

The Connection Between Poor Oral Health and Chronic Disease

RESOURCES



NATIONAL ASSOCIATION OF
CHRONIC DISEASE DIRECTORS

Promoting Health. Preventing Disease.

General Information and Resources

This document contains resources including white papers, peer-reviewed articles, and toolkits that may be helpful to individuals and organizations that would like to learn more about or implement projects to advance oral medical care coordination (also known as medical-dental integration).

Advancing Oral Health Prevention in Primary Care Driver Diagram and Change Ideas.

This resource includes information on QI projects related to oral health and primary care. There are resources and evidence and case studies for each of the change activities detailed in this toolkit.

<https://www.medicaid.gov/media/163046>

CareQuest Institute for Oral Health. Missed Connections: Providers and Consumers Want More Medical-Dental Integration Collaboration. Boston, MA; February 2022.

This resource is a summary of the State of Oral Health Equity In America survey data, fielded in 2021 that is relevant to oral medical care coordination.

https://www.carequest.org/system/files/CareQuest_Institute_Missed-Connections-Providers-and-Consumers-Want-More-Medical-Dental-Integration_FINAL.pdf

Community Oral Health Transformation (System Transformation: A Three Domain Framework to Innovating Oral Health Care)

This CareQuest Institute for Oral Health website contains information about value-based care, including tools, resources, and case studies.

<https://www.carequest.org/how-we-work/health-improvement-programs/corht>

Delta Dental Institute. Medical- dental integration models: A critical review of the last decade.

In this white paper, the authors describe approaches to medical-dental integration, address challenges and barriers to MDI as well as solutions. They also evaluate the sustainability of MDI.

https://dental.cuanschutz.edu/docs/librariesprovider253/research/uco_mdi_white_paper.pdf?sfvrsn=cdfc6abb_2

Acharya, A. (2016) Marshfield Clinic Health System: Integrated Care Case Study, Journal of the California Dental Association, 44:3, 177-181, DOI: 10.1080/19424396.2016.12220991

This case study describes an integrated medical-dental care delivery model employed within the Marshfield Clinic Health System; a large health system located in rural Wisconsin.

<https://www.tandfonline.com/doi/f/10.1080/19424396.2016.12220991?needAccess=true>

McKernan, S. C., Kuthy, R. A., Reynolds, J.C., Tuggle, L., , and García, D. T. (2018). Medical-Dental Integration in Public Health Settings: An Environmental Scan

In this report, the authors describe examples of medical-dental integration in the United States and includes information about clinical and non-clinical approaches to integration, address challenges to implementation and offer recommendations for future direction.

https://ppc.uiowa.edu/sites/default/files/ced_environmental_scan.pdf

Medical/Dental Integration Tool Kit. Northeast Delta Dental.

This website has tools and resources that may be helpful to healthcare providers as they address oral health, blood pressure and diabetes with their patients. <https://www.nedelta.com/providers/resources/medical-dental-integration-tool-kit/>

<https://www.nedelta.com/providers/resources/medical-dental-integration-tool-kit/>

MORE Care: Medical Oral Expanded Care. CareQuest Institute for Oral Health

MORE Care is an initiative of CareQuest Institute to provide oral health competencies and capabilities for primary care. It also works to build referral networks with local dental providers using health information technology. The site has various resources including dashboard, reports and presentations.

<https://www.carequest.org/how-we-work/health-improvement-programs/more-care>

National Network for Oral Health Access, MDI Resource Page

This National Network for Oral Health Access site has large number of resources specific to medical/dental integration including best practices, guides to core clinical competencies, an oral health integration toolkit and information on partnerships.

<https://www.nnoha.org/pages-1/resources-%7C-access-to-care-%7C-integration-%7C-medical-%26-dental-integration>

100 Million Mouths Campaign

The 100 Million Mouths Campaign is an initiative of the Harvard University, Center for Integration of Primary Care and Oral Health, funded by CareQuest Institute that aims to create an oral health champion in each state to work with health professional schools to integrate oral health training into their curricula.

<https://cipcoh.hsds.harvard.edu/one-hundred-million-mouths-campaign>

Oral Health: An Essential Component of Primary Care: Qualis Health - White Paper.

