Digging Deeper: Using Health Center Dental Dashboards
For Tracking, Measuring, and Improvement

NNOHA Pre-Conference Dashboard Session
Sunday, November 12, 2017 1:00 - 5:00 pm,
LOCATION: Bel Aire Ballroom – Bay Tower
Disclosures

All speakers in this session have completed conflict of interest forms and none have any relevant financial relationships to disclose for themselves or any immediate family members.
Participants Will:

- Understand the 15 oral health measures that make up the Health Center Dental Dashboard®;

- Learn how other health centers have applied measurement and quality improvement methods to improve patient outcomes;

- Use the Dashboard to identify targeted areas for improvement and develop improvement goals;

- Learn how other organizations conduct Plan do Study Act (PDSA) cycles to test improvements related to goals;

- Discuss the connection between measurement and what to do to improve outcomes, and how to determine if improvement has really happened;

- Leave the session with a practical plan in place, including next steps to implement and monitor improvement goals.
Speakers & Faculty

- **Chad Lennox, MPH**
  Director Operations, Finance and Clinic Access
  Arcora Foundation

- **Jay Anderson, DMD, MHSA**
  Chief Dental Officer
  Clinica Sierra Vista

- **Irene Hilton, DDS, MPH**
  Dental Consultant
  National Network for Oral Health Access

- **Colleen Lampron, MPH**
  Oral Health Consultant

- **Martin Lieberman, DDS**
  Vice President, Graduate Dental Education,
  NYU Lutheran Medical Center

- **Rebecca Lipman**
  Associate Director, AFL Enterprises

- **Tova Weis**
  Dental Manager, Ezra Medical Center
  NNOHA Dashboard© Collaborative Participant

- **Isaac Zeckel, DDS, MS**
  Chief Dental Officer
  HealthLinc Community Health Center

- **Sandra Garbley-Kerkovich, DDS**
  Chief Dental Officer
  Choptank Community Health Center

- **Matthew Horan, DMD**
  Corporate Director of Dental Services
  Harbor Health

- **Kelli Smith; Sai Sagar; Vivek Babbar**
  eClinicalWorks

- **Nate Nelson**
  Dentrix Enterprise
# Session Overview

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 PM</td>
<td>Welcome &amp; Brief History of the Project</td>
</tr>
<tr>
<td>1:15 PM</td>
<td>Why Improve Quality</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>The Dashboard© in Action: Case Studies</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>Measurement for Success: The 15 Dashboard© Measures</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>Working with YOUR Dashboard©</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>Measurement &amp; Improving Outcomes</td>
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<td></td>
<td>- Run Chart Rules -</td>
</tr>
<tr>
<td>4:45 PM</td>
<td>Planning: What will you do when you go home?</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>Adjourn</td>
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</table>
Summary: History of the Health Center Dental Dashboard©

http://www.nnoha.org/resources/dental-dashboard-information/
AFL Enterprises and NNOHA have been working with Delta Dental of Colorado Foundation and Arcora Foundation (Formerly Washington Dental Service Foundation) since 2013 to convene expert advisors to develop a set of recommended oral health measures for High-Performing Health Centers.

• Conducted an environmental scan of dental quality metrics at the population, plan, and practice level;
• Developed a tool to help Health Centers gather and graph data for each of the measures. (Sharepoint or Excel)
Development

Participants from:

- CMS
- NNOHA
- Institute for Oral Health
- Colorado and Washington CHC
- CHCs working on oral health
- WA Dental Service Foundation
- Delta Dental of Colorado Foundation
The Dashboard©: A Tool to Take Action

• Dashboards give a quick status update for key measures.

• They are a snapshot, not an in-depth analysis.

• Regularly seeing the data makes it much easier to respond quickly to areas of concern, or to change courses of action.

• Dashboards can be used to facilitate communication between departments, highlight successful strategies, to maintain momentum in QI activities, and identify operational deficiencies.

