



**Telehealth**  
Resource Centers



# **The National Telehealth Webinar Series**

Presented by  
The National Network of  
Telehealth Resource Centers



**Telehealth**  
Resource Centers



# **The Virtual Dental Home: Implications for Policy & Strategy**

**Paul Glassman, DDS, MA MBA**

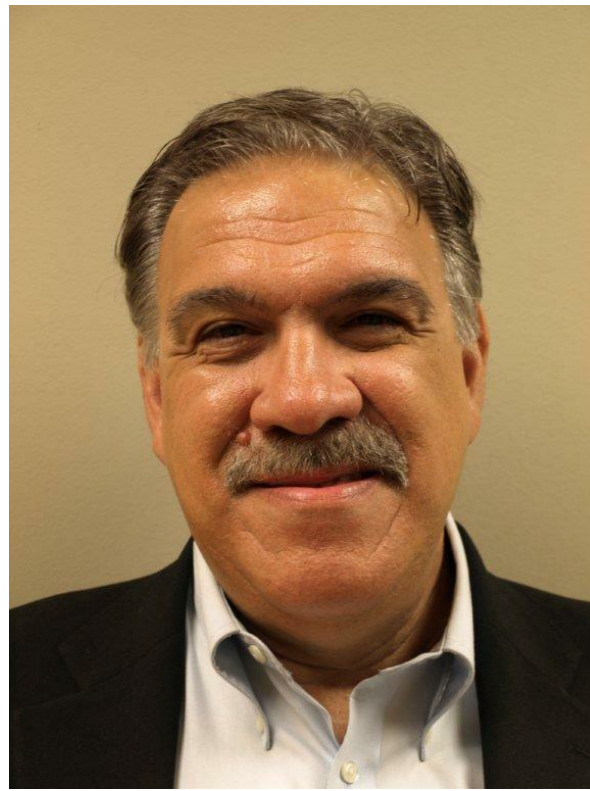
Professor of Dental Practice, Director of Community Oral Health, University of the Pacific  
and

**Mario Gutierrez, MPH**

Executive Director, Center for Connected Health Policy

**Thursday, August 15, 2013**

(9:00AM HST, 10:00AM AKST, 11:00AM PST, 12:00PM MST, 1:00PM CST, 2:00PM EST)



**Mario Gutierrez, MPH**  
**Executive Director**

**Center for Connected Health Policy**



# Disclaimers

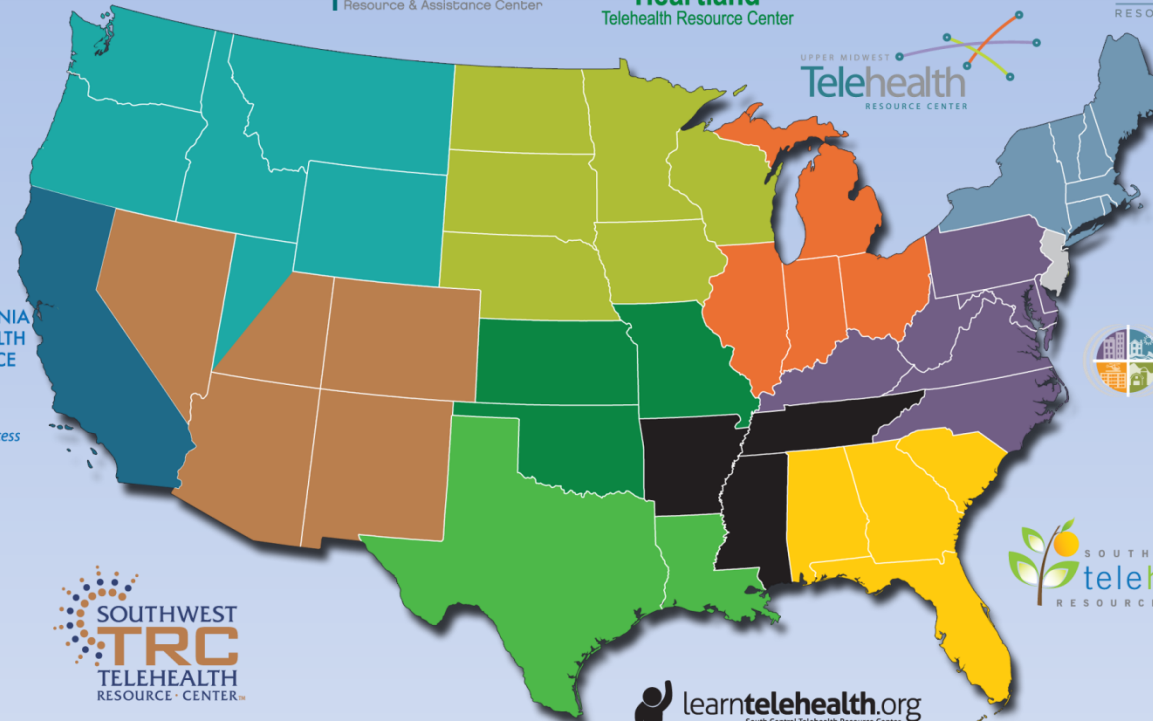
Any information provided in today's talk is not to be regarded as legal advice. Today's talk is purely for informational purposes.

Always consult with legal counsel.

CCHP has no relevant financial interest/arrangement or affiliation with any organizations related to commercial products or services to be discussed at this program.



# TelehealthResourceCenters.org



NRTRC	gpTRAC	NETRC
CTRC	HTRC	UMTRC
SWTRC	SCTRC	MATRC
PBTRC	TexLa	SETRC

2 National Resource Centers

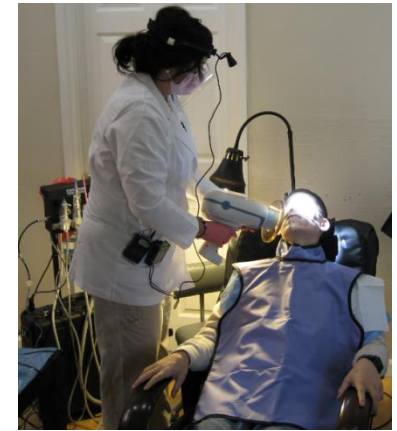
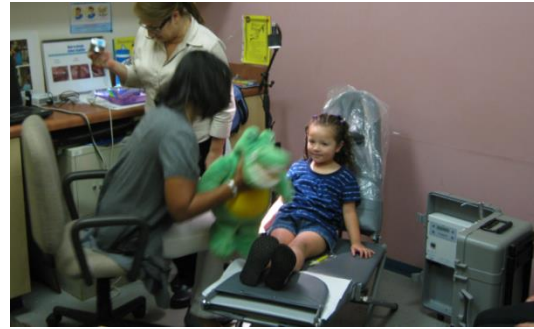
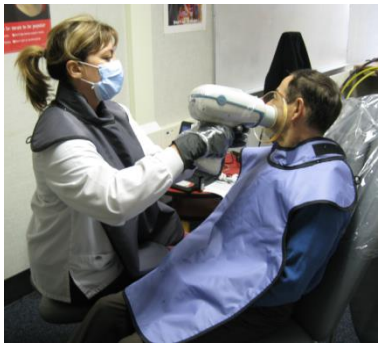
12 Regional Resource Centers



## National Telehealth Policy Resource Center

[www.telehealthpolicy.us](http://www.telehealthpolicy.us)

- We are an independent, non-profit focused on identifying and overcoming policy barriers to the use of telehealth, and developing the base of evidence of its benefits to the nation's health care systems.
- We provide technical advice on policy, regulatory and legal issues related to telehealth on a state and national level, and publish reports, policy briefs, studies and papers.



# The Virtual Dental Home: Overview and Results

Paul Glassman DDS, MA, MBA  
Professor and Director of Community Oral Health  
University of the Pacific School of Dentistry  
San Francisco, CA

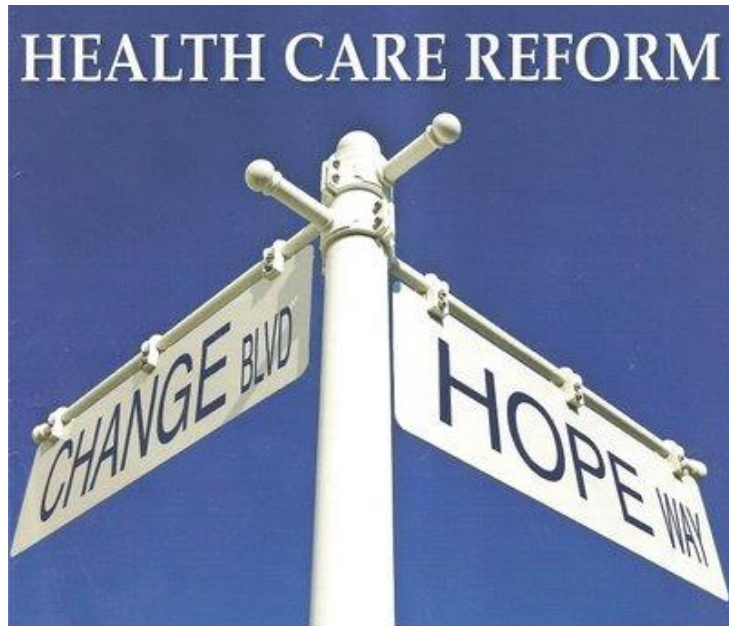


# The Virtual Dental Home Update

- Background: Health Reform, Accountability
- Caries Management
- The Health Workforce Pilot Project #172
- The Virtual Dental Home Progress Report
- Economic Analysis: Cost of Neglect of Dental Disease and Costs of the Virtual Dental Home
- AB1174, why it was proposed and what it would do



# The US Health Care System is Undergoing Profound Change

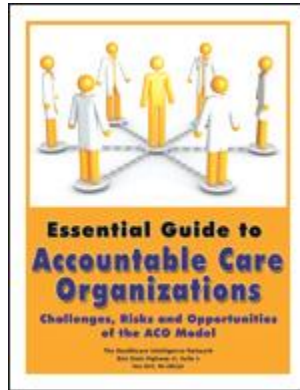


# Drivers of the Quality Movement in the U.S. Health Care System

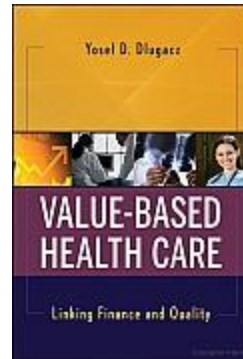
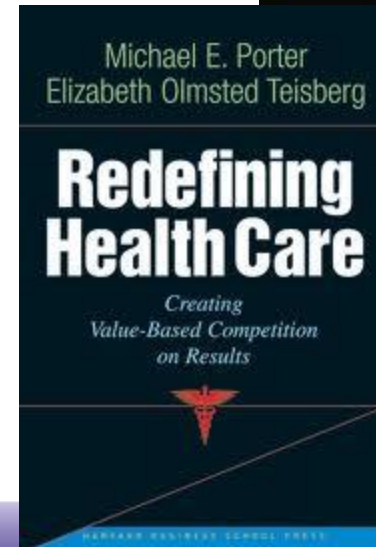
1. the skyrocketing cost of health care unrelated to improvement in health outcomes,
2. increasing understanding of the harm and unwarranted variability our fragmented health care system produces,
3. evidence of the profound health disparities that still exist in the population in spite of scientific advances in care, and
4. increasing awareness of these problems in the age of consumer empowerment.



