) and manual (e.g., dental charts, caregiver surveys) sources. Health plans should ensure that these sources are regularly maintained and checked for errors, and that they have some uniform identifiers (e.g., patient ID) to ensure that the data can be accurately cross-walked.

PIP TIP

EQROs are an excellent source of technical assistance to health plans for developing and refining data collection protocols for an oral health PIP. EQROs have experience working with health plans on issues of data quality, measurement, and reporting. They also have the knowledge and staff capacity to perform technical tasks, including manual processes such as medical record review, on behalf of the health plans. A state may already be using an EQRO to audit quality reporting data. Health plans should verify with their state contact whether technical assistance is available through the EQRO.

Related Resources

- Inter-Rater Reliability Testing for Utilization Management Staff
- Multiple Tools Related to Data Collection and Planning
- Simple Data Collection Planning Guide

Completing the *Establish a Data Collection Plan* Section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

- **Organizational Data Source:** This indicates where the data reside (e.g., dental claims, registry, patient survey) in the organization.
- **Protocol and Timing for Extraction and Analysis of Data:** This indicates the accountable staff and the work flows for extracting and effectively sharing the data across key organizational staff involved in the PIP. It is good to be as descriptive as possible.

VI. Establish a Data Collection Plan

For each measure identified in Section V, describe the following aspects of your data collection.
Add sections for additional measures as needed (space for two primary measures and two secondary measures have been provided).

Primary/Secondary Measure	(type response here)
Organizational Data Source and Frequency of Collection (e.g., claims and quarterly)	(type response here)
Staff Responsible for Data Collection (include multiple staff or departments as appropriate)	(type response here)
Procedure for Data Analysis	(type response here)

VII. Plan the Intervention

*In the **Plan the Intervention** section of the PIP template, the health plan describes key decisions involved in identifying the appropriate intervention and in planning activities to support implementation.*

***Read this chapter to understand how to** (1) uncover the barriers to oral health care that need to be addressed through the PIP, (2) identify drivers of change that can be leveraged, (3) select the ideal interventions for the PIP, and (4) put into place the components for continuous quality improvement.*

At this stage in the oral health PIP process, the PIP aim has been established and the health plan can begin working toward implementing a quality improvement intervention through planning activities such as the following:

1. Investigating the root causes of variation underlying the PIP topic
2. Identifying the drivers of change to support the PIP aim
3. Choosing the ideal intervention(s) for the organization
4. Assessing the resources required for continuous quality improvement

Investigating the Root Causes of Variation Underlying the PIP Topic

Root causes for variation in oral health service utilization, quality, and/or timeliness can largely be categorized into three types of barriers:

1. **Provider participation.** These factors affect the number of dental providers contracted with the health plan, and the providers' willingness or ability to serve a large number of Medicaid beneficiaries.
2. **Program administration and service delivery.** These factors address the procedures and policies that affect the efficient delivery of dental services to members.
3. **Member and community.** These factors impact whether and how well individual members can access dental care, effectively communicate with providers, and/or pursue healthy oral health behaviors.

One or all of these factors might be relevant to the plan's PIP topic. Identifying the root causes tied to these factors requires concerted effort and can be supported by the following activities:

1. Obtaining the input of those involved in care delivery and administration
2. Breaking down the aim into identifiable causes and effects
3. Prioritizing which root causes to address

Obtaining the Input of Those Involved in Care Delivery and Administration

Focus groups, surveys, and/or interviews with key staff, providers, members, and/or community members provide specialized information to guide an understanding of the problem.

Members

Members will be the ultimate beneficiaries of the health plan's intervention, and hearing their input is key to ensuring that planned interventions will address their needs. Because they experience care firsthand, members can provide information about personal issues and/or cultural and linguistic barriers that may be invisible to the plan. For example, a dental provider may use highly technical language when communicating to the patient, or an educational pamphlet may not be available in the member's first language, leading to poor compliance with teeth-cleaning recommendations. When soliciting such experiential information from members, the health plan should explain why the data are needed (e.g., to improve care and/or reduce disparities across members) and emphasize that the data will remain private to create a culture of openness and trust among patients.

Health Plan Leadership

Health plan staff in leadership positions – chief operating officers, quality directors, and dental executives – bring passion and a bird's-eye view of health plan programs. They may have historic knowledge about the organization, provider networks, and member community that can shed light on trends (e.g., growing frustration with administrative procedures among dentists, increasing poverty in the region). Governmental affairs liaisons, in particular, will also have insights into key policy drivers that are impacting health plan operations and care delivery (e.g., increasing Medicaid quality reporting requirements, changes in capitation payment rates). To support the

PIP, leadership can allocate resources, make organization-wide decisions, and spur culture change if needed to address the root causes.

Providers and Frontline Staff

Providers' experiences delivering care and insights into barriers are essential to understanding how to maximize quality improvement interventions. Dentists, dental hygienists, and dental therapists can shed light on clinical issues and member behaviors, and frontline staff – receptionists, assistants, practice managers – can provide information on administrative or clinical processes that are not running optimally. To maximize analysis of the provider system, health plans should consider the range of provider practices in their network and identify organizational characteristics that might impact the practices' ability to deliver high-quality care (e.g., geographic location, size, years in operation, level of sophistication of electronic health records). Primary care providers may also be key informants, particularly if low rates of referral to dentists, or lack of available pediatric dentists, are persistent barriers to oral health care in your network.

Community Members and Organizations

Community members and local organizations can provide very valuable information on factors outside the dental care setting that may impact oral health outcomes. Such information may include local caries prevalence; common patient behaviors in the community that affect oral health (e.g., substance use, smoking); and environmental risk factors, particularly those affecting poor communities (e.g., inexpensive access to sugary drinks, healthy food deserts). Entities that can provide expertise on community-level barriers include the following:

- *Local oral health coalitions,* for up-to-date information on key policy or legislative matters and to represent voices of diverse stakeholders (e.g., patients, providers, public health entities).
- *Public health agencies,* for information on population-level oral health issues and programs that can support community-based prevention and oral health care.
- *Professional dental associations,* for resources, best practices, and peer-learning opportunities for oral health quality improvement.
- *The state's safety-net dental or primary care associations,* for experience providing care to Medicaid, underinsured, or uninsured populations.
- *Public programs,* for expertise in providing public benefits and coordinating health and social services (Special Supplemental Nutrition Program for Women, Infants, and Children offices, Maternal and Childhood visiting programs, Head Start).
- *Schools,* for mutual interest in the well-being of children, the mandate to educate, and the shared authority to offer services to children and their parents.
- *Cultural organizations,* for competency on issues related to culture, language, and literacy of diverse member communities.

RELEVANT RESOURCES

- Tools for Patient and Family Engagement
- Engaging Patients, Families, and Communities
- Finding Your State or Local Oral Health Coalition
- A Guide for Developing and Enhancing Community Health Programs

Breaking Down the Aim into Identifiable Causes and Effects

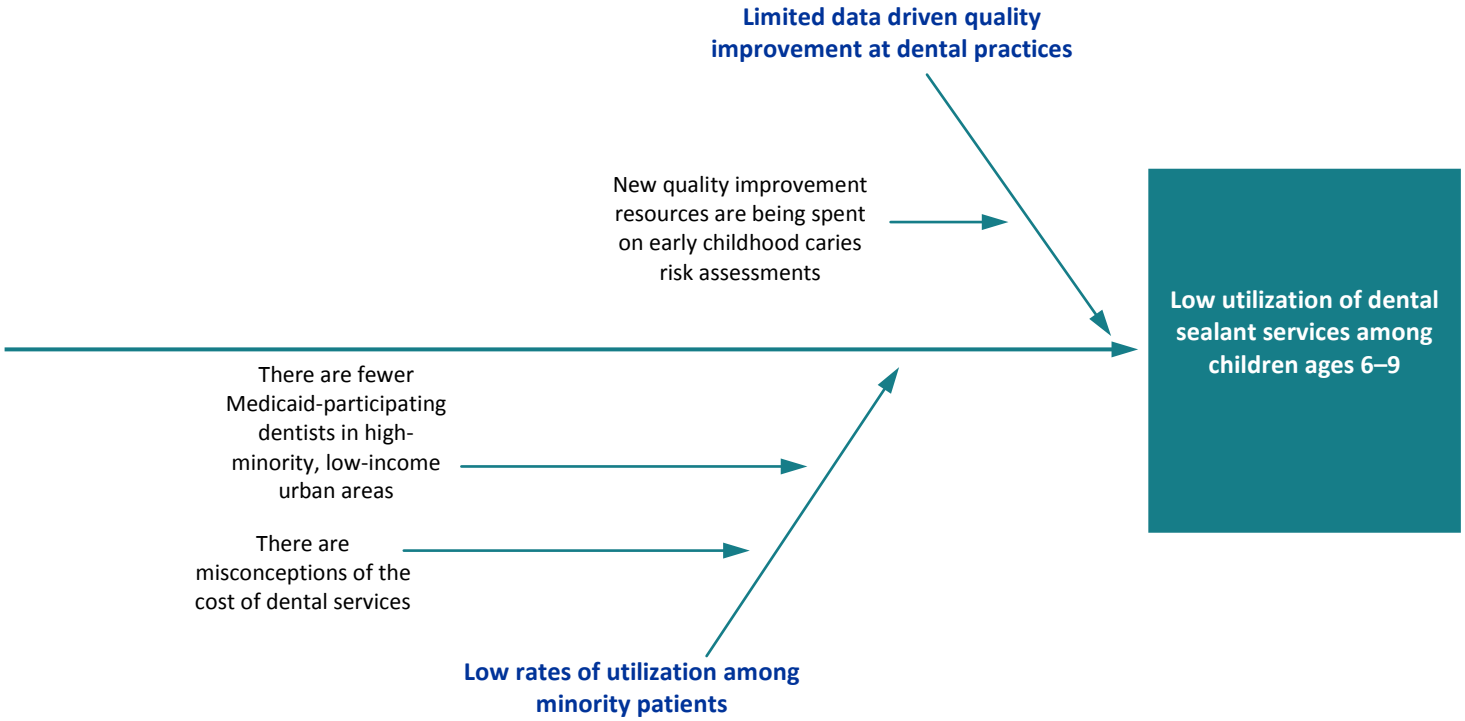
There are several tools that can be used to identify root causes of observed barriers. These include: five whys, process mapping, and failure modes and effects analysis.

