

Measurement 101: Why Metrics Are an Integral Part of Improvement & How to Incorporate Them Into Your PIP Reporting Strategies



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Complete Your Pre-Survey In Your Packet

Pre-survey:

Today we are going to be talking metrics, how they are an integral component of your performance improvement projects (PIP), and how you can incorporate them into your reporting.

This anonymous survey will help us understand your baseline understanding and use of metrics.

1. The PIP reporting template has a section focused on clarifying the outcome measures and data collection plan. How often do you complete each component of that section (Baseline, baseline data, improvement target, improvement date, benchmark, national standard, frequency of data collection)?

_____ Never _____ Sometimes _____ Usually _____ Always

2. The PIP reporting template asks you to identify process and balance measures for your efforts. How would you rate your knowledge about what a process and balance measure is?

_____ Not very knowledgeable _____ Somewhat knowledgeable _____ Knowledgeable _____ Very Knowledgeable

3. The last page of the PIP reporting template notes that you can attach documents that describe your improvement plan and the related metrics. Please indicate whether you have created and provided the following in previous reports:

- **Run Charts** ___ No ___ Yes
- **Driver Diagram** ___ No ___ Yes
- **Measurement Plan** ___ No ___ Yes

Agenda

- Background on OPIP and our experience with quality measurement and improvement
- Setting the Context: Why and how are metrics an integral component of improvement efforts?
- Key factors to consider in designing a measurement plan as part of your performance improvement project
 - General parameters
 - Types of metrics to consider, importance of a “family” or set of metrics
 - Operationalizing metrics
 - Reporting metrics
- Pulling it all together – value of driver diagrams/logic models to ensure alignment of efforts with the aim
- Example of how this would be applied for a PIP focused on the Adolescent Well-Visit Measure (AWV)
- Applying what was discussed today:
 - **Small Table Exercise to Specify Metrics Related to Your QI Efforts Focused on Opioid Safety: Reducing Prescribing of High Morphine Equivalent Doses**
- Complete the Evaluation Survey

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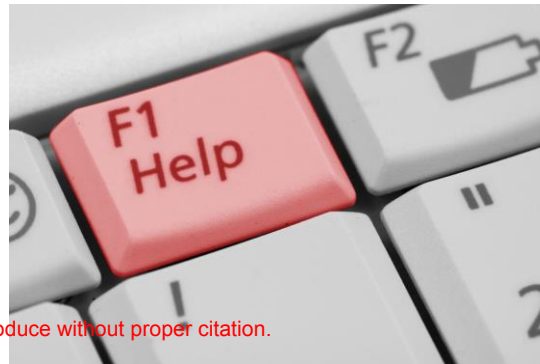
Oregon Pediatric Improvement Partnership (OPIP)

- OPIP supports a meaningful, **long-term collaboration of stakeholders** invested in child health care quality, with the common purpose of improving the health of the children and youth of Oregon.
- **OPIP staff and projects focus on building health and improving outcomes for children and youth by:**
 - 1) Collaborating in **quality measurement and improvement** activities;
 - 2) Supporting **evidence-guided quality activities**;
 - 3) Incorporating the **patient and family voice** into quality efforts; and
 - 4) Informing **policies that support optimal health** and development
- OPIP uses a **population based approach – starting with the child/family**
 - Work with the multiple kinds of providers who serve children
- Primarily contract and grant funded
 - TA Bank provider for CCOs
 - External quality review-like organization, facilitated a PIP with 8 MCOs
- Based out of Oregon Health & Science University (OHSU), Pediatrics Department

My Primary Objective- To Be Helpful

I know there is a wide range of experience in the room!

- For some of you this may be the first time you have heard these things
- For others, this is a helpful review of concepts you already know and work with regularly
- Please ask questions as you have them, and let me know as you have topics you would like to discuss as we go- the intention here is for me to be helpful! Let me know how best to accomplish that



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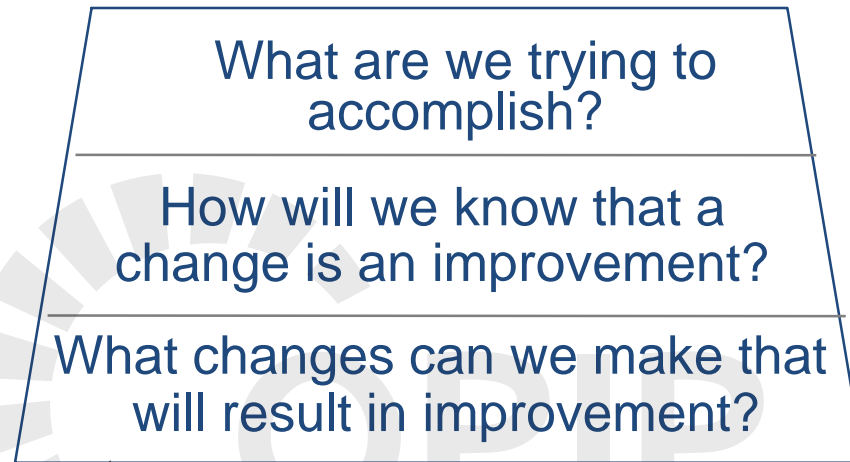
Metrics Are an Integral Part of Improvement

- Measurement is a critical piece of improvement, as it allows you as a quality improvement (QI) team to:
 - Understand **current** performance = Your **Baseline** Rate
 - Set goals for your **future** performance = Your **Improvement** Target
 - Monitor the effects of the changes you are making (your interventions) = **Interim** Data Collection (e.g. Quarterly data Collection, **Frequency** of Data Collection)

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Words in **Blue** Map to PIP **Progress Reports**

