Using The Health Center Dental Dashboard© for Tracking, Measuring, and Improvement

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Mile Square Health Center

"Measure what is measurable, and make measurable what is not so."

- Galileo Galilei

(© Delta Dental of Colorado Foundation and Arcora Foundation 2015)
• Log on to the web portion first

• follow the prompts to connect your audio

• You will enter the call on mute

• chat to “Everyone”

• This webinar is being recorded
NNOHA’s Mission

To improve the oral health of underserved populations and contribute to overall health through leadership, advocacy, and support to oral health providers in safety-net systems.
NNOHA Member Benefits

Educational Opportunities

High-quality resources

Networking opportunities

Active ListServ updated daily

Technical assistance

Mentoring

Discounted Annual Conference Registration

For more information, contact info@nnoha.org
Learning Objectives

• Recognize the 15 measures that make up the Health Center Dental Dashboard©.
• Understand how safety net dental clinics can monitor and measure oral health data.
• Discuss ways to use the Health Center Dental Dashboard© to identify targeted areas for improvement and develop improvement goals.
# Session Overview

## Agenda

<table>
<thead>
<tr>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of the Project</td>
</tr>
<tr>
<td>Measurement for Success: The 15 Dashboard© Measures &amp; Why</td>
</tr>
<tr>
<td>The Dashboard© in Action: Using the Dashboard© for Improvement</td>
</tr>
<tr>
<td>Applying the Science of Improvement</td>
</tr>
<tr>
<td>Upcoming opportunities through NNOHA:</td>
</tr>
<tr>
<td>• Collaborative</td>
</tr>
<tr>
<td>• NNOHA Annual Conference</td>
</tr>
<tr>
<td>• What do you need?</td>
</tr>
</tbody>
</table>
Polling Question

Where do you work?
- Health Center?
- PCA?
- Health Center Controlled Network?
- Other

Thank you!
NNOHA Collaborative Teams
Pilot, Phase II, Phase III, & Phase IV

Puerto Rico

93
HISTORY OF THE PROJECT
**History**

- **2013**: Convening of Expert Advisors
- **2015**: Launch of Health Center Dental Dashboard© User’s Guide and data collection tool
- **2017**: Updates to User’s Guide and new data collection tool developed
- **2019**: Ongoing measure development and testing
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.
MEASUREMENT FOR SUCCESS: THE 15 HEALTH CENTER DENTAL DASHBOARD© MEASURES
Why Use A Dashboard

- Status updates
- Monitor data
- Uses:
  - Facilitate communication
  - Demonstrate strategic successes
  - Maintain QI momentum
  - Identify opportunities for improvement

A tool to take action!
# 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></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Test Observability</strong></td>
<td>Tests are observable</td>
<td>No test, evaluate current performance</td>
<td>Test blinded or controlled</td>
</tr>
<tr>
<td><strong>Bias</strong></td>
<td>Accept consistent bias</td>
<td>Measure and adjust to reduce bias</td>
<td>Design to eliminate bias</td>
</tr>
<tr>
<td><strong>Sample Size</strong></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><strong>Flexibility of Hypothesis</strong></td>
<td>Flexible hypotheses, change as learning takes place</td>
<td>No hypothesis</td>
<td>Fixed hypothesis (null hypothesis)</td>
</tr>
<tr>
<td><strong>Testing Strategy</strong></td>
<td>Sequential tests</td>
<td>No tests</td>
<td>One large test</td>
</tr>
<tr>
<td><strong>Determining if a change is an improvement</strong></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><strong>Confidentiality of the data</strong></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>
</tr>
</tbody>
</table>

# The Health Center Dental Dashboard©

## Measures

### Population Health
- Caries at recall
- Risk assessment of all dental patients
- Oral evaluation and/or risk assessment
- Sealants (6-9 year olds)
- Sealants (10-14 year olds)
- Topical fluoride
- Self-management goal setting
- Self-management goal review
- Treatment plan completion

### Fiscal and Operational Sustainability
- Recall rates
- No shows
- Gross charges (production) per encounter
- Encounters per hour
- Direct cost per visit

### Patient Satisfaction
- Recommendation to family and friends
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
The Health Center Dental Dashboard®

Tools
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?*

**Do the math**

\[ \text{# of Patients with a Periodic Exam} \]  
Who Also Have a Diagnosis Code Indicating Caries

\[ \text{# of Patients with a Completed Periodic Exam} \]
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
THE HEALTH CENTER DENTAL DASHBOARD© IN ACTION
To provide holistic, quality services in the midst of an underserved, urban community.
MILE SQUARE HEALTH CENTER: WHO WE ARE

• Opened on Chicago’s West Side in 1967—among the first Community Health Centers in the nation

• Co-managed and operated by The Board of Trustees of the University of Illinois and the Mile Square Health Center Board, a patient-majority community board

• Clinics staffed by health professionals from the University of Illinois
SOUTH SHORE CLINIC

- Opened in 2018
- We needed to find out if the clinic was meeting goals.
- How do we set those goals?
- How do we find out we are offering quality, evidence based patient care that answer our patients’ needs?
- How do we determine if the clinic is successful?

