Role of the Oral Health Workforce in the Health Care Value Equation

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Learning Objectives

1. Identify the drivers, incentives workforce elements and organizational components of the value equation
2. Review key historical elements of the dental-medical divide and the challenge of externalities
3. Describe organizational design approaches to reorient workers and workflow to the value approach
4. Workforce implications of health care redesign efforts
5. Explore changing dental workforce models and their impact on the health care value equation
6. Examine specific case examples of oral health workforce innovations and their impact on improving value
Context & Definitions

1. Identify the drivers, incentives, workforce elements and organizational components of the value equation
Triple Aim: Better Care, Better Health, Lower Costs

- Improve quality while reducing costs
- Improve the patient care experience
- Improve population health and equity
Quadruple Aim: Better Care, Better Health, Lower Costs, Engaged Workforce

- Per Capita Cost
- Population Health
- Experience of Care
- Clinician Well-Being

Improve the work life of those who deliver care
More engaged and satisfied workforce
Value Equation in Health Care**

\[ V = \frac{Q + S}{\$} \]

• Health outcome achieved per dollar spent*

Hypothesis: If value improves, then patients, payers, providers, and suppliers can all benefit while the economic sustainability of the health care system increases.


**https://uofuhealth.utah.edu/value/value-equation.php
Value Equation in Health Care**

- Health outcome achieved per dollar spent*
  
  **Equation principles**
  - Defined around the customer
  - Depends on results, not inputs. Process is tactical toward these ends
  - Shifts focus from volume to value
  - Outcomes are condition specific and multidimensional
    - In equation above outcomes are represented by Quality of Care and Patient Experience
    - Re: Porter - quality usually means adherence to evidence-based guidelines, and quality measurement focuses overwhelmingly on care processes.
  - Costs refer to full cycle of care, not individual services
    - Value for the patient is created by providers' combined efforts over the full cycle of care.

**https://uofuhealth.utah.edu/value/value-equation.php
Value of/in Dentistry

2. Review key historical elements of the dental-medical divide and the challenge of externalities
Historical separation across all sectors

- Workforce and education
- Delivery system
- Insurance design and coverage
- Federal and state policy
- Scientific discovery and research
- Technology and infrastructure

Externalities = Cost of doing nothing  Reward for reform
Value in Integration vs. Value in Separation?

**Integration**: promises to improve patient experience and outcomes through better screening, referral and coordination of care while reducing overall costs through better prevention and early treatment

- Few good models in direct health service delivery, better success in public health

**Separation**: adopt policy approaches from medical or behavioral health and transport them to the dental field to drive value

Oral Health Parity?

- Medical
- Oral
- Behavioral
System-level reorganization of work

3. Describe organizational design approaches to reorient workers and workflow to the value approach
Chronic care model

Community
- Resources and Policies
  - Self-Management Support

Health Systems
- Organization of Health Care
  - Delivery System Design
  - Decision Support
  - Clinical Information Systems

Improved Outcomes
- Informed, Activated Patient
- Prepared, Proactive Practice Team
  - Productive Interactions
Figure. Explanatory model of factors influencing early childhood caries (ECC) chronic disease management (CDM) strategies by parents.

Social Determinants of Health including minority status, immigration status, age, family structure, socio-economic status, income, literacy etc.

Parent Outcome ††
Expectations
Physical: no new cavities, avoid general anesthesia etc.
Social: peer recognition for positive parenting
Self-evaluative: feel good about self

Self-Efficacy † to manage diet & tooth brushing with fluoride

Normative beliefs † about oral health, caries, diet, fluoride

Facilitators †
Knowledge and skills regarding ECC CDM

Barriers ‡‡
Environmental, socio-structural, logistic, & temporal barriers

Behavioral Intention §
To manage ECC

Executive Function

Implementation §
Intention

Action
To manage ECC through diet & tooth brushing with fluoride toothpastes

ECC Consequences

Oral Health Status

Cues to Action †

* Social cognitive theory.
† Theory of planned behavior.
‡ Health belief model.
§ Analysis of implementation intentions.
‖ Readiness to change.

