The Patient-Centered Dental Home Model of Care:
A Status Report

DQA Conference
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PCDH project support provided by the DentaQuest Foundation (Boston, MA)
Project Team

Pete Damiano, DDS, MPH (Co-PI)

Julie Reynolds, DDS, MS (Co-PI)

Jill Herndon, PhD (Co-investigator)

Ray Kuthy, DDS, MPH (Co-investigator)

Susan McKernan, DMD, MS, PhD (Co-investigator)
The Patient-Centered Dental Home (Background)

• PCMH has been under discussion for at least 25 years
  – Coordinate better all treatment needs
  – Improve quality of care for entire family across many types of providers
• Less discussion in dentistry: mainly for children
• ACA implementation creates opportunity for improved medical/dental interaction
  – Don’t speak the same language regarding quality
Project Goal (Long-term)

• Develop a patient-centered dental home model of care
  – Similar to patient-centered medical home
  – Acts as a framework for quality measurement and care integration
    • Within dentistry and between dentistry and the broader health care environment
      – Practice level
      – System/Plan level

• Aligns with DQA’s efforts to develop dental quality measures
# National Advisory Committee

Over 50 content experts & organizational representatives from the following domains

<table>
<thead>
<tr>
<th>Content Expert Domains</th>
<th>Organizational Representative Domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical care: children</td>
<td>Medicaid/CHIP</td>
</tr>
<tr>
<td>Clinical care: seniors</td>
<td>Professional Organizations</td>
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<tr>
<td>Clinical care: special needs populations</td>
<td>State Oral Health Programs</td>
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<td>Quality measurement in oral health care</td>
<td>Federal Agencies</td>
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<tr>
<td>Oral health care delivery systems</td>
<td>Third Party Payers</td>
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<td>Oral health care policy</td>
<td>Dental Delivery Systems</td>
</tr>
<tr>
<td>Dental home development and programs</td>
<td>Accreditation/Certification Organizations</td>
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<tr>
<td>PCMH development</td>
<td>Safety Net Providers</td>
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<td>PCMH implementation</td>
<td>Oral Health Policy/Advocacy Organizations</td>
</tr>
</tbody>
</table>
4-level PCDH framework

Definition based on characteristics

Components

Measures concepts

Accessible

Timely

Timely access for routine/preventive care

% with appointment for routine dental care in last 6 months as soon as wanted

Available

Timely access to emergency care

Extended clinic hours

Conceptually aligns high-level characteristics (e.g., accessibility) to specified metrics that can be used by a variety of stakeholders
Delphi Process with NAC

Delphi rating used to determine characteristics, components and measure concepts based on importance

• 9 point scale for level of importance
• Conducted via email and web based survey (Qualtrics)
• Participation rate was over 90% for all rounds
• Criteria for inclusion in model: RAND Appropriateness Method
  – Median rating 7-9
  – Without disagreement (measure of dispersion)
Phase 1 Delphi: What are the essential characteristics of a PCDH?

- Preliminary list of characteristics based on AHRQ PCMH definition:
  - Accessible
  - Comprehensive
  - Coordinated
  - Continuous
  - Patient/family-centered
  - Safety- & quality-focused
- 3 iterative rounds of surveys
- Public comment period
The patient-centered dental home is a model or philosophy of care that is...ACCESSIBLE

FOR REFERENCE

In determining how essential a characteristic is, please consider whether the characteristic:

- has a high potential for affecting the quality and experience of patient care, as well as oral health outcomes
- is applicable across patient populations (e.g., children, adults, individuals with special needs), and across different types of settings in which a PCDH may be implemented (e.g., private practices, community health centers, accountable care organizations)
- is measurable (Note: The details of how the characteristic would be measured will be a next step in the process. For now, focus on the potential for measurement.)
- is potentially attainable

Rating 7-9=Essential (include in definition)
Rating 4-6=Uncertain (needs more discussion)
Rating 1-3=Not essential (exclude from definition)

Rate each characteristic on its own merits and NOT relative to the other characteristics

How essential is accessible care to the definition of a patient-centered dental home:

<table>
<thead>
<tr>
<th>Not Essential</th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th>Definitely Essential</th>
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<tr>
<td>1</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
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</tr>
</tbody>
</table>

Rationale for rating or other feedback:
Phase 1 Outcome: Established a standardized definition of the PCDH

- The patient-centered dental home is a model of care that is accessible, comprehensive, continuous, coordinated, patient- and family-centered, and focused on quality and safety as an integrated part of a health home for people throughout the life span.
  - Based on characteristics identified through Delphi process

Phase 2 Delphi: What are the essential components of a PCDH?

