An Overview of Quality Improvement in Dental Settings

Part 1

CDPH
California Department of
Public **Health**

Center for Healthy Communities
Office of Oral Health

Acknowledgements

CDPH
California Department of
Public **Health**

Center for Healthy Communities
Office of Oral Health

Introductions

- Training Guide – COHTAC Website:
  https://oralhealthsupport.ucsf.edu

- Chat Box – Technical difficulties

- Q&A Box – Ask a question

CDPH
California Department of
Public **Health**

Center for Healthy Communities
Office of Oral Health

Learning Objectives (1/2)

WHY
Explain why quality improvement (QI) matters

WHAT
Distinguish between QI & quality assurance

EFFECTIVE TEAM
Identify elements of an effective QI team

MANAGING CHANGE
Manage change effectively

Center for Healthy Communities
Office of Oral Health

Learning Objectives (2/2)

MODEL FOR IMPROVEMENT
Explain three foundational questions to the Model for Improvement

LEAN
Describe the principles of Lean

COMMUNITY OF PRACTICE
Create a local learning collaborative & support system

Center for Healthy Communities
Office of Oral Health

Dental Visit During Pregnancy: California Maternal and Infant Health Assessment Survey

Jay Kumar, DDS, MPH
State Dental Director
California Department of Public Health

Center for Healthy Communities
Office of Oral Health

Oral Health Guidelines

California Guidelines
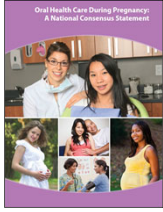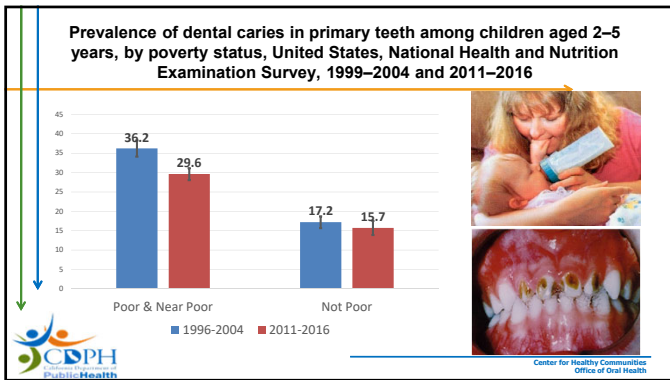http://www.cdafoundation.org/Portals/0/pdfs/poh_guidelines.pdf

Summary of Practice Guidelines
http://mchoralhealth.org/PDFs/Summary_PracticeGuidelines.pdf

National Consensus Statement
http://mchoralhealth.org/PDFs/OralHealthPregnancyConsensus.pdf

---

Prevalence of dental caries in primary teeth among children aged 2–5 years, by poverty status, United States, National Health and Nutrition Examination Survey, 1999–2004 and 2011–2016

Poor & Near Poor: 36.2 (1996-2004), 29.6 (2011-2016)
Not Poor: 17.2 (1996-2004), 15.7 (2011-2016)

■ 1996-2004 ■ 2011-2016

CDPH California Department of Public Health

Center for Healthy Communities
Office of Oral Health

Receipt of dental visit during pregnancy among California women with a recent live birth, Maternal and Infant Health Assessment (MIHA) Survey, 2017-2018

Category	% Dental Visit
California	43.9
Medicaid	34.7
Private	53.6
15-24	35.4
25-34	44
35+	50.7
Asian/Pacific Islander	45.4
Black	33.0
Latina	36.8
White	55.4
<100% FPG	34.4
101-200% FPG	35.2
>=200% FPG	56.4
High school/GED or less	34.5
Some college	37.2
College graduate	58.2

Receipt of dental visit during pregnancy by selected County, MIHA Survey, 2017-2018

Poll #1

How would you characterize your familiarity with Quality Improvement concepts?