RELEVANT RESOURCES

- "Five Whys" Tool for Root Cause Analysis: a simple problem-solving technique that helps to quickly get to the root of a problem. The Five Whys strategy involves looking at any problem and drilling down by asking "Why?" or "What caused this problem?"
- Process Mapping: a visual representation – a picture or model – of the relevant procedures and administrative processes involved in a flow of activities surrounding a patient.
- Failure Modes and Effects Analysis (FMEA): a systematic, proactive method for evaluating a process to identify where and how it might fail, and to assess the relative impact of different failures in order to identify the parts of the process that are most in need of change. (FMEA Tool)

Another simple tool is the **fishbone diagram** (also called a cause-and-effect diagram), which can be used to facilitate group discussion on a flip chart or white board. It is used to identify and display all of the possible causes of a problem. To construct the diagram, a problem statement ("effect") is identified, and major cause categories are created to connect to the backbone of the chart as shown in Exhibit 3. The question "why?" is continuously repeated to go backwards from the problem and create "branches" for different causes. Health plans can use the sample below, and the blank version in Appendix A to create their own fishbone diagram.

Exhibit 3: Fishbone (Cause and Effect) Diagram Example



Resource link: http://www.health.state.mn.us/divs/opi/qi/toolbox/print/fishbone.pdf.

Prioritizing Which Root Cause to Address

Once root causes have been identified, health plans must determine which are feasible and most important to address through the PIP, because not all causes can be tackled through one PIP. Health plans can use a **priority matrix**, which helps assess the importance versus feasibility of the root causes. For example, health plans might identify poor access to transportation and staff misuse of an electronic appointment reminder as root causes underlying a high rate of missed appointments. Training staff to use the reminder system would be more feasible and timely than working with city officials to facilitate more transportation options. Health plans can use the sample in Exhibit 4 below and the blank version in Appendix B to create their own priority matrices.

Exhibit 4: Priority Matrix Example

Which of the Root Causes Are . . .	Very Important	Less Important
Very Feasible to Address in the PIP	▪ *Many minority members have misconceptions about the cost of services*. This must be addressed swiftly, as there is little to no cost-sharing for preventive services in Medicaid, and members should be aware of this. A relatively low-cost and wide-reaching multimodal communications strategy can address this. ▪ *No quality improvement data are available to providers around dental sealants and the target age group*. Through a provider partnership, these data – which are readily available at the health plan level – can be communicated to providers.	▪ *Internal quality improvement resources are being spent on identification of early childhood caries, not sealant applications.* It is good that the health plan is expending energy towards quality improvement. The PIP provides an opportunity to channel those learnings or resources to improving dental sealant application rates. This however, may not address, the more complex, member-level root causes.
Difficult to Address in the PIP	▪ *There are fewer Medicaid-participating dentists in high-minority, low-income urban areas.* This is a systems-level problem that requires multiple levers across the state, educational, and financing sectors to address. Although a health plan can create financial and administrative incentives to influence its provider networks, that is not a short-term solution.	Not applicable to the root causes identified.

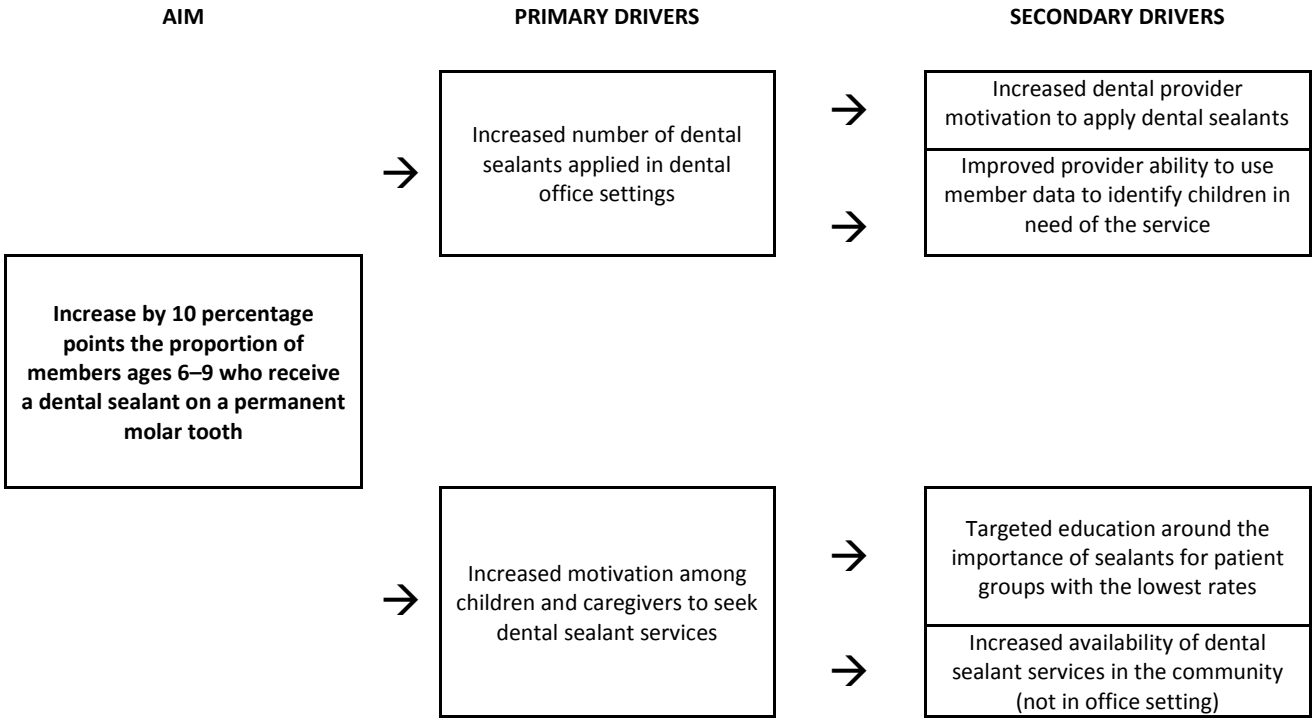
Identifying the Drivers of Change to Support the PIP Aim

A **driver diagram** can be used to outline root causes of problem areas and prioritize potential **interventions**. A driver diagram connects the PIP Aim to the identified root causes and identifies actionable strategies, or *drivers of change*. The driver diagram provides a visual guide that links these elements and can be used to organize the PIP effort. It consists of four elements:

1. The **PIP aim**.
2. The high-level factors that must be influenced in order to achieve the aim, called the **primary drivers**.
3. Lower-level factors necessary to influence the primary drivers, called the **secondary drivers**.
4. **Interventions** that will address the secondary drivers.

There is no limit on the number of primary drivers or secondary drivers, and they are arranged visually to indicate the causal relationship among them. It is typical for the number of elements in each category to increase from the aim to the secondary drivers (see the sample in Exhibit 5).

Exhibit 5: Driver Diagram Example



RELEVANT RESOURCE

- Defining and Using Aims and Drivers for Improvement

Choosing the Ideal Intervention(s) for the Organization

The next step is to identify interventions that can facilitate the secondary drivers. Although a PIP has one aim, there may be multiple interventions that are part of your PIP. These may vary in size, scope, target members, level (e.g., plan, provider, community), and timing. Also, as health plans begin implementing one intervention, they may need to tweak a component or switch to a different intervention if they are not seeing the results you expect.

There are four common types of oral health interventions:

- **Program administration:** Target policies, operations, and programmatic operations.
- **Provider-focused:** Influence the participation of individual providers and encourage best practices in oral health care delivery.
- **Enrollee-focused:** Occur at the level of the individual member or family and encourage active patient participation in oral health care.
- **Collaborative:** Leverage resources and expertise across multiple participants (e.g., other health plans, state, providers, counties, public health, community organizations) to maximize coordination and participation toward the goal of improving oral health.