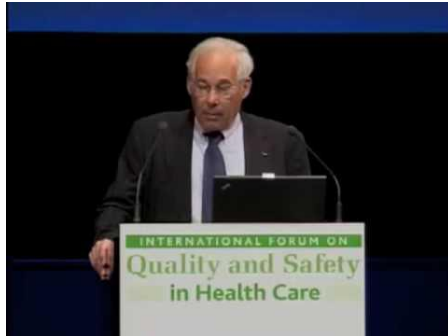
# The Era of Accountability



$$\text{VALUE} = \frac{\text{QUALITY}}{\text{COST}}$$



# The Triple Aim



- improving the experience of care
- improving the health of populations
- reducing per capita costs of health care

# The Era of Accountability

**The Urban Institute**

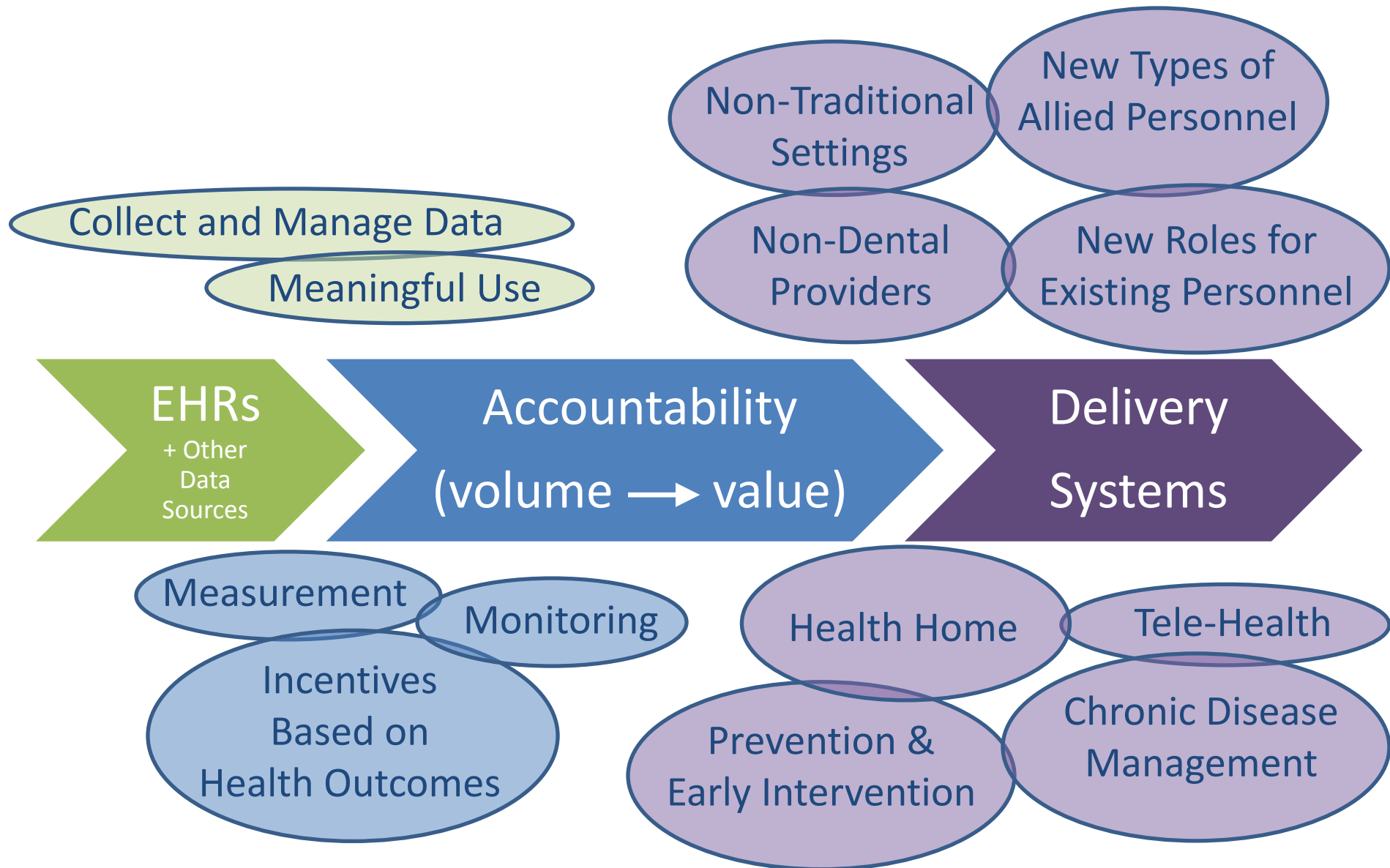
**Moving Payment from Volume to Value:  
What Role for Performance Measurement?**

**Timely Analysis of Immediate Health Policy Issues**

December 2010

Robert A. Berenson

# Moving Oral Health Care from Volume to Value\*\*



\*\*Value = health outcomes achieved per dollar spent over the lifecycle of a condition

# Moving Oral Health Care from Volume to Value\*\*

Collect and Manage Data

Meaningful Use

EHRs

+ Other  
Data  
Sources

\*\*Value = health outcomes achieved per dollar spent over the lifecycle of a condition

# Moving Oral Health Care from Volume to Value\*\*

Collect and Manage Data

Meaningful Use

EHRs

+ Other  
Data  
Sources

Measurement

Monitoring

Incentives  
Based on  
Health Outcomes

\*\*Value = health outcomes achieved per dollar spent over the lifecycle of a condition



# Moving Oral Health Care from Volume to Value\*\*

Collect and Manage Data

Meaningful Use

EHRs

+ Other  
Data  
Sources

Accountability

(volume → value)

Measurement

Monitoring

Incentives  
Based on  
Health Outcomes

\*\*Value = health outcomes achieved per dollar spent over the lifecycle of a condition

# Moving Oral Health Care from Volume to Value\*\*

Collect and Manage Data

Meaningful Use

EHRs

+ Other  
Data  
Sources

Accountability  
(volume → value)

Delivery  
Systems

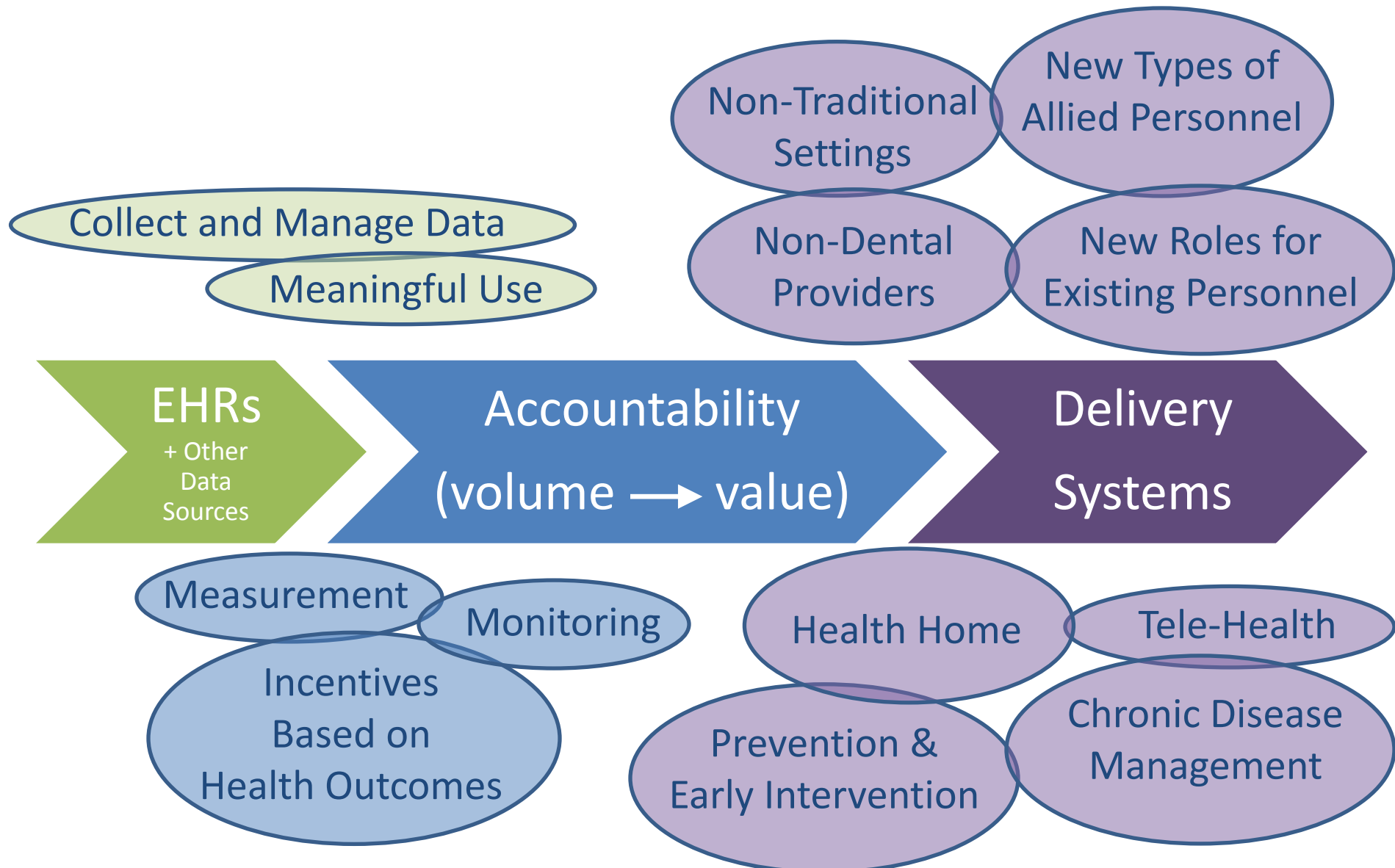
Measurement

Monitoring

Incentives  
Based on  
Health Outcomes

\*\*Value = health outcomes achieved per dollar spent over the lifecycle of a condition

# Moving Oral Health Care from Volume to Value\*\*



\*\*Value = health outcomes achieved per dollar spent over the lifecycle of a condition

# Prevention and Early Intervention Strategies

- Partial caries removal
- Interim Therapeutic Restorations



# Community-Based Prevention and Early Intervention Strategies

ALAN W. BUDENZ, MS, DDS, MBA, AND PAUL SUBAR, DDS, EDD

**ABSTRACT** Many people in California face significant barriers to obtaining dental care. Creation of a community-based oral health delivery system that could deliver preventive and simple therapeutic oral health services in community settings where these populations live or receive social and/or general health services has been one of the proposed strategies for improving access to oral health care. Two of the newer techniques are caries management by risk assessment and interim therapeutic restoration.

