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

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January 24-25, 2019

American Institute of Dental Public Health
2019 Colloquium
San Antonio, TX

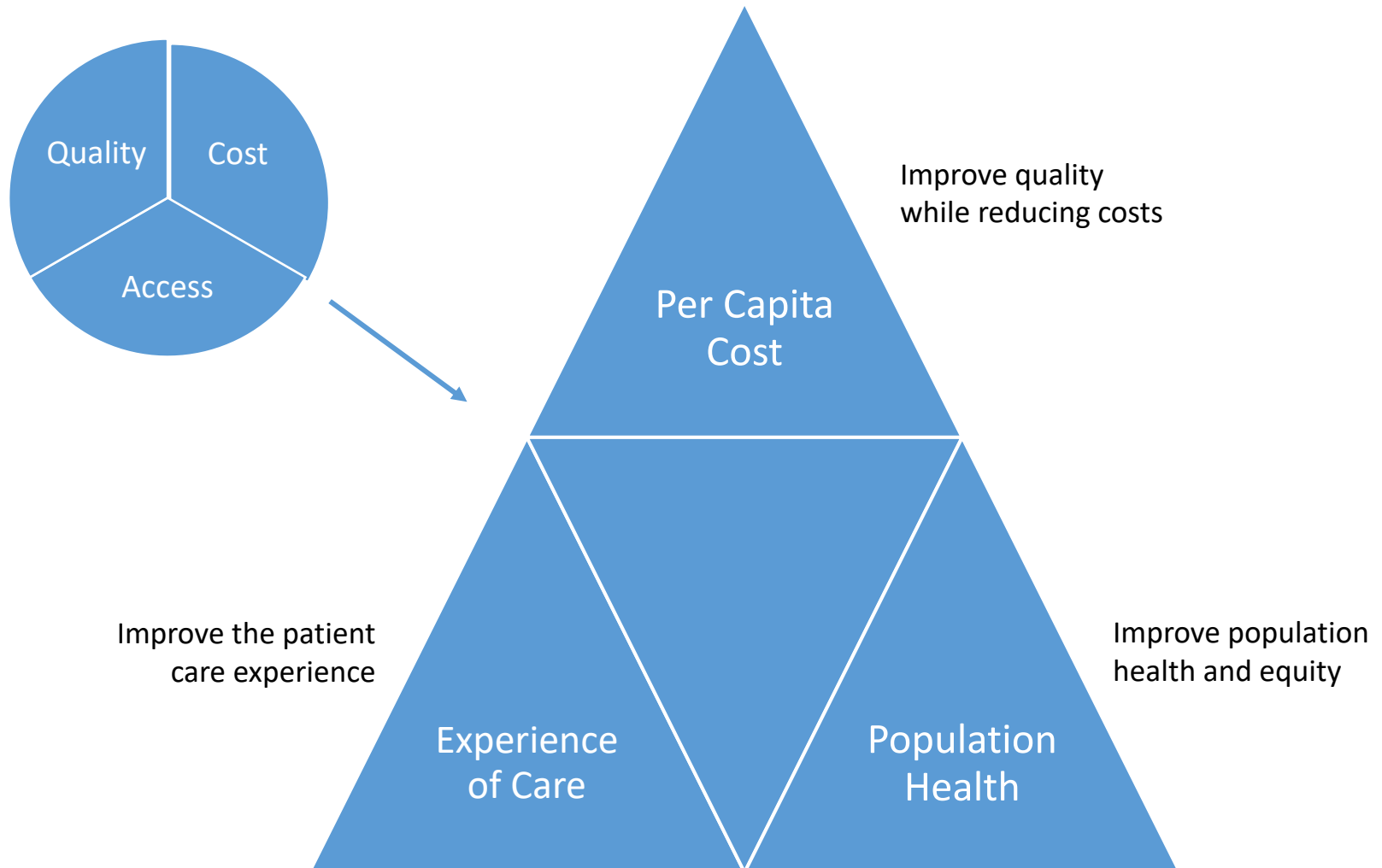
Learning Objectives

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

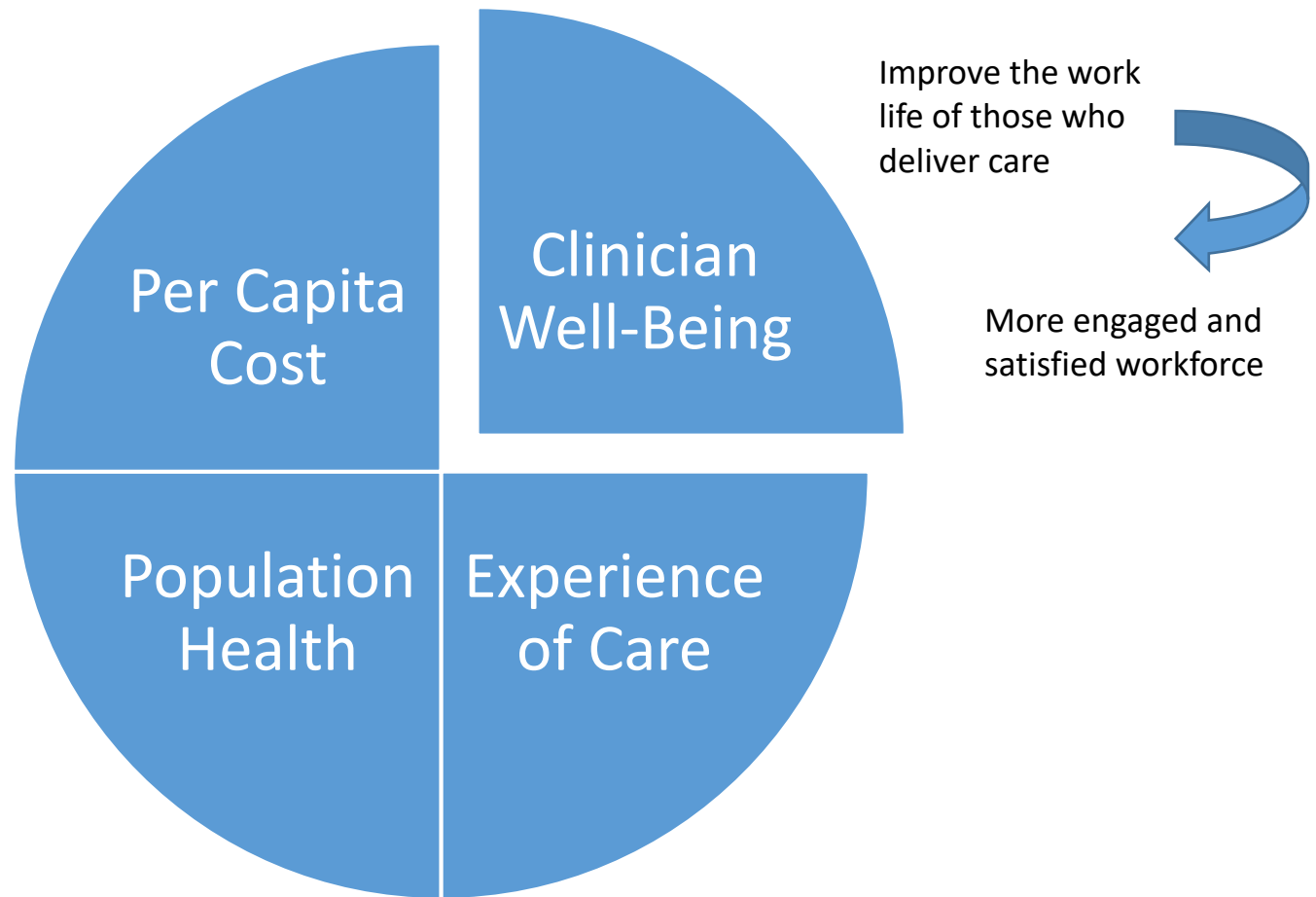
Context & Definitions

1. Identify the drivers, incentives, workforce elements and organizational components of the value equation

Triple Aim: Better Care, Better Health, Lower Costs



Quadruple Aim: Better Care, Better Health, Lower Costs, Engaged Workforce



Value Equation in Health Care**

$$\begin{array}{c} \text{V} \\ \text{(VALUE)} \end{array} = \frac{\begin{array}{c} \text{Q} \\ \text{(QUALITY)} \end{array} + \begin{array}{c} \text{S} \\ \text{(SERVICE)} \end{array}}{\begin{array}{c} \$ \\ \text{(COST)} \end{array}}$$

- 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.

*Porter, M. (2010) What is Value in Health Care. NEJM. 363:2477-2481. <https://www.nejm.org/doi/full/10.1056/NEJMp1011024>

