



HARVARD
School of Dental Medicine Initiative
INTEGRATING ORAL HEALTH & MEDICINE

Closing the Divide: Integrating Oral Health and Medicine The Harkin Institute November 15, 2019

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Harvard School of Dental Medicine



HARVARD
School of Dental Medicine



The Harvard School of Dental Medicine (HSDM) was the first dental school to be affiliated with a university and a medical school (Harvard Medical School aka HMS) in the US.

The ***mission*** of HSDM is to develop and foster a community of global leaders dedicated to improving human health by integrating dentistry and medicine at the forefront of education, research and patient care.

Its ***vision*** is to transform dentistry by removing the distinction between oral and systemic health.



- Since the beginning, students from HSDM and HMS have learned together in a blended classroom for the entirety of their preclinical experience.
- HSDM faculty are appointed to the faculty of medicine at HMS.
- Students are welcomed into a “demanding branch of medicine” upon graduation.
- HSDM has always thought of oral health as an important component of overall health and well being.

A few examples of early HSDM interdisciplinary activity:

- Early Childhood Caries Disease Management Program underway at Boston Children's Hospital and beyond with Man Wai Ng, funded by DentaQuest.
- Interdisciplinary Geriatrics Fellowship – BIDMC/HMS with Lisa Thompson, funded by HRSA.
- Denture and Diabetes Group Visits pioneered at CHA with Brian Swann and Barbara Ogur (HMS).
- Study of Impact of Oral Health Status on Hospital LOS of Stem Cell Patients by Romesh Nalliah, et al.
- Primary Care Task Force convened by Dean Bruce Donoff in 2013.
- Despite increasing numbers of studies showing association between oral health and systemic health, we had difficulty getting the attention of primary care providers.

New Research Changes the Conversation in AY 2014-2015

- Oral Disease is associated with major NCDs.
- Combining dental care with chronic disease management protocols can improve health and reduce costs by \$1,000 per person per year for those with Type 2 diabetes Jeffcoat et al
- Oral disease is **THE** most prevalent disease worldwide affecting 3.9 billion people Lancet
- Although most oral disease should be preventable, we spend US \$442 billion world wide annually (based on 2010 data) on direct and indirect costs associated with oral disease Listl et al
- HSDM Leadership Forum ***Put Your Money Where Your Mouth Is*** – *A call to action for the business and public policy communities.*

2015 HSDM launched the Initiative to Integrate Oral Health and Medicine to develop and disseminate the evidence base to effect systems change.

ARRAIL 瑞尔



MASSACHUSETTS



DentaQuest



HENRY SCHEIN



Life & Specialty
Ventures



PHILIPS



UnitedHealthcare

HSDM/Harvard Affiliated Faculty & Staff

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HSDM Initiative Collaborators



- Northeastern University School of Nursing
- Massachusetts College of Pharmacy and Health Sciences University
- Stonybrook University School of Nursing
- Boston Children's Hospital Departments of Primary Care and Dentistry
- Harvard Medical School Biomedical Informatics and Center for Primary Care
- Beth Israel Deaconess Departments of Primary Care and Geriatrics Program
- Massachusetts Medical School Department of Family Medicine
- Massachusetts Area Health Education Centers
- Massachusetts League of Community Health Centers
- Commonwealth Care Alliance
- Element Care
- CareMore
- Hebrew Senior Life
- Cambridge Health Alliance
- Charles River Health Center
- Lowell Community Health Center
- Simmons College of Social Work
- Harvard T.H. Chan School of Public Health
- Brigham & Women's Hospital/Dana Farber Cancer Institute

The Harvard School of Dental Medicine Initiative to Integrate Oral Health and Medicine

Our *mission* is to transform how dentistry is taught, practiced, financed and evaluated so that it becomes seamlessly integrated with the comprehensive health and social services required to keep individuals and communities healthy.

With partners in multiple health professions, the Initiative engages in research and demonstration projects to include oral care as a vital component and enabler of overall wellness by demonstrating the health and economic value of complete medical/dental care integration, thus elevating the urgency of dental care and disease prevention.



The Initiative Engages in Research and Demonstration Projects Across the Lifespan that are Centered around Four Pillars:



Education



Clinical
Practice



Cost &
Health
Outcomes



Policy/
Advocacy

Interprofessional Education (IPE)



- HSDM-HMS combined pre-clinical years.
- HSDM serves as an HMS primary care site for clinical training for HSDM and HMS students.
- HMS Oral Health Day and OSCE.
- IPE sessions convening multiple health professions students.
- HRSA Center for Integration of Oral Health and Primary Care (CIPCOH).