We need DATA!
The Dental Dashboard

Population Health

Treatment Plan Completion
» % of dental patients who have Phase I treatment plan completed within six months.

Caries at Recall
» % of patients with caries diagnosed during a periodic oral exam.

Risk Assessment of all Dental Patients
» % of all dental patients who have had an oral health risk assessment.

Oral Evaluation and/or Risk Assessment of all Primary Care Patients
» % of all health center patients who have an oral evaluation and/or risk assessment performed by a medical provider.

Topical Fluoride
» % of 0-5 year old children (dental and medical) who receive topical fluoride application.

Sealants (6-9 year olds)
» % of 6-9 year old children, at moderate to high risk, who receive a sealant on one or more permanent first molar teeth.

Sealants (10-14 year olds)
» % of 10-14 year old children, at moderate to high risk, who receive a sealant on one or more permanent molar teeth.

Self-Management Goal Setting
» % of dental patients who have at least one oral health self-management goal set by their care team.

Self-Management Goal Review
» % of health center patients who have oral health self-management goals reviewed by their care team.

Fiscal & Operational Sustainability

Gross Charges (Production) per Encounter

Encounters per Hour

No Shows

Direct Cost per Visit

Recall Rates

Patient Satisfaction

Recommendation to Family and Friends
» % of patients who would recommend health center services to family and friends.
DENTAL DASHBOARD

- Submitted monthly to clinic leadership
- First table is calculated quarterly, gleaned from other tables
- Second table is calculated by provider:
  - # of visits
  - # of days worked
  - Gross charges
  - Revenue
  - Revenue per visit
  - Cost per visit
  - Unduplicated patients
  - New patients
  - # of procedures
  - # of procedures per visit
  - Patient satisfaction

  **Calculated by clinic:**
  - No-Show rate
  - ER rate
  - Treatment plan complete
  - #FTE providers

Items in green are formulas in Excel

Sealant rate is calculated on by provider monthly on a separate table, but only included in annual report to leadership.
# Provider Table

<table>
<thead>
<tr>
<th>Dr. Miller</th>
<th>Visits</th>
<th># of Days Worked</th>
<th>Avg. # of Visits per Day</th>
<th>Gross Charges</th>
<th>Net Revenue</th>
<th>Revenue Per Visit</th>
<th>Average production per patient</th>
<th>Average Charge per procedure</th>
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</thead>
<tbody>
<tr>
<td>Example:</td>
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<td>Jan-18</td>
<td>137</td>
<td>12</td>
<td>11.4</td>
<td>$</td>
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<td>$</td>
<td>$</td>
<td>$</td>
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<td>8.5</td>
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<td>$</td>
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<td>Mar-18</td>
<td>108</td>
<td>9</td>
<td>12.0</td>
<td>$</td>
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</tbody>
</table>
## NO SHOW RATE

![Excel screenshot with table on No Show Rate]

### Excel Table: Broken Appointments

<table>
<thead>
<tr>
<th>Month</th>
<th>Actual Visits</th>
<th>No-Shows</th>
<th>Cancellations</th>
<th>Walk-Ins</th>
<th>Scheduled Appointments</th>
<th>Broken Appointment Rate</th>
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<tr>
<td>Jan-18</td>
<td>291</td>
<td>72</td>
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<td>0</td>
<td>363</td>
<td>19.8%</td>
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<tr>
<td>Feb-18</td>
<td>292</td>
<td>71</td>
<td>20</td>
<td>0</td>
<td>363</td>
<td>19.6%</td>
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<td>Mar-18</td>
<td>339</td>
<td>77</td>
<td>25</td>
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<td>416</td>
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</table>
# EMERGENCY RATE

## Emergency Rate

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Number of Visits</th>
<th>Number of Emergency Visits (D0140 &amp; D9110)</th>
<th>Emergency Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-18</td>
<td>291</td>
<td>46</td>
<td>15.8%</td>
</tr>
<tr>
<td>Feb-18</td>
<td>292</td>
<td>62</td>
<td>21.2%</td>
</tr>
<tr>
<td>Mar-18</td>
<td>337</td>
<td>59</td>
<td>17.5%</td>
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<tr>
<td>Dec-18</td>
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</tbody>
</table>
# TREATMENT PLAN COMPLETION

## Completed Treatments

<table>
<thead>
<tr>
<th>Month</th>
<th>Number of Created Treatment Plans (D0120 + D0150)</th>
<th>Number of Completed Treatment Dummy Codes</th>
<th>Treatment Plan Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-18</td>
<td>110</td>
<td>49</td>
<td>44.5%</td>
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<tr>
<td>Feb-18</td>
<td>117</td>
<td>44</td>
<td>37.6%</td>
</tr>
<tr>
<td>Mar-18</td>
<td>136</td>
<td>64</td>
<td>47.1%</td>
</tr>
<tr>
<td>1-Apr</td>
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</tbody>
</table>
PATIENT SURVEYS

Done by provider, each provider has their own color. The averages are determined for the clinic in general, using formula provided below.