- Preliminary list of components based on:
  - NAC input from Phase 1
  - Published literature
  - Existing PCMH accreditation/recognition tools (e.g., NCQA, AAAHC, Joint Commission)
  - Materials from governmental and non-profit agencies (e.g., National Academy of Medicine, AHRQ, NQF)
- 34 potential components identified linked to the 6 characteristics
- 1 Delphi survey round
Phase 2 Delphi: PCDH Components

• NAC rated 34 proposed components on a 1-9 scale
  – How essential to PCDH model
  – Component description available to NAC members

• 92% completed Delphi survey

• Quantitative analysis- All 34 components met inclusion criteria

• Qualitative analysis of comments
  – minor wording change
  – collapsed or split items
Phase 2 Outcome: Identified 31 components for each characteristic in the PCDH definition

- Narrowed down from 34 through analysis of qualitative Delphi results
Phase 3: Identification of Measure Concepts (worked backwards)

1) Compiled list of over 500 measures and standards through environmental scan
   a) Measures from Dental Quality Alliance (DQA) and National Quality Forum (NQF) environmental scans and websites
   b) Standards from major accrediting organizations
      i. (e.g., AAAHC and NCQA)
   c) Literature review published after 2012
      i. (e.g., PubMed, online search of grey literature)
   d) Online search of measures used by organizations known to be involved in dental quality measurement
      i. (e.g., ACOs, Medicaid programs, practices, third-party payers)

2) All identified measures and standards were then evaluated by research team to identify preliminary list for NAC review
Identification of Measure Concepts

Evaluated both Measures and Standards:

• **Measures** quantify healthcare processes, outcomes, patient perceptions, and organizational or system structures
  – Include **numerator and denominator** for consistent reporting
    • E.g., the percentage of children age 6-9 years who receive sealants on a permanent first molar.

• **Standards** are policies and procedures to meet performance expectations and quality improvement goals.
  – Clinic protocols, reports, standard operating procedures, etc.
    • E.g., implementation of a secure electronic system for two-way communication to provide timely clinical advice.
Identification of Measure Concepts

Criteria for internal evaluation of proposed measure concepts prior to rating by NAC:

1. Importance
2. Feasibility
3. Validity
4. Reporting burden
5. Duplication/overlap
6. Measures vs. standards

– Measures given higher priority due to reporting consistency and ability to monitor improvement over time
Components Changed from Measure Identification

1) Redundancy between some components identified in Delphi process with NAC

2) Confirmed that some components are more appropriate to evaluate for particular levels of the health care delivery system
   a) Practice level
   b) System level (e.g., program or plan)
   c) Population
# Practice vs System-Level Components

<table>
<thead>
<tr>
<th>Characteristic/Component</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ACCESSIBLE–Practice Level</td>
<td></td>
</tr>
<tr>
<td>Timely</td>
<td>Examples: short wait times for routine and specialty care; available same-day appointments for emergency care</td>
</tr>
<tr>
<td>Accommodating</td>
<td>Examples: appointment availability; extended clinic hours; user-friendly appointment-making</td>
</tr>
<tr>
<td>ACCESSIBLE–System Level</td>
<td></td>
</tr>
<tr>
<td>Affordable</td>
<td>Examples: out of pocket costs; insurance coverage; difficulty paying dental bills</td>
</tr>
<tr>
<td>Geographically accessible</td>
<td>Examples: travel time; travel distance; transportation resources</td>
</tr>
<tr>
<td>Adequate provider network</td>
<td>Examples: adequacy of the supply of clinicians, clinical facilities, providers who are accepting new patients; provides services in community-based settings for individuals with barriers to receiving care in a traditional health clinic</td>
</tr>
</tbody>
</table>
Components Changed from Measure Concept Identification

1) Proposed that 31 components be collapsed into 23 components

2) Proposed focusing on practice-level components and measure concepts first
   a) Evaluate system/plan level components and measure concepts in the future
Measure Concepts

• Identification of Measure Concepts for each Component from Quality Indicators
  – Some may already be operational
  – Some would be aspirational and/or identify gaps for future measure development
  – Emphasis on importance, feasibility and validity

• 62 measure concepts from the 500+ measures and standards
  – Identified from research team review
  – Focused on *practice/clinic* level for this review
    • Next will be *system* level
Phase 3: Delphi Survey Process

• Email with link to web-based survey sent to all National Advisory Committee members (n=51)
• 90% participated (n=46)
• Asked to rate each measure concept on “importance” to the concept of a PCDH
  – Scale of 1 to 9 (9 is highest)
• Inclusion: Median rating 7-9 “without disagreement”
Rating of Importance