**<https://uofuhealth.utah.edu/value/value-equation.php>

Value Equation in Health Care**

$$V = \frac{Q + S}{C}$$

(VALUE) = (QUALITY) + (SERVICE) / (COST)

Q (QUALITY) is represented by an orange circle with a checkmark.
S (SERVICE) is represented by a blue circle.
C (COST) is represented by a green dollar sign.

- Health outcome achieved per dollar spent*

Equation principle

- Defined around outcomes
- Depends on results. Process is tactical toward these ends
- Shifts focus from volume to value
- Outcomes are condition specific and patient specific
 - 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.

Shift from
production
to quality

What the
workforce
does

How the
workforce
works
together

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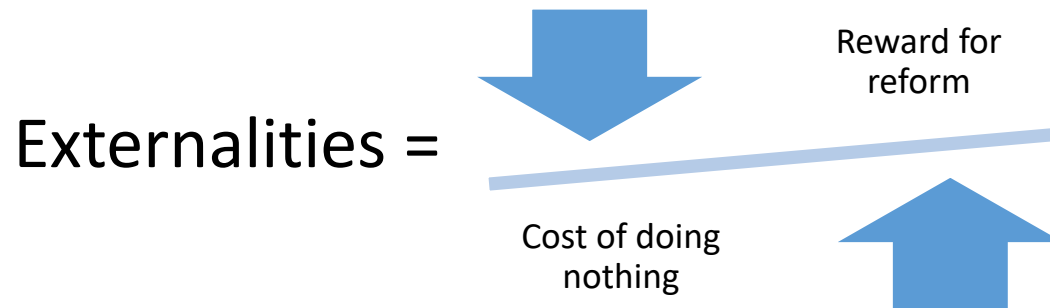
**<https://uofuhealth.utah.edu/value/value-equation.php>

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

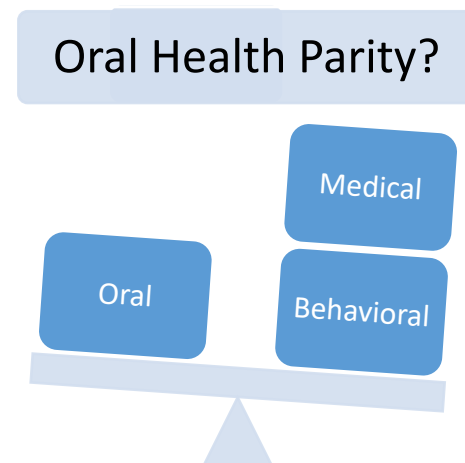


Value in Integration vs. Value in Separation?