A. **Expert,** I've been doing QI for several years
B. **Mid-Level**, I've participated in some QI activities
C. **Novice,** I've little knowledge about or experience with QI

Center for Healthy Communities
Office of Oral Health

Background: CA PIOHQI

- 5-year Perinatal Infant Oral Health QI Project awarded by HRSA to CDPH 2015

- Two Primary Aims:
  1) Increase by 15% (over state baseline) the percent of women who receive oral healthcare during pregnancy
  2) Increase by 15% (over state baseline) the percent of infants who receive preventive oral healthcare

- Methods:
  Develop & implement state-level systems & policy changes

Center for Healthy Communities
Office of Oral Health
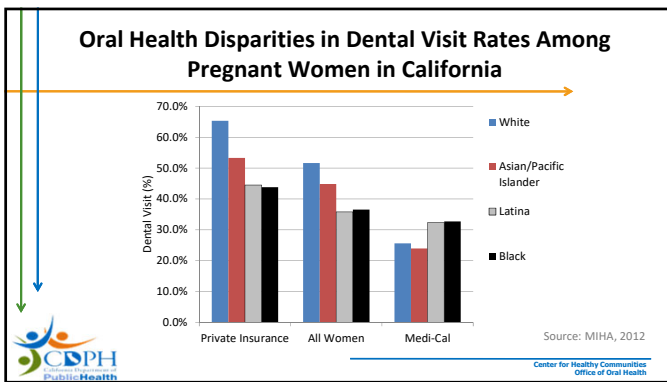
CA PIOHQI Project Approach

Inventory & Enlist Local Public Health Jurisdiction Assets
MCAH, MIECHV, WIC, LOHPs, FQHCs, Medicaid Managed Care Plans

Host Educational Seminar
Foster collaboration, synergize efforts, and standardize Medicaid benefit distribution, share best practices

Form a Community of Practice (CoP)
Learn how to conduct QI projects, conduct rapid-cycle QI and regularly convene to share best practices among stakeholders and partners

CDPH
California Department of Public Health

Center for Healthy Communities
Office of Oral Health

Oral Health Disparities in Dental Visit Rates Among Pregnant Women in California

Legend: White, Asian/Pacific Islander, Latina, Black

Y-axis: Dental Visit (%) 0.0%–70.0%
Categories: Private Insurance, All Women, Medi-Cal

Source: MIHA, 2012

CDPH
California Department of Public Health

Center for Healthy Communities
Office of Oral Health

Health Disparities

Profound health disparities exist among populations including:
– Racial and ethnic minorities
– Individuals with disabilities
– Elderly individuals
– Individuals with complicated medical conditions and social situations

U.S. Department of Health & Human Services, Oral Health in America: A Report of the Surgeon General (2000)
Paul Glassman, Oral Health Quality Improvement in the Era of Accountability (2013)

CDPH
California Department of Public Health

Center for Healthy Communities
Office of Oral Health

Section Check-In: Q&A

?

Center for Healthy Communities
Office of Oral Health

Framework for OH Quality Measurement & Improvement

Domain	System	Community-Based Systems & Supports	Care
Access	- Provider Availability		- Provider Availability
Utilization	- Appropriate Site-of-Care - Use of Services	- Appropriate Site-of-Care - Use of Services	- Appropriate Site-of-Care - Use of Services
Structure	- Leadership Coordination - Provider Training - Health Information Tech	- Health Information Tech	- Leadership Coordination - Provider Training - Health Information Tech
Process	- Care Coordination - Person/Family-Centered Care	- Care Coordination - Person/Family-Centered Care	- Care Coordination - Person/Family-Centered Care
Outcome	- Healthcare System Experience - Health Literacy - Health Status - Patient-reported Outcomes	- Healthcare System Experience - Health Literacy - Health Status - Patient-reported Outcomes	- Healthcare System Experience - Health Literacy - Health Status - Patient-reported Outcomes

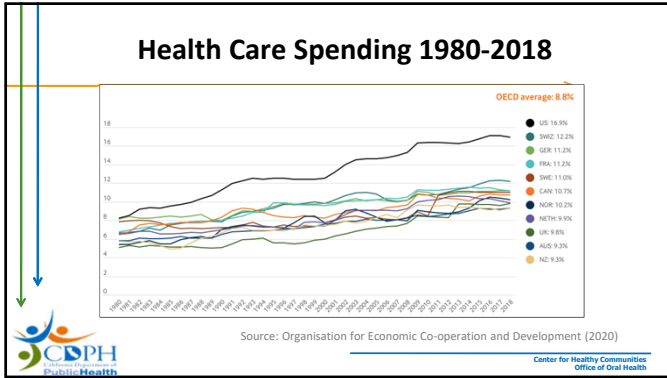Center for Oral Health Systems Integration and Improvement (2017)
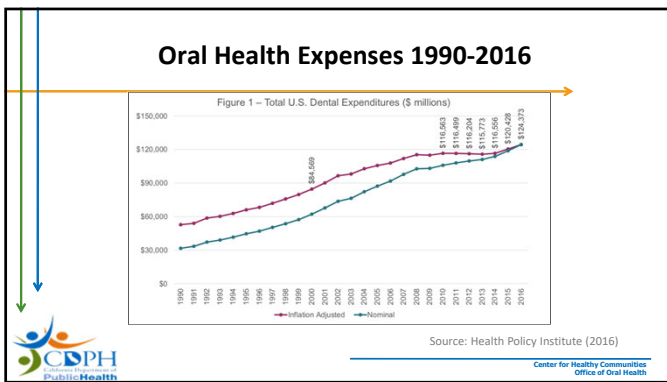