Edelstein BL, Ng MW. Chronic Disease Management Strategies of Early Childhood Caries: Support from the Medical and Dental Literature. Pediatric dentistry. 2015;37(3):281-287.
Patient-centered medical homes

- The medical home encompasses five functions and attributes: comprehensive care, patient-centered, coordinated care, accessible services, quality and safety
Patient-Centered Dental Home

定义：“以患者为中心的牙科家庭是一个可访问、全面、连续、协调、患者和家庭中心的、专注于质量和安全的模型，作为健康家庭的一部分，适用于整个生命周期。”

该PCDH定义提供了用于研究、改善护理和认证的基础，并与以患者为中心的医疗家庭一致。

Accountable Care Organizations

Accountable Care Organization (ACO)

- Post-Acute Alignment
- Disease Management Programs
- Population Health Analytics
- Specialists
- Primary Care Physicians
- Payer Partners
- Patient Activation
- Hospital
Dental in ACOs?

• Rationale is strong to include from patient, cost and overall health perspective

• Biggest limitation is lack of integrated health information technology

• As of 2016, only 14% of ACO’s surveyed had any responsibility for dental


• Mayberry ME. Accountable Care Organizations and Oral Health Accountability. American journal of public health. 2017;107(S1):S61-S64.
**Table 3: ACO Organizational Characteristics by Dental Service Inclusion Status in Largest Commercial or Medicaid Contract**

<table>
<thead>
<tr>
<th>ACO Structure</th>
<th>ACOs with Dental Services (N= 31)</th>
<th>ACOs without Dental Services (N= 184)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>71%</td>
<td>70%</td>
</tr>
<tr>
<td>Specialty group</td>
<td>61%</td>
<td>59%</td>
</tr>
<tr>
<td>Federally Qualified Health Center</td>
<td>45%*</td>
<td>25%</td>
</tr>
<tr>
<td>Nursing facility</td>
<td>35%</td>
<td>23%</td>
</tr>
<tr>
<td>Public Hospital</td>
<td>29%</td>
<td>14%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Services Included in ACO Total Cost of Care Calculation</th>
<th>ACOs with Dental Services (N= 31)</th>
<th>ACOs without Dental Services (N= 184)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision, Hearing, Speech</td>
<td>81%*</td>
<td>56%</td>
</tr>
<tr>
<td>Mental Health/Substance Abuse</td>
<td>71%*</td>
<td>61%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leadership Structure</th>
<th>ACOs with Dental Services (N= 31)</th>
<th>ACOs without Dental Services (N= 184)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician-led</td>
<td>45%</td>
<td>47%</td>
</tr>
<tr>
<td>Other arrangement2</td>
<td>55%</td>
<td>53%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean Number of Full-Time Equivalents (FTEs)</th>
<th>ACOs with Dental Services (N= 31)</th>
<th>ACOs without Dental Services (N= 184)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary care providers</td>
<td>239</td>
<td>199</td>
</tr>
<tr>
<td>Specialists</td>
<td>236</td>
<td>353</td>
</tr>
</tbody>
</table>

**Note:** ACOs were asked if they were contractually responsible for the cost and quality of dental services in their largest commercial contract or Medicaid contract across all three survey waves. We analyze the organizational characteristics based on an ACO’s contractual responsibility across all three waves’ respondents. The unit of analysis in this table is an ACO. ACOs that contain both commercial and Medicaid contract are only counted once based on overall dental inclusion or exclusion. *p value <0.05.

