The Oral Health Care Delivery System in 2040: Executive Summary

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Abstract: This executive summary for Section 4 of the "Advancing Dental Education in the 21st Century" project examines the projected oral health care delivery system in 2040 and the likely impact of system changes on dental education. Dental care is at an early stage of major changes with the decline in solo practice and increase in large group practices. These groups are not consolidated at the state level, but further consolidation is expected as they try to increase their negotiating leverage with dental insurers. At this time, there is limited integration of medical and dental care in terms of financing, regulation, education, and delivery. This pattern may change as health maintenance organizations and integrated medical systems begin to offer dental care to their members. By 2040, it is expected that many dentists will be employed in large group practices and working with allied dental staff with expanded duties and other health professionals, and more dental graduates will seek formal postdoctoral training to obtain better positions in group practices.

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This executive summary was prepared as part of the "Advancing Dental Education in the 21st Century" project to provide an overview of Section 4, which addresses the oral health delivery system in 2040 (Table 1). The dental and medical delivery systems are undergoing historic changes. While it is impossible to fully specify every dimension of projected changes over the next 25 years, certain basic trends are clearly evident that will have a major impact on the dental education system. The objectives of this executive summary are to 1) examine the changes taking place in the medical and dental delivery systems; 2) describe the projected dental care delivery system in 2040; and 3) discuss the implications for dental education. The data presented in this summary come from the three articles in this section and the research and consulting experiences of the author. The three articles are L. Jackson Brown's "Future Organization of Oral Health Services Delivery: From 2012 to 2042,"[1] Frank A. Catalanotto's "Expected Changes in Regulation and Licensure: Influence on Future Education of Dentists,"[2] and Judith A. Jones et al.'s "Integrated Medical-Dental Delivery Systems: Models in a Changing Environment and Their Implications for Dental Education."[3]

Delivery System Trends

Medical Care

Over the past 20 years, the basic organizational model of medical care has gone from solo physician-owned practices to employed physicians working in large group practices.[4] About 18% of physicians remain in solo practice, and the fastest growing group practice model has 100 or more physicians.

At the same time, the delivery system has experienced both horizontal (multiple regional hospitals) and vertical (hospitals and medical practices) integration of institutions usually built and operated by hospital systems.[5] These systems have consolidated, and in most non-rural states three or four of them collectively have 75% to 85% of market share (patients).[6] The rationale for this level of consolidation is twofold. First, it increases the negotiating leverage of provider organizations with insurers, which have also consolidated. Second, it is posited that integrated systems will be more effective in improving the quality of care and controlling health care expenditures (value-based care)—with research indicating that

Table 1. Titles and authors of background articles in Section 4 of this project

Title	Author/s
Future Organization of Oral Health Services Delivery: From 2012 to 2042	L. Jackson Brown
Expected Changes in Regulation and Licensure: Influence on Future Education of Dentists	Frank A. Catalanotto
Integrated Medical-Dental Delivery Systems: Models in a Changing Environment and Their Implications for Dental Education	Judith A. Jones, John J. Snyder, David S. Gesko, and Michael J. Helgeson

Note: See references for full citations of these articles and links to them in the online supplement.

large delivery systems do have more negotiating leverage with insurers.[5] On the other hand, there is little evidence that this consolidation has improved the quality of care or controlled expenditures.[7] In fact, expenditures have tended to increase faster in more consolidated markets.[5] In some states, there is now a moratorium on further consolidation.[8]

Another major trend is for integrated systems to obtain insurance licenses, so they can accept the full risk of providing care to private and public payers.[9] As more of these organizations mature financially, administratively, and clinically and accept financial risk, they will be a formidable challenge to traditional insurers.

In sum, the medical system is dominated at the state and regional levels by integrated care systems usually built around hospitals. These organizations have access to capital, technology, and professional management. Most are voluntary, not-for-profit organizations and are led primarily by experienced non-physician executives.

Dental Care

The dental care system has not experienced the degree of consolidation seen in medical care, but trends suggest that it is moving in the same general direction. The clearest indicator is the dramatic decline in solo practices and the rapid growth of large group practices (those with 500 or more employees).[10] Although the data are limited, in non-rural states perhaps less than 50% of dentists are now in solo practice. A recent study reported that, among younger dentists (average age of 36 years), only 15% were in solo practice, and the percentage declined as the average age declined.[11] The reasons for the decline are not fully understood. That study suggested that it is associated with increasing student debt at graduation (see Section 1 of the "Advancing Dental Education in the 21st Century" project) and more female dentists. Other factors may be causing the decline in solo practice, and more research is needed on this issue.

Most of the large dental group practices are dental service organizations (DSOs; e.g., Aspen Dental).[3] In this delivery model, private, often investor-owned corporations own the facilities and equipment, pay for supplies and support staff, and manage the practices. State-licensed dentists own the practices but are often employed by the corporations. This model allows corporations to control the operation of practices but to meet state requirements that only dentists can own practices. In 12 states, non-dentists can own dental practices, and this number is expected to increase rapidly, obviating the need for the complex DSO business arrangement.