Interventions can be organized by the three barriers mentioned earlier:

1. **Provider participation.** These factors affect the number of dental providers contracted with the health plan and their willingness or ability to serve a large number of Medicaid beneficiaries.
2. **Program administration and service delivery.** These factors address the procedures and policies that impact the efficient delivery of dental services to members.

3. **Member and community.** These factors impact whether and how well individual members can access dental care, effectively communicate with providers, and/or pursue healthful oral health behaviors.

Exhibits 6, 7, and 8 outline types of interventions to consider, based on these categories of barriers and interventions.

Exhibit 6: Examples of Strategies to Address Provider Participation Barriers

Administrative	Provider-Focused	Enrollee-Focused	Collaborative
Ensure that claims are paid promptly.	Train PCPs and their staff to conduct and bill for oral health risk assessments, apply fluoride varnish, and make referrals to dental services.	Communicate with families frequently (at a minimum at enrollment and renewal) about the importance of dental care to their child's overall health and about ways to access care.	Partner with school-based health centers and mobile health units to offer preventive dental services, including sealants, to students.
Shift the provider reimbursement structure to incentivize addressing priority access challenges or populations (including gaps in geographic, socio-demographic, and specialty care access).	Sponsor trainings for general dentists on how to manage toddlers and young children in a clinical setting.	Support providers in reducing no-shows by creating a centralized no-show follow-up system.	Partner with state chapters of the American Academy of Pediatrics and their oral health advocates to secure greater pediatrician participation in oral health prevention.
Use clear, concise, accurate and up-to-date materials to recruit providers.	Cultivate local "champions" among Medicaid-participating dentists to engage in peer-to-peer recruiting and mentoring of new participating dental providers. Consider working with the state dental association.	Work to increase the oral health literacy of enrollees, including the importance of using good oral health practices at home.	Partner with the state's primary care association and community clinics to develop strategies for underserved communities.
	Offer targeted pay-for-performance incentives to dental providers.		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.

Source: Adapted from *Improving Oral Health Care Delivery in Medicaid and CHIP: A Toolkit for States*. CMS. June 2014.

Exhibit 7: Examples of Strategies to Address Program Administration and Delivery System Barriers

Administrative	Provider-Focused	Enrollee-Focused	Collaborative
Provide immediate beneficiary eligibility verification to providers through member identification cards, automated voice response systems, or online inquiries.	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 (e.g., Medicaid Provider Manual).	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.	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.
Reduce or eliminate prior authorization requirements.	Provide a dedicated provider services website or telephone hotline with to provide prompt problem resolution.	Allow parents to choose a dental home for their children, or assign each child to a dental home in his or her community.	Improve coordination between medical practices and dental practices.
Implement electronic claims processing and universal claims forms.	Ensure that providers are familiar and comfortable with accessing translation services.	Provide parents with easy-to-access, real-time assistance in locating a participating dentist, making an appointment, and securing transportation to the appointment. Ensure that providers and caregivers are aware that this assistance is available.	
	Implement a dental home initiative.	Ensure that all communications are culturally sensitive and available in relevant languages.	

Source: Adapted from *Improving Oral Health Care Delivery in Medicaid and CHIP: A Toolkit for States*. CMS. June 2014.

Exhibit 8: Examples of Strategies to Address Enrollee and Community Factors

Administrative	Provider-Focused	Enrollee-Focused	Collaborative
Promptly inform providers of changes to patient contact information to ensure continuity of care.	Conduct outreach and education to primary care medical providers on the importance of dental screenings and referrals by age 1: "first dental visit by first birthday or at the eruption of the first teeth."	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.	Identify and work with a high-profile dental "champion" in state leadership, provider networks, or the local community.
Update provider directories frequently. Consider collaborating with dental association in this effort.	Create an easy-to-use referral mechanism for primary care medical providers to locate general dentists willing to see very young children and participating pediatric dentists accepting new patients.	Target outreach programs on the importance of good oral hygiene practices in the home and preventive care to young children.	Collaborate with Title V and other public health programs to identify eligible children, help their families enroll in Medicaid, and educate them about dental coverage and the importance of dental care.
Formulate specific strategies for identifying and serving hard-to-reach populations (e.g., children with special health care needs, age 3 and younger, in geographically isolated communities, in foster care, at highest risk for oral disease, etc.).	Remind providers of the importance of sealants at ages 5–7 and 10–11, or as soon as permanent molars have fully erupted.	Send personalized phone text, email, or mail reminders to families about overdue or upcoming dental checkups.	Include dental providers and organizations in medical home and health home initiatives.
Add consumer representation focused on dental health to community/patient advisory boards.	Train oral health providers on culturally and linguistically sensitive care, including how to access no-cost interpretation services.	Offer case management services, including interpreter services, for enrollees who need support to make and keep dental appointments.	
		Use periodic consumer assessment surveys such as CAHPS to gather information about member/caregiver satisfaction with providers and oral health care delivery.	

Source: Adapted from *Improving Oral Health Care Delivery in Medicaid and CHIP: A Toolkit for States*. CMS. June 2014.

RELEVANT RESOURCES

- Strategies to Increase Oral Health Care Access for Children in Medicaid: Lessons from Pioneering States
- Oral Health Interventions at a Glance

As health plans consider which interventions to pursue, they should identify which are most compatible with their organizational infrastructure and resources and which are the most feasible to implement within the time frame of the PIP. A **Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis** can facilitate this. The analysis will help health plans choose interventions that leverage their strengths and opportunities and minimize weaknesses and threats.

Strengths (e.g., ongoing quality initiatives, leadership commitment) and weaknesses (e.g., member complaints) exist *within* the organization, whereas opportunities and (e.g. community partnerships) and threats (e.g., multiple state reporting requirements) are *external*. Health plans can use the sample in Exhibit 9 and the blank version available in Appendix C to create their own SWOT analysis.

Exhibit 9: SWOT Analysis Example

	Positives	**Negatives**
INTERNAL ***under your control***	**build on** **STRENGTHS** *Examples:* ▪ *Strong data-mining capabilities* ▪ *Leadership commitment to quality improvement*	**minimize** **WEAKNESSES** *Examples:* ▪ *Limited provider engagement to date on quality improvement projects* ▪ *Data on caries prevalence are lacking*
EXTERNAL ***not under your control, but can impact your work***	**pursue** **OPPORTUNITIES** *Examples:* ▪ *Recent meeting between leadership and local Head Start chapter to discuss their new initiative on oral health prevention in minority communities*	**protect from** **THREATS** *Examples:* ▪ *Members and community partners seem focused on water fluoridation efforts over other oral health issues* ▪ *Major plan competitor in the region has mandated a reporting system for provider quality that is overwhelming our shared providers*

After creating a SWOT profile for your organization, identify interventions based on the following questions.

Internal Factors

- *People:* What staffing models will the intervention require? Is there leadership buy-in for the intervention?
- *Time:* How long will it take to implement this intervention? What ramp-up time is required (e.g., member outreach, acquisition of new data, staff training)?
- *Data:* What are the data demands for this intervention? Are the data already available? How easily can new data be collected?
- *Finances:* How much will materials, staff training, and staff time cost? Can this intervention likely be funded sustainably through Medicaid or other financing streams (e.g., philanthropy)?
- *History:* Does the intervention align with lessons from previous quality interventions? Are there historical reasons (e.g., political conflicts, leadership issues) not to pursue the intervention?

External Factors

- *Competition:* Does the intervention require collaboration with other health plans? Might the health plans be competitors for key resources (e.g., provider time, community partnerships)?

- *Partnerships:* Does the intervention require partnerships with external entities? Who are they: providers, hospitals, community-based organizations, public health programs (e.g., Special Supplemental Nutrition Program for Women, Infants, and Children, Head Start, maternal home visiting programs), schools, churches? Are the resources and trust of preexisting relationships in place? Can they be developed?
- *Public health/community:* Does the intervention align with what current community needs assessments and public health reports suggest for oral health care?
- *Policy:* Does the intervention align with any federal, state, or local programs (e.g., dental integration in Medicaid Accountable Care Organizations), Medicaid requirements, or other policy regulations?
- *Social and political trends:* Does the intervention align with current concerns around oral health care in the local community (e.g., water fluoridation)? Does it leverage popular social technologies or relevant media?

Not all of these questions may be relevant or answerable, but they are important to consider when deciding the best approach for your organization.