Health workforce approaches and implications

4. Workforce implications of health care redesign efforts
Examples of strategies include:

• Patient Navigation/Care Coordination
• Team reorientation: comprehensive, coordinated, collaborative, care models.
• IT /Measurement Integration/e-Health
• Working top of license/scope
• Home & community based services
Dental workforce implications of adapting to value-based payment models

5. Explore changing dental workforce models and their impact on the health care value equation
<table>
<thead>
<tr>
<th>CATEGORY 1</th>
<th>CATEGORY 2</th>
<th>CATEGORY 3</th>
<th>CATEGORY 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEE FOR SERVICE - NO LINK TO QUALITY &amp; VALUE</td>
<td>FEE FOR SERVICE - LINK TO QUALITY &amp; VALUE</td>
<td>APMS BUILT ON FEE-FOR-SERVICE ARCHITECTURE</td>
<td>POPULATION - BASED PAYMENT</td>
</tr>
<tr>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundational Payments for Infrastructure &amp; Operations</td>
<td>APMs with Shared Savings</td>
<td>Condition-Specific Population-Based Payment</td>
<td></td>
</tr>
<tr>
<td>(e.g., care coordination fees and payments for HIT investments)</td>
<td>(e.g., shared savings with upside risk only)</td>
<td>(e.g., per member per month payments, payments for specialty services, such as oncology or mental health)</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pay for Reporting</td>
<td>APMs with Shared Savings and Downside Risk</td>
<td>Comprehensive Population-Based Payment</td>
<td></td>
</tr>
<tr>
<td>(e.g., bonuses for reporting data or penalties for not reporting data)</td>
<td>(e.g., episode-based payments for procedures and comprehensive payments with upside and downside risk)</td>
<td>(e.g., global budgets or full/percent of premium payments)</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Pay-for-Performance</td>
<td></td>
<td>Integrated Finance &amp; Delivery System</td>
<td></td>
</tr>
<tr>
<td>(e.g., bonuses for quality performance)</td>
<td></td>
<td>(e.g., global budgets or full/percent of premium payments in integrated systems)</td>
<td></td>
</tr>
</tbody>
</table>

3N Risk Based Payments NOT Linked to Quality

4N Capitated Payments NOT Linked to Quality
<table>
<thead>
<tr>
<th>Workforce redesign (?)</th>
<th>Level 1: FFS</th>
<th>Level 2: FFS+Value</th>
<th>Level 3: APM + FFS</th>
<th>Level 4: Global</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dental-only implications</strong></td>
<td>None</td>
<td>Clinical management, IT for data capture, central administration</td>
<td>L2 + Strategic risk management, IT for data analytics, contract lawyers, care coordination</td>
<td>L3+internal incentive structure for teams, clinical decision support to meet population health goals</td>
</tr>
<tr>
<td><strong>Dental-Medical integration implications</strong></td>
<td>Referral Only</td>
<td>Capturing and reporting outcomes in broader health context</td>
<td>L2+ Shared risk management &amp; care coordination</td>
<td>L3+ shared accountability for health and dental outcomes</td>
</tr>
<tr>
<td><strong>Social-health integration implications</strong></td>
<td>Referral Only</td>
<td>Capturing social determinant data</td>
<td>L2+Redesigning risk management &amp; coordination</td>
<td>L3+??</td>
</tr>
</tbody>
</table>
Workforce transitions in **dental care redesign**

**Horizontal axis:**
- Small/Independent
- Care Delivery Model
- Large/Integrated

**Vertical axis:**
- Solo/single specialty
- Workforce Model
- Multi-specialty

- **Operation Scale**
- **Clinical Coordination**
- **APM + FFS**
- **FFS+Value**
- **FFS Only**
- **Global Payment**
- **Strategic management**
## Value: Leveling Up

<table>
<thead>
<tr>
<th>System</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public / Social Health System</td>
<td>Value added practices?</td>
</tr>
<tr>
<td>Health System</td>
<td>Value added practices?</td>
</tr>
<tr>
<td>Dental System</td>
<td>Value added practices?</td>
</tr>
</tbody>
</table>

Do value added practices at one level also contribute at the next?
Emerging Dental Care Providers