# Incomplete Caries Removal

## CLINICAL REVIEW

F. Schwendicke\*, C.E. Dörfer,  
and S. Paris

Department for Conservative Dentistry and Periodontology,  
Christian-Albrechts-University, Arnold-Heller-Str. 3, 24105  
Kiel, Germany; \*corresponding author, schwendicke@  
konspar.uni-kiel.de

*J Dent Res* 92(4):306-314, 2013

## Incomplete Caries Removal: A Systematic Review and Meta-analysis

- Increasing numbers of clinical trials have demonstrated the benefits of incomplete caries removal, in particular in the treatment of deep caries.
- Teeth treated with incomplete caries removal showed risk reduction for both pulpal exposure and pulpal symptoms.

# Atraumatic Restorative Treatment

Two systematic reviews on longevity of ART restorations vs amalgam and pain and fear experienced during restoration.<sup>1,2</sup>

- Longevity: In primary teeth there was no significant difference in longevity over 12 and 24 months. In permanent dentition longevity of ART restorations is equal to or greater than that of equivalent amalgam restorations for up to 6.3 years.
- Pain and fear: ART promotes less discomfort for patients, contributing to a reduction of anxiety and fear during the dental treatment. Results also indicated that ART minimizes pain reported by patients

1. Mickenautsch S, Yengopal V, Banerjee A. Atraumatic restorative treatment versus amalgam restoration longevity: a systematic review. Clin Oral Investig. 2010 Jun;14(3):233-40. Epub 2009 Aug 18.

2. Carvalho TS, et. al. The atraumatic restorative treatment approach: An "atraumatic" alternative. Med Oral Patol Oral Cir Bucal. 2009 Dec 1;14 (12):e668-73.

# Interim Therapeutic Restoration (ITR)

REFERENCE MANUAL V 30 / NO 7 08 / 09

## Policy on Interim Therapeutic Restorations (ITR)

### **Originating Council**

Council on Clinical Affairs

### **Review Council**

Council on Clinical Affairs

### **Adopted**

2001

### **Revised**

2004, 2008

AAPD Policy on Interim Therapeutic Restorations (ITR)



# The CA Health Workforce Pilot Project



Office of  
Statewide Health Planning and Development



## Healthcare Workforce Development Division

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### HEALTH WORKFORCE PILOT PROJECTS PROGRAM (HWPP)

HWPP program allows organizations to test, demonstrate, and evaluate new or expanded roles for healthcare professionals, or new healthcare delivery alternatives before changes in licensing laws are made by the Legislature. Various organizations use HWPPs to study the potential expansion of a profession's scope of practice to:

- Facilitate better access to healthcare
- Expand and encourage workforce development
- Demonstrate, test and evaluate new or expanded roles for healthcare professionals or new healthcare delivery alternatives
- Help inform the Legislature when considering changes to existing legislation in the Business and Professions code

# The CA Health Workforce Pilot Project

## HEALTH WORKFORCE PILOT PROJECTS

### ABSTRACT

APPLICATION: #172

### TRAINING CURRENT ALLIED DENTAL PERSONNEL FOR NEW DUTIES IN COMMUNITY SETTINGS

#### **APPLICANT/SPONSOR:**

Pacific Center for Special Care  
at the University of the Pacific  
Arthur A. Dugoni School of Dentistry  
2155 Webster Street  
San Francisco, California 94115

#### **PROJECT DIRECTOR:**

Dr. Paul Glassman  
Director of Community Oral Health

#### **SPONSOR TYPE:**

Non-profit Education Institution

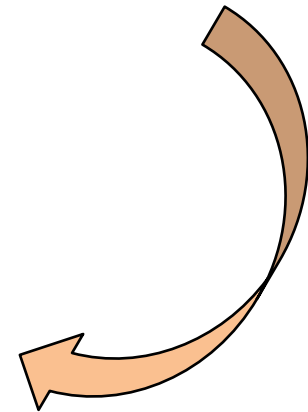
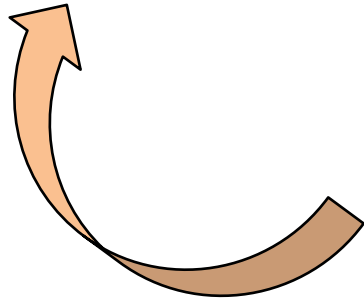
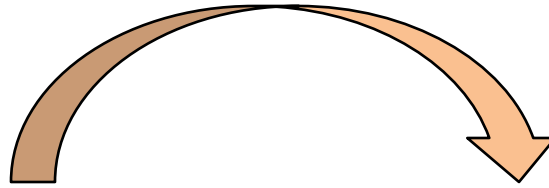
#### **PURPOSE:**

To teach new skills to existing categories of health care personnel and to improve the oral health of underserved populations by expanding duties of dental assistants, and dental hygienists working in community settings

# The CA Health Workforce Pilot Project

- RDAs, RDHs, and RDHAPs will make the decision about which radiographs to take, if any, to facilitate an initial oral evaluation by a dentist.
- RDAs, RDHs, and RDHAPs will place “Interim Therapeutic Restorations” (ITR)

# The Virtual Dental Home





# The Virtual Dental Home: Bringing Oral Health to Vulnerable and Underserved Populations

PAUL GLASSMAN, DDS, MA, MBA; MAUREEN HARRINGTON, MPH; MAYSА NAMAKIAN, MPH;  
AND PAUL SUBAR, DDS, EDD

**ABSTRACT** Large and increasing oral health disparities in the U.S. population led the Institute of Medicine to call for expanded research and demonstration of delivery systems that test new methods and technologies. These new methods include delivering oral health services in nontraditional settings, using nondental professionals, expanded roles for existing dental professionals and new types of dental professionals, and incorporating telehealth technologies. The virtual dental home is a system that demonstrates the characteristics called for by the IOM.

# The Virtual Dental Home Concept Model

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## Allied Personnel – On-Site

Intake & periodic recall visits, record collection, communication with dentist

# EHR: Radiographs



# EHR: Photographs





**Patient Chart**

**Patient:** Mouse, Mickey M    **Type:** Patient ID 100    **Responsible:** Mouse, Mickey M    **Prim. Ins:** Delta Dental of Cali  
 (H) : 714-555-1212    CA    **Age/Sex:** 59 / M    **Balance:** 5839.40    949-555-1212  
 (C) : 714-555-1213    MD    **First Visit:** 11/29/2004    **Est Ins:** 2838.10    **Ben Rem:** 0.00  
 (W) : 800-555-1212    RT    **Last Visit:** 01/12/2009    **Est Pat:** 3001.30    **Ded Rem:** 0.00

\*Change Dentition\*    View Chart as on 1/12/2009    Clear Selection    ADA Codes    Progress Notes    Perio

The dental chart displays teeth 1 through 16 in the upper arch and 32 through 17 in the lower arch. Teeth 1-16 show various conditions: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16. Teeth 32-17 show various conditions: 32, 31, 30, 29, 28, 27, 26, 25, 24, 23, 22, 21, 20, 19, 18, 17. A treatment menu on the right includes: Pre-existing, Compl. Procs., Treat. Plans, Decay, Defective, Crown, Bridge, Implant, Denture, Missing, Impacted, Erupted, Watch.

**Pre-existing Conditions**    Delete...

Type	Date	St	Code	Description	Th	Surf	Est. Ins.	Fee	Office
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	3	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	4	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	5	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	6	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	7	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	8	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	9	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	10	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	11	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	12	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	13	M	\$0.00	\$84.00	LA
LEDGER	1/12/2009		D2140	Amalgam One Surface Perm/Prim	2	M	\$0.00	\$84.00	LA


# The Virtual Dental Home Concept Model

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## Allied Personnel – On-Site

Intake & periodic recall visits, record collection, communication with dentist



Cloud-Based  
Electronic  
Health Record

# Radiographs

Denticon!3.5 :- Patient Window :- Welcome, PGLASSMAN :- Windows Internet Explorer

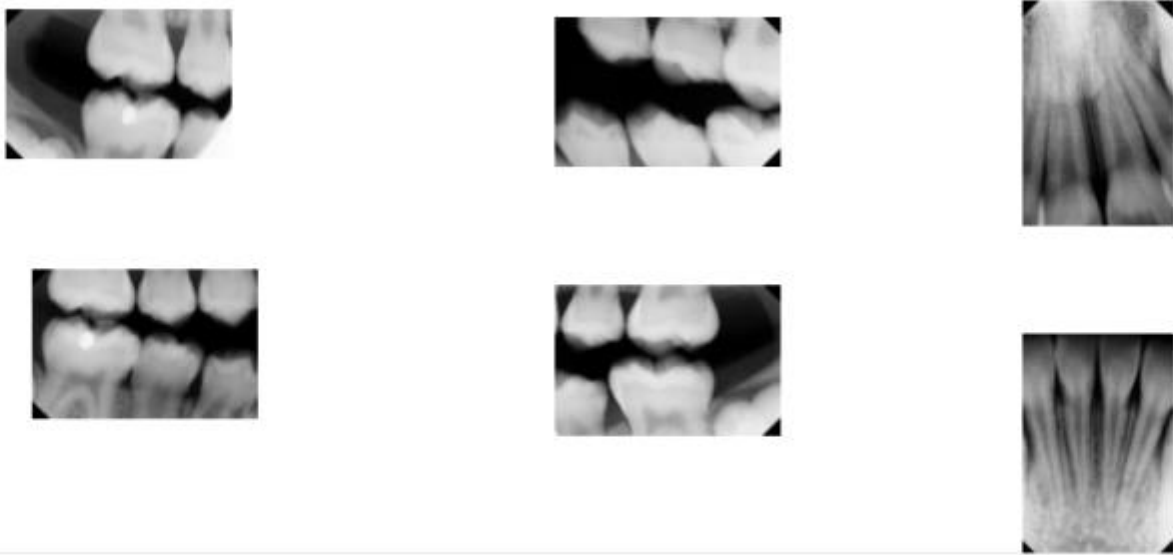
https://www.denticon.com/Imaging/ASP/xray.aspx