SPOTLIGHT: PUBLIC HEALTH RESOURCES ON ORAL HEALTH

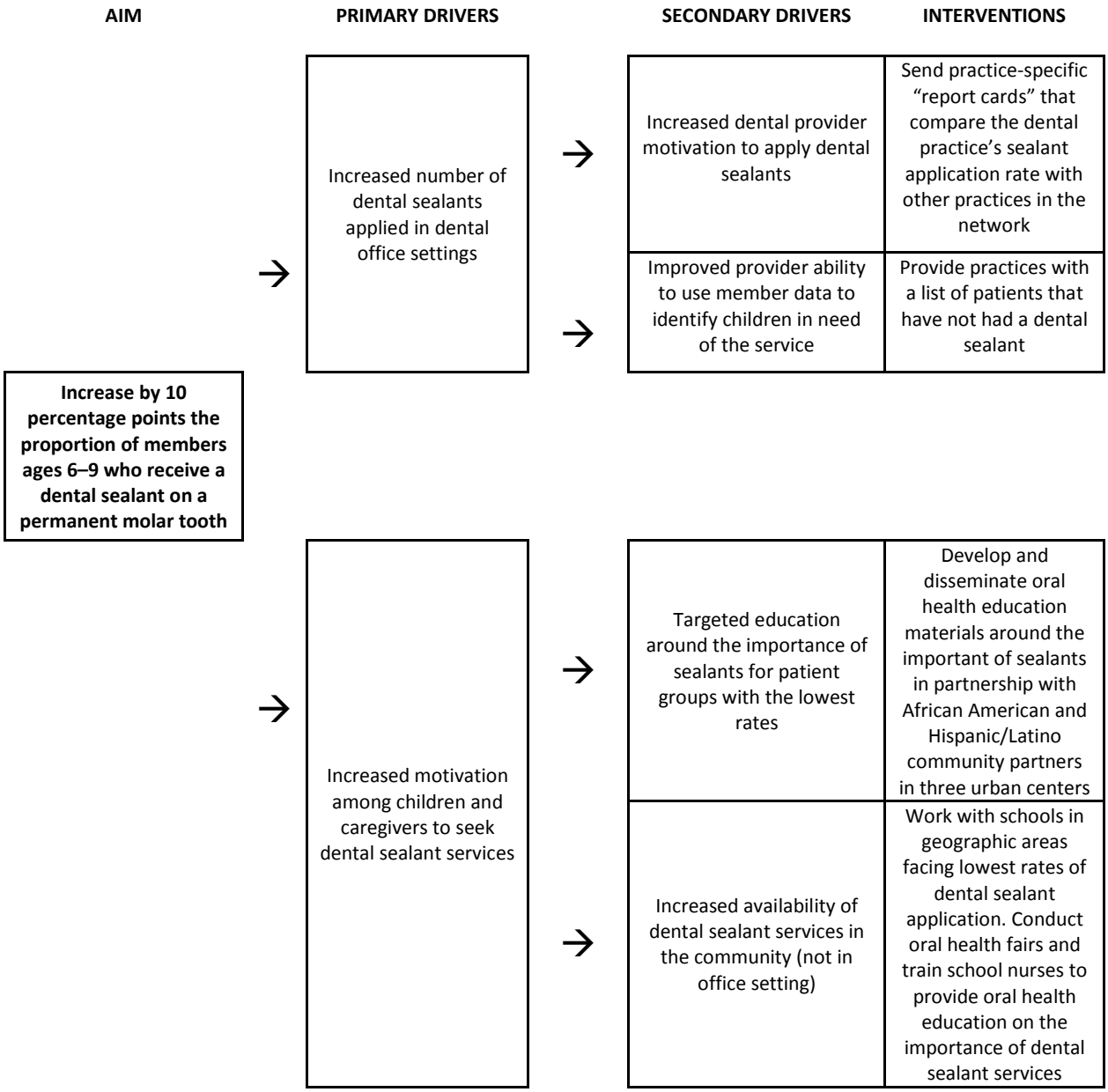
Although health plans and providers are focused in the day-to-day on the delivery of clinical care services to individual patients, public health entities are focused on improving oral health at a population level. The following public health resources monitor the prevalence of oral diseases and the factors influencing oral health, such as risky or protective behaviors, the availability of preventive interventions, and utilization of preventive services. They can inform your choice of quality improvement interventions, provide additional data to support your performance-monitoring activities, and help you engage with patients and create community-level partnerships.

RELATED RESOURCES

- National Oral Health Surveillance System
- State and Territorial Dental Health Programs
- Centers for Disease Control and Prevention's Data Applications for Oral Health

Once the intervention(s) have been selected, the driver diagram (see Appendix D) can be revisited. Health plans should add the interventions that correspond to the secondary drivers of the diagram, completing the visual representation of the PIP strategy (see Exhibit 10). The driver diagram should then be shared with all involved staff and collaborating partners to motivate and focus efforts through the PIP.

Exhibit 10: Driver Diagram Example



Assessing the Resources Required for Continuous Quality Improvement

Health plans should consider the resources required to implement each identified intervention (see Exhibit 11). These can include staff time and training, supplies, meetings, data reports, participation incentives, site visits, and member and community outreach. An important activity is identifying metrics that can assess the extent to which implementation is occurring effectively. Although the PIP performance measures assess the *impact* of the interventions, these metrics help identify *progress* and *completeness* of implementation and assure that failures in impact are not due to incomplete or incorrect implementation. These metrics also support a continuous quality improvement approach to implementation, which health plans can operationalize through Plan-Do-Study-Act cycles (featured in the next chapter of the manual). The intervention tracking measures should yield enough information to show how well the intervention is working in a relatively short amount of time – that is, a week, month, or quarter.

Exhibit 11: Intervention Tracking Measures and Related Resources

Intervention Activity	Intervention Tracking Measure	Data Sources for Measure	Resources Needed
Send practice-specific "report cards" – comparing the dental practice's sealant application rate with other practices in the network	• Percentage of practices receiving an email, report card, and nonutilization list every two months	• Provider outreach department	• Staff time to design the report cards, define data elements, and do quality checking • Information technology staff time to run dental sealant applicant rate reports for each practice • Staff time to develop and implement a communications plan with dental practices
Provide practices with a list of patients that have not had a dental sealant	• Lists completed and provided to each practice in the network	• Provider network reps to confirm	• Staff time to prepare lists and verify accuracy
Develop and disseminate oral health education materials around the importance of sealants in partnership with African American and Hispanic/Latino community partners in three urban centers	• At least three new types of media (e.g., radio ad, magnet, billboard) vetted in focus groups with African American and Hispanic/Latino members – within three months • Results of focus groups in advancing quality of materials	• Marketing, clinical, and member engagement staff working together to design materials	• Development of education materials through twice-monthly meetings with community partners and internal staff over a six-month span • Staff time to develop focus group questions and identify an external moderator • Staff time to plan the focus group with the external moderator to plan the focus group • Incentives (e.g., gift certificate, bus pass, or dinner) to attract participants into the focus group

In addition to the intervention tracking measures, it is also important to frequently measure the primary and secondary measures – those that are evaluating the *impact* of the intervention – to ensure that the course corrections being made to the intervention are resulting in the desired outcomes. For example, if the goal of the intervention is to improve the rate of dental sealant applications, it will be crucial to monitor progress on that rate throughout the implementation process. Even in the case that the intervention activities (e.g., sending reports cards and patient lists to providers, and creating culturally-appropriate oral health education materials) are implemented thoroughly, the rates for dental sealant application may still fall short of expectation. In this case, further tweaks to the existing intervention activities, or a new intervention may have to be pursued. Recognizing this in the earlier stages of your intervention implementation will save time and resources and will allow for a more effective PIP.

Completing the *Plan the Intervention* Section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

VII. Plan the Intervention

Provide the results of analyses you conducted to understand the drivers behind gaps in oral health utilization, quality, or timeliness related to your PIP aim. Indicate the methods you used to arrive at these conclusions (e.g., focus groups, surveys, fishbone/cause-and-effect diagrams). *Use the tools in Appendices A–C.*

Provide the rationale for choosing your PIP intervention(s). Include any analyses conducted that helped you arrive at your decision (e.g., Strengths, Weaknesses, Opportunities, and Threats).

Attach the driver diagram that guides your PIP strategy. Provide any related context below, as desired. *Use the worksheet in Appendix D to construct your driver diagram.*

Indicate below the measures you will use to assess progress of the intervention and correct course, as necessary. *Add rows for additional measures as needed.*

Intervention Tracking Measure	Data Source	Frequency of Collection	Staff Responsible	How This Will Inform Continuous Quality Improvement Strategy

VIII. Implement the Intervention and Improvement Strategies

*In the **Implement the Intervention and Improvement Strategies** section of the PIP template, the health plan describes the process of implementing the intervention, including key staff, timelines, and continuous quality improvement cycles.*

***Read this chapter to understand how to** (1) determine key staff involved in the project, (2) lay out the projected timeline and required resources for the project, (3) track implementation progress, and (4) establish plan-do-study-act cycles to support rapid cycle improvement.*

Key Staff Involved

The core team implementing the intervention must work cohesively to ensure fidelity to the PIP's quality improvement approach. Managing a PIP requires a broad set of skills that should be well-represented across the core team. Required activities and skills include the following:

- Entering data into a registry
- Querying an information database
- Mining paper records
- Producing regular data reports
- Developing written narratives
- Leading meetings with staff across different departments
- Communicating effectively with leadership
- Reaching out to, and building trusting relationships with, providers, members, and community partners
- Conducting focus groups or interviews
- Developing surveys
- Analyzing quantitative and qualitative data
- Having working knowledge of key clinical terms and processes
- Understanding state Medicaid reporting requirements

To be successful, team members should also have protected time designated to work on the PIP. To the extent possible, the core team should consist of at least the following:

- **Senior leader/executive:** Has the authority to allocate time and make resources available to achieve the team's aims, can bridge multiple departments of the organization, and can champion the spread of successful changes throughout the organization.
- **Quality improvement staff:** Has expertise in quality improvement protocols involving data, staffing, timelines, and performance measurement.
- **Provider or clinical expert:** Understands the clinical aspects of the project, including key terms, member-provider work flow, and reasonable time frames for change in clinical processes or outcomes.
- **Health information technology staff:** Has knowledge of information systems, is able to gain timely access to data, and can troubleshoot issues related data to storage, collection, and quality.
- **Provider liaison:** Has knowledge of key provider issues in the network, particularly provider-related quality and reporting requirements, and is able to effectively engage them through existing relationships.
- **Patient and/or community engagement staff:** Understands how to interface with the member community and external partners (e.g., public health entities, community-based organizations) and obtain input on their needs in a manner that builds trust.