This white paper and supporting documentation including an introductory video and case studies present a framework for integrating preventive oral healthcare within the primary care team and offers recommendations for stakeholders including payers, policymakers and educators on how to support this framework.

<https://www.qualishealth.org/sites/default/files/White-Paper-Oral-Health-Primary-Care.pdf>

Oral Health Integration

This Safety Net Medical Home Initiative site has resources to help implement the Oral Health Delivery Framework described in Oral Health: An Essential Component of Primary Care: Qualis Health.

<https://www.safetynetmedicalhome.org/change-concepts/organized-evidence-based-care/oral-health>

Oral Medical Care Coordination: A Systematic Literature Review and Guide Forward.

<https://chronicdisease.org/oral-medical-care-coordination-a-systematic-literature-review-and-guide-forward/>

The Primary Care Collaborative. (January 2021). Innovations in Oral Health and Primary Care Integration: Alignment with the Shared Principles of Primary Care.

This resource includes a report on the various ways that oral health can be integrated into primary care.

The site also includes slides and a video that briefly cover the report content.

<https://thepcc.org/resource/innovations-oral-health-and-primary-care-integration>

The Primary Care Collaborative. Putting the Mouth Back in the Body: Integrating Oral Health and Primary Care Webinar recording, March 21, 2019

This is a webinar recording discussing oral health and primary care integration.

<https://thepcc.org/webinar/putting-mouth-back-body>

Resource Library for the Integration of Oral Health and Medicine

This is a library of resources relevant to integration of oral health and primary care. It includes information about stakeholders working to advance integration of oral health and medicine, promising practices, toolkits/guides/training resources, peer-reviewed publications and media related to oral/medical integration.

<https://resource.library.hsds.harvard.edu/>

Returning the Mouth to the Body: Integrating Oral Health & Primary Care | Grantmakers In Health

In this issue brief, the authors make the case for integration of oral health and primary care and provide recommendations where grant makers can be involved in this work.

https://www.gih.org/files/FileDownloads/Returning_the_Mouth_to_the_Body_no40_September_2012.pdf

Simon L, Lamster I. Integration of Primary and Oral Health Care—An Unrealized Opportunity. JAMA Intern Med. Published online June 24, 2024.

This viewpoint paper discusses using interdisciplinary teams including both dentists and primary care providers to improve primary care for patients.

[doi:10.1001/jamainternmed.2024.2267](https://doi.org/10.1001/jamainternmed.2024.2267)

Smiles for Life: A National Oral Health Curriculum

The Smiles for Life curriculum has eight modules that provide training on oral health that are relevant to health professionals. The site also has additional resources including toolkits, publications, and videos.

<https://www.smilesforlifeoralhealth.org/>

The following sections contain resources specific to the themes or 'pillars' identified within the white paper, *Oral Medical Care Coordination: A Systematic Literature Review and Guide Forward* as necessary to move oral medical care coordination forward.

Awareness

Increase understanding about integrated care and the oral-systemic connection across the lifespan.

The Awareness pillar focuses on increasing recognition, knowledge, understanding, and perception about equitable, whole-person integrated care, as well as the oral-systemic connection across the lifespan. This pillar involves efforts to educate healthcare professionals, patients, and the general public about the critical role of oral health in overall health and the benefits of integrated oral medical care coordination.

CareQuest Institute for Oral Health. Beyond a Nice Smile: Links Between Oral Health and Overall Health for Older Adults. Boston, MA: CareQuest Institute, May 2023

This infographic series provides the reader with information on the links between oral health and overall health. Versions are included for patients and providers <https://www.carequest.org/resource-library/beyond-nice-smile>

CareQuest Institute for Oral Health. The Oral-Systemic Connection Across the Lifespan. Boston, MA; June 2023.

This resource includes information about the connection between oral health and overall health across the lifespan. Both an infographic and a video that discuss this connection are available.

<https://www.carequest.org/resource-library/oral-systemic-connection-across-lifespan>

Medical-Dental Integration | CareQuest Institute for Oral Health

This CareQuest Institute site houses information about the link between oral health and overall health, makes the case for medical-dental integration and provides links to additional resources.