Six Dimensions of Health Care Quality

Safe: Avoiding injuries to patients from the care that is intended to help them

Timely: Reducing waits and sometimes harmful delays for patients and providers

Effective: Providing the appropriate level of services based on scientific knowledge

Efficient: Avoiding waste, including waste of equipment, supplies, ideas, and energy

Equitable: Providing care that does not vary in quality because of personal characteristics

Patient-Centered: Providing care that is respectful of and responsive to individual patients

The Institute of Medicine (2001)

Center for Healthy Communities
Office of Oral Health

Health Care Spending 1980-2018

OECD average: 8.8%

US: 16.9%
SWIZ: 12.2%
GER: 11.2%
FRA: 11.2%
SWE: 11.0%
CAN: 10.7%
NOR: 10.2%
NETH: 9.9%
UK: 9.8%
AUS: 9.3%
NZ: 9.3%

Source: Organisation for Economic Co-operation and Development (2020)

Center for Healthy Communities
Office of Oral Health

Oral Health Expenses 1990-2016

Figure 1 – Total U.S. Dental Expenditures ($ millions)

Source: Health Policy Institute (2016)

Center for Healthy Communities
Office of Oral Health

Other Drivers of Quality Improvement in Healthcare

- Increasing understanding of the harm and unwarranted variability our fragmented health care system produces

- Raising awareness of these problems in the age of consumer empowerment

Paul Glassman, Oral Health Quality Improvement in the Era of Accountability (2013)

Center for Healthy Communities
Office of Oral Health

The Era of Accountability

- The Triple Aim

- Defining Value

- National Initiatives

Paul Glassman, Oral Health Quality Improvement in the Era of Accountability (2013)

Center for Healthy Communities
Office of Oral Health

Quality Improvement (QI) Defined

Quality improvement in public health is the use of a deliberate and defined improvement process, such as Plan-Do-Study-Act, which is focused on activities that are responsive to community needs and improving population health.

- National Association of County and City Health Officials

Quality improvement in health care consists of systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups.

- U.S. Department of Health and Human Services
Health Resources and Services Administration

Center for Healthy Communities
Office of Oral Health

Poll #2

Quality Improvement & Quality Assurance are essentially the same thing

A. True

B. False

C. Don't know

Center for Healthy Communities
Office of Oral Health

Quality Assurance ≠ QI

Quality Assurance

- Reactive
- Periodic look-back @ outcomes
- Seeks to *meet* a regulatory standard (e.g., state/federal law)
- Pass/Fail
- Led by management

Quality Improvement

- Proactive
- Continuous examination of processes
- Seeks to *improve* performance based on baseline (culture shift)
- Exceed expectations
- Led by staff

Source: Susan Ramsey, Pearls of Wisdom Consulting (2016)

Center for Healthy Communities
Office of Oral Health

Why Quality Improvement Matters

- Access to high-quality oral healthcare is essential to reducing prevalence of oral disease among high-risk populations (CA MIHA, 2020)

- Pregnancy and infancy offer unique QI opportunities in the clinical environment

- Safety-net medical and dental clinics are uniquely poised to test QI interventions (AHRQ, 2018)

Center for Healthy Communities
Office of Oral Health

Prime Time to Focus on Oral Health

Oral health is essential to general health and well-being **across the lifespan.**

During pregnancy, women may be more prone to gum disease and cavities.

A mother's oral health status is a strong predictor of her child's oral health status.