• It is a tool to take action!
Vision For This Work

Health Centers are **sustainable**, high performing healthcare providers with strong operations to ensure **high productivity** and **health improvements** (including oral health improvements) among their patients.
Summary of Initiatives Utilizing the Dashboard©

• Learning Collaborative Pilot (2016)
  – 5 Health Centers, customized subset of Dashboard© measures used for Quality Improvement (QI)

• Dashboard© Learning Collaborative (2016-2017)
  – 26 Health Centers, customized subset of Dashboard© measures used for Quality Improvement (QI)

• Benchmarking Initiative (2017)
  – Health Centers, customized subset of Dashboard© measures used for Benchmarking

• Oral Health Improvement Collaborative (2017-2018)
  – 42 Health Centers, customized subset of Dashboard© measures used for Quality Improvement (QI)
NNOHA Dashboard © Collaborative Pilot & Phase II Teams
“I feel empowered after the collaborative! Thanks to you and all the faculty members who made it possible. “
Feedback

- Positive
- Quality
- Access
- Informative
- Captivating
- Accountable
- Exciting
- Positive changes
- Awareness
- Improvement
- Excellent
- Captivating
- Positive changes
- Awareness
- Improvement
- Educational
- Opportunity Growth
- Learning
- Data rich
- Leader
- Quality improvement
- Involved
- Learning
- Data rich
- Worthwhile
- Knowledge
- Accurate
- Excited
- Wonderful
- Dental Quality
Measurement & the Changing Health Care Landscape
The Health Center Dental Dashboard© in Action: Case Studies

- Learn how other health centers have applied measurement and quality improvement methods to improve patient outcomes;

- Learn how other organization conduct Plan do Study Act (PDSA) cycles to test improvements related to goals;
How Ezra Medical Center Uses Our Dashboard© And Why We Would Never Go Back

Tova Weiss
Dental Manager
Ezra Medical Center
Our Organization’s Dashboard

Ezra

Caries at Recall

Caries Risk Assess

Sealants 6-9 yrs

Self-Mgmt Goals

Trit Plan Completion

Sealants 10-14 yrs

No Shows

Series median: dashed line; Goal: solid line.
Implementing the Dental Measures - CRA

Our Original CRA Form

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diagnosis Code</td>
</tr>
<tr>
<td>K02.53 - Pit &amp; Fissure pulp</td>
</tr>
<tr>
<td>2. Caries Risk Assessment (AGE D-6)</td>
</tr>
<tr>
<td>-- Contributing Conditions --</td>
</tr>
<tr>
<td>I. Fluoride Exposure: Yes - [LR]</td>
</tr>
<tr>
<td>II. Sugary Foods or Drinks: Mealtimes - [LR]</td>
</tr>
<tr>
<td>III. Eligible for Govt. Program: Yes - [HR]</td>
</tr>
<tr>
<td>IV. Caries Experience Mother or Siblings: Caries last 7-23 months - [MR]</td>
</tr>
<tr>
<td>V. Dental Home: ---</td>
</tr>
<tr>
<td>-- General Health Conditions --</td>
</tr>
<tr>
<td>I. Special Health Needs: Yes - [HR]</td>
</tr>
<tr>
<td>-- Clinical Conditions --</td>
</tr>
<tr>
<td>I. Visual or Radiographically Evident Restorations: Caries lesion/restoration 24 Mo. - [HR]</td>
</tr>
<tr>
<td>II. Non Carvitated Carious Lesions: New lesions in last 24 Mo. - [HR]</td>
</tr>
<tr>
<td>III. Teeth missing due to Caries - [HR]</td>
</tr>
<tr>
<td>IV. Visible Plaque: Yes</td>
</tr>
<tr>
<td>V. Dental/Orthodontic Appliances Present: Yes - [MR]</td>
</tr>
<tr>
<td>VI. Salivary Flow: Visually inadequate - [HR]</td>
</tr>
</tbody>
</table>

Overall Assessment of Dental Caries Risk: Moderate Risk

Updated CRA Form

[Image of updated CRA form with options for risk assessment and associated conditions]
IMPLEMENTING OUR SEALANT MEASURE

SEALANT CODING REVIEW

**NDSEAL**= The patient needs sealants placed on one or more of their permanent 1st molars

**EXSEAL**= The patient is excluded from the UDS sealant measure due to active decay, missing/unerupted teeth or LOW CRA

**CPSEAL***= All eligible permanent molars are sealed or restored

**PLSEAL**= Sealants are placed in our office

* Sealants are complete when all eligible 1st permanent molars, then again when 2nd permanent molars, have been applied or restored

Based on Choptank Community Health’s Sealant Flowchart
Decreasing Our “No Show” Rate

Starting in October, our no show rate is based on one provider's schedule. We calculate our no show rate based on the total amount of appointments scheduled (i.e., kept, expected, cancelled and no show's) for patients under the age of 21. Our total count of patients are not an unduplicated list.