Interprofessional Practice (IPP)



- HSDM-HMS Crimson Care Collaborative
- Geriatrics Fellowship
- DentaQuest Oral Medicine Fellowship
- Oral Physician General Practice Residency
- Diabetes - Denture Group Visits
- HRSA Equitable Care for Elderly (ECE)
- HRSA Nurse Practitioner-Dentist Practice

Every visit to a provider is an opportunity to close gaps in care

Care gaps are a selected group of health care reminders for the patient to improve health outcomes



SOCIAL
DETERMINANTS



DIABETES
SCREENINGS



CANCER
SCREENING



BLOOD PRESSURE
CHECKS



LAB TESTS

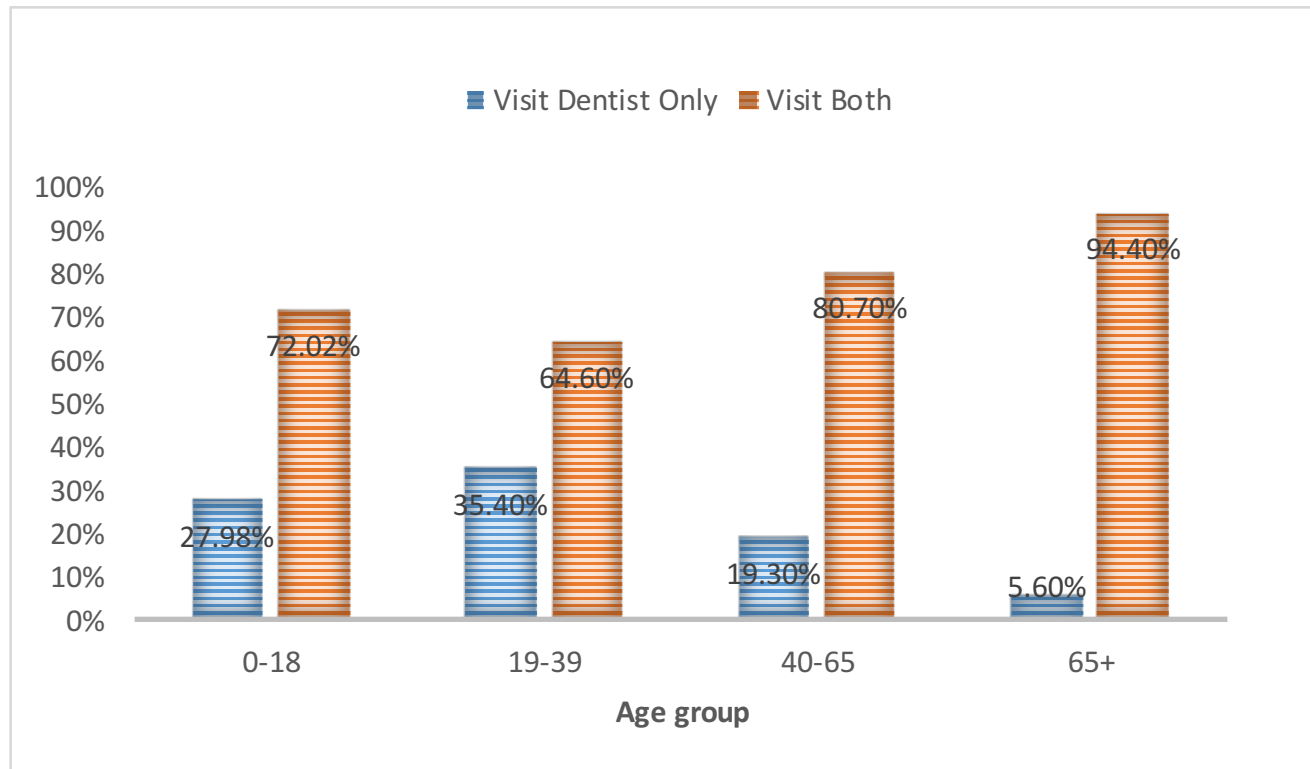


PROVIDER
APPOINTMENTS



VACCINATIONS

Opportunity for Health Screening in the Dental Office



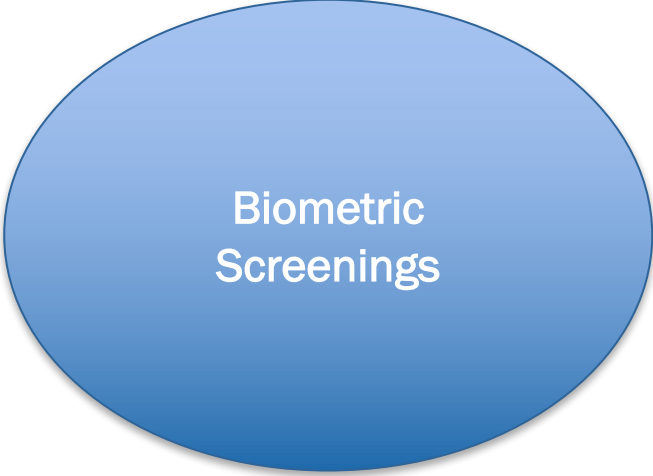
Source: Medical Expenditure Panel Survey, 2015 Data
<https://www.meps.ahrq.gov/>

For young adults in particular, the dental visit is an opportunity for preventive screenings, early identification of disease and primary care referrals!

Collaborators Experimenting with Medical Dental Integration Pilots

- Delivery Systems moving toward integration:
 - Community Health Centers: most co-located practices but beginning to integrate.
 - Dental service organizations adding Primary Care services to Dental offices/adding Dental to Primary Care.
 - Kaiser Permanente & CareMore: spectrum of integrated Medical & Dental services.
 - Walmart : Clinic services include (Dallas, GA only):
 - Primary care, Dental, Counseling, Labs & x-rays, Health screening, Optometry, Hearing, Fitness & nutrition, Health Insurance Education & Enrollment
- Payers offering specialized integrated benefits packages:
 - Blue Cross Blue Shield Plans in various states
 - Aetna
 - United Concordia
 - United Healthcare

HSDM Engaged in Two Levels of Experimentation in our Dental Center:



Biometric
Screenings



Nurse Practitioner Dentist
Model

Chairside Screenings in Harvard Dental Center (HDC)

- Blood Pressure
- Body Mass Index
- Tobacco Use
- Medications
- Medical Conditions
- Alcohol Use
- Allergies
- Primary Care Provider/Date of Last Visit

Nurse Practitioner Dentist Practice Model



- Drs. Maria Dolce and John Da Silva served as Principal Investigators for a three-year cooperative agreement (2016-2019) from HRSA to create and test an inter-professional education/collaborative practice model, the nurse practitioner – dentist model for primary care, to improve the health of older adults living with chronic disease.