3X

If mothers have high levels of untreated cavities or tooth loss, their children are 3X more likely to have cavities.

www.cdc.gov/oralhealth

Irene Hilton (2015)

Center for Healthy Communities
Office of Oral Health

9

Prime Time to Focus on Oral Health

Dental care is **safe and important** during pregnancy

Seek routine and emergency dental care at any stage of pregnancy

www.cdc.gov/oralhealth

- Routine dental treatment safe during pregnancy

- Oral healthcare more accessible to low-income populations during pregnancy & childhood

- Increase healthcare touchpoints (prenatal & well-child visits) boost oral health screening, education and referral opportunities

Center for Healthy Communities
Office of Oral Health

Prime Time to Focus on Oral Health

- Introduce risk-reduction & self-management strategies

- Stabilize periodontal & caries status

- Promote lifelong engagement with a dental home

Irene Hilton, 2016

Center for Healthy Communities
Office of Oral Health

Section Check-In: Q&A

?

Center for Healthy Communities
Office of Oral Health
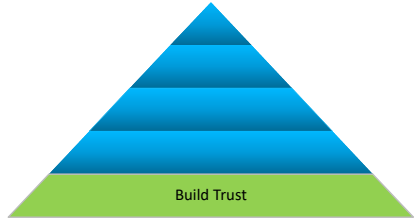
Team Development

"A team is a group of people committed to a common purpose who choose to cooperate in order to achieve exceptional results."

– Pat MacMillan, 2001
The Performance Factor

"A team is not a group of people who work together. A team is a group of people who trust each other."

– Simon Sinek, 2010
How Great Leaders Inspire Action

Center for Healthy Communities
Office of Oral Health

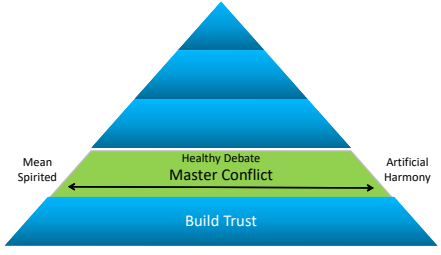
The Power of Vulnerability

Build Trust

Overcoming The Five Dysfunctions of a Team (Patrick Lencioni, 2005)

Center for Healthy Communities
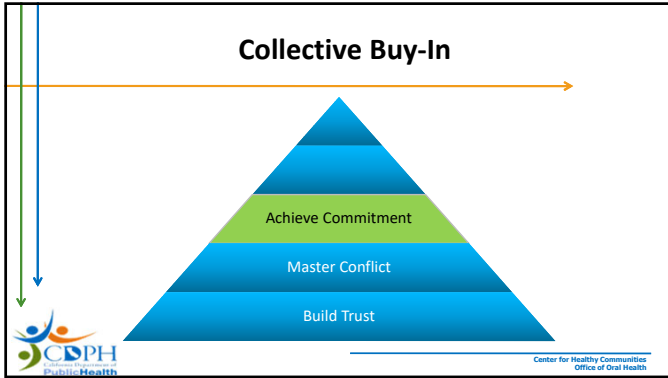Office of Oral Health

---

Healthy Debates

Mean Spirited

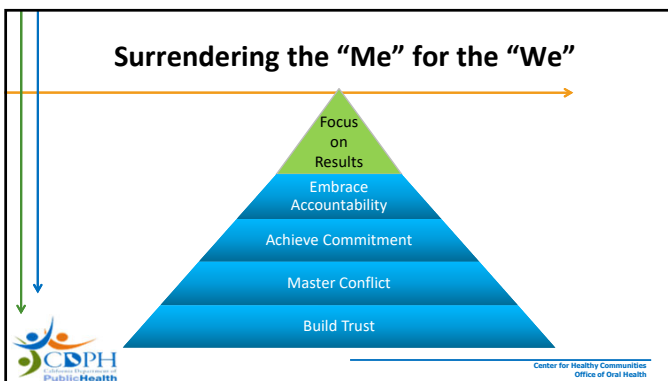Healthy Debate
Master Conflict

Artificial Harmony

Build Trust

Center for Healthy Communities
Office of Oral Health

Collective Buy-In

Achieve Commitment

Master Conflict

Build Trust

Center for Healthy Communities
Office of Oral Health

Shared Accountability

Embrace
Accountability

Achieve Commitment

Master Conflict

Build Trust

Center for Healthy Communities
Office of Oral Health

Surrendering the "Me" for the "We"

Focus
on
Results

Embrace
Accountability

Achieve Commitment

Master Conflict

Build Trust

Center for Healthy Communities
Office of Oral Health

Key Elements of an Effective QI Team

- Includes the 5 characteristics of an Effective Team

+

- Fosters multidisciplinary representation
- Shifts management paradigm to team paradigm
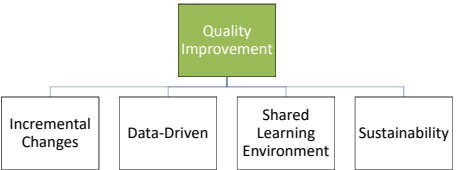- Recognizes the value of the customer

---

Start with Why

"While all changes do not lead to improvement, **all improvement requires change**."