Starting in January, our no show rate was based on three provider's schedules.

Starting in August, the no show rate was based on all of the dentist's schedules.
How We Use Our Dashboard©

• The Dashboard© helps us gauge where we were at and gave us direction where we need to improve.
• Updated the Providers on their accomplishments
• Positive Reinforcement
Quality and Improvement

- Our QI Data is reviewed by:
  - QI Committee
  - Dental Director
  - Dental Providers and Hygienists

- PDSA Testing-
  - Allows us to implement the changes slowly
Each month a report was run to determine how many CRA were performed by each provider/hygienist.

In August we implemented the CRA into our EDR system. However, we noticed that many of our providers were skipping that section in the chart. After LS-1, we decided to implement the CRA slowly. Each month one additional provider and hygienist were chosen to perform a CRA on each of their scheduled exam and cleaning patients. In order to improve the workflow for the providers, the dental assistants were trained to document the initial intake for the dentists. With the help of the hygienists and the dental assistants, the percentage of CRAs documented will increase.

Continuously add additional providers each month to the workflow. After LS-2, we will train the dental assistants in motivational interviewing. With this training, the dental assistants will increase their confidence and it will allow them to assist the providers in this collaborative effort.

By slowly implementing the CRA across the board, we began to see a steady increase in the documentation of CRA. The original idea of having the dental assistant do the initial intake did not quicken the workflow. Some providers preferred to perform the CRA on their own.

In order to improve the workflow for the providers, the dental assistants were trained to document the initial intake for the dentists. With the help of the hygienists and the dental assistants, the percentage of CRAs documented will increase.

Each month one additional provider and hygienist were chosen to perform a CRA on each of their scheduled exam and cleaning patients. In order to improve the workflow for the providers, the dental assistants were trained to document the initial intake for the dentists. With the help of the hygienists and the dental assistants, the percentage of CRAs documented will increase.
How Harbor Health Services, Inc. Uses Our Dashboard© And Why We Would Never Go Back

Matthew Horan, DMD
Corporate Director of Dental Services
Harbor Health Services, Inc.
Finding out some things are going well...
Finding room for improvement?
Quality Improvement

• QI treated separately from QA
• Reports from quality IT team
• QI is part of the standing agenda for the Dental Lead Team
• PDSA cycles with pilots of changes at one site
• QI data reviewed with all staff, executive team, and part of provider incentive plan
How HealthLinc Uses Our Dashboard And Why We Would Never Go Back

Isaac Zeckel
Chief Dental Officer
HealthLinc Community Health Center
izeckel@healthlincchc.org;
Our Organization’s Dashboard

Implement evidence based preventative services targeted toward a reduction in the caries incidence of children in the communities HealthLinc serves.
How We Use Our Dashboard

The dashboard will define clinical outcome targets for dental staff to strive toward as well as identify areas for process improvement.
Quality Improvement

How does the timing of the call affect reliability? Change excel to generate time stamp and date of when call is made.

How does the time between the when patient is scheduled and when they are seen affect the reliability?

How often does eligibility/slide fee/large balance issues affect patients reliability to show
How **Choptank** Uses Our Dashboard And Why We Would Never Go Back

Sandra Garbely-Kerkovich, DMD
Senior VP and Chief Dental Officer
Choptank Community Health
Denton, Maryland
Risk-based Recare

Risk-based Recall (<21 years)
Treatment Plan Completion

Treatment Plan Completion (<21 years)

[Graph showing the percentage of treatment plan completion over time from January 2016 to October 2018.]