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



System-level reorganization of work

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

Chronic care model

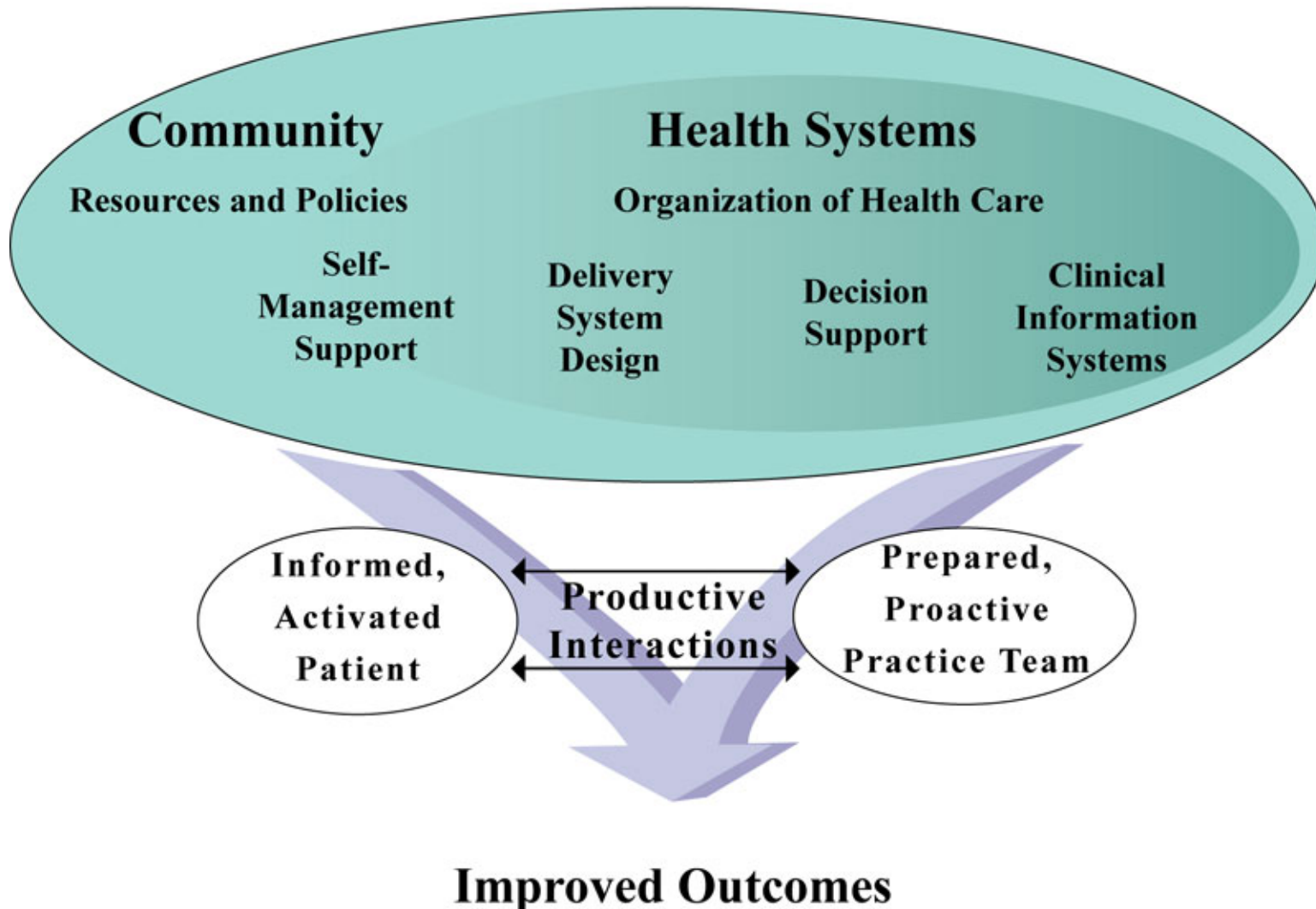
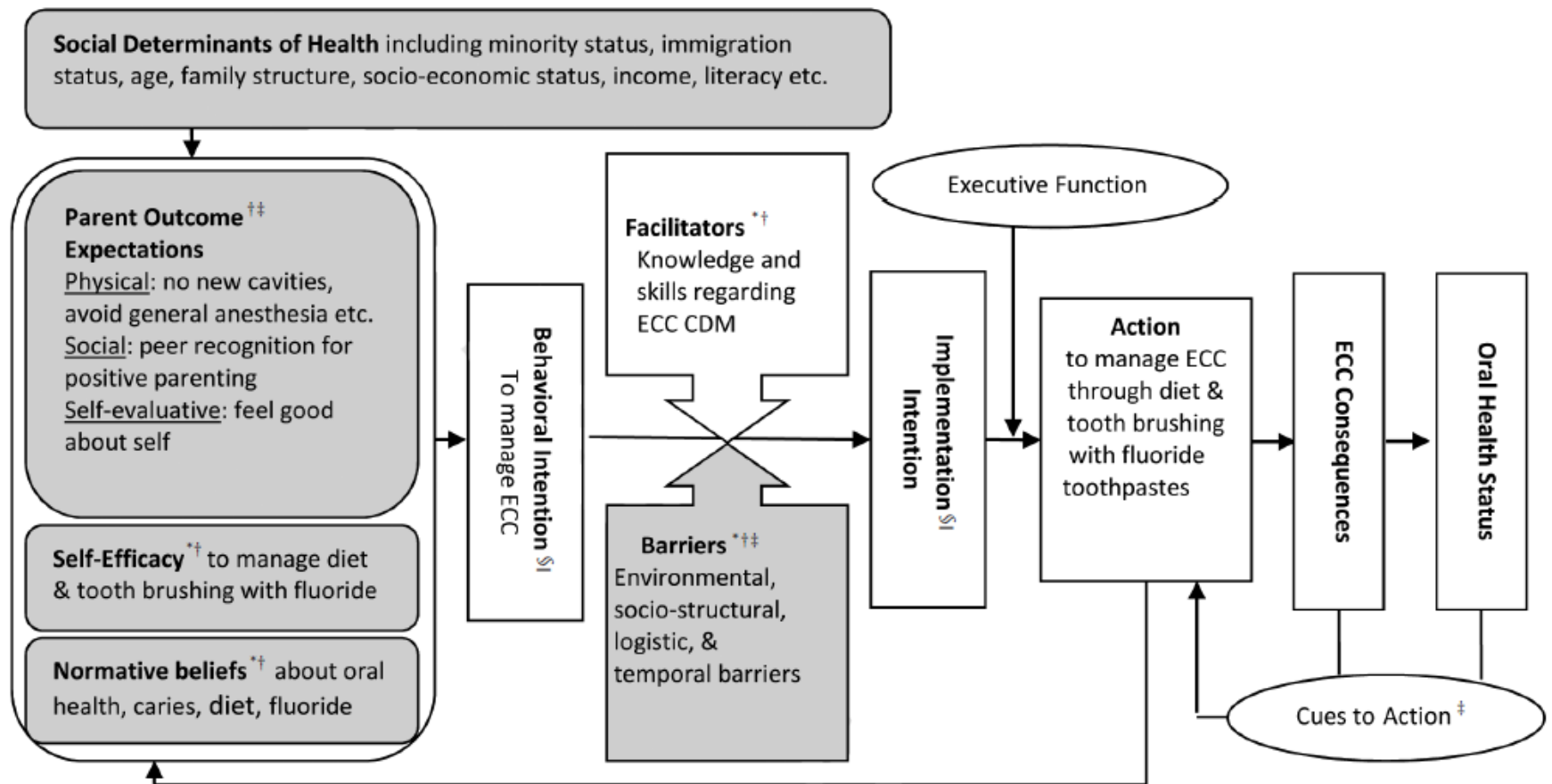


Figure. Explanatory model of factors influencing early childhood caries (ECC) chronic disease management (CDM) strategies by parents.