Scheduler Patient Transactions Charting Reports Utilities Setup Office [Redacted] Help Logout

DentRay

Patien [Redacted]	Type	Patient ID: 477	Responsible: [Redacted]	Prim. Ins:
(H) : BD :		Age/Sec: / F	Balance: 35.00 BO :	
(C) :		First Visit: 11/29/2010	Est Ins: 0.00	Ben Ram: 0.00
(W) :		Last Visit: 03/28/2011	Est Pati: 35.00	Ded Ram: 0.00

X-Ray Capture Presentation



Select Series: Study 03232011 Print Series Delete Series Move Series

# Radiographs



# Photographs


Denticon13.5 - Patient Window - Welcome, PGLASSMAN - Windows Internet Explorer  
https://www.denticon.com/imaging/asp/xray.aspx

Scheduler Patient Transactions Charting Reports Utilities Setup Office [Redacted] Help Logout

DentiRay

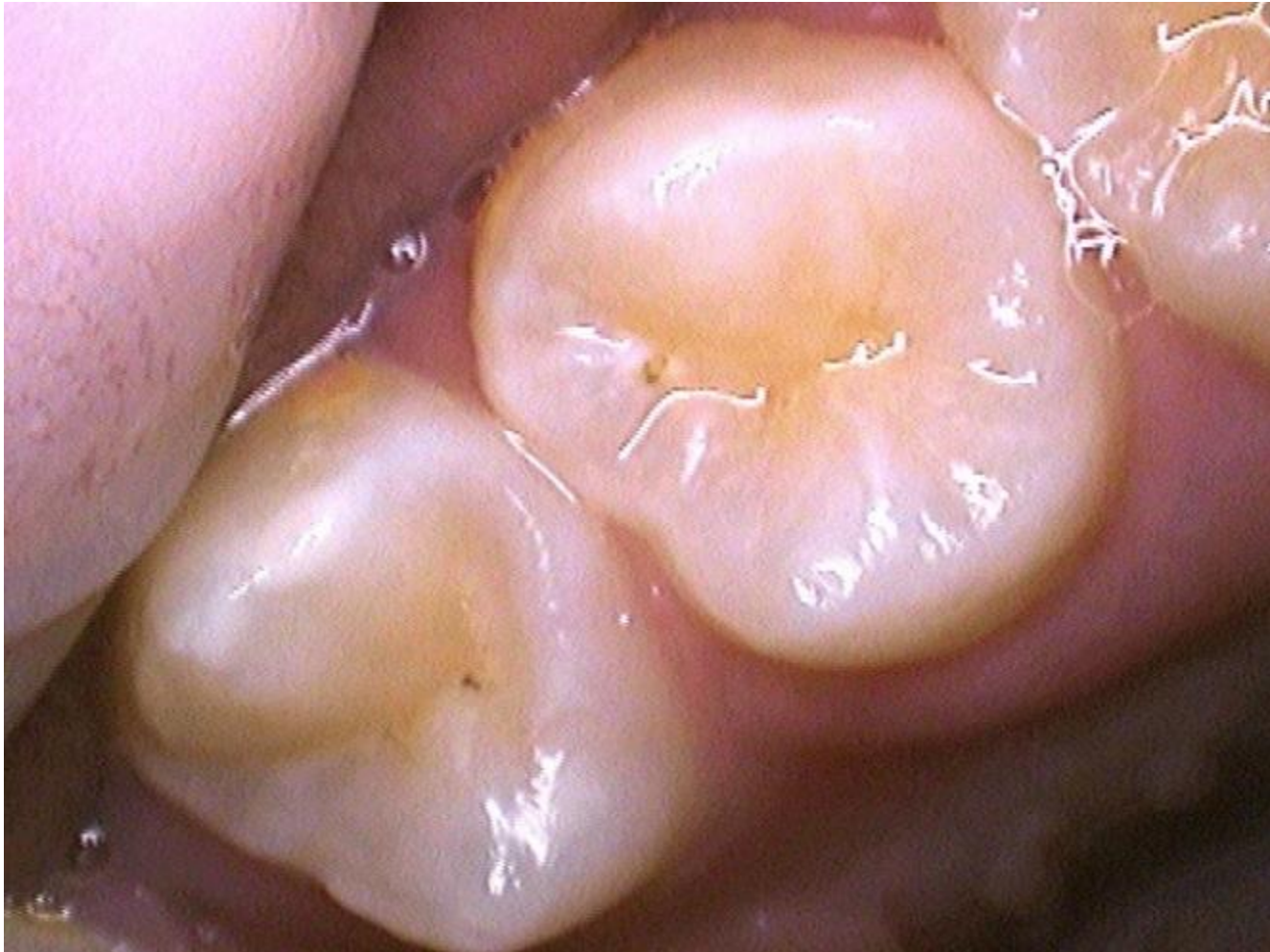
Patient: [Redacted]	Type	Patient ID: 477	Responsible: [Redacted]	Prim. Ins:
{H}: BD:	Age/Sex: / F	Balance: 35.00	BD:	Ben Rem: 0.00
{C}:	First Visit: 11/29/2010	Est Ins: 0.00		Diad Rem: 0.00
{W}:	Last Visit: 03/26/2011	Est Pati: 35.00		

X-Ray Capture Presentation

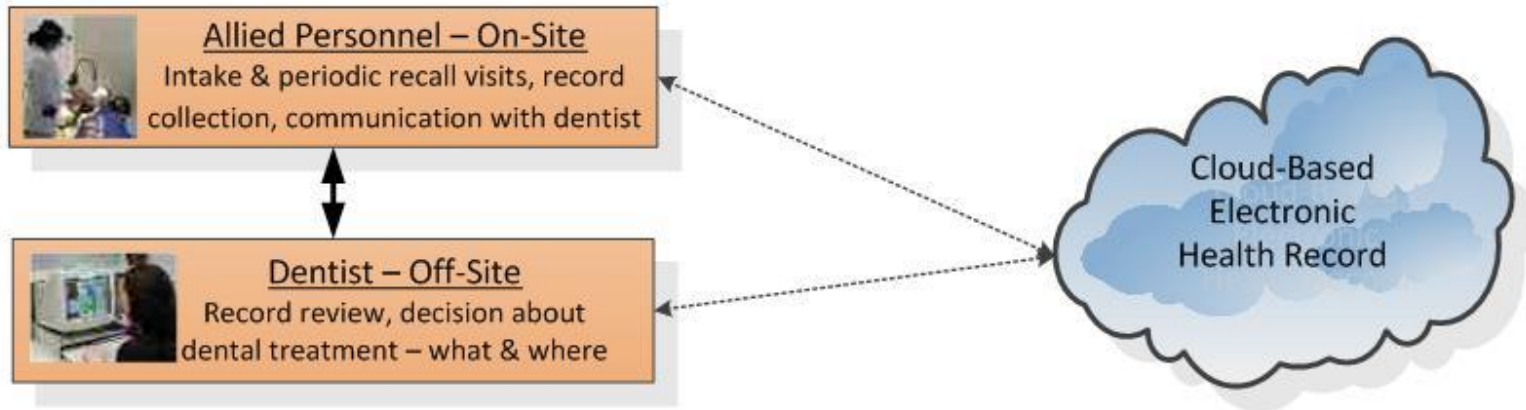


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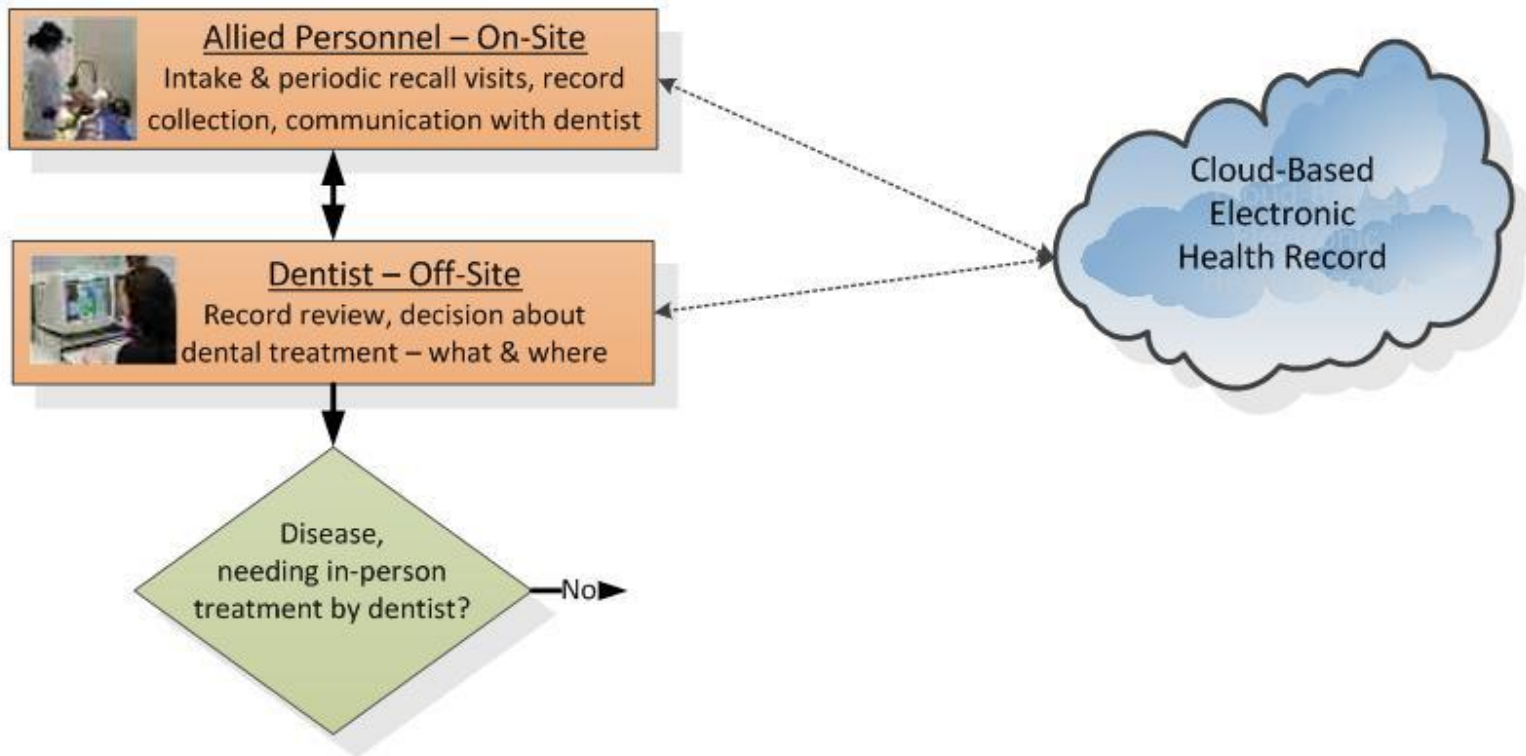
# Photographs