- The x-axis represents the months from January 2016 to October 2018.
- The y-axis represents the percentage completion.
- The line graph shows fluctuations in the percentage completion over time.
How We Use Our Dashboard

- Data Collection – your dashboard data is only as good as your documentation
- Designate one person ie: Dental Case Manager to collect data, run reports , and process dashboard - initial evaluate – review with Committee leader
- Evaluation process – at NNOHA Committee Meeting – determine what dashboard data represents –if accurate , trends , areas of focus
- Identify areas of improvement , staying steady or areas to focus on that need attention (going in wrong direction)
- Discuss PDSA’s that will help steer data/performance measures in the right direction to accomplish goals
Quality Improvement

Choptank has a NNOHA Committee that meets monthly

- **Each site & discipline is represented** (Dentist, Hygienist, DA, Patient Services, Case Manager and Operations Manager)

- **We discuss** ideas & determine PDSA’s we want to initiate
  - Start small (one day, one patient, one provider)
  - Re-evaluate and discuss with committee
  - Plan how to proceed – revise, retest or discontinue as needed
  - Expand to more providers, then to full implementation

- **Data is our life!**
  - NNOHA Committee Ambassadors share in morning huddles at each site
  - Dental management shares in, monthly, quarterly meetings, Leadership Team meeting, Senior Management Team
  - CDO shares at Board Meetings as requested/needed
Our Advice for You

Start Small
It’s OK to “Fail”
Communication is Key
Share “Tips & Trends”
Support from Senior Management
Morning Huddles

Model for Improvement

Objective(s) for this PDSA Cycle

To have a “Sealant Day” to place Sealants for High and Moderate Risk patients ages 6-14 years. A Dental Hygienist will have an all-day schedule for patients to receive sealants.

Plan

Questions: What do we want to know?

Will more high and moderate patients receive sealants within 122 days of the qualifying exam by Dentist?

Predictions: What do we think will happen?

More high and moderate patients receive sealants within 122 days of the qualifying exam by Dentist

Plan for Change or Test: who, what, when, where. What are we going to do to make our test happen?

<table>
<thead>
<tr>
<th>List the tasks necessary to complete this test (what)</th>
<th>Person responsible</th>
<th>When</th>
<th>Where</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Patient Services Staff will schedule patients needing sealants on 4/13/17 at GDC</td>
<td>Patient Services staff</td>
<td>Prior to 4/13/17</td>
<td>GDC</td>
</tr>
<tr>
<td>2. Hygienist will place sealants on patients (6-14 years) at GDC</td>
<td>Bonnie Dove</td>
<td>4/13/17</td>
<td>GDC</td>
</tr>
<tr>
<td>3. Hygienist will document codes to be captured for data tracking purposes (i.e. HRSA UDS measure, NNOHA Collaborative)</td>
<td>Bonnie Dove</td>
<td>4/13/17</td>
<td>GDC</td>
</tr>
<tr>
<td>4. Dental Case Manager will run a Practice Analytics report for data</td>
<td>Jenni Dill</td>
<td>5/01/17</td>
<td>Administration</td>
</tr>
</tbody>
</table>

Plan for Collection of Data: who, what, when, where. How will we evaluate our test?

Bonnie and Jenni will share their findings with the NNOHA Committee on 5/16/2017

Do: carry out the change or test; collect data and begin analysis; describe the test

We scheduled the Sealant Day on a date that school was closed. 8 of 10 scheduled patients arrived for their appointments and had 1st time sealants applied. Bonnie enter all codes in Dentrix and Jenni ran the PA report to verify all coding was captured accurately.

Study: complete analysis of data; summarize what was learned.

The Sealant Day Was successful. 80% completion rate achieved was a win for our team. The data was captured accurately.

Act: are we ready to make a change? Plan for the next cycle.

We will schedule another Sealant Day for 6/23/17 at GDC and CDC.
Panel Q&A

• If you have an envelope at your place, you may open now.

• Inside you will find a question for the panel – please raise your hand and read it aloud.
  – You will also find a gift card in the envelope – thank you for your participation! 😊

• Any other audience questions?
Measurement for Success: The 15 Dashboard© Measures
Create YOUR Dashboard

- Understand the 15 oral health measures that make up the Health Center Dental Dashboard®;

- Use the Dashboard to identify targeted areas for improvement and develop improvement goals;

- Develop a plan to operationalize measures to use in your organizations;
### Individual Dashboard Measures

The dashboard consists of 15 measures that are organized into three categories:

- Population health.
- Fiscal and operational sustainability.
- Patient satisfaction.