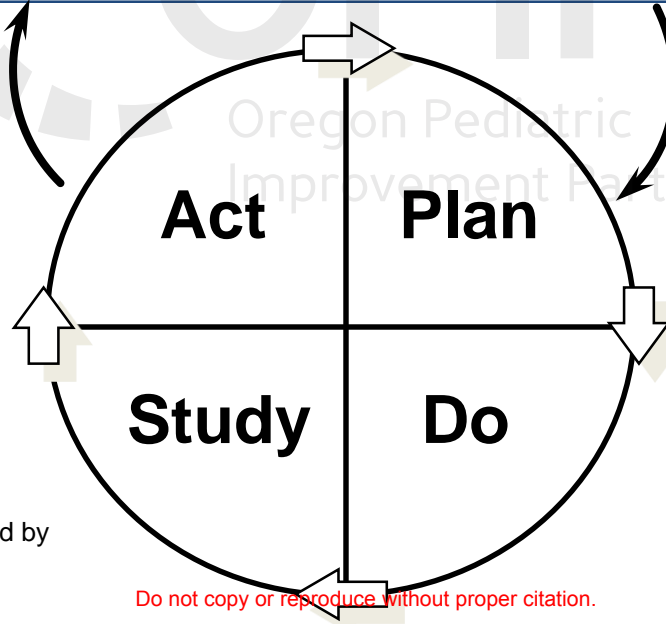
Model for Improvement



Aim Statement



Measurement
is a critical
part of this
process as you
can't know
WHAT and **IF**
you are going
to improve if
you don't
track it



The Model for Improvement was developed by
Associates in Process Improvement.

© 2004 Institute for Healthcare Improvement

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OHA PIP Progress Report

PIP Title: _____

CCO: _____

QI Lead: _____

QI Contact email: _____

Measurement Year ____ ☐ Quarter 1 ☐ Quarter 2 ☐ Quarter 3 ☐ Quarter 4

Team Sponsors (Key Personnel at Participating Organizations supporting the project):

What are we trying to accomplish?

AIM Statement *(description of desired improvement should be time-specific, measurable and include the target population):*

Target Population *(description of the specific population targeted by the project):*

Problem Statement: *(description of the reasons for selecting this project – why is this project important, what data/analyses support prioritizing members).*

Key Strategies OPIP Uses When Working with Partners to Create Effective Aim Statements

- Three components of an effective aim statement: *what, how much, by when*
- State the aim clearly
- Include **numerical goals** that are clearly tied to the population and outcome of focus
- Avoid aim drift
- Be prepared to refocus the aim



Measures Are a Critical Part of a “SMART” **Aim** Statement

- Specific
- Measureable
- Achievable
- Realistic
- Time-Specific

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Example: Immunizations

Initial AIM:

- Reduce the number of ALERT sheets received by the office by 50% within 12 months.

Second phase AIM:

- Increase 2-year-old immunization rates by 4% by June of 2010.

Developmental Screening

- To improve developmental disability and autism screening in pediatric practices, in accordance with AAP policy statements and Bright Futures guidelines.
- To improve physician understanding and utilization of standardized developmental screening tools.
- To educate pediatric physicians in proper documentation, coding, and billing.
- To improve provider knowledge of, and referral to, community resources, particularly Early Intervention.

Developmental Screening

Within 9 months of developmental screening implementation:

- ASQ will be routinely administered to 75% of 9, 18, and 24 month olds.
- MCHAT will be routinely administered to 75% of 18 and 24 month olds.

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How will we know that a change is an improvement?

Measurement and data collection plan for expected outcome measures:

Outcome Measure	Baseline Measurement	Baseline date	Improvement Target and target date	Benchmark	National Standard (if applicable)	Frequency of data collection
Measure #1						
Measure #2						

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Peeling the Onion of an Improvement Project



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Key Questions for Designing Improvement Strategies With Associated Metrics

Current
Outcomes
(Baseline
Rates)



Desired
Outcomes
(Target
Rates)

- What are the processes or activities that have impact on the outcomes? (**DRIVERS**)
- How are these processes currently being implemented? Is implementation stable and reliable?
- What interventions on the process will have an impact on the outcome? (**PROCESS MEASURES**)
- If this intervention is implemented, what impact will it have on other parts of the systems? (**BALANCING Measures**)

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Importance of Measurement Plan As You Design and Improvement Plan: Some Keys to Consider

- Each part of your improvement plan should be measured and assessed relative to the outcome
- Value of “family” or set of metrics that provide information on the system as a whole, and the impact, or unintended impact, of improvement efforts. Three most common types of metrics:
 - Outcome
 - Process
 - Balancing
- Indicator vs Measure
 - Indicator is a count
 - Measure has numerator and denominator
 - Numerator: Did it happen
 - Denominator: Total it should have happened to

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Types of Metrics to Gauge Improvement

- **Outcome**
 - Measure the results and system performance
 - The end results of your improvement project
 - Your target state
- **Process**
 - The individual workings of the system; the things you do
 - Capture the changes your QI efforts make to the inputs or steps (**DRIVERS**) that contribute to the outcomes
 - Sound process metrics ensure that the activities directly contribute to the outcomes
 - The WHO and the WHAT of your AIM Statement
- **Balance**
 - Assess other part of the systems that are related
 - Ensures that if changes are made to one part of the system, it doesn't cause intended problems in another part of the system

Important Factors to Consider as You Operationalize Metrics

Get into the details

- Operational definition – define each part, including scoring
- HOW data will be collected
- Sampling – who is measured and how do you identify them
- Reporting – how it will be visually shown

Value and importance of metrics that can give a sense of scale

- Counts (indicators)
 - Often count a numerator – what happened, but not what should have happened, so it can sometimes be difficult to gauge impact on outcome
- Proportions or Percentages (measures)
 - Numerator – Who got it: Indicator of focus
 - Denominator – Who should have received it: Population or Volume