- Dental Therapist
  - Alaskan Dental Health Aide (DHAT)
  - Dental Therapist / Advanced Dental Therapists (DT / ADT)
  - Advanced Dental Hygiene Practitioner (ADHP) = ADT + RDH
- Dental Hygienists in Alternative (RDHAP), Public Health, or Direct Access Practice
  - Also can have expanded function (restorative, e.g., Oregon)
- Extended Function Dental Assistant (EFDA)
  - CA: Dental Sedation Assistant and Orthodontic Assistant Permit Holders
- Community Dental Health Coordinator (CDHC)
  - Primary roles are to connect patients to dentists and provide community-based preventive education
  - Alternative variations are community health workers or social workers who add dental to case load
  - In Tribal system have Primary Dental Health Aide (PDHA)
- Primary Care (MD, NP, PA etc) & Public Health Practice (PHNs, )
Workforce transitions in oral health care redesign

Clinical Care → Care Delivery Model → Public Health
Cycle of Isolation

Field Isolation

Professional dominance over policy

Preservation of status quo

Ideology that professional dental training is only indicator of quality

Resistance to systems of accountability

Limited adoption of policy innovations
Care Coordination

6. Examine specific case example of oral health workforce innovations and their impact on improving value
Background: Care Coordination

Limited examples in dentistry

- Patient Education
- Care Coordination
- Providers
- Patients
- Treatment Plan
Site & Target Population

- Prevention-focused dental accountable care organization
- Founded in 1970 with 51 clinics across 3 states currently
- Capacity to do health systems research
  - Infrastructure
    - EHR, diagnostic terminology
    - Clinic decision support tools
    - CAMBRA, PEMBRA (caries and periodontal management by risk assessment)
- 25% at high/extreme risk for caries
- 10% at high/extreme risk for periodontal disease
Pilot: Dental-Medical Diabetes Management and Care Coordination

- Grant funding was used for: training Care Advocates, providing clinical products not covered by insurance, shared savings for members with improved health, administration

- 55 WDG members completed the 2-year program
- Costs declined by $729/member year over year
- Total visits year to year decreased by 55%, with 75% fewer office visits, 57% fewer in patient stays
- Care advocates report better personal connections with patients, increased patient engagement, and positive changes in patients’ perceptions of dental care
Implementation Process & Timeline

Care coordination idea grew from grant to improve diabetic patients’ oral health

- Diabetes grant 2015
- Decide to expand
- Lead staff in OR
- Lead staff all offices
- Certification begins
- Pre-survey launched
- Post-survey launched
- Ethnographic observation at training and launch
- Leadership interviewed
- EHR and administrative data extracted
In addition to checking patients in/out and reviewing follow up care, care advocates are now:

• Trained in more extensive dental care knowledge and motivational interviewing
• Managing high risk patients
• Supporting provider recommendations, prescriptions, and recalls
• Monitoring treatment completion and focusing on patient engagement
• Certified following exam and case presentation
Care Advocates Post-Implementation

116 (45%) care advocates have been certified through September 2017 (percent of all)

926 patients have been supported by care advocates in last 6 months

64% high/extreme caries risk

21% high/extreme periodontal risk

7.7 (1-51) average number of patients supported per care advocate over last 6 months (range)

10:1 ratio of adult to child patients in last 6 months
Conclusions

• Overall successful implementation of care advocate role, including:
  - High levels of enthusiasm by staff, managers, and clinicians
  - A comprehensive plan for roll out and training
  - Integrated EHR forms for tracking progress

• Preliminary data show the possibility of success in addressing health disparities, including:
  - A focus on supporting high risk populations
    • High/extreme risk for caries or periodontal diseases
    • Medicaid population (66% of patients supported in Oregon are publicly insured)

• Next steps:
  - Track recall rates, risk status, and outcomes over time
  - Monitor patient and provider satisfaction with new role
Key Challenges

• Quality measurement & IT/EHRs
• Evidence based practice & clinic decision support
• Professional resistance to change
• Lack of incentive intersections between dental, medical and public health to produce value
• Strategic Leadership
  • Public Health has much to offer in this space
• Public policy for oral health equity