• Criteria for Importance
  (Mangione-Smith et al. 2011):
  – Actionable
  – Quality problem is substantial
  – Variation in performance
  – Representative of a class of quality problems
  – Known disparities
Delphi Survey Results

Quantitative results
• All 62 measure concepts met criteria for inclusion in PCDH model

Qualitative results (open ended responses)
• Rating rationale; concern/change; new concept

Used to
  – Modify components and measure concepts
  – Identify gaps
  – Rank order the measure concepts

Result: 70 measure concepts
4-level PCDH framework

Conceptually aligns high-level characteristics (e.g., accessibility) to specified metrics that can be used by a variety of stakeholders.

**Accessible**

**Available**

**Timely**

**Timely access for routine/preventive care**

**Timely access to emergency care**

**Extended clinic hours**

**Measures**

- % with appointment for routine dental care in last 6 months as soon as wanted
**Accessible**
- Timely access for routine/preventive care
- Timely access for specialist care
- Timely access for emergency care

**Accommodating**
- Extended clinic hours
- User-friendly system for patient requests

**Affordable***

**Geographically accessible***

**Adequate provider network***

**Comprehensive**
- Prevention and wellness focused
  - Dental/medical history completeness
  - Oral health education provision
  - HPV education and vaccination referral
  - Tobacco use screening and cessation counseling provision
  - Risk assessment/documentation
  - Risk-based treatment planning
  - Sealant provision
  - Topical fluoride application
  - Screening for comorbid medical conditions

**Appropriate referrals**
- Effective communication between generalists and specialists
- Use of clinical protocols for referral determination
- Referral monitoring
- Referral for comorbid medical conditions

**Coordinated**
- Medical-dental coordination
  - Effective communication between dental and medical providers
  - Follow-up oral evaluation after medical well-child visit
  - Referrals between dental and medical providers
  - Coordinated dental-medical patient records

**Community-connected**
- Effective communication connecting patients with community supports
- Assessment of community resources necessary to support oral health care needs

**Population health oriented**
- Identifies and addresses population-level health concerns based on the diversity of the practice and the community
- Proactively identifies populations of patients and educates them about needed care

**Team-based***

**Continuous**
- Follow up on needed care
  - Treatment plan completion

**Patient and Family Centered**
- Cultural competence
  - Accommodating of patient preferences
  - Assesses and addresses the language needs of patients
  - Provider training in cultural competency

- Shared decision making
  - Informed patient engagement in decision making

- Sensitive to health literacy
  - Patient communications appropriate to patient population communication needs and understandability

- Effective communication with patients
  - Provider listening
  - Provider communication about treatment
  - Provider conveys respect for patients

- Individualized care
  - Care recommendations based on patient level of risk for oral disease
  - Patient self-management/self-care

- Equitable care
  - Assesses and addresses access and care disparities

**Quality and Safety Focused**
- Evidence-based care
  - Guideline/risk-based radiograph use
  - Ongoing care in adults with periodontitis
  - Topical fluoride for adults at elevated caries risk
  - Seals for 6-9 year old children at elevated caries risk
  - Seals for 10-14 year old children at elevated caries risk
  - Risk assessment/documentation
  - Follow-up oral evaluation after medical well-child visit

- Clinical outcomes
  - Caries experience
  - Caries at recall
  - Tooth loss/retention
  - Periodontal disease status and improvement
  - Treatment under general anesthesia
  - Complications following extraction
  - Risk status improvement
  - Sealant retention
  - Untreated caries

- Continuous quality improvement processes
  - Quality improvement plan
  - Performance assessment and improvement

- Patient-reported outcomes and patient experience indicators
  - Oral pain or discomfort
  - Satisfaction with dental care
  - Satisfaction with dentist
  - Satisfaction with timeliness of needed dental care
  - Satisfaction with dental team
  - Satisfaction with dentist communication
  - Satisfaction with function and aesthetics
  - Recommendation to family and friends

- Minimizes adverse events
  - Judicious opioid prescribing
  - Post-operative infection following dental treatment

*System-level component, measure concepts to be developed
Accessible

Timely
• Timely access for routine/preventive care
• Timely access for specialist care
• Timely access for emergency care

Accommodating
• Extended clinic hours
• User-friendly system for patient requests

Affordable*

Geographically accessible*

Adequate provider network*
Comprehensive

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Team-based*
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Population health oriented
• Identifies and addresses population-level health concerns based on the diversity of the practice and the community
• Proactively identifies populations of patients and educates them about needed care
Continuous

