DELTA DENTAL INSTITUTE

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Medical-dental integration models:

A critical review of the last decade

Key takeaways

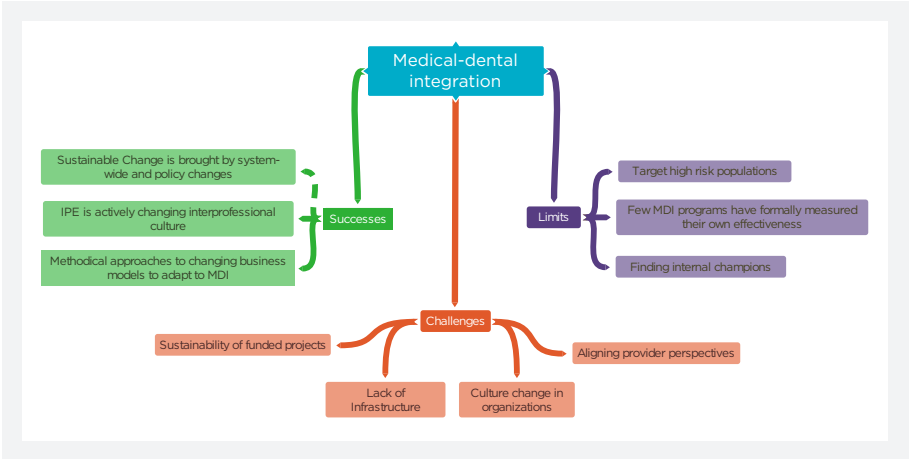
- Coordinated and streamlined communication of the entire care team involved in the medical-dental integration (MDI) model is critical for positive patient outcomes and provider engagement.
- Current MDI models reduce barriers and increase positive health outcomes in vulnerable populations, such as the elderly, children, pregnant women, and those in need of chronic disease management.
- Feasibility and simulation models suggest that in MDI models, the net revenue remains positive when patient volume and payer distributions are maintained.

Recommendations

- As the most common barrier, electronic health record (EHR) integration and interoperability is the central component of successful MDI.
- Two essential components in the success and sustainability of MDI models are identifying an internal oral health champion and aligning expectations of all providers and staff involved.

Executive summary

There is a well-demonstrated relationship between systemic and oral health. This relationship can be seen through chronic diseases such as cardiovascular disease, diabetes, and dementia, which have bi-directional associations between systemic and oral health. Because of this, the integration of medical and dental care is crucial for overall patient health.



In the medical-dental integration (MDI) model, coordinated and streamlined communication between the oral and systemic environments is critical to ensuring a patient's entire care team is aligned. By sharing information, and working collaboratively in a systematic and sustained manner, dental and medical professionals in integrated practices can identify disease precursors and underlying conditions in keeping with a patient-centered model of care. As a result, there is both improved interprofessional communication and overall health care outcomes.

The applicability of MDIs in public health efforts is valuable and outcome-driven — these models focus on developing and

- Successful sustainability of MDI models includes interprofessional training and practice, including training medical professionals on oral health care, maximizing the contribution of dental professionals, and cultural humility. Training future health care providers to be a member of the health team is necessary to improve health outcomes for all populations.

Models of medical-dental integration

- The ***Co-Location of Service*** model coordinates health care provided in a shared space, though not fully integrated.
- The ***Integrated Care*** model involves the collaboration and integration of health providers to improve services to patients.
- Successful clinics using integrated services commonly use warm hand-offs in making referral appointments. Using emerging trends to coordinate care, such as telehealth and teledentistry, can help with the treatment of complex patients and in closing the referral loop.

implementing strategies for providing care to individuals most at risk for falling through care gaps and who experience worse health outcomes, such as the elderly, children, pregnant women, and those in need of chronic disease management.

MDI closes care gaps in these vulnerable populations by decreasing the number of facilities, appointments, and providers a patient must interact with. These models also increase access to oral health education, screening, and prevention of dental disease, and reduce early childhood caries. MDI-focused clinics have built the capacity to diagnose and refer for chronic disease management. Furthermore, the expansion of Medicaid allowed MDI programs to focus on underinsured populations to receive the quality of care they need.