# The Virtual Dental Home Concept Model



# The Virtual Dental Home Concept Model





# Study on Telehealth vs In-Person Decision Making



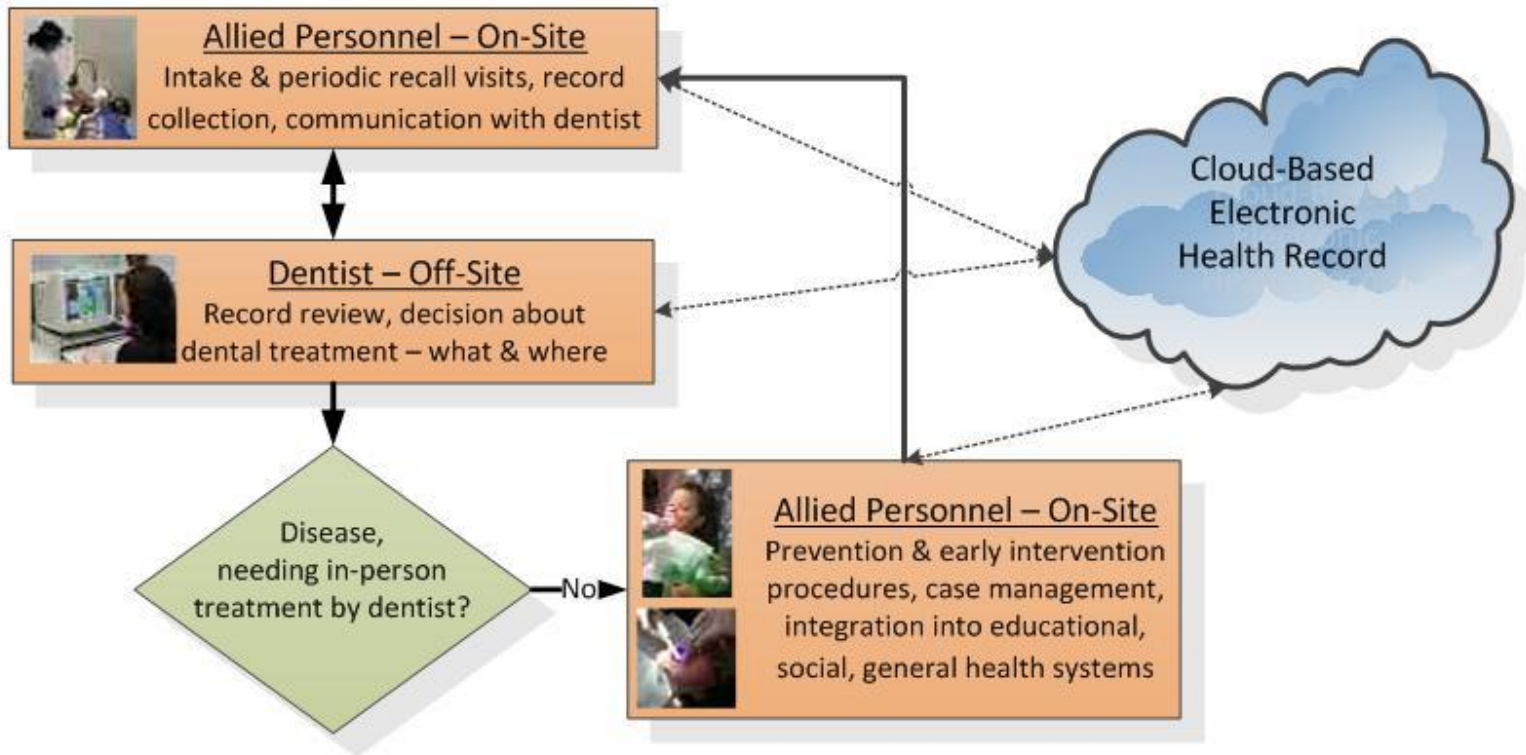


# In-Person Versus “Virtual” Dental Examination: Congruence Between Decision-Making Modalities

MAYSA NAMAKIAN, MPH; PAUL SUBAR, DDS, EDD; PAUL GLASSMAN, DDS, MA, MBA;  
ROBERT QUADE, PHD, MBA; AND MAUREEN HARRINGTON, MPH

**ABSTRACT** This study evaluated the agreement of a dentist’s conclusions reached through an in-person versus a virtual examination. The dentist determined whether a patient was healthy enough to be treated only by allied dental personnel in a community setting or whether the patient needed to be seen by a dentist. The study concludes that a virtual examination is a strong substitute for an in-person examination and validates the application of telehealth-enabled examinations.

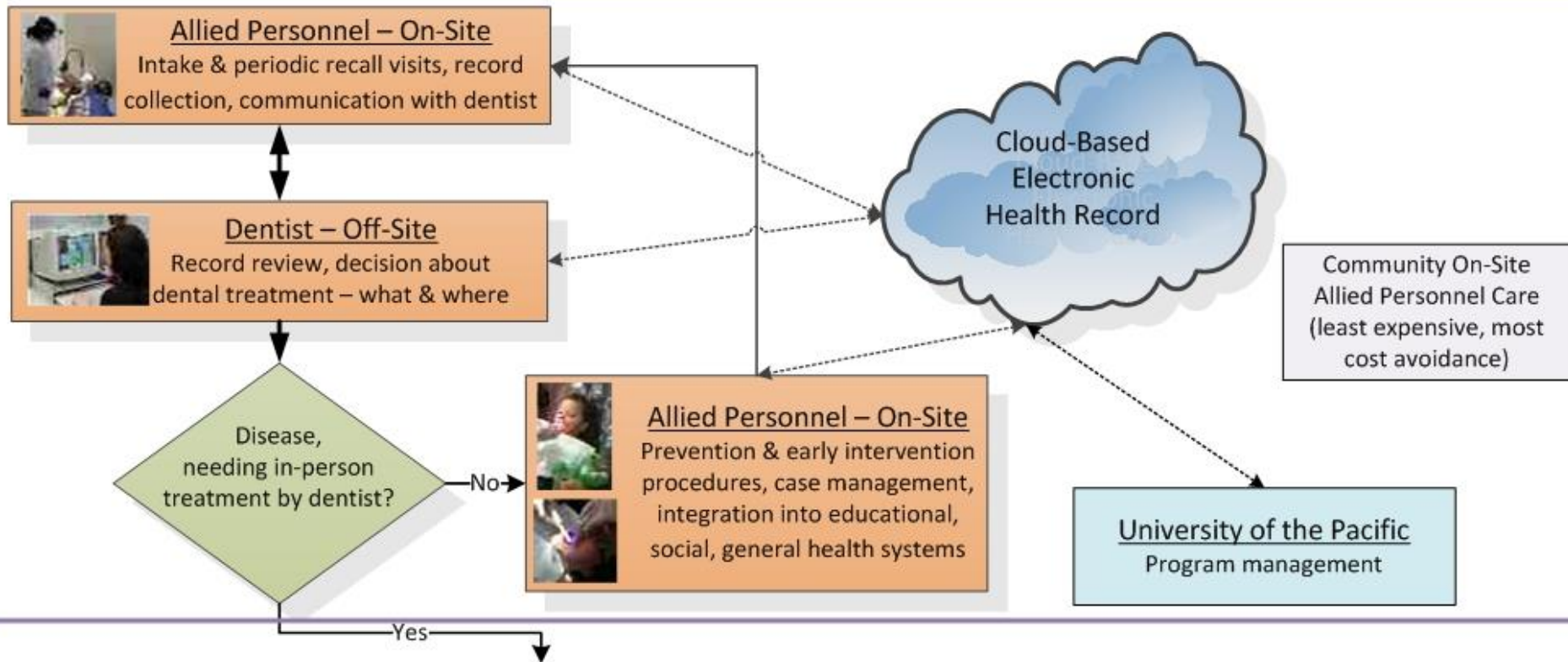
# The Virtual Dental Home Concept Model



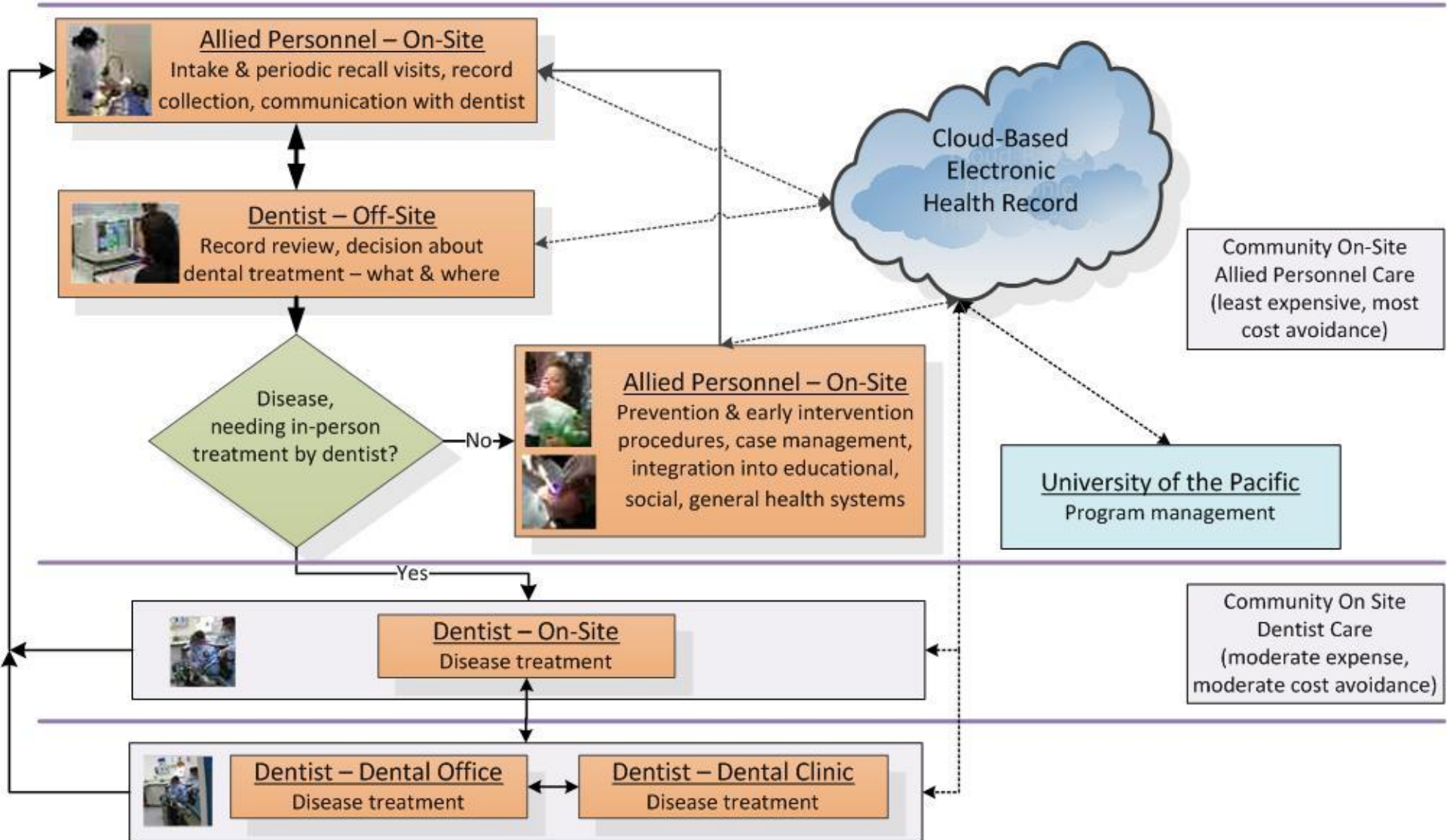
# Community-based Prevention and Early Intervention Procedures