<table>
<thead>
<tr>
<th>Month</th>
<th>Ease of appt</th>
<th>Time waiting</th>
<th>Staff</th>
<th>Provider Cleanliness</th>
<th>Points possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-19</td>
<td>35</td>
<td>33</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Feb-19</td>
<td>15</td>
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<tr>
<td>Mar-19</td>
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<td>Dec-19</td>
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</tr>
</tbody>
</table>

100% 96% 100% 100% 100% WL

\[ f_{x} = \frac{(D18+D35+D52)}{3} \]

<table>
<thead>
<tr>
<th>Clinic Average</th>
<th>Ease of appt</th>
<th>Time waiting</th>
<th>Staff</th>
<th>Provider</th>
<th>Cleanliness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.9777777778</td>
<td>0.9644444444</td>
<td>1</td>
<td>0.991111</td>
<td>0.9911111111</td>
</tr>
</tbody>
</table>
CHART AUDITS

- Determine what areas you want to ‘grade’, how often, and by whom.
- Who will see this report?
- Determine thresholds for Provider/Clinic Improvement Plan (PIP)
- Construct PIP
- Inform staff

WHAT WE DO:
- We determined topics that will get ‘graded’ and informed providers
- Done on a rotation by all providers, 3 randomly selected charts per month.
- Report is seen by all, on shared drive.
- First 90 days is not counted against provider. Provider has to achieve 90% average thereafter.
- For the first week, all charts are audited by DD, and reviewed with new provider.
- Staff has buy-in
### AUDIT DATA SHEET

**Excel Sheet**

- **Sheet Title**: Chart audits - Excel
- **Formula**:
  
  ```excel
  =SUM(COUNTIF(E69:X69, "Y", "N/A"))/SUM(COUNTIF(E69:X69, "Y", "N", "N/A"))
  ```

- **Data Table**:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
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<tbody>
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- **Average Calculation**:

  ```excel
  =AVERAGE(L5:L54)
  ```

- **Result**: 0.857142857

- **Average Result**: 0.962857143
Our Sealant rate DRAMATICALLY improved by the addition of one simple step that we learned at the NNOHA collaborative:

**SAME DAY SEALANTS!**

We used tools that we learned at the collaborative to get staff buy-in and develop workflow. For several months, we achieved 100% sealant rate on all 6-14 year olds, regardless of risk factor.

The trays are set up in advance, and consent is obtained by guardian, phrased as ‘it will only take a few more minutes’.
### Sealants

**Table Provided by Clinic for UDS**

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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<td>Percentage of children, age 6-9 years, at moderate to high risk for caries who received a sealant on a first permanent molar during the measurement period.</td>
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<td>DOB</td>
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<td>Date of last molar dental sealant</td>
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**Exclusions**
- Children for whom all first permanent molars are non-sealable (i.e., molars are either decayed, filled, currently sealed, or un-erupted/missing)
CREATING GRAPHS
ENTERING DATA TO GRAPH
PRESENTING DATA

• We collect numbers on excel monthly, and send to leadership. At the end of the CY and FY, we turn data into easy to read line graphs so we can see trends.
• Functionality to do this in Excel and SAS software.
• Potential roadblock is a lack of training on the part of dental directors in data management and analysis.
Mile Square

Series median: dashed horizontal line; Goal: solid horizontal line

- Caries at Recall_LT21
- Direct Costs/Visit
- Risk Assessment
- Sealants 10-14 yrs
- Sealants 6-9 yrs
- Self-Mgmt Goals Set_LT21
FINAL NOTE

• Gain familiarity with data software, its worth the time investment
• Youtube has great videos that can walk you through Excel capabilities

QUESTIONS:

Sue Etminan, DMD, MPH
Dental Director
Mile Square Health Center
312-355-5570
setmin1@uic.edu
Polling Question

What dental data are you already collecting?

1. Topical fluoride
2. Self-management goal setting
3. Self-management goal review
4. Treatment plan completion
5. Recall rates
6. Sealants 6-9-year olds
7. Sealants 10-14-year olds
The Dashboard

- **O.1 Dental Visits**
  - Chart showing visits from January to July.
  - Graphs for Goal, Percent, and Median.