* Social cognitive theory.

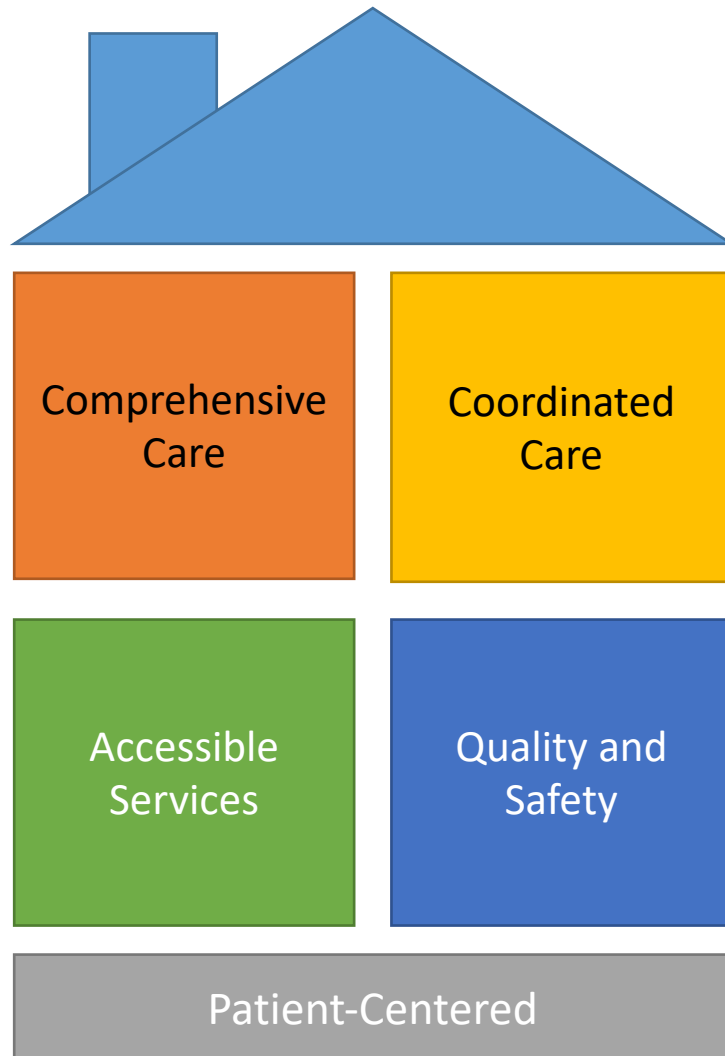
§ Analysis of implementation intentions.

† Theory of planned behavior.

I Readiness to change.

‡ Health belief model.

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

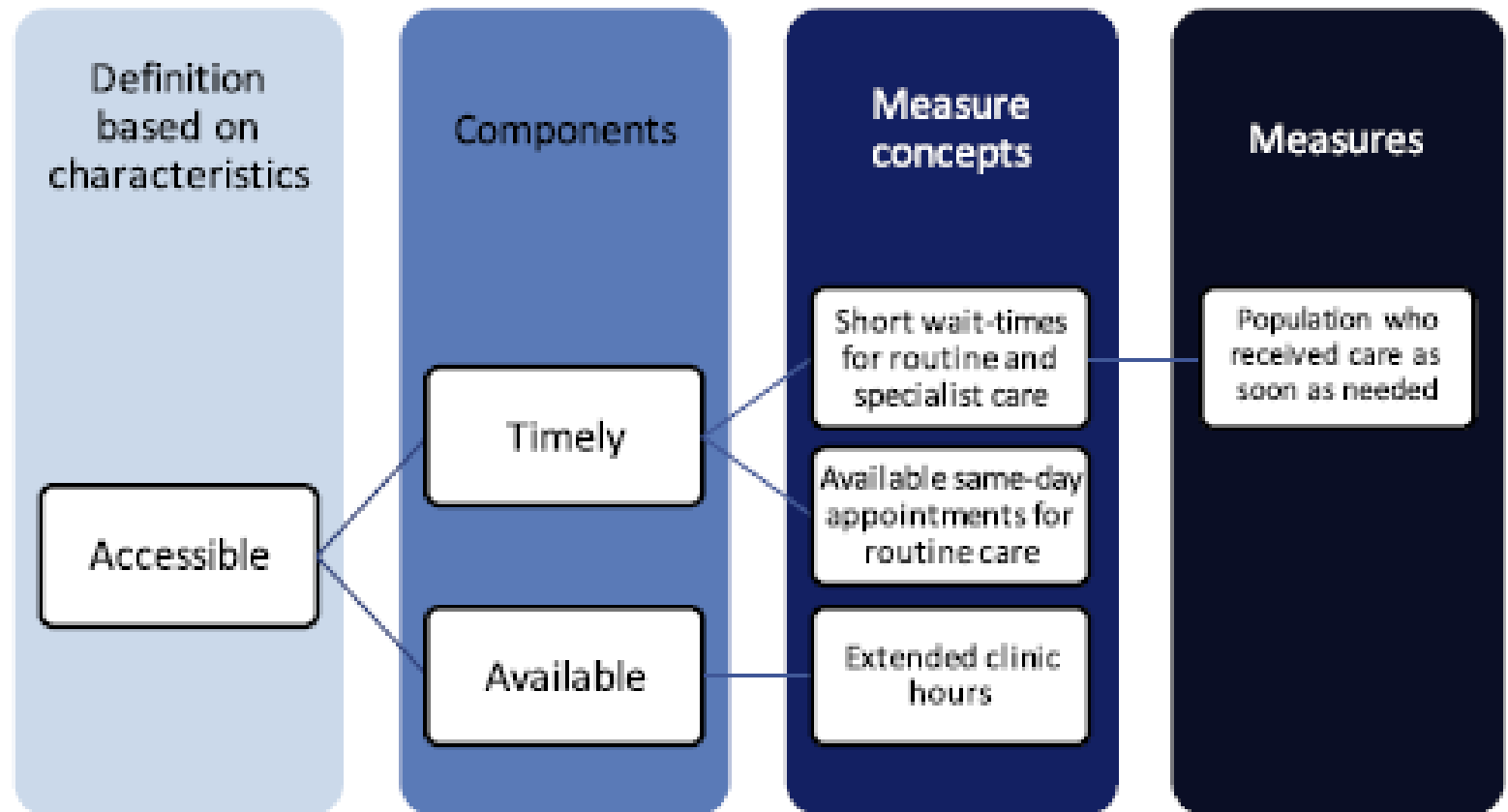


FIGURE 1 Four-level framework used for PCDH model development [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

Damiano P, Reynolds J, Herndon JB, McKernan S, Kuthy R. The patient-centered dental home: A standardized definition for quality assessment, improvement, and integration. *Health services research*. 2018.