PIP TIP
Expand your PIP team to include state Medicaid agency or EQRO staff who may be involved in the PIP to provide oversight, validation, and/or technical assistance.

Timeline for Intervention

Health plans should create a timeline for intervention implementation that is tied to specific team members and deliverables (see Exhibit 12). This will ensure that time-sensitive aspects of your project (e.g., purchase of service equipment, efforts to contact members for appointments) are carried out effectively. To support a short-term continuous quality improvement approach, it is particularly important to test the efficacy of changes in a timely way; for example, obtaining accurate monthly utilization reports within a short time frame would be critical to identifying opportunities to intervene with a particular set of patients. Health plans should consider organizing their timeline by key team processes and interventions.

Exhibit 12: Example of Timeline Tracking

Activity	Time Period (January 2016–January 2017)	Recurring Process?	Lead Staff
Customize data collection protocol based on identified intervention activities and required data	February	One time	Quality improvement + Health information technology
Share data collection protocol documentation with staff and conduct trainings if necessary	March	Conduct refresher trainings every two months	Quality improvement + Health information technology (presenters) Core quality improvement team (all)
Review intervention tracking measures	All year	Every two weeks	Core quality improvement team (all)
Conduct preintervention focus group with three member groups	April	One time	Quality improvement + Member engagement

Use Continuous Quality Improvement to Implement the Intervention

When implementing identified interventions, health plans should use continuous quality improvement – a model for change that has emerged as a best practice in health care – to ensure the efficacy of their intervention. Continuous quality improvement is based on an iterative process that tests incremental changes over time, rather than waiting long periods of time to test change, when midcourse adjustments are not possible and many resources have been expended. The test process occurs in a cycle called Plan, Do, Study, and Act (PDSA) (see Exhibit 13 and Appendix E). The testing timeline can be as short as one to two days, or as long as several months. The shorter the time frame, the more conducive it is for performing multiple tests to arrive at a working solution. The PDSA comprises four phases, which are documented by a quality improvement team implementing a project, as follows:

- **Plan:** Document the **plan** for achieving your aim.
    - Based on the preliminary data available, what is the best course of action to achieving the aim?
- **Do:** Document **what actually happened** during this phase of your work, based on execution of the plan.
    - Were you able to implement that plan as proposed or did you have to modify the approach, timing, or other elements of the plan?
- **Study:** Document what you **learned** from the work to this point.
    - What do the data – which may be quantitative, qualitative, or observational – tell you? Do you still believe the planned approach is likely to yield the desired outcomes? *This phase can use the intervention tracking measures (Exhibit 11 from Section VII of the template/how-to manual). The primary and secondary measures must also be monitored frequently.*

- **Act:** Document how you will **improve the plan** for the subsequent phase of your work based on the study and analysis of the current cycle.
- **Based** on the study completed in the previous phase of the cycle, how will you modify the plan you laid out in the first phase of this cycle?

The first iteration of a PDSA cycle is often considered a pilot test to try an innovation on a small sample of a population before applying it to the full population, or to pursue an activity on a smaller scale before expanding the scope. Pilot testing requires fewer resources and ensures that larger, subsequent efforts are not futile. Examples include (1) testing an oral health literacy survey tool on 10 patients before all 100 patients, (2) testing the use of bus passes, rather than a larger financial incentive, to encourage attendance of a focus group, or (3) fine tuning the work flow of a new provider claims processing software by doing a mock run with three health plan staff instead of the whole department.

Exhibit 13: Example of PDSA Table

	Intervention Activity #1: Send practice-specific "report cards" – comparing the dental practice's sealant application rate with other practices in the network.	**Intervention Activity #2:** Develop and disseminate oral health education materials around the importance of sealants in partnership with African American and Hispanic/Latino community partners in three urban centers.
Plan: Document the plan for conducting the intervention.	• Run dental sealant application claims data for each contracted provider and create an aggregate rate for the practice. • Develop a list of eligible children at each practice who have not received the service. • Prepare and mail letters with report cards and lists of eligible children to each respective practice. • Plan to do this every two months.	• Determine key oral health education messages in consultation with the local African American oral health coalition and Hispanic health caucus. • Identify the vehicles for dissemination; engage the youth representatives of the community advisory board to create social media strategies. • Meet with clinical and communication staff to create a work plan for how the materials will be developed and by when.
Do: Document implementation of the intervention.	• Using claims data, calculated rate for each practice, and determined overall application rate for the provider network to be 20 percent. • Prepared and sent mailings to each practice.	• Pilot test the materials with two focus groups of 15 African American and 15 Hispanic/ Latino members, respectively. o Recruit members and moderators; use incentives for member participation as necessary.
Study: Document what you learned from the study of your work to this point, including impact **on secondary drivers**.	• Percentage of practices receiving a letter, report card, and nonutilization list every two months *(from intervention tracking measure in Exhibit 11).* • Within two months, the rate of sealant application increased by 2 percent, which was slightly less than expected.	• Discussion during focus groups suggested that the materials had too much jargon, talked down to the members; and catered too much to an older audience *(from intervention tracking measure in Exhibit 11).*
Act: Document how you will improve the plan for the subsequent phase of your work based on the study and analysis of the intervention.	• Send letters electronically instead of via post office to increase the likelihood that they can be accessed by all providers at the practice. • Provide a follow-up call with each practice to discuss the rating and provide any technical assistance on strategies for using the data toward an intervention.	• Refine the language and images to be more accessible to a younger audience; use the input of the youth members of the community advisory board. • Conduct a follow-up focus group, this time made up of the target demographic of the PIP population, to vet the new materials.

It is important to continually monitor the primary and secondary measures (e.g., rate of dental sealant applications) to ensure that the intervention is not only being implemented effectively, but is also bringing about the desired outcomes of the intervention.

RELEVANT RESOURCES

- Plan-Do-Study-Act Cycles
- CMS Quality Improvement 101 and Quality Improvement 201 webinar series
- Institute for Healthcare Improvement quality improvement resources

Completing the *Implement Intervention and Improvement Strategies* Section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

VIII. Implement Intervention and Improvement Strategies			
Identify the staff involved in the implementation of the intervention(s) and their respective roles. Include any relevant staff/leadership champions.			
Indicate the timeline for implementation of the intervention. *Add rows for additional activities as needed.*			
Implementation Activity		**Time Period**	**Frequency of Recurrence**
Report on the results of the Intervention Tracking measures and how these results are helping to assess the progress of the intervention and correct course, as needed. *Use the PDSA worksheet in Appendix E to help complete this section.*			
Intervention Tracking Measure	**Measurement Period**	**Result**	**Results and How They Are Informing Course Correction**

IX. Analyze Data to Interpret PIP Results

*In the **Analyze Data to Interpret Results** section of the PIP template, the health plan reports the results of each quality measure in the PIP project.*

***Read this chapter to understand how to** (1) understand how to report the results of the PIP and (2) build a narrative record of barriers faced and strategies used along the way.*

Health plans report the primary and secondary measures of the PIP during implementation phases of the PIP, culminating in the final measurement at the end of the PIP period. The evaluation of the PIP involves assessing changes in the primary measure(s) and the statistical significance of the changes. Health plans are expected to not only report the quantitative changes in measure rates, but also provide a narrative to accompany these changes that includes barriers faced, strategies used, and lessons learned over the course of intervention implementation. The intervention tracking activities and PDSA cycles feed directly into this narrative.