# The Virtual Dental Home Concept Model



# The Virtual Dental Home Concept Model





# Oral Health Systems for Underserved Populations

**Geographically  
Distributed**

**Collaborative**

**Telehealth  
Enabled**

**Prevention  
Focused**

**Systems of Oral Health Care  
Without Walls**



# Oral Health Systems for Underserved Populations

**Geographically  
Distributed**

**Telehealth  
Enabled**

**Oral Health Care Team**

# Current VDH Sites

- **Sacramento** - Elementary school-based facilities working with community dentists
- **Visalia/Fresno** — Nursing home facilities working with community dentists
- **San Diego** - Head Start Centers and Elementary schools working with a health centers
- **Eureka** - Residential facilities for people with disabilities working with a health center
- **Alameda and Contra Costa Counties** - Residential facilities for people with disabilities working with community dentists
- **Santa Clara and Santa Cruz Counties** - Residential facilities for people with disabilities working with community dentists
- **San Mateo County** - Residential facilities for people with disabilities working with community dentists
- **Pacoima** – a Community Center working with community dentists
- **San Mateo County** – Head Start Centers working with a Health Center
- **Los Angeles** – Head Start Centers working with a Health Center

# Patients and Visits

Population Type	# of Patients Seen	Total Visits
Head Start	871	2537
Elementary	214	1027
Long Term Care	179	798
Multifunction Community Center	221	483
Regional Center	112	486
<b>Total</b>	<b>1597</b>	<b>5331</b>

Data Current as of 4/30/13

# Referrals to Dental Offices

Type of Site	% Needing Referral to Dental Office
Elementary	66%
Long Term Care	51%
Head Start	43%

Data Current as of 4/30/13

# HWPP Procedures Completed

Population Type	# of Patients Seen	Xrays Taken in Utilization	ITRs Placed in Utilization	ITRs placed in Training
Head Start	871	351	61	40
Elementary	214	300	14	20
Long Term Care	179	109	178	10
Multifunction Community Center	221	201	33	20
Regional Center	112	64	54	20
<b>Total</b>	<b>1597</b>	<b>1025</b>	<b>340</b>	<b>110</b>

Data Current as of 4/30/13

# Ratings of Procedures

<b>Procedure Performed During Utilization Phase</b>	<b>#</b>	<b># of Rated as Acceptable</b>	<b># of Rated as Unacceptable</b>	<b>Adverse Outcomes</b>
<b>Radiographic Decision</b>	1597	1597	0	0
<b>Interim Therapeutic Restorations</b>	340	340	0	0
<b>All Other Procedures</b>	8934	-	-	0

Data Current as of 4/30/13

# Administrators Survey

How satisfied are you with the dental care provided through the VDH?


Satisfaction	Response Percent	Response Count
Very satisfied	96.2%	25
Somewhat satisfied	3.8%	1
Not very satisfied	0.0%	0
Not at all satisfied	0.0%	0
Don't know	0.0%	0

Data Current as of 4/30/13

# The Virtual Dental Home Cost Analysis

(as of 2/28/31)

- Reductions of the costs of neglect



UNIVERSITY OF THE  
**PACIFIC**  
Arthur A. Dugoni  
School of Dentistry

Blue  
Sky  
CONSULTING GROUP

The Costs of Neglect  
of Dental Disease:

And the Impact of the Virtual Dental Home

April 10, 2013

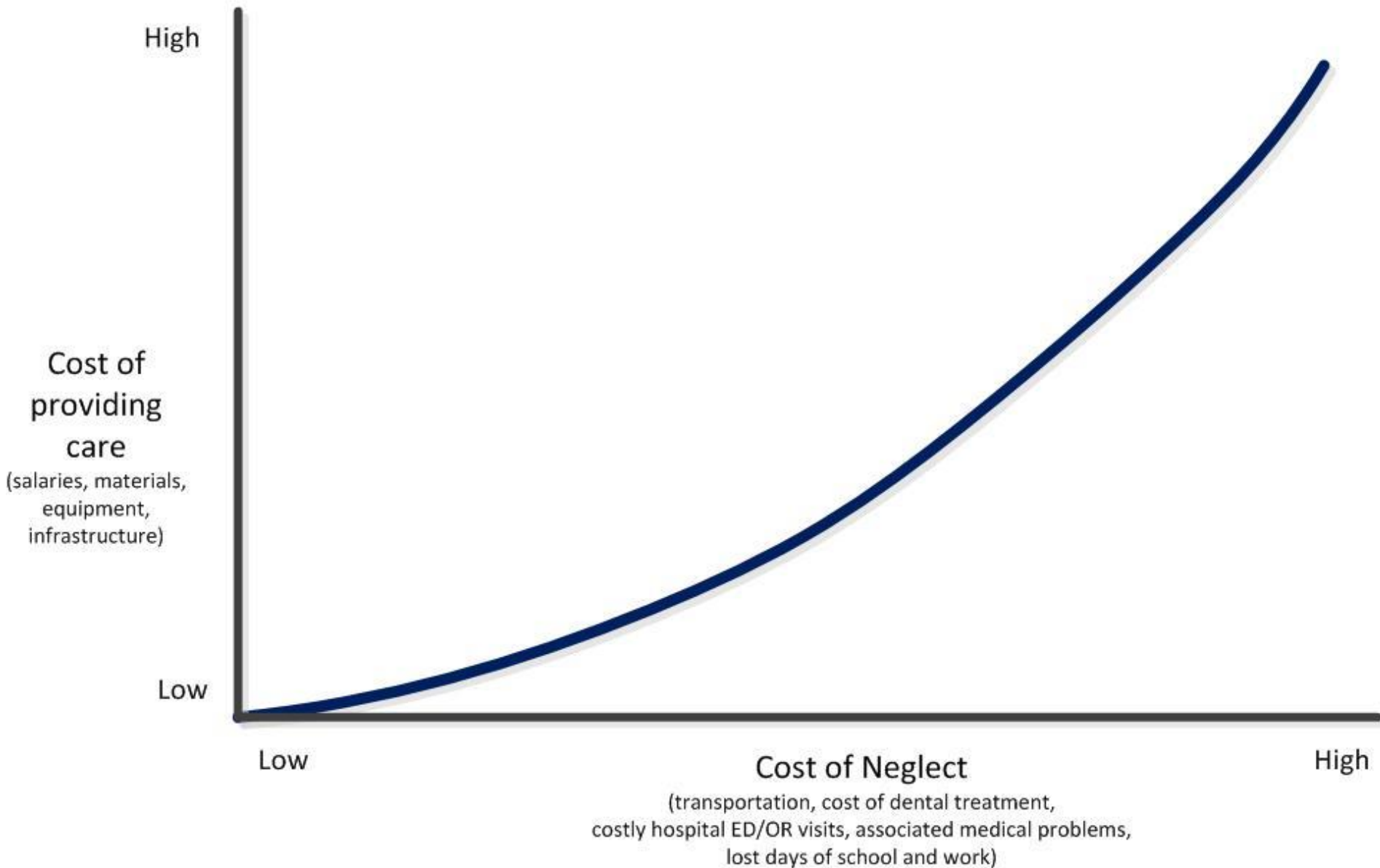


## THE COSTS OF NEGLECT OF DENTAL DISEASES

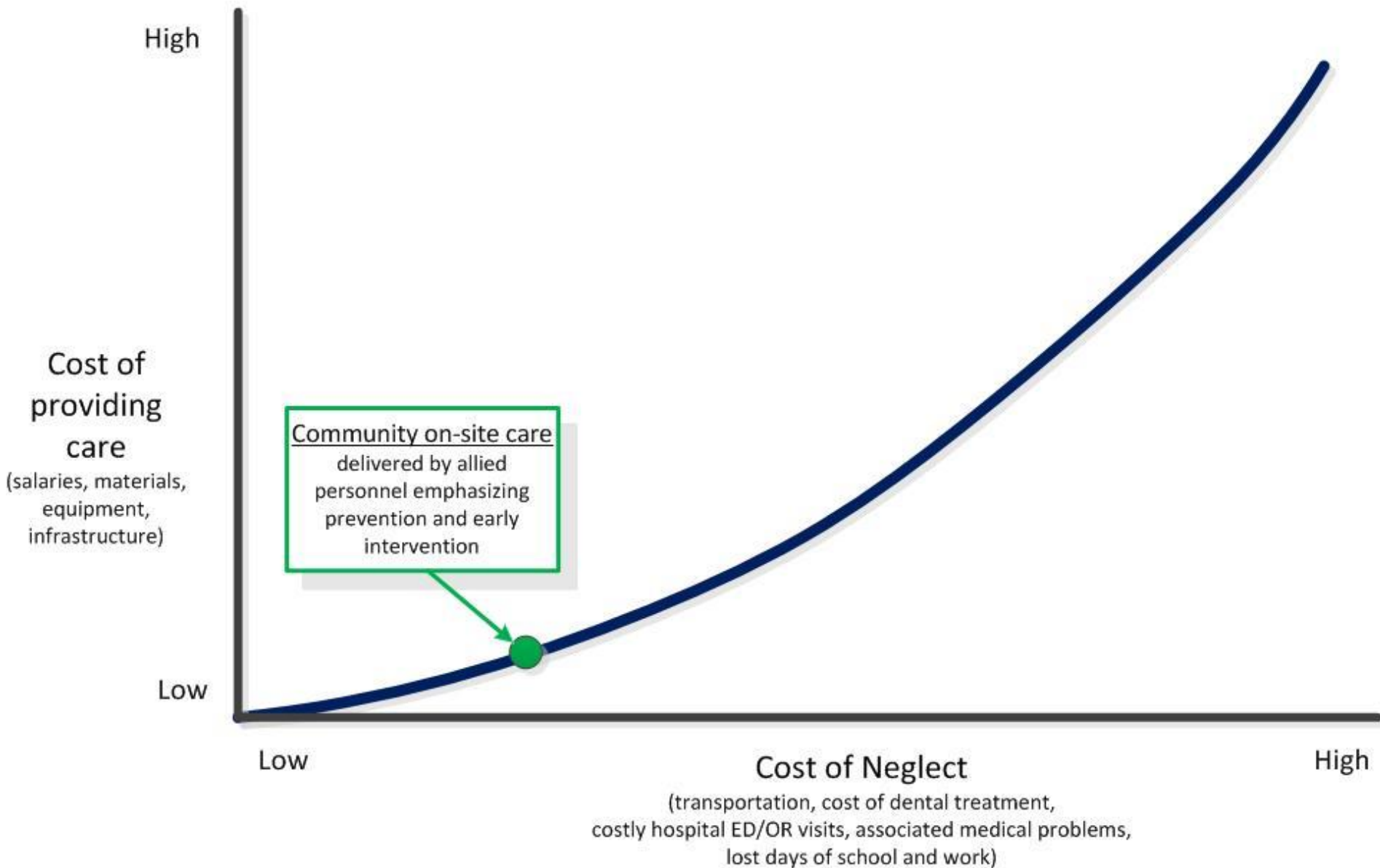
Neglected dental disease can lead to serious, widespread, and sometimes tragic consequences, including missed school days among children and missed work among adults, increased expenses for advanced reparative dental treatment, preventable visits to hospital emergency departments and operating rooms, decreased social engagement and employability among adults with missing teeth, and even occasional life threatening infections.

Emphasizing scientifically validated prevention and early intervention procedures can help to increase both clinical and cost effectiveness of such a program. Indeed, our analysis suggests that if 1000 children enrolled in Head Start who were previously not receiving dental services were to participate in such a program, California's MediCal program would actually save \$2000 because the cost of providing the services would be more than offset by lower costs stemming from the consequences of neglect. This is just one example of the potential benefits of such a research and prevention based program; other populations stand to reap benefits as well.

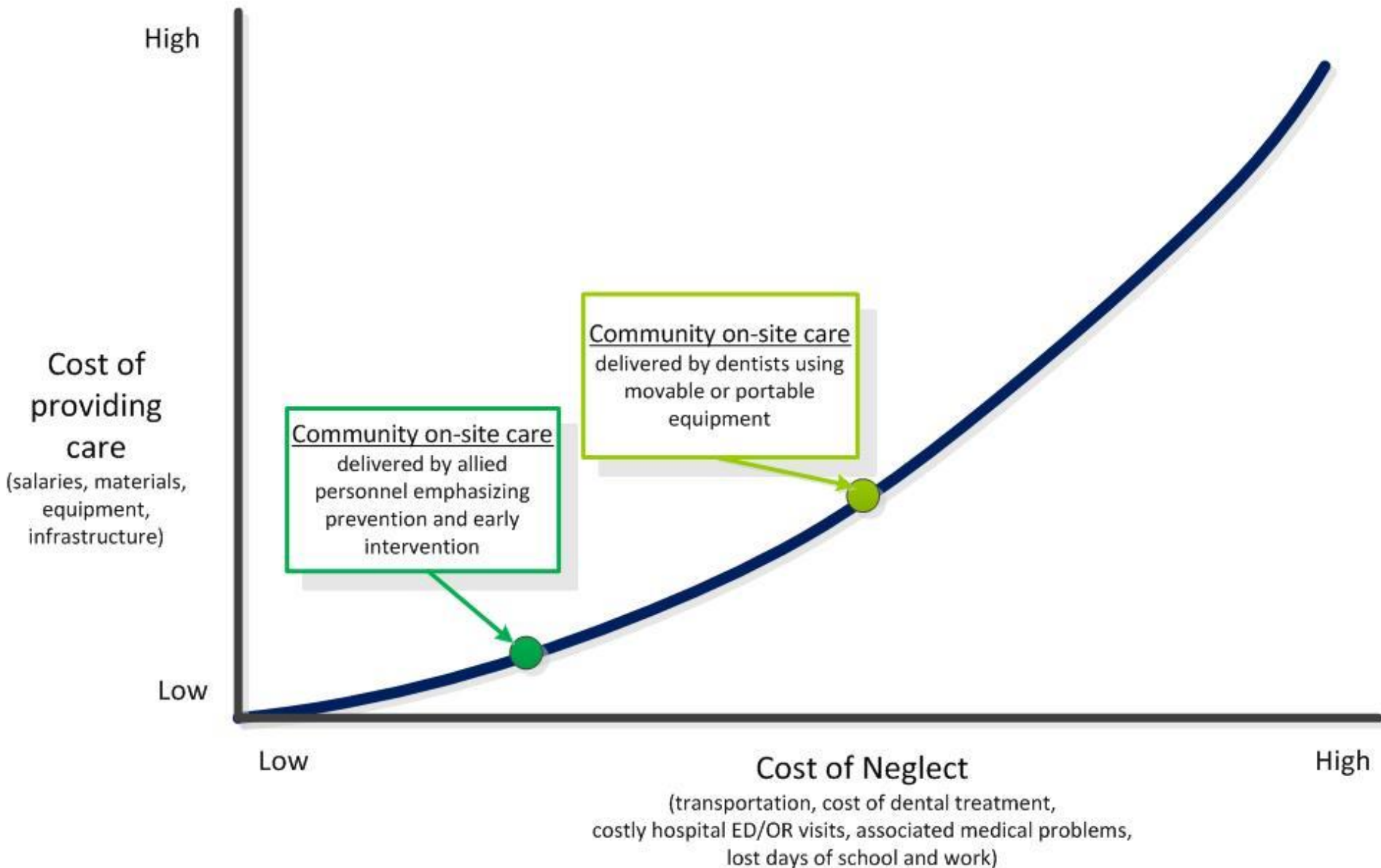
# The Virtual Dental Home: Cost of Providing Care vs. Cost of Neglect



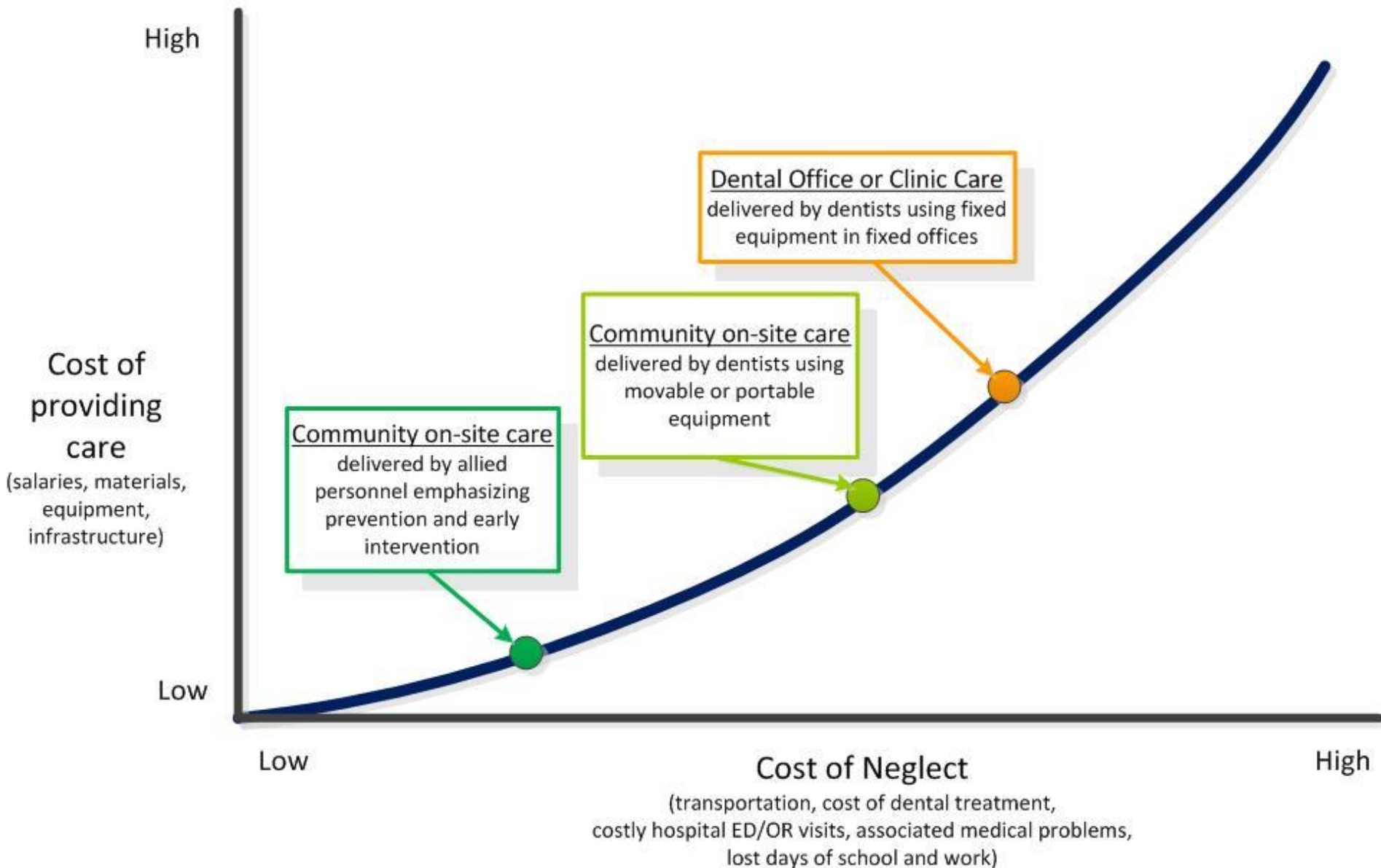
# The Virtual Dental Home: Cost of Providing Care vs. Cost of Neglect