<https://www.carequest.org/topics/medical-dental-integration>

Medical-dental integration emphasizes mouth-body connection | American Dental Association (ada.org)

This resource by the American Dental Association describes medical-dental integration work.

<https://adanews.ada.org/ada-news/2022/october/medical-dental-integration-emphasizes-mouth-body-connection>

Workforce Development and Operations

Empower care professionals and others to work across disciplines to establish organizational structures supporting whole-person integrated care.

The Workforce Development and Operations pillar focuses on preparing and enabling healthcare professionals to work across disciplines, establishing organizational structures to facilitate collaboration, and empowering staff to use systems that support whole-person integrated care. This pillar emphasizes the importance of interprofessional education (IPE), continuous training, and the creation of integrated care models that include both medical and dental professionals.

Braun PA, Chavez C, Flowerday C, Furniss A, Dickinson M. Embedding Dental Hygienists into Medical Care Teams: Implementation and evaluation of a medical-dental integration approach in Colorado. *J Dent Hyg.* 2023 Jun;97(3):21-27. PMID: 37280106.

This case report describes a medical-dental integration project in Colorado. As part of the project, dental hygienists were embedded into medical practice settings. Both implementation and evaluation are discussed.

<https://pubmed.ncbi.nlm.nih.gov/37280106/>

Clinical Models that Integrate Medical and Dental Care

This Harvard University site has information on models that integrate medical and dental care including an ongoing project that integrates a nurse practitioner into a dental practice setting.

<https://oralhealth.hsdm.harvard.edu/clinical-practice>

Midwest Network for Oral Health Integration: Community Health Worker Care and Coordination Best Practices

This resource provides information on the use of community health workers to support oral health integration work in community health centers.

<https://www.nnoha.org/items-2/community-health-worker-and-care-coordination-best-practices---mnohi>

Phipps KR. 2023. Networks for Oral Health Integration (NOHI) Within the Maternal and Child Health Safety Net: Environmental Scan 2023 Chartbook. Washington, DC: National Maternal and Child Oral Health Resource Center.

This resource discusses the Networks for Oral Health Integration (NOHI) Within the Maternal and Child Health Safety Net Projects funded by the Health Resources and Services Administration's (HRSA's) Maternal and Child Health Bureau (MCHB) to develop, implement and evaluation models of care. It includes information on oral health scope of practice for medical providers and their teams and for dental providers among funded states. There is also information on how dental hygienists, dental therapists and community health workers are utilized in dental and medical settings.

<https://resourcelibrary.hsdm.harvard.edu/sites/hwpi.harvard.edu/files/hsdmresourcelibrary/files/nohi-environmental-scan-chartbook-2023.pdf?m=1699328214>

Information Exchange

Create structures to share meaningful and actionable health information to support patient care.

The Information Exchange pillar is the sharing and promotion of access to meaningful and actionable information (e.g., patient, practice, research, population) to enable whole-person integrated care. This pillar emphasizes the importance of using technology and communication strategies to facilitate seamless information flow between medical and dental professionals, improving the coordination and quality of care provided to patients.

Dental Data Exchange: HL7® Implementation Guides

This CareQuest resource has guides to implementing electronic exchange of patient data between medical and dental settings. There is also an introductory video and several other resources

documents specific to information exchange.

<https://www.carequest.org/resource-library/dental-data-exchange-hl7-implementation-guides>

Medical-Dental Integrated Health Records | CareQuest Institute

This report from CareQuest makes the data-driven case for integrating dental and medical electronic health records.

<https://www.carequest.org/resource-library/medical-and-dental-integration-need-improved-electronic-health-records>

A User's Guide for Implementation of Interprofessional Oral Health Core Clinical Competencies: Results of a Pilot Project

This resource is a user guide for the integration of oral health and primary care. It includes information on implementation including case studies and promising practices.

<https://www.nnoha.org/pages-1/resources-%7C-access-to-care-%7C-integration-%7C-medical-%26-dental-integration-main-resource-site>

<https://drive.google.com/file/d/1Ms5EF918NvHvdxnkSaJdIEH-YkhNvkcp/view-direct-link-to-the-document>

Payment

Establish sustainable financing, reimbursement, and incentives to support optimal health outcomes.