- **O.2 Preventive Services**
  - Chart showing preventive services from January to July.
  - Graphs for Goal, Percent, and Median.

- **P.1 Caries Risk Assessment**
  - Chart showing caries risk assessment from January to July.
  - Graphs for Goal, Percent, and Median.

- **P.2 Fluoride Varnish**
  - Chart showing fluoride varnish from January to July.
  - Graphs for Goal, Percent, and Median.

- **P.3 Sealants on Primary Molars**
  - Chart showing sealants on primary molars from January to July.
  - Graphs for Goal, Percent, and Median.

- **P.4 Self Mgmt Goals Reinforced**
  - Chart showing self-management goals from January to July.
  - Graphs for Goal, Percent, and Median.

- **P.5 Recall Visits**
  - Chart showing recall visits from January to July.
  - Graphs for Goal, Percent, and Median.

- **Recall – Days Between**
  - Chart showing days between recall visits with a peak at 2.3 days.
  - Graph for Patient.
Discussion Questions

• How has your leadership style changed as a result of your QI work?
• How have you changed the way you hire providers or other team members to support your QI mind set?
• Do you use this data to set expectations?
• How do your dental QI initiatives affect front line staff work load?
• What EHR and data support are required?
• What do your patients have to say about your QI efforts?
Results: Improvement Data from the Dashboard Collaboratives 2016-2018 & Benchmarking Initiative 2017

APPLYING THE SCIENCE OF IMPROVEMENT
Question 2 of the Model for Improvement

The most basic understanding of this is: **Measurement**
Summary of NNOHA Initiatives
Utilizing the Dashboard©

2016
Learning Collaborative Pilot
5 Health Centers

2017
20 Health Centers
2017 Benchmarking Initiative

2017-2018
39 Health Centers
Oral Health Improvement Collaborative

2018
231 Attendees
NNOHA Annual Conference Session

2016-2017
Dashboard Learning Collaborative
26 Health Centers

2017
NNOHA Annual Conference Sessions
311 Attendees

2018
Healthy Smiles Healthy Children
6 Practices

2018-2019
Sealants Improvement Collaborative
35 Health Centers
NNOHA Collaborative Teams
Pilot, Phase II, Phase III, & Phase IV

Puerto Rico
36 states, the District of Columbia, and Puerto Rico increased by at least 5 percentage points on the dental sealants measure from 2015 to 2017.
As a NCA partner, the National Network for Oral Health Access (NNOHA) provides training and technical assistance to health centers to expand and integrate high quality oral health services and improve oral health outcomes.

From 2016 to 2017, NNOHA piloted a learning collaborative to train 5 health center oral health programs and subsequently expanded to 27 new health centers to:

- Use the Model for Improvement
- Create the foundation for monitoring, reporting, and improving on specific set of dashboard measures, including the UDS dental sealants measure

Learning Collaborative Participants (32 Health Centers) 53.3%

UDS 2017 National Average 48.0%
HRSA Sealant Measure

I love being a part of this collaborative. I have learned so much through the PDSA cycles that I will continue to use with our 6 clinics moving forward to help with strategic planning in our organization. I also love tracking the progress made in collecting data that we did not have access to prior to going the NNOHA collaborative. – Katrina Goff, Dental Coordinator, Missouri Ozarks Community Health

Our experience was great! Before we started the collaborative we were only tracking the UDS sealant measure (6-9 years old) and now we are tracking several measures within our organization. We are reporting on these measures during the QI meeting. Our UDS Sealant rate has increased from around 35% in the past to 72% as of May 2018. We are also doing a lot of PDSA’s within our dental department. - Albany Area Primary Health Care, Inc.
Caries Risk Assessment (CRA) Data
Dashboard Learning Collaborative
Sealants 6-9 years Data
Dashboard Learning Collaborative

- Series median: dashed line
- Goal: solid line
Oral Health Improvement Collaborative Impact

Evidence-based, patient-centered practices

Early detection, prevention and management of dental caries

37 health centers served approximately 439,789 dental patients in 2017

An estimated 554,041 unique patients less than 21 years impacted
UPCOMING OPPORTUNITIES
Next Steps

- Check out the Health Center Dental Dashboard©
  http://www.nnoha.org/resources/dental-dashboard-information/

- NNOHA Annual Conference: October 13 – 16, 2019
  http://www.nnoha.org/events/conference/

- NNOHA Collaborative will launch in Fall 2019
  – Interested in participating? Contact: Rachel@nnoha.org
“To be able to apply what I learned today, the support I need from NNOHA is...”
Contact Information

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  candace@nnoha.org