– Institute for Healthcare Improvement

"People don't buy **what** you do, they buy **why** you do it."

– Simon Sinek
The Power of Why

Basic Improvement Principles

Quality Improvement

Incremental Changes	Data-Driven	Shared Learning Environment	Sustainability

Poll #3

PDSA stands for:

A. **P**oor **D**ecisions **S**eldom **A**chieve

B. **P**lan **D**o **S**tudy **A**ct

C. **P**ending **D**aily **S**ource **A**ccess

D. I haven't a clue

Center for Healthy Communities
Office of Oral Health
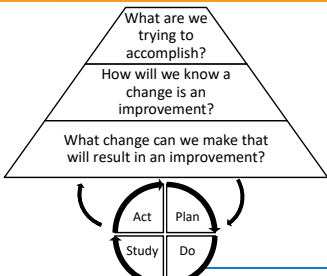

Improvement Methods

- Model-for-Improvement
  - Three Questions
  - PDSA Cycle
- Lean
  - Delivers value to the customer
  - Eliminates waste
  - Promotes continuous improvement

Source: G Langley, et al (2009). *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance* (2nd edition).

Center for Healthy Communities
Office of Oral Health

Model for Improvement

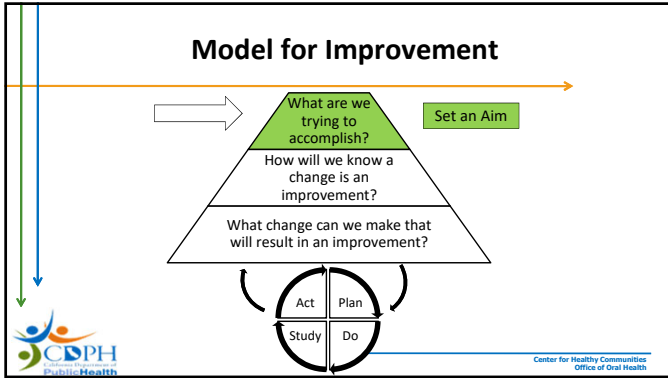What are we trying to accomplish?
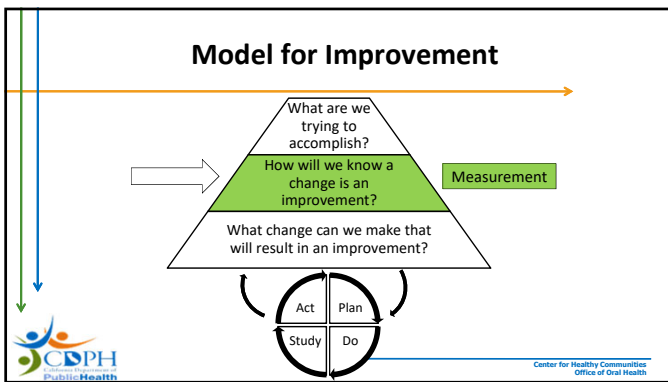
How will we know a change is an improvement?

What change can we make that will result in an improvement?

Act | Plan
Study | Do

Center for Healthy Communities
Office of Oral Health

Model for Improvement

What are we trying to accomplish?

Set an Aim

How will we know a change is an improvement?

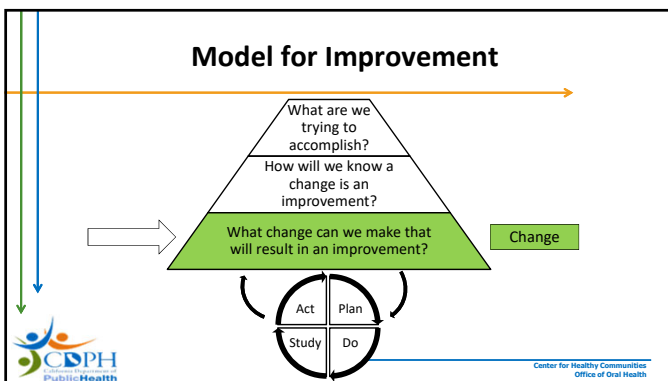What change can we make that will result in an improvement?