Accountable Care Organizations



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
-
- Colla CH, Stachowski C, Kundu S, Harris B, Kennedy G, Vujcic M. Dental care within accountable care organizations: challenges and opportunities. Health Policy Institute Research Brief. American Dental Association in partnership with The Dartmouth Institute for Health Policy & Clinical Practice. March 2016. Available from: http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0316_2.pdf.
 - Blue C, Riggs S. Oral Health Care Delivery Within the Accountable Care Organization. The journal of evidence-based dental practice. 2016;16 Suppl:52-58.
 - 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

	ACOs with Dental Services (N= 31)	ACOs without Dental Services (N= 184)
ACO Structure		
Hospital	71%	70%
Specialty group	61%	59%
Federally Qualified Health Center	45%*	25%
Nursing facility	35%	23%
Public Hospital	29%	14%
Services Included in ACO Total Cost of Care Calculation		
Vision, Hearing, Speech	81%*	56%
Mental Health/Substance Abuse	71%*	61%
Leadership Structure		
Physician-led	45%	47%
Other arrangement ²	55%	53%
Mean Number of Full-Time Equivalents (FTEs)		
Primary care providers	239	199
Specialists	236	353
Mean Number of Services Provided	4.9	4.8

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.

- Colla CH, Stachowski C, Kundu S, Harris B, Kennedy G, Vujcic M. Dental care within accountable care organizations: challenges and opportunities. Health Policy Institute Research Brief. American Dental Association in partnership with The Dartmouth Institute for Health Policy & Clinical Practice. March 2016. Available from: http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0316_2.pdf.

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



CATEGORY 1

FEE FOR SERVICE –
NO LINK TO
QUALITY & VALUE



CATEGORY 2

FEE FOR SERVICE –
LINK TO QUALITY
& VALUE



CATEGORY 3

APMS BUILT ON
FEE-FOR-SERVICE
ARCHITECTURE



CATEGORY 4

POPULATION –
BASED PAYMENT

A

**Foundational Payments
for Infrastructure &
Operations**

(e.g., care coordination fees
and payments for HIT
investments)

B

Pay for Reporting

(e.g., bonuses for reporting
data or penalties for not
reporting data)

C

Pay-for-Performance

(e.g., bonuses for quality
performance)

A

**APMs with Shared
Savings**

(e.g., shared savings with
upside risk only)

B

**APMs with Shared
Savings and Downside
Risk**

(e.g., episode-based
payments for procedures
and comprehensive
payments with upside and
downside risk)

A

**Condition-Specific
Population-Based
Payment**

(e.g., per member per month
payments, payments for
specialty services, such as
oncology or mental health)

B

**Comprehensive
Population-Based
Payment**

(e.g., global budgets or
full/percent of premium
payments)

C

**Integrated Finance
& Delivery System**

(e.g., global budgets or
full/percent of premium
payments in integrated
systems)

3N

**Risk Based Payments
NOT Linked to Quality**

4N

**Capitated Payments
NOT Linked to Quality**

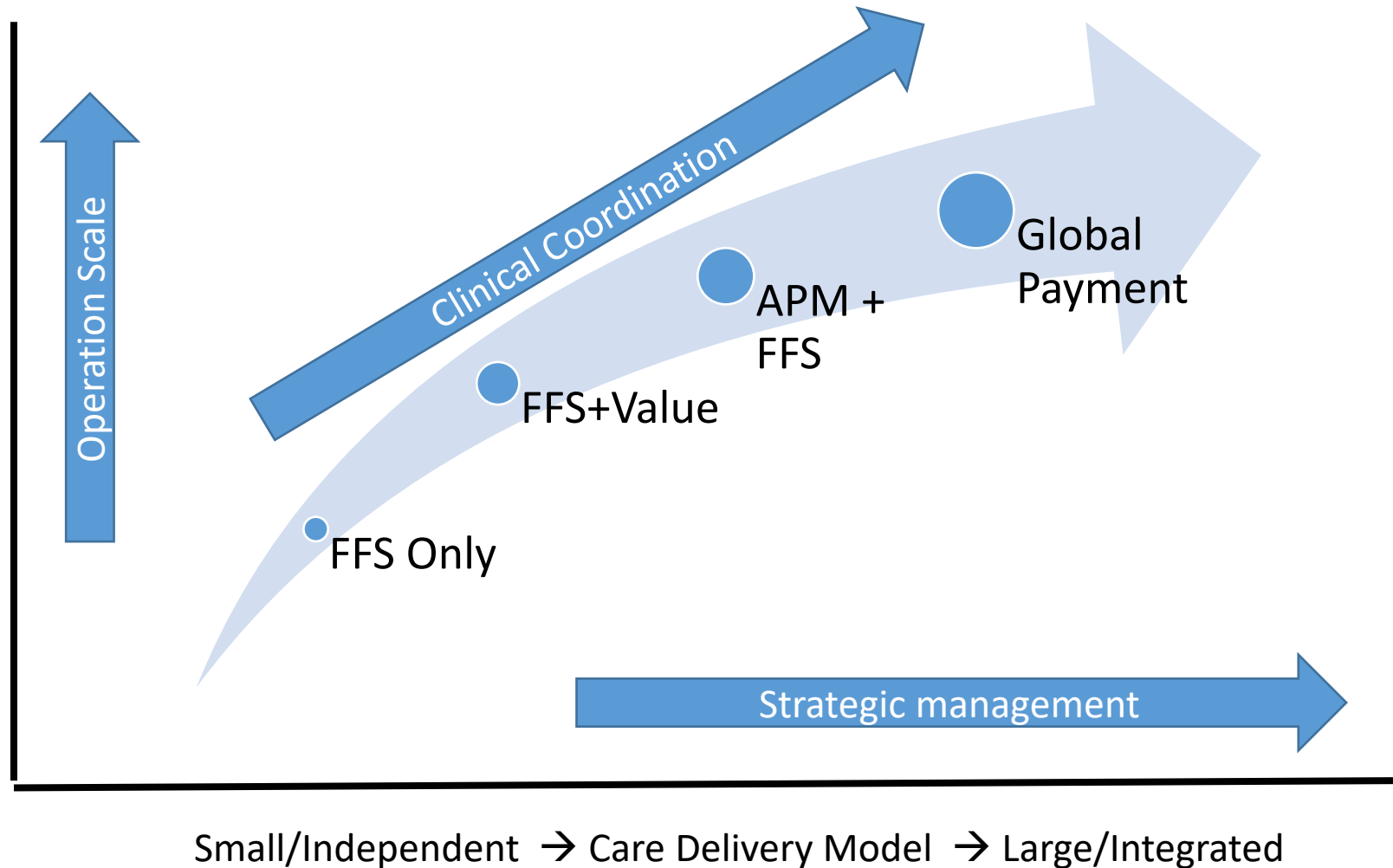
Workforce redesign (?)