MDIs use various models, approaches, and methodologies to integrate care. Sustainable and successful integrations are brought about by system-wide and policy changes.

The central component to success and the main barrier to MDI is Electronic Health Record (EHR) integration. An interoperable EHR is necessary to access medical records, make referrals, and collect data to ultimately measure an MDI program's success. Common strategies for overcoming a lack of EHR interoperability include using workarounds within the current EHR, starting with a target patient population, and using data analysts and referral coordinators.

Referrals and care coordination are critical to the success of MDI. Also, clinics need care coordination plans for patients requiring extensive dental treatment. An essential part of EHR integration is closing the referral loop. Currently, MDIs have developed approaches to send referrals between EHRs, but it is challenging to see if those referrals are completed. To help this, the use of referral coordinators that track and close the referral loop has proven successful.

Another common challenge to the success of MDI is aligning expectations between providers and administrators. **Ultimately, most clinics found success through finding an oral health champion and using them to relay oral health information to the medical team to increase receptiveness.**

Because resistance to change is expected, organizational culture shifts are another barrier to MDI. This resistance comes from competing priorities, overwhelming staff, and difficulty establishing training programs. To alleviate this, clinics have used *Smiles for Life*: A National Oral Health Curriculum to provide the foundational training to staff. Clinics have then developed training programs that incorporate how MDI will fit into their environment while considering their resources and infrastructure. Additionally, having dental staff work full-time in medical clinics has made teamwork in health care more effective.

As part of the culture shift associated with MDI, interprofessional education (IPE) and interprofessional practice (IPP) have been vital in developing the groundwork for interprofessional culture.

Although a slowly progressing program, IPE, and IPP have gained momentum since 2010. This has been done through the creation of the Nation Interprofessional Initiative on Oral Health, reports published by the Institute of Medicine, and an initiative aimed at integrating oral health and primary care practice through the Health Resources and Services Administration (HRSA). Several health care campuses are establishing and using IPE programs, including didactic, simulated experiences, and clinical programs. These programs train future health care providers to be members of the health team and are necessary for improving the health outcomes for all populations.

Several MDIs use small and phased integrations as initiating steps that can build a foundation for more extensive programs. One of the most used MDI models is the co-location model, in which dental services are physically co-located with medical services. This model improves access to oral health care and dental referrals and increases oral health education and preventive procedures such as varnish application. Co-location of these services makes a more accessible foundation for MDI to build infrastructure around and creates "open door policies" for referrals within the clinic.

Additionally, co-location makes EHR integration between medical and dental services substantially easier and eliminates one of the most significant barriers to MDI. For non-co-located clinics, this has been accomplished through creating diverse referral relationships with dentists, allowing patients to find dental clinics based on their needs. Teledentistry strategies have also been utilized for patients with transportation barriers to help them get the care they need.

Financial viability is a critical success component of MDI. Cost savings are seen in the co-management of diseases such as type 2 diabetes, where periodontal intervention was associated with lower health care costs. Additionally, MDI focuses on a value-based care model to align health care systems, the person, and the provider to achieve better health outcomes at lower costs.

Value-based payment models are currently being experimented with and encourage providers to care for a population with incentives for demonstrating value through disease prevention and keeping patients healthy. These payment models reduce costs for patients, providers, and payers as they work to promote and improve overall health, including dental health. Moreover, other MDI models have used financial incentives and integrated EHRs for dentists to encourage patients to stay up to date on vaccinations and medical screenings.

A key component of economic viability is also seen through accountable care organizations (ACOs) using MDI models. In these systems, a significant cost reduction is associated with diverting patients from emergency departments for dental emergencies to nearby dentists or on-site clinics. This increases patient traffic through dental clinics while preventing associated emergency department costs.

In general, the MDI model is widely supported, and coordinated communication of the entire team is necessary for positive patient outcomes. MDI models have been implemented throughout the U.S. with varying degrees of success. Each clinic faces its unique barriers and finds varying ways to overcome them. There is no single formula for the success of the MDI model. Adapting to specific situations in each clinic and finding creative ways to maximize the success of MDI is crucial to continuing the evolution of integrated care.