Follow up on needed care
- Treatment plan completion

Usual source of care
- Care provided by dental practice or clinical entity of record
- Care continuity
• Patient and Family Centered

  Cultural competence
  • Accommodating of patient preferences
  • Assesses and addresses the language needs of patients
  • Provider training in cultural competency

  Shared decision making
  • Informed patient engagement in decision making

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  Equitable care
  • Assesses and addresses access and care disparities
• Quality and Safety Focused

**Evidence-based care**
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**Clinical outcomes**
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**Continuous quality improvement processes**
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- Satisfaction with function and aesthetics
- Recommendation to family and friends

**Minimizes adverse events**
- Judicious opioid prescribing
- Post-operative infection following dental treatment
Phase 3 Outcome: Measure Concepts Identified for each Component in Model

• Environmental scan of measures and standards conducted to identify Measure Concepts for each component
Phase 4: Identify Quality Indicators for each Measure Concept

- All identified measures and standards compiled into a searchable Clearinghouse
  - Now available publicly for the first time
- Gap identification of measures
  - Assist in identifying next measures for development/testing
Dental Quality Indicator Clearinghouse

- Includes 567 indicators
  - 473 measures – quantifiable, num & denom
    - E.g., proportion of children age 6-9 with sealants on a permanent first molar
  - 94 standards – documented policies, procedures, reports
    - E.g., implementation of a secure electronic system for two-way communication
- Searchable and easily filtered by categories
- Clearinghouse
  - http://ppc.uiowa.edu/pcdh/measures/clearinghouse
Gap analysis

- Triangulated results from measure concepts Delphi process and online clearinghouse
- Classified measure concepts (n=70) as:
  1. Specified measures exist, no development needed
  2. Specified measures exist but need further development
     - exist at plan level but not at practice level
     - development needed for other populations
     - exist for QI but not for accountability purposes
  3. No specified measures exist for dental care delivery
Examples of specified, validated measures, no development needed

<table>
<thead>
<tr>
<th>Delphi Rank</th>
<th>Measure Concept</th>
<th>Example measure source</th>
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<tbody>
<tr>
<td>1</td>
<td>Sealants for 6-9 year old children</td>
<td>DQA</td>
</tr>
<tr>
<td>3</td>
<td>Topical fluoride for children at elevated caries risk</td>
<td>DQA</td>
</tr>
<tr>
<td>20</td>
<td>Care continuity</td>
<td>DQA</td>
</tr>
</tbody>
</table>
Examples of specified, validated measures exist but need adaptation or further development (n=28)

<table>
<thead>
<tr>
<th>Delphi Rank</th>
<th>Measure Concept</th>
<th>Development needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Provider conveys respect for patients</td>
<td>CAHPS Dental Plan Survey; Adaptation/validation for practice level; children; Medicaid-enrolled</td>
</tr>
<tr>
<td>3</td>
<td>Timely access for emergency care</td>
<td>CAHPS Dental Plan Survey; Adaptation/validation for practice level; children; Medicaid-enrolled</td>
</tr>
<tr>
<td>5</td>
<td>Provider communication about treatment</td>
<td>CAHPS Dental Plan Survey; Adaptation/validation for practice level; children; Medicaid-enrolled</td>
</tr>
<tr>
<td>11</td>
<td>Ongoing care in adults with periodontitis</td>
<td>DQA; Adaptation for practice level</td>
</tr>
<tr>
<td>13</td>
<td>Caries at recall</td>
<td>DQA; Validation for use in accountability applications</td>
</tr>
</tbody>
</table>
Examples of no specified and validated measures exist for dental care delivery (n=33)

<table>
<thead>
<tr>
<th>Delphi Rank</th>
<th>Measure Concept</th>
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<tbody>
<tr>
<td>5</td>
<td>Judicious opioid prescribing</td>
</tr>
<tr>
<td>9</td>
<td>Informed patient engagement in decision making</td>
</tr>
<tr>
<td>12</td>
<td>Effective communication between dental and medical providers</td>
</tr>
<tr>
<td>32</td>
<td>Follow-up oral evaluation after medical visit for pregnant women</td>
</tr>
</tbody>
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Next Steps with PCDH Development

• Renewal application pending with DentaQuest Foundation for 2019
• If renewed:
  – Evaluate measure concepts at the system/plan level
  – Test quality indicator clearinghouse
  – Develop core measure sets
  – Work with DQA and other groups concerning gaps and next steps for development of measures/standards
For more information...

• Project website: http://ppc.uiowa.edu/health/study/patient-centered-dental-home-pcdh-project
  – All reports to date are published here