#### Population Health

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caries at Recall</td>
<td>% of patients who complete a periodic oral evaluation and have a caries diagnosis.</td>
</tr>
<tr>
<td>Risk Assessment of all Dental Patients</td>
<td>% of all dental patients who have had an oral health risk assessment.</td>
</tr>
<tr>
<td>Oral Evaluation and/or Risk Assessment of all Primary Care Patients</td>
<td>% of all health center patients who have an oral evaluation and/or risk assessment performed by a medical provider.</td>
</tr>
<tr>
<td>Sealants (6-9 year olds)</td>
<td>% of 6-9 year old children, at moderate to high risk, who receive a sealant on one or more permanent first molar teeth.</td>
</tr>
<tr>
<td>Sealants (10-14 year olds)</td>
<td>% of 10-14 year old children, at moderate to high risk, who receive a sealant on one or more permanent molar teeth.</td>
</tr>
</tbody>
</table>

#### Topical Fluoride

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topical Fluoride</td>
<td>% of 0-5 year old children (dental and medical) who receive topical fluoride application.</td>
</tr>
</tbody>
</table>

#### Self-Management Goal Setting

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Management Goal Review</td>
<td>% of health center patients who have oral health self-management goals reviewed by their care team.</td>
</tr>
</tbody>
</table>

#### Fiscal & Operational Sustainability

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall Rates</td>
<td>No Shows</td>
</tr>
<tr>
<td>Gross Charges (Production) per Encounter</td>
<td>Encounters per Hour</td>
</tr>
<tr>
<td>Direct Cost per Visit</td>
<td>Patient Satisfaction</td>
</tr>
<tr>
<td>Recommendation to Family and Friends</td>
<td>% of patients who would recommend health center services to family and friends.</td>
</tr>
</tbody>
</table>
CARIES AT RECALL

The Caries at Recall measure assesses the percent of patients who complete a periodic oral evaluation and have a caries diagnosis. Tracking this measure answers the question: **How well is the patient’s dental disease being managed?**
RISK ASSESSMENT OF ALL DENTAL PATIENTS

The Risk Assessment of all Dental Patients measure identifies how many dental patients have been evaluated for caries risk. This measure helps a health center manage patient care according to risk.
ORAL EVALUATION AND/OR RISK ASSESSMENT OF ALL PRIMARY CARE PATIENTS

Oral evaluation and/or risk assessment measures the percent of patients who receive an oral health evaluation and/or risk assessment in a primary care setting. Tracking this measure answers the question: Are primary care medical providers delivering basic oral health screenings as a part of their patients’ general wellness?
The *Sealants* measure helps identify how many pediatric patients in the 6-9 year old age range have received sealants on at least one permanent first molar tooth. Tracking this measure addresses the question: **How many pediatric patients are receiving recommended preventive treatments?**
SEALANTS (10-14 YEAR OLDS)

The *Sealants* measure helps identify the percent of pediatric patients in the 10- to 14-year-old age range who are at “elevated” risk (“moderate” or “high” in risk assessments) who have received sealants on at least one permanent molar tooth. Tracking this measure addresses the question: **How many pediatric patients are receiving recommended preventive treatments?**

**# of 10-14 Year Old Pediatric Patients**

at Moderate to High Risk for Caries
Who Received a Sealant on One or More Permanent Molar Teeth

**# of Unique 10-14 Year Old Pediatric Patients**

With an Oral Assessment or Comprehensive Periodic Oral Evaluation who are at Moderate to High Risk for Caries and Have Sealable Molars
TOPICAL FLUORIDE

This measure tracks the percent of pediatric patients in both the medical and dental clinics who receive a topical fluoride application (e.g., fluoride varnish). This measure answers the question: How many pediatric patients receive recommended preventive treatments?
SELF-MANAGEMENT GOAL SETTING