What skills can be retooled from existing staff models, and what is new?

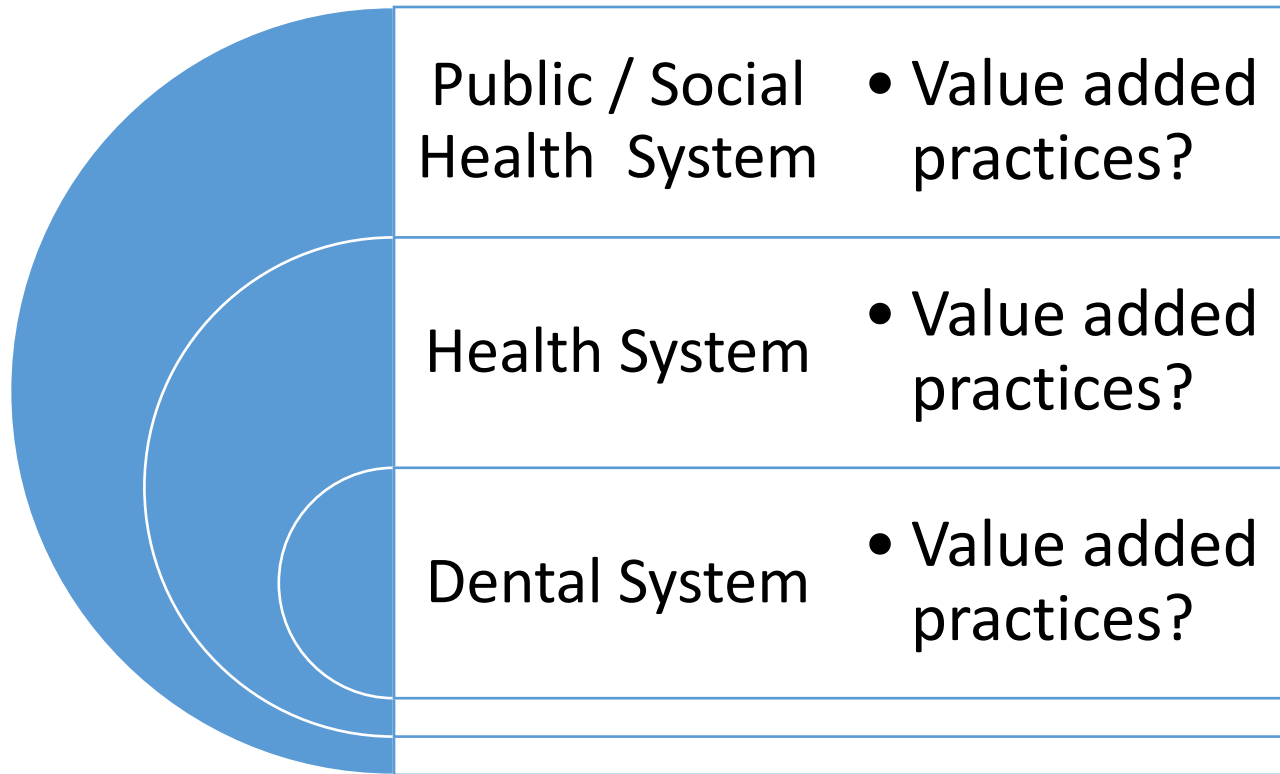
	Level 1: FFS	Level 2: FFS+Value	Level 3: APM + FFS	Level 4: Global
Dental-only implications	None	Clinical management, IT for data capture, central administration	L2 + Strategic risk management, IT for data analytics, contract lawyers, care coordination	L3+internal incentive structure for teams, clinical decision support to meet population health goals
Dental-Medical integration implications	Referral Only	Capturing and reporting outcomes in broader health context	L2+ Shared risk management & care coordination	L3+ shared accountability for health and dental outcomes
Social-health integration implications	Referral Only	Capturing social determinant data	L2+Redesigning risk management & coordination	L3+??