The Payment pillar is the component of integrated care that focuses on establishing sustainable financial models and reimbursement structures that incentivize and support the delivery of coordinated medical and dental services. This pillar emphasizes the creation of payment systems that reward value and patient outcomes rather than the volume of services, while ensuring that providers are financially supported in offering comprehensive, integrated care.

Center for Healthcare Strategies, Inc. Moving towards value-based payment in oral health care

In this brief report from the Center for Healthcare Strategies, the authors summarize value-based care models, discuss use of value-based care for oral health and provide recommendations for stakeholders.

https://www.chcs.org/media/Moving-Toward-VBP-in-Oral-Health-Care_021021.pdf

Colorado MDI toolkit- Billing

This site provides information on billing for dental hygiene services in support of a medical-dental integration model.

<http://medicaldentalintegration.org/building-mdi-models/billing/>

Lisa J. Heaton, Elizabeth Leonin, Kelly Schroeder, Eric P. Tranby, and Rebekah Mathews. Another Billion Reasons for a Medicare Dental Benefit.

Boston, MA: CareQuest Institute, September 2022. DOI:10.35565/CQI.2022.2006

This report by CareQuest Institute for Oral Health provides examines the cost savings to Medicare when beneficiaries who have diabetes or cardiovascular disease have access to periodontal treatment.

https://www.carequest.org/system/files/CareQuest_Institute_Another-Billion-Reasons-Medicare.pdf

Diabetes and Hypertension

This section provides both provider and patient focused educational materials on diabetes, hypertension, and oral health.

ADA: Diabetes and dental health

<https://www.mouthhealthy.org/all-topics-a-z/diabetes/>

ADA: Heart disease and oral health

<https://www.mouthhealthy.org/all-topics-a-z/heart-disease-and-oral-health/>

ADA: Hypertension

<https://www.ada.org/resources/ada-library/oral-health-topics/hypertension/>

Diabetes Mellitus & Oral Health | Aetna Dental

<https://www.aetna.com/individuals-families/dental-health/diabetes-oral-health.html>

Oral Health Care and Primary Health Care: Stronger Together in Recognizing and Managing Diabetes

https://resourcelibrary.hsdm.harvard.edu/sites/hwpi.harvard.edu/files/hsdmresourcelibrary/files/adea_integration_of_oral_and_primary_health_care_policy_research_series_issue_5.pdf?m=1648917365



Select State Resources

This section provides select resources developed by states that have implemented projects to advance oral medical care coordination (also known as medical-dental integration).

Linabarger M, Brown M, Patel N. A Pilot Study of Integration of Medical and Dental Care in 6 States. Prev Chronic Dis 2021;18:210027. DOI: <http://dx.doi.org/10.5888/pcd18.210027>

This paper describes the results of the CDC pilot project, Models of Collaboration that funded six state health departments (AK, CO, GA, MD, MN, and NY) to increase collaboration between programs to address oral health, chronic disease and associated risk factors.

https://www.cdc.gov/pcd/issues/2021/21_0027.htm



For more information on the CT medical-dental integration project or to request a copy of their Prediabetes Screening Toolkit for Dental Providers

<https://portal.ct.gov/dph/oral-health/oral-health/office-of-oral-health/medical-dental-integration>

Video on the importance of medical-dental integration

<https://www.youtube.com/watch?v=JF9OjaAQbdc>



Continuous Quality Improvement Portfolio: Activities to Improve Medical-Dental Integration

<https://coloradooralhealth.org/initiatives/oral-health-integration/>

Embedding Dental Hygienists into Medical Care Teams: Implementation and evaluation of a medical-dental integration approach in Colorado | Journal of Dental Hygiene (adha.org)

<https://jdh.adha.org/content/97/3/21>

Katya Mauritson, Sara Grassemeyer, Ian Danielson & Abby Laib (2022) Integrated Approaches to Preventing and Managing Chronic Diseases: Colorado's Diabetes Cardiovascular Disease Oral Health Integration Program, Journal of the California

Dental Association, 50:12, 733-744, DOI: [10.1080/19424396.2022.12223825](https://doi.org/10.1080/19424396.2022.12223825)

Oral Health Integration: A manual from the Colorado Community Health Network

<https://cchn.org/wp-content/uploads/2014/02/CCHN-OHI-Manual-August-2015-Final-Digital-Distribution.pdf>



I-Smile Silver

I-Smile Silver connects adults living in 10 Iowa counties with dental, medical, and community resources.