Important Factors to Consider As You Operationalize Metrics

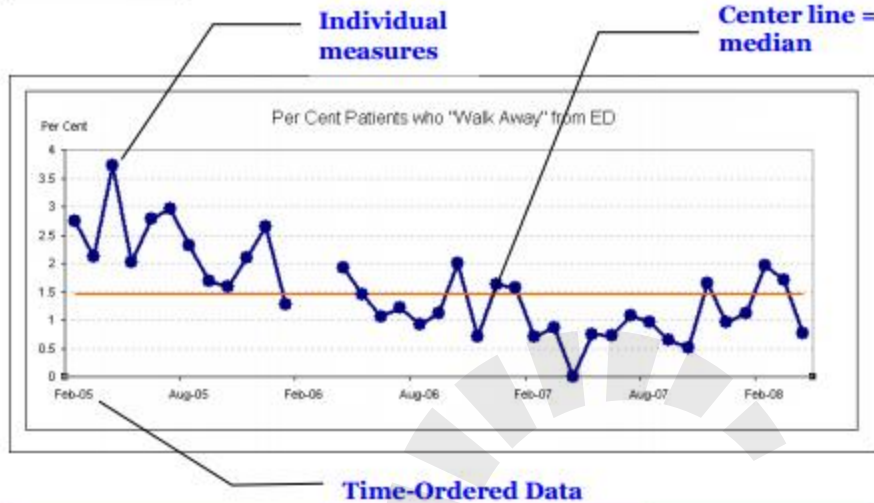
- **Examination and plotting data over time**

- Pre/Post – Only show Baseline and Follow-up and no relation to when improvement efforts began
- Run charts with annotations of when interventions implemented