The measure for *Self-Management Goal Setting* identifies the percent of dental patients who have at least one oral health self-management goal set with their care team. This measure answers the question: **How well are we supporting patients in managing their own health?**
Self-Management Goal Review tracks the percent of health center patients who have established oral health self-management goals and reviewed them with their care team. Tracking this measure answers the question: How well are the medical and dental teams working collaboratively with their patients to improve their patients’ health?
The Treatment Plan Completion measure assesses the percent of patients who complete their recommended treatment within a six-month time frame. Tracking this measure answers the question: to what extent are patients completing recommended treatment?
The Recall Rates measure tracks the percentage of patients who have returned for a recommended recall visit established during a previous dental appointment. This measure tracks continuity of care.
NO SHOWS

The No Shows measure tracks the percent of patients who do not show up for an appointment or call to cancel. Tracking this measure addresses the question: How well is the system of patient appointments and reminders functioning?

# of Patients
Who Do Not Show Up for Scheduled Dental Visits

# of Patients
Scheduled for a Dental Visit
GROSS CHARGES (PRODUCTION) PER ENCOUNTER

The *Gross Charges per Encounter* measure tracks the actual charges established from dental patient visits. Tracking this measure answers the question: **How much dentistry is being done at each visit over time?**
ENCOUNTERS PER HOUR

The *Encounters Per Hour* measure tracks the average number of patients a provider sees per hour. This measure answers the question: *Are providers meeting general productivity standards?*
DIRECT COST PER VISIT

The *Direct Cost Per Visit* measure tracks the actual cost of a dental encounter. Tracking this measure helps centers understand: **the actual cost of private care.**
RECOMMENDATION TO FAMILY AND FRIENDS

This measure tracks the percentage of patients who have completed a satisfaction survey and would recommend the health center’s services to their family and friends. Tracking this measure answers the question: **Do the patients perceive that the health center provides valuable, quality services?**

**# of Patients that Indicate They Would Recommend the Health Center Services to Family and Friends**

**# of Patients Who Complete a Satisfaction Survey**
Activity to review and prioritize the measures

- Visit posters and **review each measure** description, numerator and denominator.
- Next to each poster is an envelope with “tabs”
- For each measure that you want to try or that you are already using – **take a tab.**
- Go **back to your table** with your chosen measures.
Prioritize YOUR measures

• **Select up to 8 (8 maximum)** measures that you want to use for your dashboard.

• Write in the name of your selected measures on the Measures worksheet

• By 3:00 pm you will have a list of 8 or fewer measures that you will use to create a dashboard for your organization
Operational Definition

• A description, in quantifiable terms, of what to measure and the steps to follow to measure it consistently.

• If you give it to 5 people to test the same thing, they all come back with the same results.
What does it mean to “go wireless”?

I think it was a mistake to go wireless.
Define & Plan

- **Review the** Collaborative & Users’ Guide definitions for YOUR measures to refine and select YOUR measure definitions.
- **What** data will our team collect?
- **Where** are the data stored?
- **How** will our team get the data? (By what **method**)  
  - Dummy Code Method 
  - Chart Audit Method 
  - Daily/Weekly Log Estimate Method
- **Who** will get the numbers? (Role/name)
- **When** is the data deadline following end of each month?

**Table Top Coaching:** Once you have your definitions and plan  
By 4:15 pm you will have defined measures and a plan for collecting the data.
Table Top Coaching: Working with YOUR Dashboard

- Finalize your measure set
- Finalize your measure definitions
- Play around with the data you brought or sample data in spreadsheet
  - If your vendor is here (Dentrix or eCW) – talk with them about a solution to collect the data
  - Everyone else: sit with colleagues who use the same EDR as you, call over a coach
    - Customize your Excel spreadsheet, OR
    - Use the template as is

By 4:15 pm you will have defined measures and a plan for collecting the data.
Measuring for Quality Improvement

• Discuss the difference between measurement for improvement vs. accountability

• Discuss the connection between measurement and what to do to improve outcomes, and

• Apply run chart rules to determine if improvement has really happened
Question 2 of the Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

The most basic understanding of the 2nd question is this: Measurement
Why are you measuring?