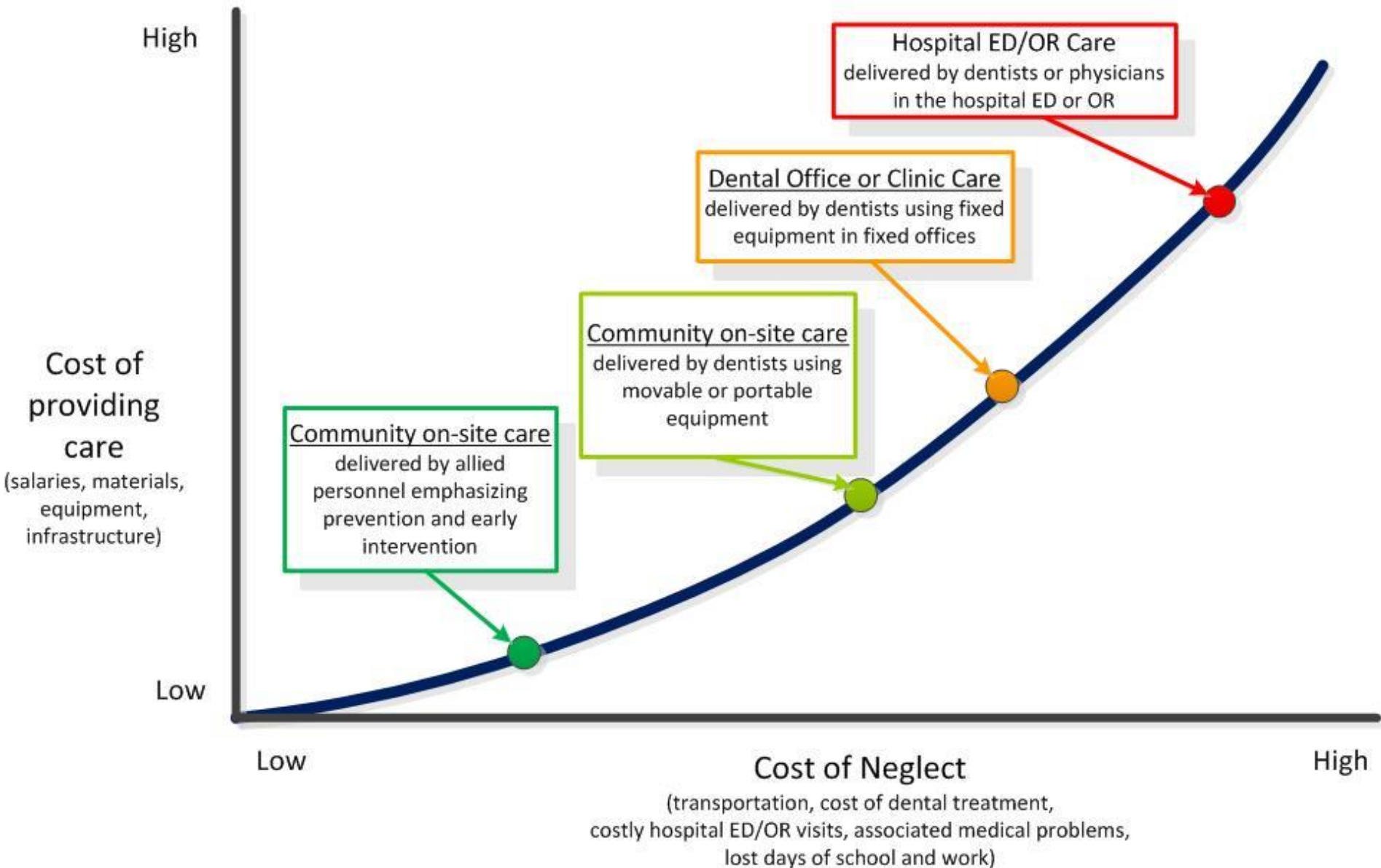
# The Virtual Dental Home: Cost of Providing Care vs. Cost of Neglect



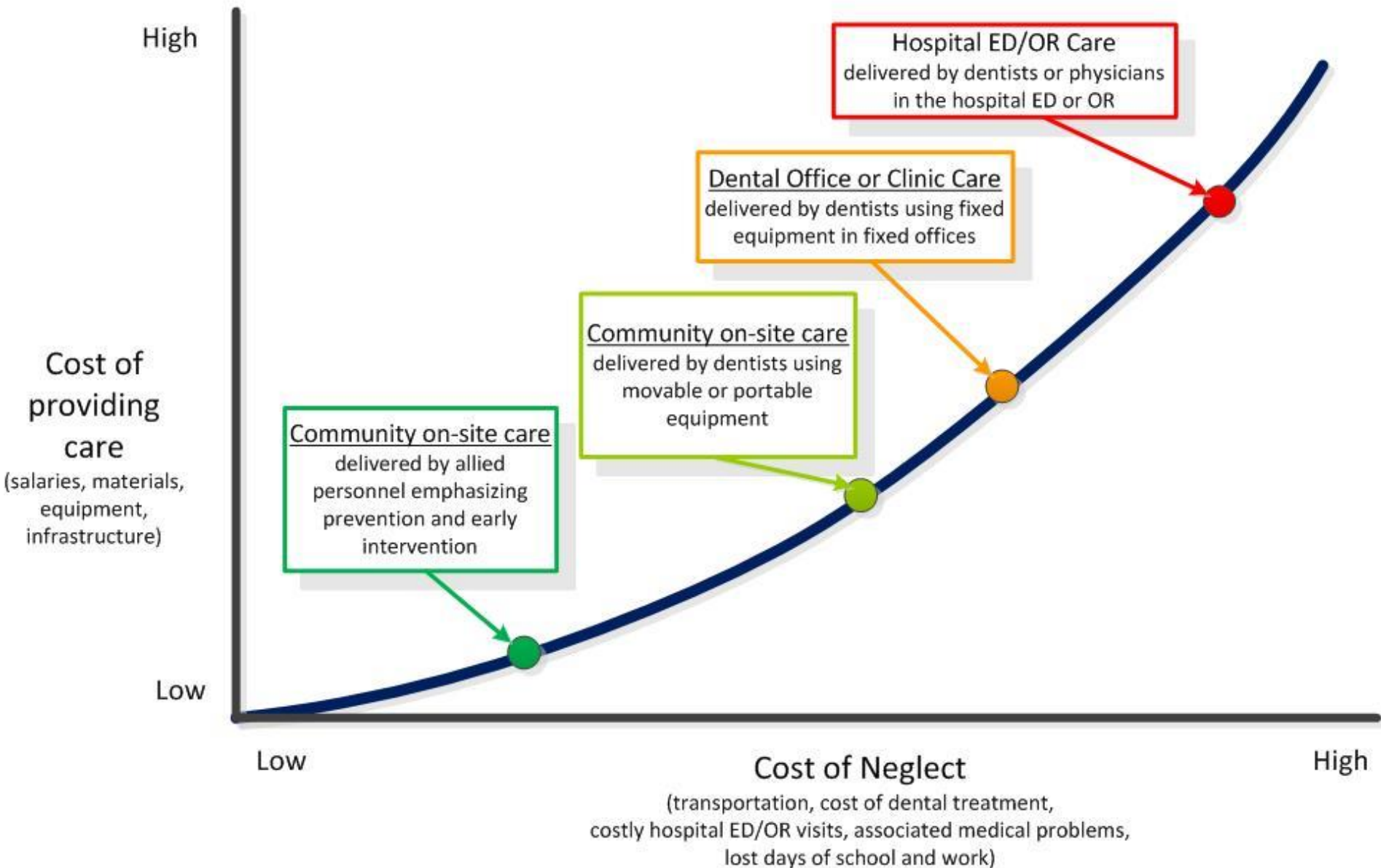
# The Virtual Dental Home: Cost of Providing Care vs. Cost of Neglect



# The Virtual Dental Home: Cost of Providing Care vs. Cost of Neglect



# The Virtual Dental Home: Cost of Providing Care vs. Cost of Neglect



# Current Regulatory Barriers

- HWPP duties need to be moved to statute
- Need to clarify payment for telehealth enabled procedures



AMENDED IN ASSEMBLY MARCH 21, 2013

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

**ASSEMBLY BILL**

**No. 1174**

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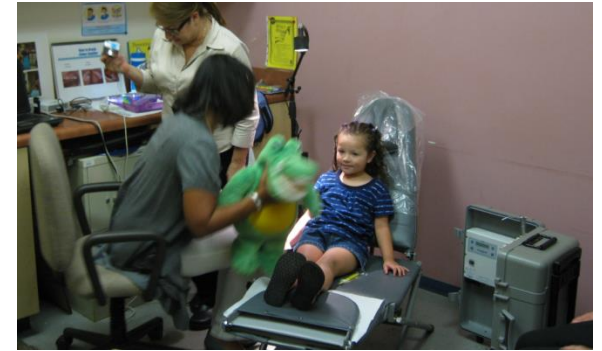
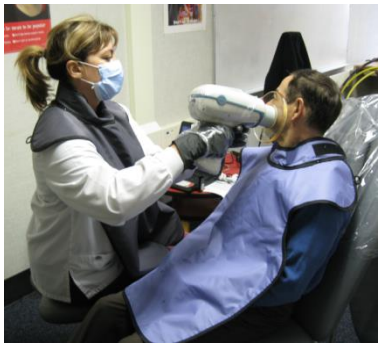
**Introduced by Assembly Member Bocanegra**

February 22, 2013

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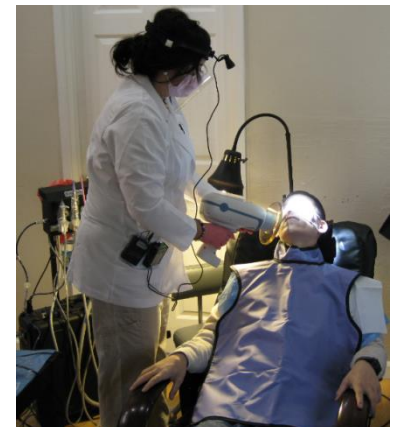
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*An act to amend Sections 1752.4, 1753.5, 1753.6, and 1910 of the Business and Professions Code, and to add Section 14132.726 to the Welfare and Institution Code, relating to oral health.*



# The Virtual Dental Home: Overview and Results

Paul Glassman DDS, MA, MBA  
Professor and Director of Community Oral Health  
University of the Pacific School of Dentistry  
San Francisco, CA





# Summary of Key Issues & Opportunity for Questions



# The National Telehealth Resource Center Webinar Series

3<sup>rd</sup> Thursday of every month

Next Webinar:

**Telehealth Topic:** Home Monitoring

**Presenter:** Pacific Basin Telehealth Resource Center

**Date:** Thursday, September 19, 2013

**Times:** 9:00AM HST, 10:00AM AKST, 11:00AM PST, 12:00PM MST, 1:00PM CST, 2:00PM EST



**Telehealth**  
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