Solo/single specialty → Workforce Model → Multi-specialty

Workforce transitions in dental care redesign



Value: Leveling Up



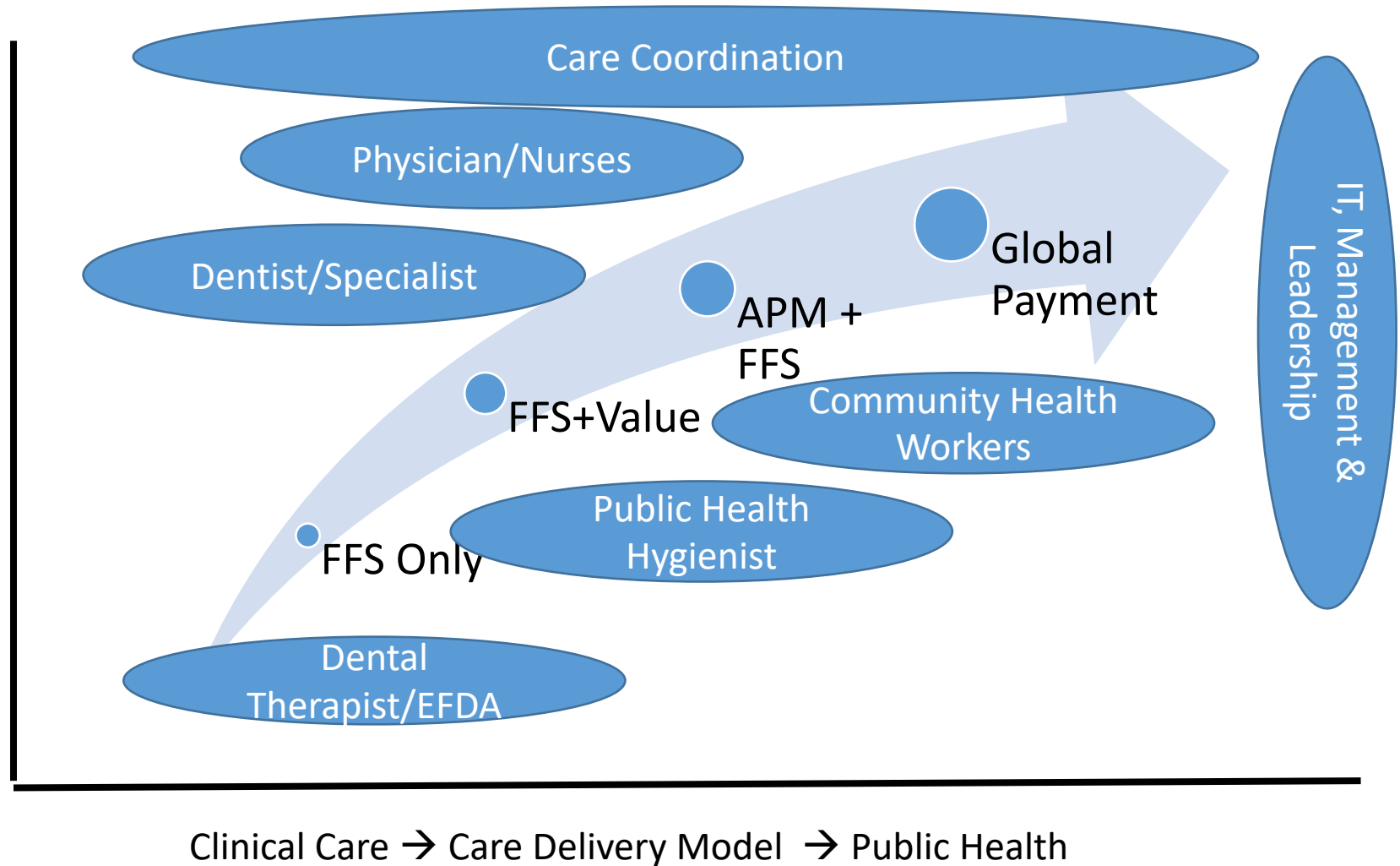
Do value added practices at one level also contribute at the next?

Emerging Dental Care Providers

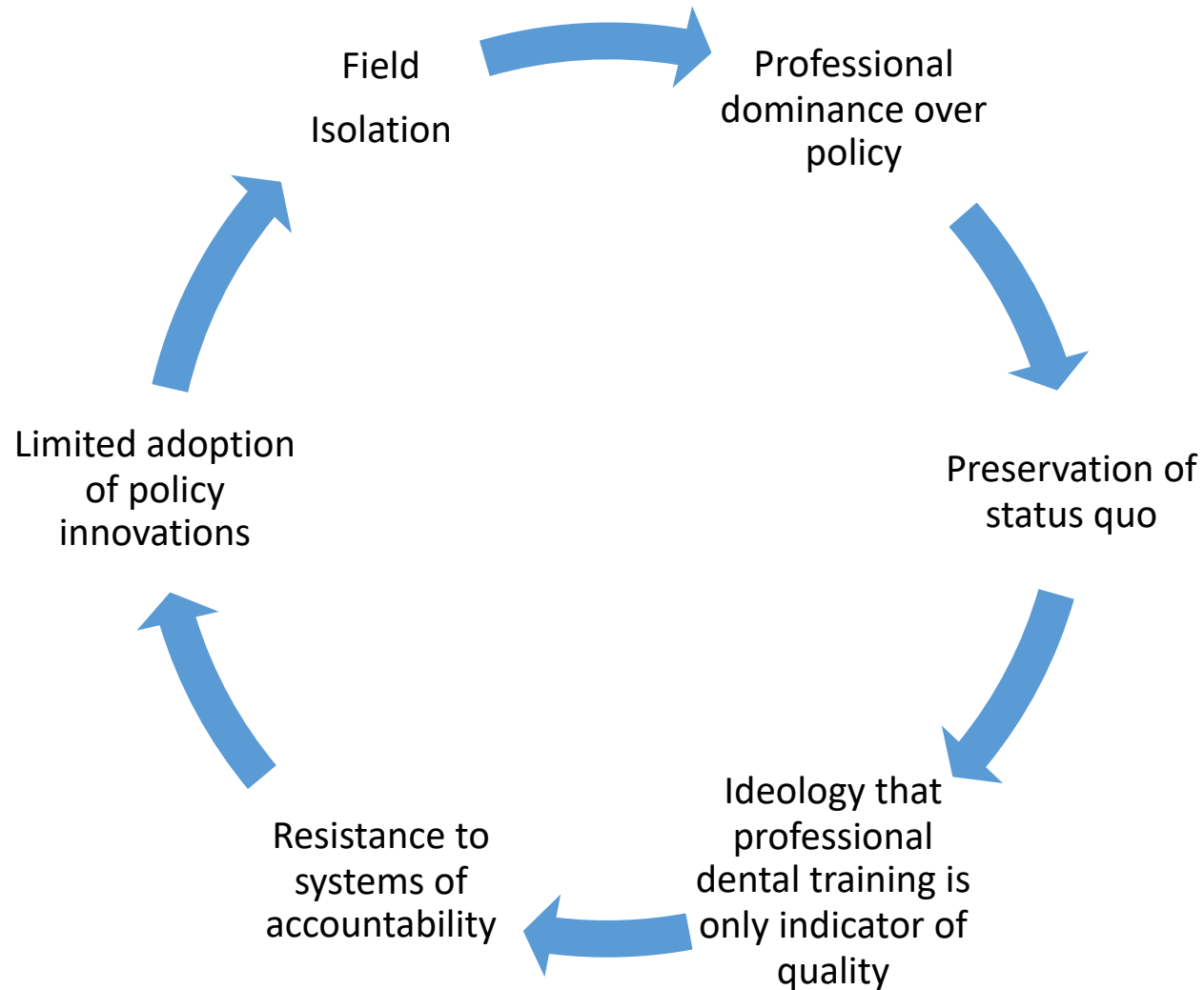
- Dental Therapist
 - Alaskan Dental Health Aide (DHAT)
 - Dental Therapist / Advanced Dental Therapists (DT / ADT)
 - Advanced Dental Hygiene Practitioner (ADHP) = ADT + RDH
- Dental Hygienists in Alternative (RDHAP), Public Health, or Direct Access Practice
 - Also can have expanded function (restorative, 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