- The model integrates primary care services provided by an NP into an academic dental practice.
- The model provides both NP and dental students with practice-based inter-professional training opportunities.

NP Wellness Visits at the Dental Office



Major Barriers to Surmount:

- Integration of the primary care elements into the dental EHR.
- Designation of HDC as an HMS Primary Care clinic.
- Licensure by DPH as an Ambulatory Care clinic and credentialed by Medicare.

Major Milestones Achieved:

- Completed pilot in year one to assess needs, gaps and opportunities.
- Shifted in year 2 to a longitudinal cohort study from a standard of care approach (year 1).
- Trained 120 NP/Dentist teams.
- Created and disseminated an implementation guide year 3.

IPE to IPP: Nurse Practitioner Dentist Model



Education and Training:

- NPD teams completed a clinical hybrid with experiential practice-based learning activities.
- All students learned to formulate differential diagnoses, develop an interdisciplinary plan of care, implement preventive interventions, and refer within their scope of practice.
- NP students provided feedback to dental students following the patient health history and medication review, practice conducting oral exams, and collaborate with dental students in counseling patients on links between oral and systemic health.
- Dental students practiced obtaining a comprehensive personal and family medical history, conduct health risk assessments, and when appropriate, assist in the coordination of patient referrals to primary care, specialty care and or community services.

Nurse Practitioner Dentist Model: EHR



axiUm CE - Harvard Dental Center TP

Actions Tools Links Patient Window Help

EHR - Chart / Forms - TEST, CARL (50036001)

Probing(F) - 05/01/2015
Probing(L) - 05/01/2015

Alerts Problems Objectives

- Medical Alerts:
Do not treat until cleared by physician!
- Allergies:
Penicillin Allergy
- Medical Problems:
Never smoked tobacco (He style)
- Current Medications:
No current medications
- Patient Office Codes:
Faculty Group Practice

Probing(F)
Probing(L)

Last Appr. Approve Forms on File

History
Wellness Visit
02/25/2016

Change Date 02/25/2016

Health Risk Assess Chronic Conditions Depression Screening Fall Risk Hearing Physical Exam Cognition

Form Question Answer Date

HEALTH RISK ASSESSMENT

The first nine questions must be taken from the Medical History Form.