When analyzing multiple data points over time, health plans can consider tools such as the following:

- *Time series:* plots that display data in a time sequence
- *Run and control chart:* analyzing time-based changes in data within established upper and lower limits
- *Data dashboard:* arrangement of multiple graphs to identify relationships across them
- *Basic trend analyses:* calculations such as the degree of deviation from the mean, or the number of consecutively increasing or decreasing data points

RELEVANT RESOURCES

- Run and Control charts
- Analyzing Quality Improvement Data Using Time Series Charts (Includes guidance on basic trend analyses)
- Managing Data for Performance Improvement (Includes guidance on data dashboards)
- Institute for Healthcare Improvement's Improvement Tracker (Useful for a variety of analyses)

The above tests can be done with a pen and paper or simple spreadsheet and can be helpful for high-level interpretation of measure change. The PIP regulation requires health plans to report the statistical significance of changes in measure rates to identify "true" change. True change is not due to chance, and it is not in keeping with expected trends; it is the result of some intervention in the system. Health plans may need help completing the test of statistical significance. EQROs, which offer strong data analytics skills, may be especially helpful.

SPOTLIGHT: Calculating Statistical Significance

Statistical significance indicates if a difference between units is likely due to a real change or random chance. For quality improvement efforts, complex statistical tests are not necessary, but simple ones (e.g., chi-square) are useful in identifying the impact of an improvement effort. The following resource – as well as the staff expertise of your department or other members of your team familiar with statistical analysis – can help you calculate statistical significance for the observed changes in performance measures.

Relevant Resource

- Agency for Healthcare Research Quality's Resources on Statistical Testing for Diabetes Care

With every measurement period, health plans should consider probable causes for observed changes from the last measurement, including those related to the implementation of the intervention (e.g., a member mailer was not sent out) or other care delivery or member-related phenomena (e.g., bus service near several dental practices was halted, impacting member access). The PDSA cycles can be used to inform this understanding – and to help complete this section of the PIP template (see Exhibit 14).

Exhibit 14: Analysis and Interpretation of PIP Performance Measures

Primary Measure #1: Proportion of children ages 6–9 enrolled in Medicaid or CHIP for at least 90 continuous days who receive a dental sealant on a permanent molar tooth.						
Measurement Period	***Measurement***	***Numerator***	***Denominator***	***Rate or Result***	***Benchmark***	***Goal***
January 2016	**Baseline:**	350	1500	23%	50%	46%
February 2016	Remeasurement 1:	450	1500	30%	50%	46%
March 2016	Remeasurement 2:	700	1500	40%	50%	46%
Statistically Significant? (Yes/No)	**Test Used**	**P-value**	**Measure Periods Compared**			
Yes	Chi-square	0.05	Baseline and Remeasurement 2			

Interpret the rates for each measurement period. Discuss specific implementation barriers faced and strategies used during the time period that may have contributed to the observed results. Provide information on how implementation may be improved upon, based on the current results, for the next measurement period.

Measurement Period	***Measurement***	***Interpretation of Results***	***Barriers Faced and Strategies Used***	***Improvement Strategies for Next Measurement Period***
January 2016	23%	We have conducted root cause analyses to identify barriers to higher rates for members.	Not Applicable	Not Applicable
January–February 2016	30%	This is an increase, but not to the extent we were hoping for.	We sent report cards to providers indicating the sealant rate for their patient population. Our PDSA process indicates that many providers did not receive these. Those that did noted that the numbers are a bit out-of-date due to lags in claims.	We are going to provide each practice with a one-hour tutorial on how to mine their own data to determine the sealant rate. We are also instituting a payment bonus to plans that use our suggested approach and/or show an increase of at least 20% in their rates.
February–March 2016	40%	This is a better increase than what was observed in the last measurement period, but it does not meet our goal of 46%.	We were not able to engage as many practices in the tutorial as we had hoped.	We are going to do in-person meetings with the practices to discuss how we can support their sealant rates (supporting their existing quality improvement rather than mandating our approach). We are also going to increase the payment bonus to see if that motivates practices to focus more attention on this.

Customizing the *Analyze Data to Interpret PIP Results* section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

IX. Analyze Data to Interpret PIP Results

Report the results of the PIP measures.

Primary Measure #1

Measurement Period	*Measurement*	*Numerator*	*Denominator*	*Rate or Result*	*Benchmark*	*Goal*
	Baseline:					
	Remeasurement 1:					
	Remeasurement 2:					

Statistically Significant? (Yes/No)	**Test Used**	**p-value**	**Measure Periods Compared**

Interpret the rates for each measurement period. Discuss specific implementation barriers faced and strategies used during the time period that may have contributed to the observed results. Provide information on how implementation may be improved during the next measurement period.

Measurement Period	*Measurement*	*Interpretation of Results*	*Barriers Faced and Strategies Used*	*Improvement Strategies for Next Measurement Period*
	Enter Rate at Baseline:			
	Enter Rate at Remeasurement 1:			
	Enter Rate at Remeasurement 2:			

X. Plan for Sustained Improvement

*The **Plan for Sustained Improvement** section of the PIP template asks the health plan to identify strategies for continued improvement, sustainability, and dissemination.*

***Read this chapter to understand how to** (1) identify learnings of the PIP to contribute to scaling of the effort, (2) build capacity for quality improvement beyond the PIP, and (3) identify specific dissemination plans for the PIP.*

After the PIP has been implemented and results have been analyzed, the health plan should review the effort to learn how to create sustained improvement. This allows health plans to maintain the positive results of the intervention, correct negative results, and/or scale the intervention to support longer-term improvements or broader improvement capacity across other oral health services, populations, and aspects of care. Because PIPs can be resource-intensive, this phase also helps health learn how to allocate more efficiently for future projects.

Health plans should conduct the following activities to evaluate how they will apply the PIP toward broader quality improvement: (1) study the PIP, (2) understand the new environment, and (3) build capacity.

Study the PIP

- *Review key data*. Health plans should look their oral health care data – primary measure, secondary measures, qualitative measures – to understand the new picture of oral health care in the organization. The intervention tracking measures and the notes recorded in the PDSA cycles can help identify strategies that were critical to the improvement process and the pace of change that occurred over the measurement period. Health plans should also review how the key data protocols can be modified and/or maintained.

- *Obtain input from staff involved in the project*. Focus groups or surveys with the original informants (e.g., leadership, providers, staff, members, community partners) will be useful in getting a preassessment versus postassessment view of how the intervention changed the system. Open discussions and anonymous surveys of the PIP implementation team will help identify strengths and weaknesses.

- *Review aspects of the PIP design*. Assess the following components of the PIP:
  - *Goal relative to baseline:* Was this achieved? Was the expected rate of improvement a challenge to meet or could the bar have been higher?
  - *Performance measures:* Did the identified set of measures provide the information you needed during the PIP project? How burdensome was data collection?
  - *Stratification:* Were there additional measure stratifications (e.g., age, race/ethnicity, practice site) that might have provided a more nuanced understanding of progress? Were the stratifications you performed helpful?
  - *Benchmarks:* How have those changed in the last year?
  - *Cultural competency:* Were the activities of the intervention carried out in a culturally tailored and respectful manner?

- *Consider scalability or flexibility of the intervention.* How might the same intervention be applied to a different condition, population, care process, dental service, or set of providers? What changes would have to be made?

Understand the New Environment

- *Reuse the planning tools.* Health plans should revisit the root cause analyses and intervention decision making used in the PIP planning process to see how the drivers of change are different. A follow-up SWOT assessment can be particularly useful to understand how internal characteristics of the health plan, as well as the external policy or nonclinical environment, have changed since the start of the PIP.

- *Listen to members and the community.* Re-administering member satisfaction surveys and scanning member complaint logs can help show how member needs have changed. The community advisory board, patient leadership councils, partnerships with advocacy organizations, and/or oral health coalitions can provide an updated understanding of patient priorities and socioeconomic or cultural issues that are impacting oral health care from the outside.

- *Consider policy.* Health plans should identify changes in state policies, such as pay-for-performance incentives, new contract requirements, disease management initiatives, and/or technical assistance that may motivate or challenge continued oral health quality improvement activities.

Build Capacity

- *Review staffing*. It is important to understand how staff competencies and dynamics contributed to the PIP effort. Was there teamwork and accountability? Was there leadership support? How might future interventions survive with staff turnover? Can the knowledge of the team be institutionalized? How might staff trainings or new job descriptions support the need for certain competencies?

- *Understand resource use*. What were the financial impacts of the PIP? Health plans should inventory the resources expended, such as staff time, hours of operation, equipment, personnel training, provider or member outreach, and meeting convening. How can administrative budgets, business revenue, Medicaid, or other funds (e.g., philanthropy) support these costs in the future?

- *Identify assistance needs*. It is difficult for health plans to conduct PIPs without external support. Plans should think through what resources or technical assistance the state, EQRO, and/or other subject matter experts could provide. Health plans should also consider how partnerships with external entities – community-based organizations, public health agencies, oral health coalitions – might support future PIPs.

PIP TIP

PIPs should not be burdensome, one-time projects. Rather, they can support broader oral health quality improvement infrastructure. Health plans should consider the following strategies:

- Make collection and analysis of your PIP data a routine part of the larger quality improvement process.
- Train additional staff on the data collection protocol.
- Assign "champions" to continue to oversee the PIP work. Ensure continuity between the current and future quality improvement teams.
- Regularly report the PIP outcomes data to internal (e.g., key leadership) and external (e.g., community advisory board) stakeholders to build buy-in for the project and create dialogue to inform the continuous quality improvement process.