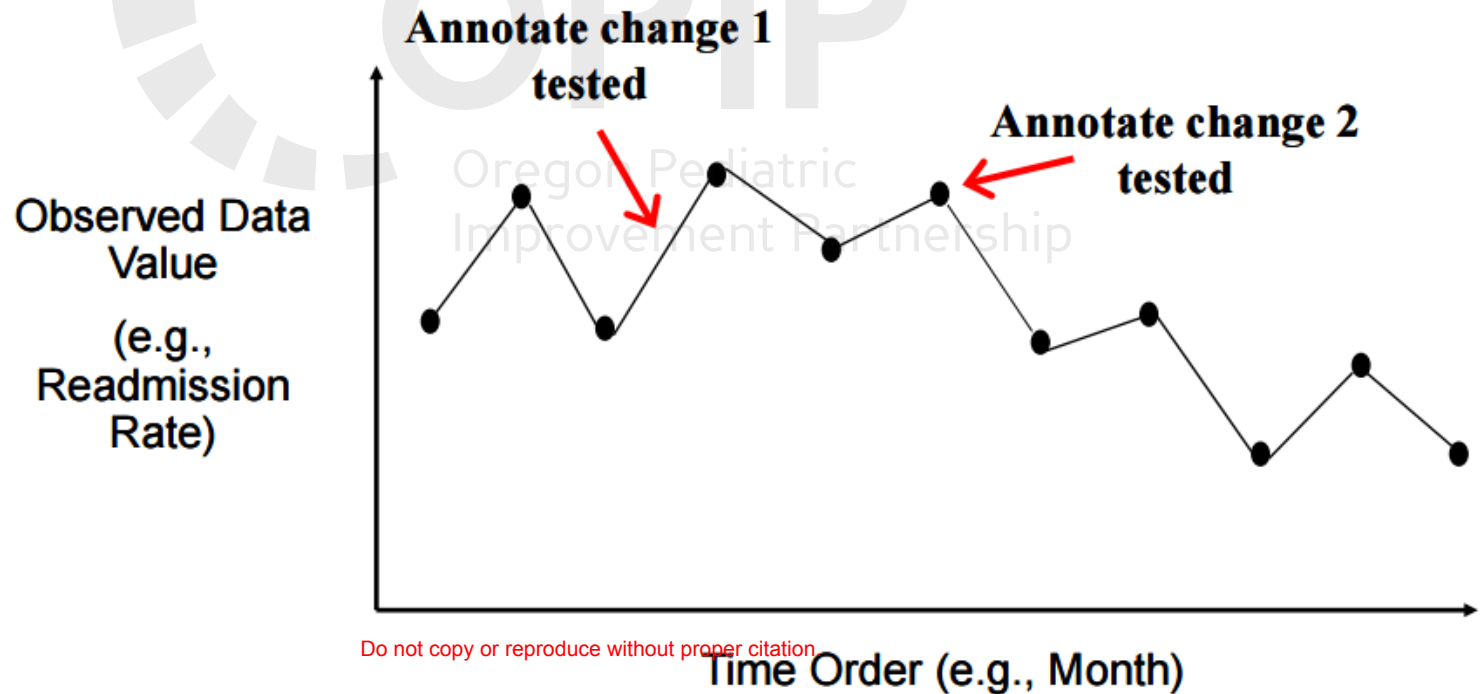
- **Tool for You:**

<http://www.ihl.org/resources/Pages/Tools/RunChart.aspx>

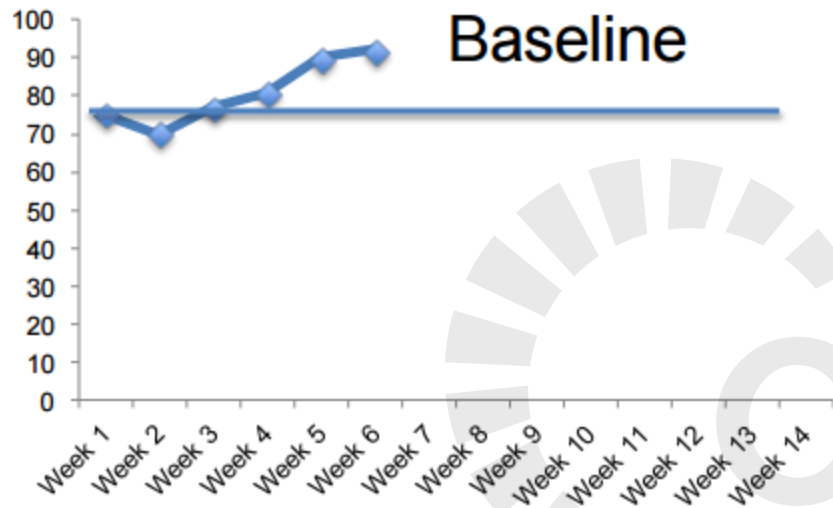
Run Chart Anatomy



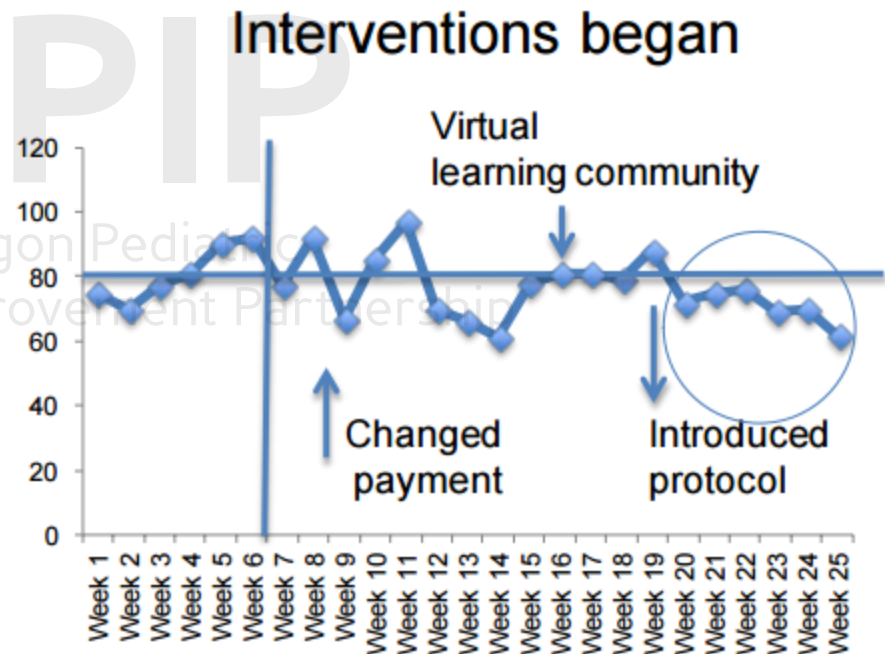
Source: Richard Scoville, PhD



How to Create a Baseline and Monitor Changes



Extend the median into the future - this makes improvement visible





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Pulling It All Together

**Aligning Efforts and Metrics to the Aim:
Using Driver Diagrams and Logic Models
in Planning and Implementation**

Tools That Can Help You Design Improvement Efforts that Aligned with the Aim and Sound Metrics

1. Driver Diagrams
2. Logic Model



Tool #1: Driver Diagrams

- Visual display of the improvement efforts
- Causal pathway from improvement efforts to the AIM, requires you to think of the connection
- The primary drivers, sometimes referred to as “key drivers,” are the **system components or factors** which contribute directly to achieving the aim.
 - Secondary drivers are **actions, interventions** necessary to achieve the primary drivers.
 - Secondary drivers should be used to identify changes that can be tested in order to affect the primary drivers.
- **Each driver should be able to be measured, and most drivers should align with specific process measures.**

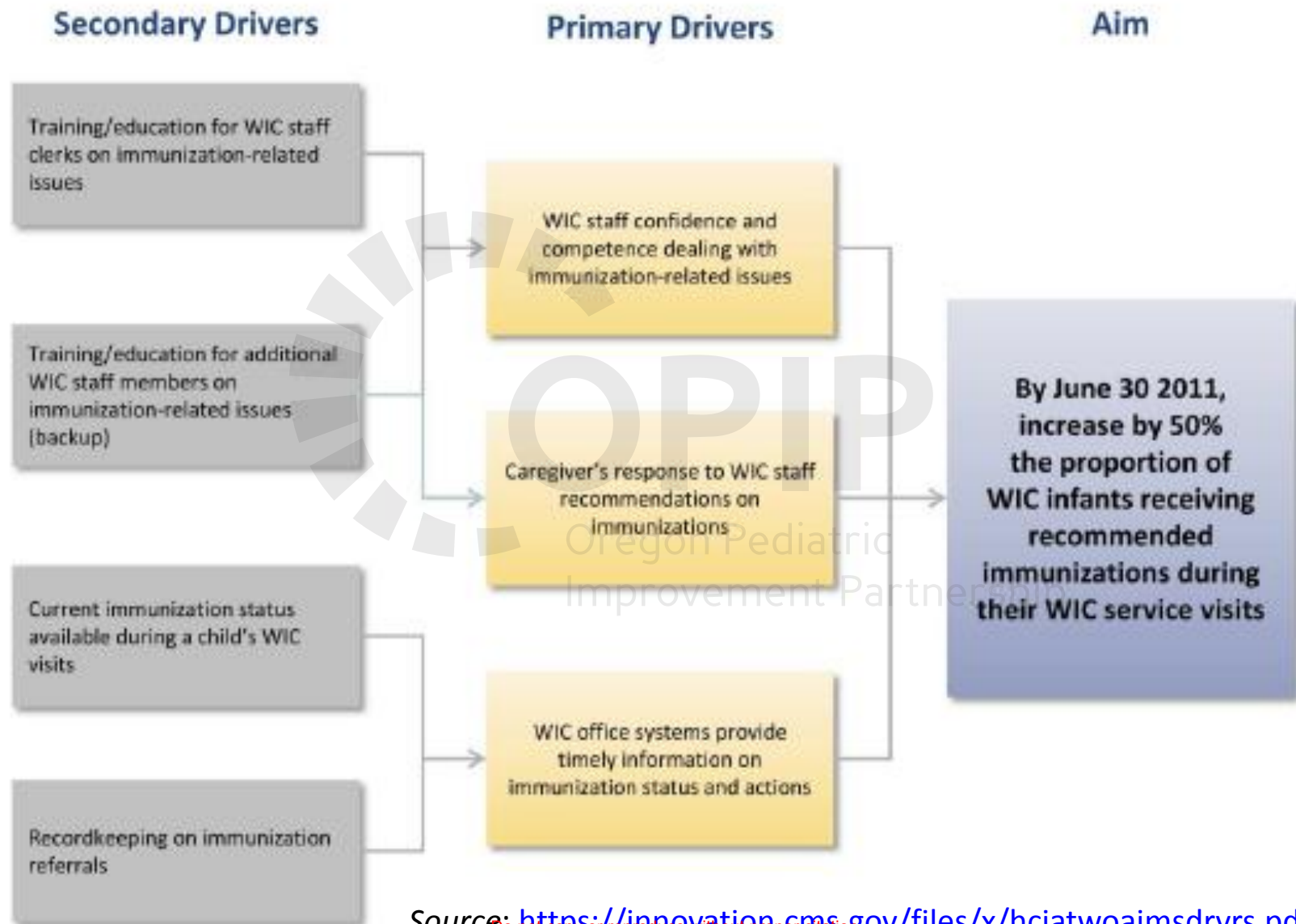
Aim and Drivers for Improvement—template