Blood Pressure

Systolic Blood Pressure:
Diastolic Blood Pressure:
Pulse:

Height and Weight Assessment

Feet:
Inches:
Height (inches):
Weight (lbs):
BMI:
Respirations:
Smoking:
Alcohol:

During the past 4 weeks, would you say your health is?
During the past 4 weeks, how much have you been bothered by emotional problems such as feeling anxious, depressed, irritable, sad or downhearted and blue?
During the past 4 weeks, has your physical and emotional health limited your social activities with family, friends, neighbors or groups?

C. Marshall Alert TEST, CARL (M38) 50036001

Nurse Practitioner Dentist Model: Descriptive Statistics for Year 2 and 3



- Year 2 focused on patients over age 65 with chronic disease.
- Leveraged Medicare wellness visits which are under-utilized nationally.
- Appointments averaged 45 minutes.
- Simulating payment – project breakeven or better.
- Majority of patients are male.
- Most patients are hypertensive.
- Almost half of patients are diabetic.
- About 20% of total patients have hypertension and diabetes.
- Bi-directional communications initiated with community-based PCPs for health management.
- Patients showed improvements in BMI, BP, HbA1c when pre and post NP intervention stats compared

Nurse Practitioner Dentist Model: Lessons Learned from Phase 1



- Visit to dental office important point of entry for preventive care for all adults.
- Needs Assessment revealed significant opportunity for early identification of disease for younger adults:
 - 37% of adults aged 31-50 at Harvard Dental Center, no usual PCP
 - 32% of adults aged 51-64 at Harvard Dental Center, no usual PCP
- Care management services for existing chronic disease are highly sought after by patients over 65 and important opportunity for interventions to improve health status
- Collaboration with community-based PCPs raises awareness of potential for dental practice as part of comprehensive inter-professional approach to health management and improves patient well being.

Nurse Practitioner Dentist Model: Phase 2



- Launches 2020 with funding from DentaQuest.
- Pursue Immunizations and Point of Care Testing.
- Disseminate the model to other locations.
- Introduce students in other health professions.
- Further evaluate financial viability of the model as well as cost effectiveness.

Kaiser Permanente: Four MDI Models

Tier 1

Current State

Stand alone dental without
LPN

Tier 1 has no embedded medical staff and currently it relies on patient engagement and education through the patient friendly handout at a stand alone dental office

Tier 2

Salmon Creek

Co-located dental +
medical with no nurse

Tier 2 has no embedded medical staff, it relies on the dental team engaging the patient in a co-located facility

Care Gaps Addressed in this Tier:

1. Nurse Facing:
 - Immunizations
 - Lab Work
 - DM Foot Exam

*The dental team coordinates patient care through a warm handoff to lab or Nurse Treatment Room (NTR) in the co located medical office building

Tier 3

Beaverton/Glisan

Co-located or stand alone
with **embedded nurse**

Tier 3 has two different models:

A) Co-located with regular LPN
and B) Stand alone with LPN
LEAD

Care Gaps Addressed in this Tier:

1. Nurse Facing:
 - Immunizations
 - Lab Work- **Only Lead LPNs**
 - DM Foot Exam
2. Scheduling Clinician Facing
Appointments for Patients
3. Patient Education

Tier 4

Cedar Hills

Co-located with **embedded
nurse + physician**

Care Gaps Addressed in this Tier:

1. PC Clinician Facing (through the embedded Clinician)
 - Well-child
 - Physicals
 - Cervical Cancer Screenings
 - BP screening
2. Nurse Facing:
 - Immunizations
 - Lab Work- **Only Lead LPNs**
 - DM Foot Exam
3. New Diagnosis
4. Patient Education

*Slide borrowed with permission from Kaiser

Why Medical Dental Integration?

- Coordinated care that addresses gaps and enables early identification of disease and social concerns.
- Convenient for the patient.
- Contributes to HEDIS and other Quality metrics.
- Shown to be cost effective: potential for improved health outcomes and for lower costs.
- Promotes interprofessional collaboration.
- Improves quality of life for patients and provider satisfaction.
- Requires systems change beginning with interprofessional education.

Thank you!

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