Relevant Resource

- Positive Deviance: A Culture Change Management Approach to Reducing Health Care Acquired Infections (A guide for supporting change management)

Communicate Your Findings

An important component of sustainability is communication. Sharing project results, including less successful outcomes, will drive productive conversations on how to improve PIP efforts, generate buy-in for future quality improvement programs, and develop an image of the health plan as committed to member needs. Health plans can consider a variety of methods to share PIP data internally and externally. They should be mindful of the likely concerns of different audiences and should tailor dissemination strategies accordingly, as suggested in Exhibit 15.

Exhibit 15: Tailoring Communication Strategies for Specific Audiences

Audience	Likely Concern	Strategies for Dissemination
Health plan leadership	▪ Enhanced performance ▪ Return on investment ▪ Financial impact ▪ Member satisfaction	▪ Data-driven results summaries (e.g., with charts, graphs) ▪ Formal presentations or publications ▪ Storytelling (e.g., member testimonials)
Health plan staff	▪ Enhanced performance ▪ Member satisfaction ▪ Organizational satisfaction	▪ Hallway posters ▪ Staff meetings ▪ Health plan newsletters ▪ Regular update emails ▪ Storytelling (e.g., member testimonials)
Providers and frontline staff	▪ Enhanced performance ▪ Member satisfaction ▪ Organizational (practice) satisfaction ▪ Practice efficiency	▪ Report cards on provider performance ▪ Regular (e.g., monthly) newsletters ▪ Storytelling (e.g., patient testimonials)
Patients	▪ Better oral health outcomes ▪ Access to high-quality oral health care services ▪ Equity of care among members ▪ Lower cost of care	▪ Waiting room posters ▪ Patient Advisory Council presentations ▪ Mailers to home, email ▪ Health or popular magazines ▪ Oral, or general health, websites ▪ Social Media ▪ Blogs ▪ Billboards ▪ Public fliers or brochures ▪ Local news (e.g., print, radio, television) ▪ Community presentations (e.g., local farmer's market) ▪ Storytelling (e.g., patient testimonials)
Local community (e.g., public health entities, community-based organizations, oral health coalitions, community centers, social service agencies, general public)	▪ Enhanced access to oral health services ▪ Member education around prevention and healthy dental behaviors ▪ Addressing social determinants of health, such as employability, nutrition, or environmental factors	▪ Health or popular magazines ▪ Oral, or general health, websites ▪ Social media ▪ Blogs ▪ Billboards ▪ Public fliers or brochures ▪ Local news (e.g., print, radio, television) ▪ Community presentations (e.g., local farmer's market) ▪ Storytelling (e.g., patient testimonials)
Health policy stakeholders (e.g., foundations, policy institutes, professional associations)	▪ Best practices for oral health quality improvement	▪ Data-driven results summaries (e.g., with charts, graphs) ▪ Formal presentations or publications ▪ Storytelling (e.g., patient testimonials) ▪ Posters (e.g. research style)

RELATED RESOURCES

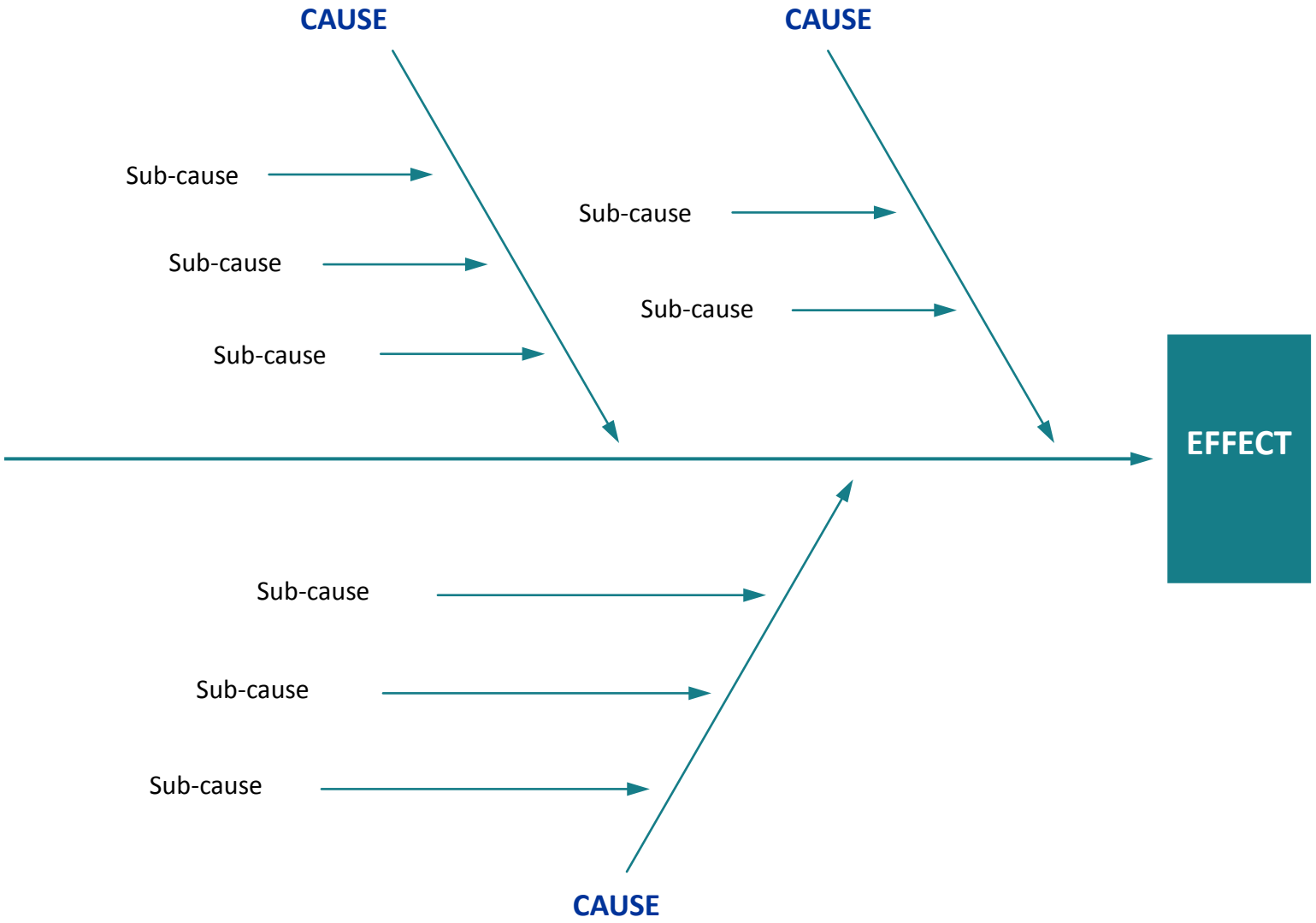
- Agency for Healthcare Research Quality's Dissemination Planning Toolkit
- Blueprint for the Dissemination of Evidence-Based Practices in Health Care

Customizing the *Plan for Sustained Improvement* section of the PIP Template

Health plans can use the information from this chapter to guide their PIP planning and implementation activities and to fill out the corresponding section of the *Medicaid Oral Health PIPs: A Template*, featured below.

X. Plan for Sustained Improvement
How will you measure improvement beyond the duration of the PIP?
How will you sustain improvements observed through the PIP?
What aspects of this project would you replicate? What aspects would you replace or improve upon?
What aspects of the quality infrastructure established through this project will you build upon to advance oral health among your members?
What technical assistance or other support do you require to sustain the interventions of the PIP and/or to pursue broader oral health quality improvement?
How do you plan to disseminate the findings of the PIP?