Aim	Primary Drivers	Secondary Drivers
		 
		 
		 
		 

Source: <https://innovation.cms.gov/files/x/hciatwoaimsdrvrs.pdf>

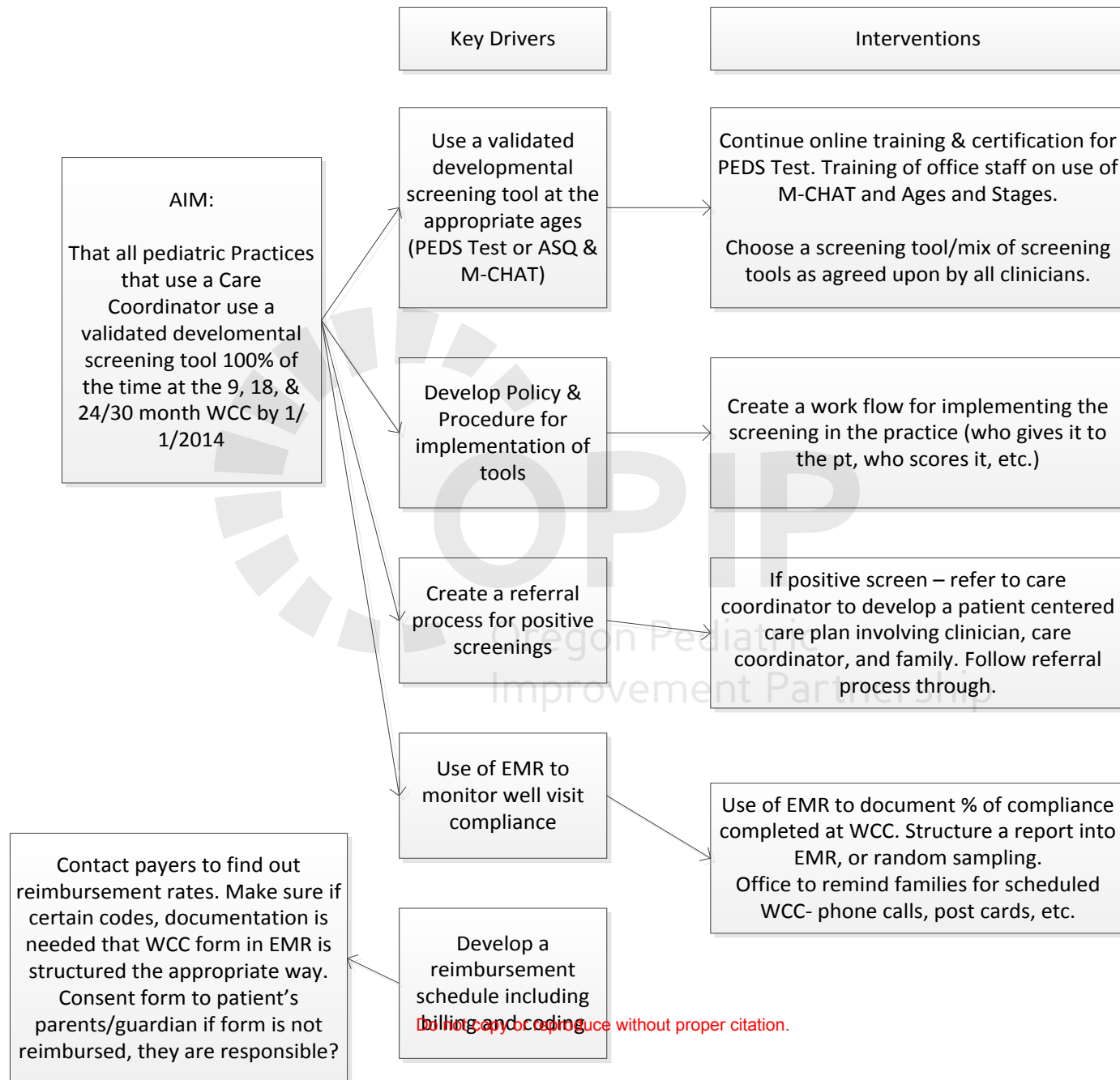
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WIC Immunization Referral Process