Research?
(testing theory and building new knowledge)

Accountability Judgment?
(making comparisons; no change focus)

Improvement?
(improving the effectiveness or efficiency of a process or system)
# The Three Faces of Performance Measurement

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Improvement</th>
<th>Accountability</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aim</strong></td>
<td>Improvement of care (efficiency &amp; effectiveness)</td>
<td>Comparison, choice, performance management</td>
<td>New knowledge (efficacy)</td>
</tr>
<tr>
<td><strong>Methods:</strong></td>
<td>Test are observable</td>
<td>No test, evaluate current performance</td>
<td>Test blinded or controlled</td>
</tr>
<tr>
<td>• Test Observability</td>
<td>Accept consistent bias</td>
<td>Measure and adjust to reduce bias</td>
<td>Design to eliminate bias</td>
</tr>
<tr>
<td>• Bias</td>
<td>“Just enough” data, small sequential samples</td>
<td>Obtain 100% of available, relevant data</td>
<td>“Just in case” data</td>
</tr>
<tr>
<td>• Sample Size</td>
<td>Flexible hypotheses, changes as learning takes place</td>
<td>No hypothesis</td>
<td>Fixed hypothesis (null hypothesis)</td>
</tr>
<tr>
<td>• Flexibility of</td>
<td>Sequential tests</td>
<td>No tests</td>
<td>One large test</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>Determining if a change is an improvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Testing Strategy</td>
<td>Run charts or Shewhart control charts (statistical process control)</td>
<td>No change focus (maybe compute a percent change or rank order)</td>
<td>Hypothesis, statistical tests (t-test, F-test, chi square, p-values)</td>
</tr>
<tr>
<td>• Confidentiality of</td>
<td>Data used only by those involved with improvement</td>
<td>Data available for public consumption and review</td>
<td>Research subjects’ identities protected</td>
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Tips for Effective Measurement

- Plot data over time.
- Use sampling.
- Integrate measurement into the daily routine.
- Use qualitative and quantitative data.

- Seek usefulness, not perfection.
How do We Know that Change is an Improvement?

• Improvement is about testing and implementing change within a system, not measurement! Sometimes we see people get carried away...

• But...measurement plays a critical role:
  – The purpose of QI measurement work is for learning not judgement!
  – All measures have limitations, but the limitations do not negate their value for learning.
  – You need a balanced set of measures reported daily, weekly or monthly to determine if the process has improved, stayed the same or become worse.
  – These measures should be linked to the team’s Aim.
  – Measures should be used to guide improvement and test changes.
  – Measures should be integrated into the team’s daily routine.
  – Data should be plotted over time on annotate graphs
  – Focus on the Vital Few!
How do we know if we’ve improved?

Run Charts

- **Run charts** are line graphs where a measure is plotted over time, often with a median (the middle value of those plotted so that half are above and half are below) also shown. Changes made to a process are also often marked on the graph (annotated) so that they can be connected with the impact on the process.

Run Charts Rules Summary

Signals of non-random patterns:

1. Shift - 6 or more consecutive points either all above or all below the median
2. Trend - 5 or more consecutive points all going up or all going down.
3. Runs - Too few or too many runs.
4. Astronomical point - A point obviously different from the rest, "everyone agrees." This rule is subjective, unlike rules 1-3, which are probability based.

See Perla et al. (2010) for further explanation and details
“If I had to reduce my message for management to just a few words, I’d say it all had to with reducing variation.”
- W. Edwards Deming
Summary: Measurement for Improvement

- Measurement is **necessary** for improvement (finding your way to a goal in an uncertain environment)
  - Do you know where you are?
  - Do you know if you are getting closer to your aim?
  - Do you measure frequently enough to guide your work?
- Measurement by itself is **not sufficient** for improvement sustained over time in multiple teams and clinics.
- Management skill and will usually are the constraints on improvement, not measurement.
Users Guide & Dental Quality Alliance Specifications

- Measures list inspired by the 2015 NNOHA Dashboard© Version 1.0

http://www.nnoha.org/resources/dental-dashboard-information/users-guide/

- Measure specifications for clinical measures and no-shows developed by Dental Quality Alliance
Next Steps

• NNOHA will be hosting a Quality Learning Collaborative in Summer/Fall 2018

• NNOHA will send out information about the opportunity to be involved in Spring 2018.
My Next Steps

• Leave the session with a practical plan in place, including next steps to implement and monitor improvement goals

Answer this question:

• What are the next steps I will take to implement and monitor improvement goals?
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