Act | Plan
Study | Do

CDPH
California Department of
Public Health

Center for Healthy Communities
Office of Oral Health

Model for Improvement

What are we trying to accomplish?

How will we know a change is an improvement?

Measurement

What change can we make that will result in an improvement?

Act | Plan
Study | Do

CDPH
California Department of
Public Health

Center for Healthy Communities
Office of Oral Health

Model for Improvement

What are we trying to accomplish?

How will we know a change is an improvement?

What change can we make that will result in an improvement?

Change

Act | Plan
Study | Do

CDPH
California Department of
Public Health

Center for Healthy Communities
Office of Oral Health

Changes to Improve Oral Health Care in a Primary Care Office

Improve Workflow
Institute screening and navigation to dental care in OB/GYN office

Optimize Inventory
Ensure age-appropriate oral hygiene supplies are consistently available

Change the Work Environment
Post key oral health messages in waiting area and exam room

Manage Variation
Update EHR to include

Center for Healthy Communities
Office of Oral Health

Model for Improvement

What are we trying to accomplish?

How will we know a change is an improvement?

What change can we make that will result in an improvement?

Act | Plan
Study | Do

Test Changes

Center for Healthy Communities
Office of Oral Health

PDSA Test: Plan

- Develop aim statement
- Identify and prioritize quality improvement opportunities
  - Develop process map
  - Identify all possible root causes
  - Identify possible improvements
  - Determine what to test
- Hypothesize If…. Then…

Act | Plan
Study | Do

Center for Healthy Communities
Office of Oral Health

PDSA Test: Plan

- Plan the test: action plan
  - Who (target population)
  - What (change/test)
  - When (dates of the test)
  - Where (location)
  - How (description of the plan)
- Detail data collection plan
  - What
  - How

Act | Plan
Study | Do

Center for Healthy Communities
Office of Oral Health

PDSA Test: Do

- Implement the change and observe the test
- Collect and document the data
- Document the problems, observations, and lessons learned

Act | Plan
Study | Do

Center for Healthy Communities
Office of Oral Health

PDSA Test: Study

- Develop run charts
- Analyze and summarize the data

Act | Plan
Study | Do
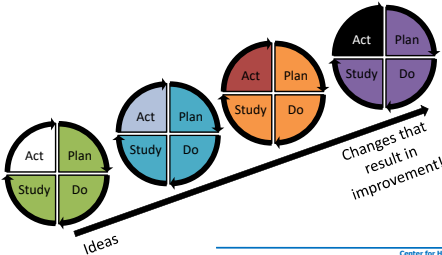
Center for Healthy Communities
Office of Oral Health

PDSA Test: Act

- Take action:
  - Adopt: Standardize but monitor!
  - Adapt: Change and repeat
  - Abandon: Start cycle process over again

Act	Plan
Study	Do

Center for Healthy Communities
Office of Oral Health

Linking your PDSA Cycles

Act	Plan
Study	Do

Changes that result in improvement!

Ideas

Center for Healthy Communities
Office of Oral Health

PDSA Cycle Summarized

- Plan
  - Objectives, methods, measures
- Do
  - Work the plan
- Study
  - Gather data, analyze results
- Act
  - Decide what to do next
  - Incorporate the change, make a new plan

Center for Healthy Communities
Office of Oral Health

18

Section Check-In: Q&A

?

Center for Healthy Communities
Office of Oral Health

"Continuous improvement is better than delayed perfection."

- Mark Twain

Center for Healthy Communities
Office of Oral Health

Lean

Lean focuses on improving value from the customer's point-of-view by reducing waste of time and resources.

Center for Healthy Communities
Office of Oral Health

Why Focus on Process?

- 85% of the opportunity to provide customer value lies in our processes
- Nearly every tangible output, service or product is the result of a process
- Process steps require and/or consume resources
- Characteristics of processes can be standardized

Center for Healthy Communities
Office of Oral Health

Why Implement Lean?