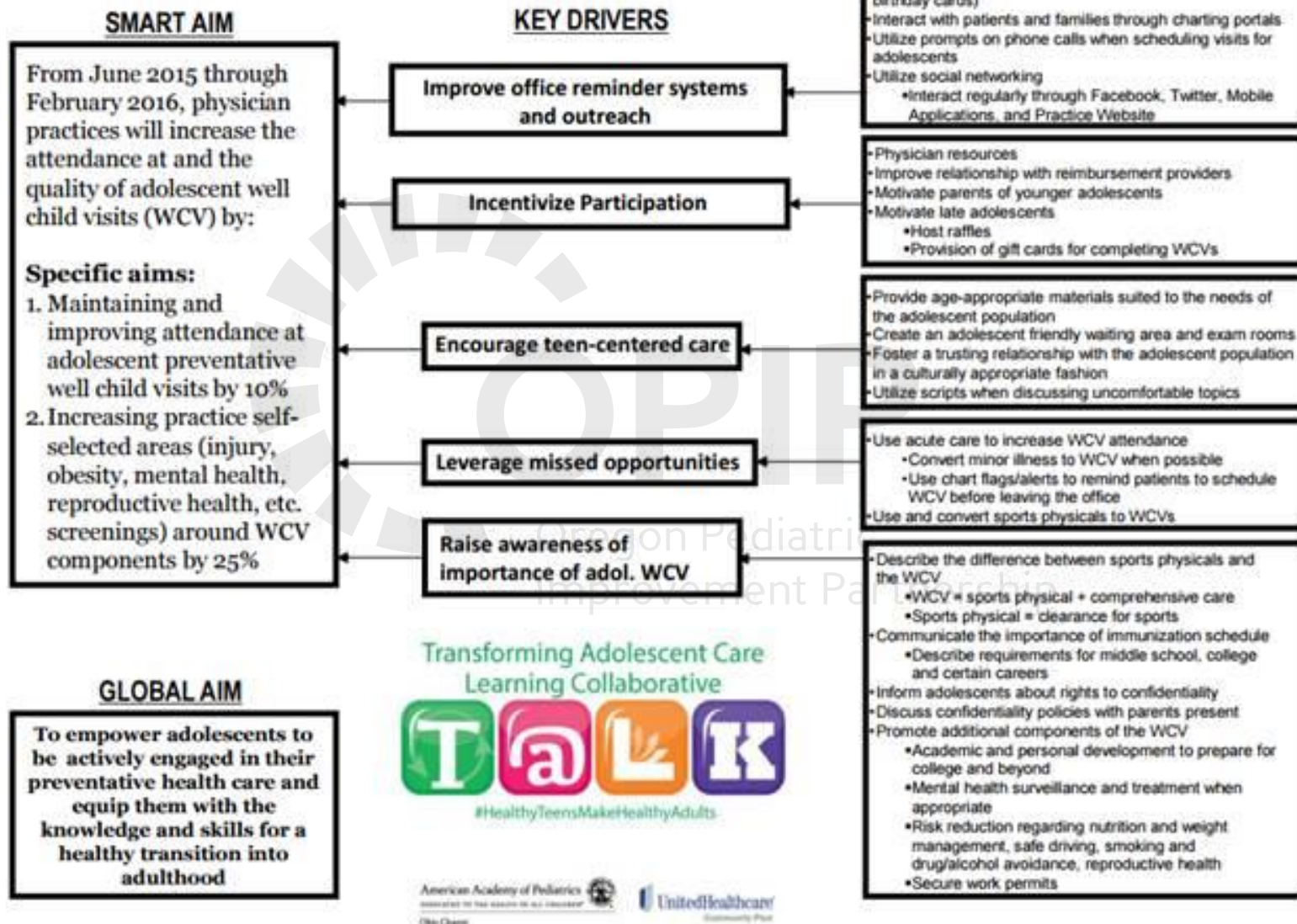


Source: <https://innovation.cms.gov/files/x/hciatwoaimsdrvs.pdf>

Developmental Driver Diagram of Developmental Screening

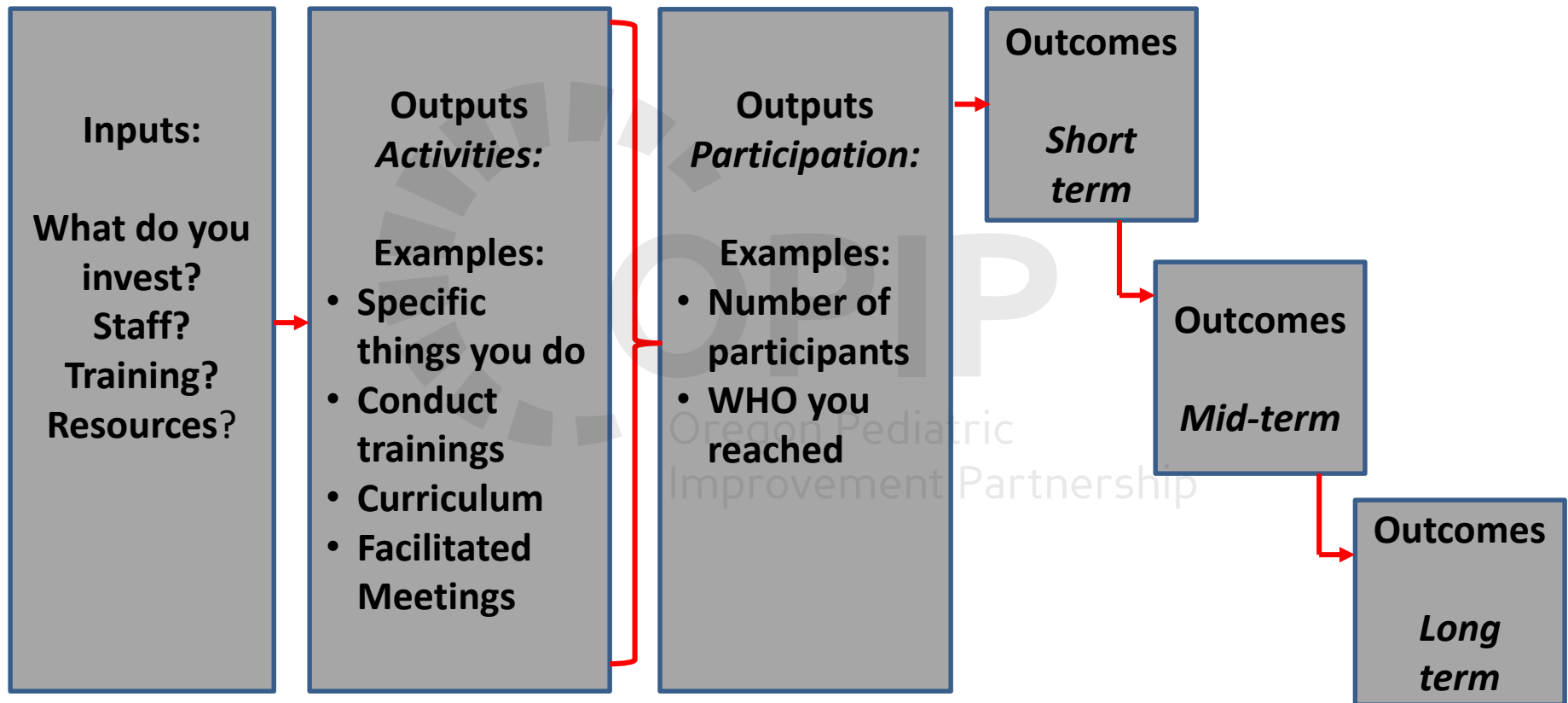


Transforming Adolescent Care Learning Collaborative Key Driver Diagram



Tool #2: Logic Models

- Logic models illustrate how your specific activities are intended to produce particular results (your aim).
- Key Parts:
 1. Inputs – resources invested
 2. Outputs- Specific activities
 3. Outcomes – Results of each activity
- Visual diagram forces you to ensure that the boxes are connected and that the activities are directly linked to the proposed outcome
- Online resources:
 - ✓ <http://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide>
 - ✓ <http://www.uwex.edu/ces/pdande/evaluation/evallogicmodelworksheets.html>



Free template for you to use:

<http://fyi.uwex.edu/programdevelopment/logic-models/bibliography/>

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Keys to Using These Models:

Identify Specific Strategies Used to Achieve the Aim

- **Remember:** The aim clarifies *what, how much, by when* relative to the outcome
- **In designing your improvement plan you are identifying**
 1. Specific interventions you will implement
 2. For each of those activities, **metrics** that will help you gauge the impact of those activities
 - ✓ What was implemented?
 - ✓ For whom?
 - ✓ Relationship of the activity to the aim the specific WHAT, HOW MUCH, and BY WHEN

Metrics Demonstrating Intervention Effectiveness

Beyond outcome and process metrics noted, consider metrics of the specific intervention

1) Quantitative metrics

- Quantify your intervention
- Involve numerical counts

Example: Number of clinics trained

2) Qualitative metrics

- Often is the “story” behind the numbers
- Interviews, and observing and recording behaviors
- Feedback from participants of impact. E.g. What are providers, families, and patients saying?

Example: Feedback obtained from attendees about the training about their perceptions of the impact the training will have; Notes from your improvement specialist site visit and their interviews with the clinic staff

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Fictitious Example of a PIP Focused on Adolescent Well-Visit

From A Driver Diagram to Metrics

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Fictitious Example of a CCO's PIP Driver Diagram

Primary Drivers

Primary Care Provider
Provision of
High-Quality Adolescent
Well-Child Care

Convenient Access to
Care at a SBHC

Adolescent Knowledge
about Well-Visits

Interventions to Address Drivers

**Trainings to clinics on Bright Futures
aligned well-visits**

**Training to SBHCs on well-visits,
SBHC outreach to youth in school
to access**

**Member education about
importance of well-visits**

By January 2018,
we will increase the
AWV rate from
20% to 35% of
continuously
enrolled youth
12-21 receiving a
well-child visit