Dental Only → Workforce Model → Interprofessional



Cycle of Isolation

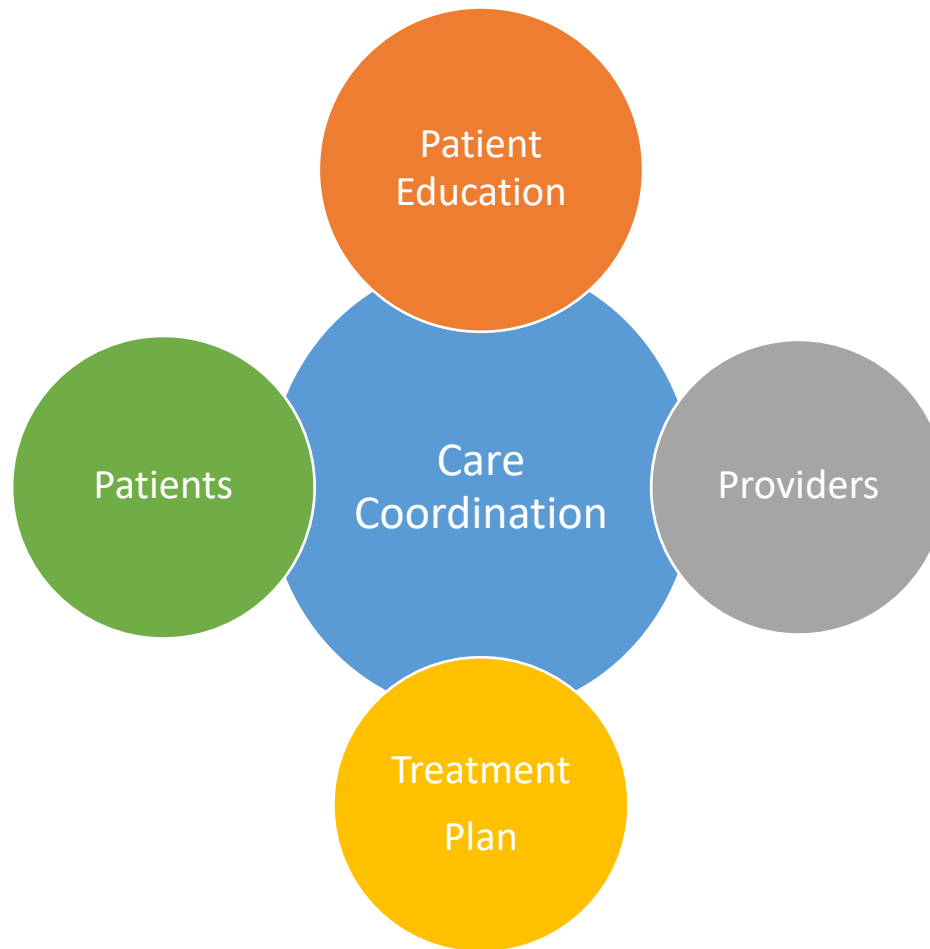


Care Coordination

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

Background: Care Coordination

Limited examples in dentistry



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

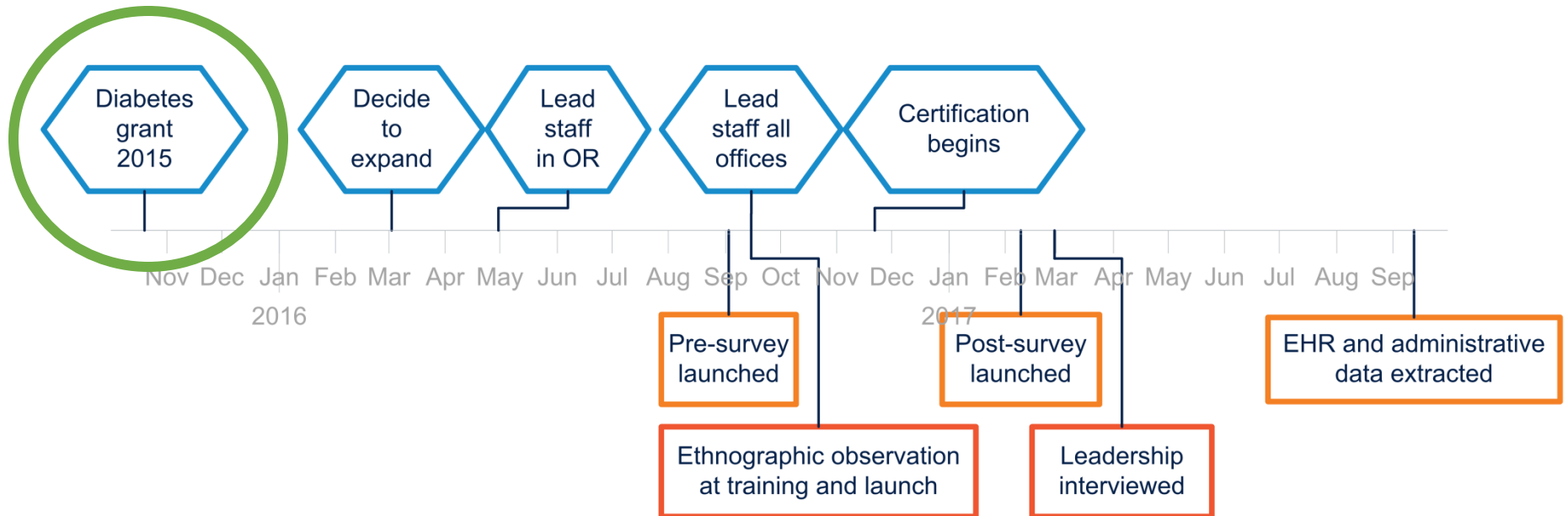


Pilot: Dental-Medical Diabetes Management and Care Coordination


- 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



Defining the Care Advocate Role



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)

7.7 (1-51)

average number of patients supported per care advocate over last 6 months (range)

926

patients have been supported by care advocates in last 6 months

10:1

ratio of adult to child patients in last 6 months

64% high/extreme caries risk

21% high/extreme periodontal risk

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