- Reduce waste and costs
- Increase productivity
- Improve processing time and quality of services
- Meet customer expectations
- Respond to increased demand for services
- Adjust to (or acknowledge) limited resources

Center for Healthy Communities
Office of Oral Health

Lean Philosophies

- Customer-Focus
- Respect
- Data-Driven Decisions
- Results
- Accountability
- Excellence

Center for Healthy Communities
Office of Oral Health

3 Types of Work in Every Process

- **Value-Added**: Any step in the process that improves the product/service for the customer

- **Non-Value-Added**: Waste

- **Business-Necessary:** Required by law, regulation, policy

Center for Healthy Communities
Office of Oral Health

___

Process Mapping

- A Lean-Management method for visually depicting the series of events in a process from its beginning through to the customer

- Helps elucidate areas to target for improvement
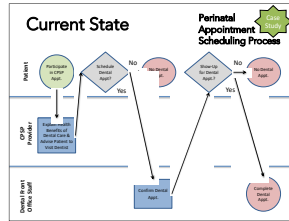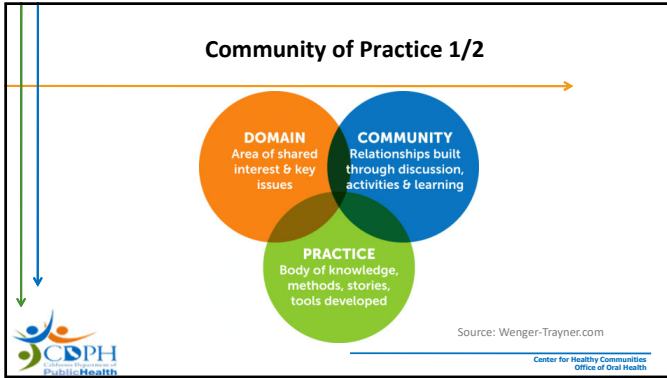

Center for Healthy Communities
Office of Oral Health

___

Waste

- Anything in the process that uses time and resources but does not add value in the eyes of the customer

Center for Healthy Communities
Office of Oral Health

Community of Practice 1/2

DOMAIN
Area of shared interest & key issues

COMMUNITY
Relationships built through discussion, activities & learning

PRACTICE
Body of knowledge, methods, stories, tools developed

Source: Wenger-Trayner.com

Center for Healthy Communities
Office of Oral Health

Community of Practice 2/2

Key CoP Takeaways:
- Garner clinic leadership support
- Enlist QI Champions
- Engage & share regularly w/ CoP members
- Use turnkey tools and practical examples
- Have accessible data
- Work to overcome technology barriers (practice management/EDR)
- Maintain patience

CA PIOHQI CoP Key Informant Interviews, 2020

Center for Healthy Communities
Office of Oral Health

Lessons Learned

- Why Quality Improvement (QI) Matters
- How QI Differs from QA
- Elements of an Effective QI Team
- Stages of Change and How to Manage Them
- Model-for-Improvement
- Lean
- Community of Practice

Center for Healthy Communities
Office of Oral Health

Section Check-In: Q&A

?

Part 2's Agenda

Part 2 of this webinar series will demonstrate how to:

- Develop SMARTIE goals and objectives
- Create process maps using Lean methodology
- Identify QI opportunities
- Test small process changes
- Identify, develop, and interpret data metrics
- Explain a case-study example
- Identify QI tools and resources to share with your dental teams

Additional Resources (1/2)

American Society for Quality

The American Society for Quality offers a variety of online and in-person training courses to help advance knowledge and application of quality improvement. Training costs vary.
https://asq.org/training/catalog#f:@freftopics86028=[Basic%20Quality

California Department of Public Health

The California Department of Public Health provides a variety of resources that highlight why dental QI is important and efforts to improve oral health outcomes for pregnant women, infants and young children through the PIOHQI Project.
https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/Pages/OralHealthProgram/OralHealthProgram.aspx

Additional Resources (2/2)

National Association of County and City Health Officials

The National Association of County & City Health Officials has a compendium of Quality Improvement Training Resources. They also have tools to help assess QI maturity, develop a QI plan, provide QI training and resources to staff, prioritize and select QI projects and implement QI projects.
http://qiroadmap.org/wp-content/uploads/2013/01/QIRoadmap.pdf
https://www.naccho.org/programs/public-health-infrastructure/performance-improvement/quality-improvement

Prosci

Prosci's AKDAR (Awareness, Desire, Knowledge, Ability, Reinforce) is a change-management model that provides a framework for guiding individual and organizational change. As quality improvement inevitably demands a change in organizational culture and processes, AKDAR helps to "pave the way" for successful change. Costs vary. https://www.prosci.com/

CDPH
PublicHealth

Center for Healthy Communities
Office of Oral Health