OHA PIP Progress Report

PIP Title: _____

CCO: _____

QI Lead: _____

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Measurement Year ____ ☐ Quarter 1 ☐ Quarter 2 ☐ Quarter 3 ☐ Quarter 4

Team Sponsors (Key Personnel at Participating Organizations supporting the project):

What are we trying to accomplish?

AIM Statement (*description of desired improvement should be time-specific, measurable and include the target population*):

By January 2018,
we will increase the
AWV rate from
20% to 35% of
continuously
enrolled youth
12-21 receiving a
well-child visit

the specific population targeted by the project):

of the reasons for selecting this project – why is this project important, what data/analyses support prioritizing

How will we know that a change is an improvement?

Measurement and data collection plan for expected outcome measures:

Outcome Measure	Baseline Measurement	Baseline date	Improvement Target and target date	Benchmark	National Standard (if applicable)	Frequency of data collection
Measure #1						
Measure #2						

- Baseline Data: Rate for 16 Calendar Year
- Improvement Target: 35% by January 2017
- Benchmark: State Benchmark – 62.0%
- National Standard: National NCQA Rates
- Frequency of Data Collection:
 - Monthly Tracking of Well-Visits, Annotated Run Chart By Improvement Interventions. The LINE on the chart would show your well-visit rate, looking back across the year.
 - Annotate charts to note when the interventions were implemented
 1. Training of clinics
 2. SBHC clinic engagement
 3. Member mailing

Process measures – are the steps/parts in the system performing as planned

Balance measures – are the interventions causing problems in other areas

Related measures – are there other outcomes that will contribute to the interpretation of the outcome results

Process Measures	Indicator of Success With Primary Driver:	Improvement Target and target date	Frequency of data collection
-- Clinic Level Screening Rates			
Balancing Measures	Indicator of Success With Primary Driver:	Goal	Frequency of data collection
-- Other Access Measures for Those Clinics, E.g. Well-Child Rates for Young Kids -- Time to Third Appoints			

Related Measures/ Assessments of Interest	Indicator of Success With Primary Driver:	Goal	Frequency of data collection
-- Adolescent SBIRT Metrics for the Clinics, Given Part of Quality AWW			

Fictitious Example of a CCO's PIP Driver Diagram

Primary Drivers

Primary Care Provider
Provision of
High-Quality Adolescent
Well-Child Care

Convenient Access to
Care at a SBHC

Adolescent Knowledge
about Well-Visits

Interventions to Address Drivers

**Trainings to clinics on Bright Futures
aligned well-visits**

**Training to SBHCs on well-visits,
SBHC outreach to youth in school
to access**

**Member education about
importance of well-visits**

By January 2018, we
will increase the
AWV rate from
20% to 35% of
continuously
enrolled youth
12-21 receiving a
well-child visit