Appendix A. Fishbone (Cause and Effect) Diagram



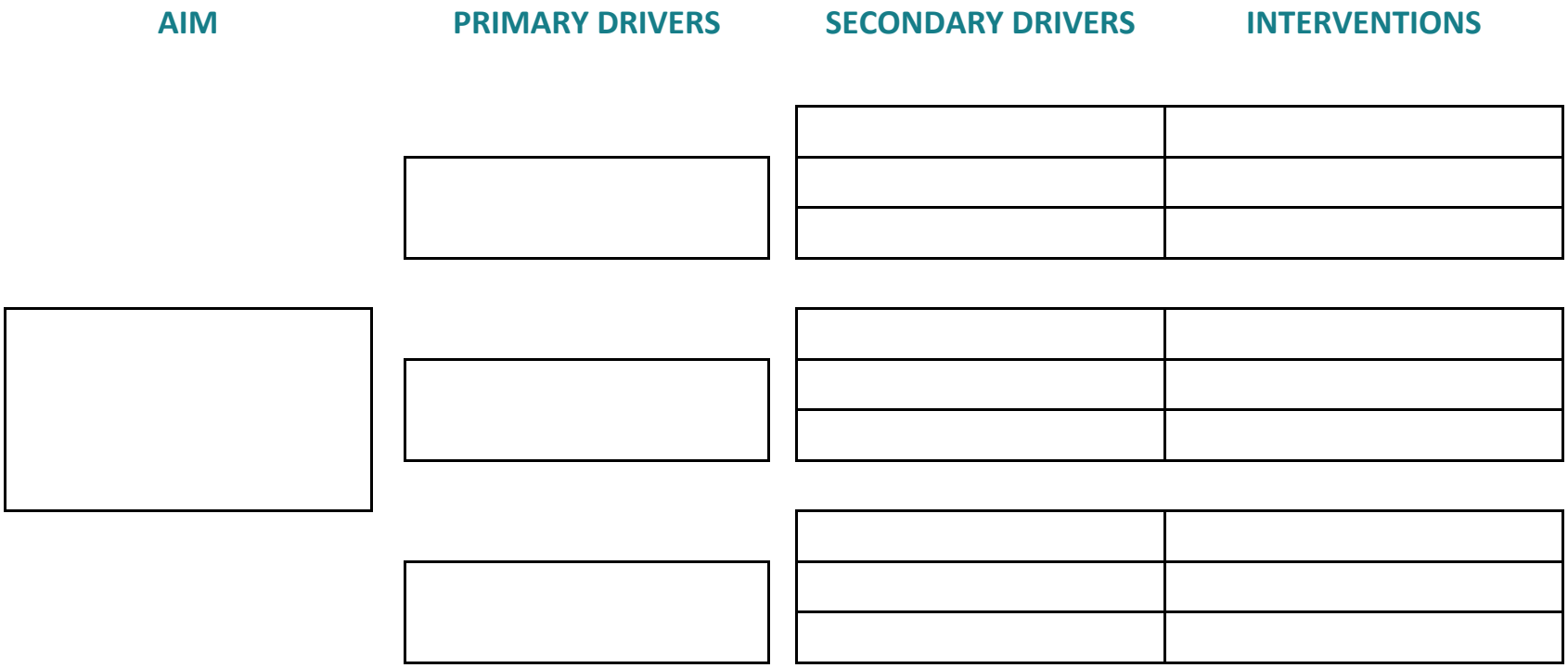
Appendix B. Priority Matrix

Which of the Root Causes Are . . .	Very Important	Less Important
Very Feasible to Address		
Less Feasible to Address		

Appendix C. Strengths, Weaknesses, Opportunities, and Threats (SWOT) Diagram

	Positives	Negatives
INTERNAL ***under your control***	***build on*** **STRENGTHS** ***Examples:*** ▪	***minimize*** **WEAKNESSES** ***Examples:*** ▪
EXTERNAL ***not under your control, but can impact your work***	***pursue*** **OPPORTUNITIES** ***Examples:*** ▪	***protect from*** **THREATS** ***Examples:*** ▪

Appendix D. Driver Diagram



Appendix E. Plan-Do-Study-Act Worksheet

	Pilot Testing	Measurement #1	Measurement #2
Intervention #1:			
Plan: Document the plan for conducting the intervention.	•	•	•
Do: Document implementation of the intervention.	•	•	•
Study: Document what you learned from the study of your work to this point, including impact on secondary drivers.	•	•	•
Act: Document how you will improve the plan for the subsequent phase of your work based on the study and analysis of the intervention.	•	•	•
Intervention #2:			
Plan: Document the plan for conducting the intervention.	•	•	•
Do: Document implementation of the intervention.	•	•	•
Study: Document what you learned from the study of your work to this point, including impact on secondary drivers.	•	•	•
Act: Document how you will improve the plan for the subsequent phase of your work based on the study and analysis of the intervention.	•	•	•

GLOSSARY

Aim statement: A written, measurable, and time-sensitive statement of the accomplishments a team expects to make from its improvement efforts.

Benchmark: The attribute or achievement that serves as a standard for other organizations to emulate.

Champion: An individual in the organization who strongly believes in quality improvement and is willing to work with others to test, implement, and spread changes. The champion should have a good working relationship with colleagues and leadership and be interested in driving change in the system.

Claims (Encounter) data: The electronic record of services provided to health plan enrollees. Encounter data provide the same type of information that is found on claim forms (e.g., UB-04 or CMS 1500), but not necessarily in the same format.

Continuous quality improvement: A cycle (structured trial) of a change during an improvement effort, to accelerate the adoption of proven and effective changes.

Denominator: Provides the general specifications of any clinical component that is the basis for inclusions and exclusions in the population to be considered in a measure; the number below the numerator, as in a fraction.

Disparity: A particular type of health difference that is closely linked with social or economic disadvantage.

Driver of change: The catalyst of a shift or transformation that can be leveraged in improvement efforts.

Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDT): A comprehensive and preventive child health benefit for Medicaid enrollees under age 21 that includes periodic screening, vision, dental, and hearing services.

Encounter data (see *Claims Data*)

External quality review (EQR): The analysis and evaluation of aggregated information on quality, timeliness, and access to health services provided to Medicaid/CHIP enrollees by MCOs or their contractors.

External quality review organization (EQRO): An organization that meets the competence and independence requirements (federal) set forth in 42 C.F.R. §438.354, to perform an EQR and/or other EQR-related activities.

Fee-for-service: Payment method whereby physicians and other health care providers receive a fee for each service delivered, such as an office visit, test, procedure, or other health care interaction.

Generalizability: The ability for findings and conclusions from a study sample to be applied beyond the population from which the sample was drawn.

Focus group: A group of individuals assembled to participate in a guided discussion.

Health literacy: Individuals' ability to find, process, and comprehend the basic health information necessary to act on medical instructions and make decisions about their health.

Implementation: Putting plans or concepts into action; taking a change and making it a permanent part of a system. A change may be tested first and then implemented throughout the organization.

Inclusion criteria: Characteristics that prospective subjects must have if they are to be included in a study or represented in the calculation of a measure rate.

Indicator: A measure of change. A focused, reportable unit that will help a team monitor its progress toward achieving its aim.

Intervention: An action or interference designed to improve the health of a patient or change the conditions (e.g., system, administrative, policies) that have a negative direct or indirect impact on the well-being of the patient.

Measure (*see Indicator*)

Numerator: In reference to the larger population of members, the number of members in a study meeting the specifications of a clinical component in a measure.

Pay-for-performance: A payment model in which health plans and/or providers are rewarded for the value, quality, and/or outcomes – rather than volume – of health care services.

PDSA: The Plan-Do-Study-Act cycle – a key component of continuous quality improvement - outlines steps to test a change on a small scale – by planning it, trying it, observing the results, and acting on what is learned.

Performance measure (or, performance data, quality measure, quality data): The specific representation of a process or outcome that is relevant to the assessment of performance; it is quantifiable and can be documented.

Pilot test: A small-scale trial of a new approach or process, designed to show if the change results in improvement.

Protocol: A systematic way of conducting an activity to ensure reproducibility, or abidance to a policy.

Quality: The degree to which a health care organization increases the likelihood of desired health outcomes of its members through its structural and operational characteristics and through the provision of health services. These services must be consistent with current professional knowledge in at least one of the six domains of quality, as specified by the Institute of Medicine – efficiency, effectiveness, equity, patient-centeredness, patient safety, and timeliness.

Quality improvement: Systematic and continuous actions that lead to measurable improvement.

Registry: A list or database of records that contains individual patient information. Provides clinically useful and timely information, gives reminders and feedback to providers and patients, identifies relevant patient subgroups, and facilitates individual patient care planning.

Reliability: The degree to which a tool or system produces something reproducible.

Sampling: The process of measuring a sample (e.g., every sixth patient for one week; the next eight patients) to help understand how a system is performing.

Social determinants of health: Circumstances in which people are born, grow up, live, work, and age that can influence health, as well as the systems put in place to deal with illness.

Spread: The intentional and methodical expansion of particular components of health care delivery, such as a quality improvement intervention or system change.

Stakeholder (health care): Individuals/organizations who can influence, have a vested interest in, or can be affected by the health care system.

Statistical significance: Indication that a difference between rates or phenomena is likely due to elements of change in the system and not due to random chance.

Stratification: The process or result of separating a sample into subsamples according to specified criteria such as age or occupation.

Survey: A means (e.g., questionnaire, diary, interview script, group of items) to collect individuals' input.

Sustainability: The likelihood of an improvement persisting over time, and/or the capacity to support long-term improvement.

Sustained health care improvement: Changes in the fundamental processes of health care delivery demonstrated through repeated measurements over comparable time periods.

Target population: A group of individuals selected from the general population to be included in an improvement effort.

Validation: The review of information, data, and procedures to determine the extent to which they are accurate, reliable, free from bias, and in accordance with standards for data collection and analysis.

Validity: The degree to which a tool measures what it is intended to measure.

Variable: A characteristic or condition that changes or has different values depending on the context.

Definitions have been adapted from several sources, including the Institute for Healthcare Improvement, the Centers for Disease Control, Health Services and Research Administration, and the Agency for Healthcare Research Quality, among other organizations.

Percentage of children, age 1–20, enrolled for at least 90 continuous days, who received any preventive dental service, FFY 2013

Source: CMS-416 Reports, Line 1b, 12b. Data reflect updates as of 10/22/14.