<https://hhs.iowa.gov/programs/programs-and-services/dental-and-oral-health/i-smile-silver>



Models of Collaboration for State Chronic Disease and Oral Health Programs in Maryland: Hypertension Screening in the Dental Setting, Sept. 1, 2016 – Aug. 31, 2018

<https://health.maryland.gov/phpa/oralhealth/Documents/HypertensionFinalReport.pdf>

2 Minutes With Your Dentist Can Save Your Life

<https://health.maryland.gov/phpa/oralhealth/Pages/hypertension.aspx>



Integrating Oral Health Across Healthcare | Mass.gov

<https://www.mass.gov/info-details/integrating-oral-health-across-healthcare>

Michigan (HBP)

Hypertension Screening Guidance for Michigan Oral Health Professionals

<https://www.mass.gov/info-details/integrating-oral-health-across-healthcare>

Improving Access to Oral Health Care: Integrating dental hygienists into federally qualified health center obstetrics and gynecology clinics in Michigan | Journal of Dental Hygiene (adha.org)

<https://jdh.adha.org/content/97/3/7>

Oral Health and Hypertension Success Story

<https://www.improve.health/success-stories/oral-health-and-hypertension-success-story/>

MDHHS Summary of Michigan Assessment of Blood Pressure and Diabetes Screening Practices among Oral Health Professionals Report

https://www.michigan.gov/-/media/Project/Websites/mdhhs/Folder2/Folder27/Folder1/Folder127/BPDdiabetes_OH_Assessment_Summary_1016.pdf?rev=51c890bf042c46858661b951637ce681

North Dakota

Improving Access to Oral Health Care: Integrating dental hygienists into federally qualified health center obstetrics and gynecology clinics in Michigan

<https://www.hhs.nd.gov/health/oral-health-program/blood-pressure-screening-dental-offices>

Blood Pressure Measurement in Dental Practice: Information and Guidelines

https://www.hhs.nd.gov/sites/www/files/documents/DOH Legacy/Oral Health/Blood_Pressure_Manual-2023.pdf

Blood Pressure Screening at Your Dental Office

<https://ruralhealth.und.edu/assets/4413-19142/blood-pressure-screening.pdf>

How Medical-Dental Integration is Working in North Dakota

<https://ruralhealth.und.edu/assets/4616-21383/medical-dental-integration.pdf>

South Carolina

Connecting Smiles

The Connecting Smiles initiative aims to improve

oral health of the citizens of South Carolina by strengthening the linkage between individuals, community-based programs and medical and dental providers.

www.connectingsmilessc.org

Vermont

Promoting Medical/Dental Health Integration

<https://www.healthvermont.gov/wellness/oral-health/resources-health-professionals>

Virginia

Smiles for Life- Oral Health and Oral Screening training for Community Health Workers and Non-Dental Clinic Providers and Staff

[Course 10 – Front Line Health Workers | Smiles for Life Oral Health](#)
[Oral Examination: Adults | Smiles for Life Oral Health](#)
[Patient Care and Training Videos | Smiles for Life Oral Health](#)

Oral Health & Hypertension

[Oral-HealthHypertension-Card2019.pdf \(virginia.gov\)](#)

Blood Pressure Wallet Card- English & Spanish

[Self-Monitoring Blood Pressure \(SMBP\) - Heart Disease \(virginia.gov\)](#)

Free and charitable clinic link

<https://www.vafreeclinics.org/>

VA Health Catalyst

<https://vahealthcatalyst.org/oral-health-integration/>

Adult Oral Health and Chronic Disease Program Overview and Training

<https://www.vdh.virginia.gov/oral-health/adult-oral-health-and-chronic-disease-program/adult-oral-health-and-chronic-disease-program-overview-and-training/>

Wisconsin

Medical-Dental Integration in Wisconsin: Integrating dental hygienists into pediatric well child visits and prenatal care | Journal of Dental Hygiene (adha.org)

<https://jdh.adha.org/content/97/3/13>