Examples of Metrics to Gauge Improvement Interventions

Primary Drivers

Primary Care Provider
Provision of
High-Quality Adolescent
Well-Child Care

By January 2018, we
will increase the
adolescent well-visit
rate by 5%

Interventions to Address Drivers

**Trainings to clinics on Bright Futures
aligned well-visits**

- Number of clinics trained (Quantitative)
- Number of adolescent members 12-21 attributed to the clinics
- Monthly/Quarterly reporting of AWW rates for clinics. Annotated run chart of well-visit rates that notes when training occurred (Outcome)
- Assessment of well-child rates for young children in same clinic (Balance)
- Monthly site visit, report from clinics about barriers (Qualitative)

PROGRESS UPDATE

Existing Interventions

Name of intervention <i>(brief description)</i>	Activities/steps this quarter <i>(If no activities/steps in the past 3 months, please state)</i>	Barriers in this quarter and how they were addressed	Qualitative and quantitative data that demonstrates intervention effectiveness <i>(OK to reference process measures table)</i>	Next steps for this intervention

Trainings to clinics on Bright Futures aligned well-visits

- Number of clinics trained (Quantitative)
- Number of adolescent members 12-21 attributed to the clinics
- Monthly/Quarterly reporting of AWW rates for clinics. Annotated run chart of well-visit rates that notes when training occurred (Outcome)
- Assessment of well-child rates for young children in same clinic (Balance)
- Monthly site visit, report from clinics about barriers (Qualitative)

Examples of **Metrics** to Gauge Improvement Interventions

Primary Drivers

By January 2018, we will increase the adolescent well-visit rate by 5%

Convenient Access to Care at a SBHC

Interventions to Address Drivers

Training to SBHCS on well-visits, SBHC outreach to youth in school

- Number of SBHC engaged (Quantitative)
- Number of adolescent clients in zip code for the school
- Monthly/Quarterly reporting of increase in AWW by SBHC.
- Annotated run chart (Outcome)
- Assessment of well-child care rates in primary care clinics in region(Balance)

Examples of Metrics to Gauge Improvement Interventions

By January 2018, we will increase the adolescent well-visit rate by 5%

- Number of adolescents to whom a mailing was sent (Process)
- Proportion adolescents who received the education information (not returned)
- For adolescents who received a mailing, tracking on access of well-child care (Outcome)

Adolescent Knowledge about Well-Visits

Member education about importance of well-visits

Enough talking.....
let's apply these models to your work

**Exercise to Specify Metrics Related to
Your QI Efforts Focused on
Opioid Safety:
Reducing Prescribing of High
Morphine Equivalent Doses**

Step 1: Map Out Your Aim, Primary Drivers and Your Interventions Related to **Your QI Efforts** Focused on Opioid Safety: Reducing Prescribing of High Morphine Equivalent Doses

Aim

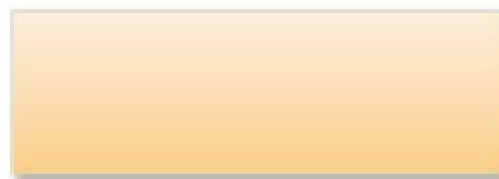
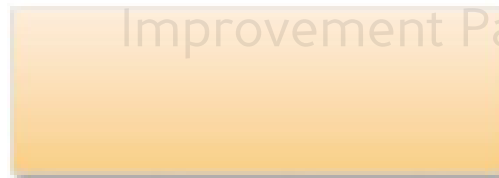
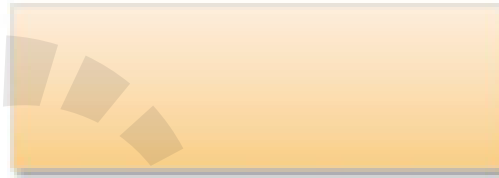
Primary Drivers You Have
Identified to Prescribing of High
Morphine Equivalent Doses

INTERVENTIONS
WITHIN YOUR PIP

*What, how much,
by when*

What is your baseline?

What is your target?



Clarifying Measurement Plan

- Each part of your improvement plan should be measured and assessed relative to the outcome
- Value of “family” or set of metrics that provide information on the system as a whole and the impact, or unintended impact, of improvement efforts. Three most common types of metrics:
 - Outcome
 - Process
 - Balancing

Key to Designing Improvement Strategies With Associated Metrics

Current
Outcomes
(Baseline
Rates)



Desired
Outcomes
(Target
Rates)

- What are the processes or activities that have impact on the outcomes? (**DRIVERS**)
- How are these processes currently being implemented? Is implementation stable and reliable?
- What interventions on the process will have an impact on the outcome?
(**PROCESS MEASURES**)
- If this intervention is implemented, what impact will it have on other parts of the systems? (**BALANCING Measures**)

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Small Table Debrief

- What went well?
- What was tricky or hard to figure out? Where could we support you more?
- Sharing your brainstorming related to your opioid prescribing PIP:
 - Examples of **outcome measures**?
 - Examples of **process measures**?
 - Examples of **balance measures**?

Complete Your Evaluation Survey – THANK YOU!

QHOC - EVALUATION SURVEY OF OPIP PRESENTATION

Thank you for attending the OPIP Presentation at the QHOC title Metrics 101 – Way to Integrate Measures Into Your Performance Improvement Project. Please share your feedback, which we will use to help plan future events.

1. Please assess the overall value of the presentation to ensuring that metrics are a component of your performance improvement project reporting.

☐ Very valuable

☐ Valuable

☐ Neutral

☐ Limited value

☐ Not valuable

2. Please rate your knowledge of the difference between outcome, process and balance measures.

☐ Not very knowledgeable ☐ Somewhat knowledgeable ☐ Knowledgeable ☐ Very Knowledgeable

3. As a result of my participation in this presentation, I plan to (select all that apply):

☐ Use driver diagram or logic model to map out my performance improvement project

☐ Identify a family or set of metrics to gauge my PIP efforts that includes an outcome, process and balance measure

☐ Display data collected in a visual format such as an annotated run chart

☐ Collect qualitative and quantitative information about the interventions we collect

☐ Other (please specify)

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