In general, DSOs are not consolidated at the local market level.[12] Rather, any one DSO is often located in small group practices in several different communities within a region, though some are in multiple states. DSOs focus primarily on the low- and middle-income populations under the traditional fee-for-service reimbursement model. In the longer term, to compete for lower income, publicly insured patients, DSOs will need to develop the capacity to accept financial risk (e.g., capitation payment) and provide care to regionally distributed patients as dental Medicaid programs move to managed care.

Some dental group practices are part of not-for-profit health maintenance organizations (HMOs) that provide both medical and dental care; examples include Health Partners in Minnesota and Northwest Kaiser Permanente based in Oregon.[12] Usually these companies have significant market share in a few states and regions, but they are not national organizations. They employ dental providers and primarily focus on privately insured patients, although more recently they have accepted more publicly insured enrollees under a global or fixed budget. In those situations, they are both insurers and providers of

care. Some of these groups also have contracts with solo dentists located in areas where they do not have delivery capacity. Usually, contracted dentists are paid fee-for-service.

A few large dental group practices are dentist-owned and are concentrated at the local market level (e.g., Willamette Dental Group in Oregon and Park Dental in Minnesota).[12,13] Some accept full risk contracts with employers, and others do not. Finally, many dental groups are smaller and dentist-owned and -operated. These practices treat privately insured and non-insured patients and are reimbursed fee-for-service.

In some markets, dental group practices accept financial risk, and traditional insurers face increasing competition from groups that offer insurance coverage and provide dental care (e.g., Health Partners).[13] In response to this competitive challenge, a few insurers (e.g., DentaQuest) have purchased or started dental group practice companies.[14] It is too soon to tell if this is a trend and if insurers will be successful running delivery systems.

Another important trend is dental group practices that provide care mainly to Medicaid patients under risk contracts to develop new delivery models.[15] This model is the result of an effort to accommodate low Medicaid capitation rates and public performance disclosure (e.g., percentage of eligible patients treated annually and state-set quality indicators). Known as the hub and spoke model, most basic dental care (e.g., screening and prevention) is provided in community sites (spokes), and patients needing more advanced care are treated in the fixed practices (hubs). Examples of community sites include schools, factories/worksites, and nursing homes. Sometimes the spokes are linked to the hubs through telehealth systems, allowing hub-based dentists to respond to clinical issues that arise in the spokes.

This delivery organization has two significant advantages. First, it recognizes that most patients are healthy and do not require access to capital intensive facilities, equipment, and personnel. Some 80% of visits for middle-income children include only diagnostic and preventive services, and a study of low-income children reported that about 50% to 60% have a low caries risk and need minimal care.[16] In school-based community programs, this level of care is provided by dental hygiene teams using temporary space and portable equipment and, as such, requires relatively little capital investment. Children with more serious problems are referred to dental practices and clinics run by the sponsoring delivery organization.

The second major advantage of the community delivery model is that it is more effective than the traditional system in reducing social barriers to care (e.g., low education, transportation, language). It is no surprise that, even with financial access to care, low-income families do not utilize dental services at the same rate as more affluent groups.[16] The community delivery sites have continuous access to children and do not depend on caregivers to seek dental care for their children in traditional practices.

If, as expected, more states move to managed care and require Medicaid-eligible patients to receive dental care in group practices accepting financial risk, many of these groups are likely to move to community-based delivery systems. Oregon has had several years of experience with this delivery model, and the largest group practice company in the state, Advantage Dental Services, provides dental care in many schools and other community sites.[12] This trend is also seen among Federally Qualified Health Centers (FQHCs) dental programs. For example, in Connecticut, FQHCs are now providing care in over 300 schools to low-income children.[17]

Another trend that is just getting started is embedding dental insurance within a medical insurance plan.[18] Evidence from state-level health insurance exchanges under the Affordable Care Act showed that total premiums were lower for dental plans embedded in medical plans than for medical and dental plans with the same benefit levels purchased separately. If this financial trend continues, it is likely to lead to further integration of dental and medical delivery systems.

As noted in Section 2 of this project, the supply of dentists is increasing rapidly relative to the demand for dental care, and this trend is likely to continue for at least another ten years. As such, insurers with large local market share will have a substantial negotiating advantage when contracting with individual dentists. This advantage provides a major incentive for dentists to form groups and for the groups to consolidate at the local market level. Consolidation will also allow groups to accept more financial risk and compete successfully for publicly and privately insured underserved low- and middle-income populations.

Combined Dental and Medical Care

For the past 150 or so years, the education, delivery, regulation, and financing systems for den-

tistry and medicine have been largely separate. With a few notable exceptions, they remain separate today, but some change is evident.[3] Few integrated medical delivery systems own and operate dental practices/clinics or contract with dentists to provide dental care. Some hospitals that are components of the integrated systems have dental departments with full-time dental chiefs and residency programs in general dentistry, oral and maxillofacial surgery, or pediatric dentistry. Hospital dental programs mainly provide care to inpatients, outpatients who need treatment in operating rooms, and emergency room services.

As noted by Jones et al., the only fully integrated medical and dental care systems are in the Department of Veterans Affairs care system, a few HMOs (e.g., Kaiser Permanente of Oregon and Health Partners of Minnesota), and some FQHCs (e.g., Marshfield Clinic-operated clinics in central and northern Wisconsin).[3] A relatively new development is Advantage Plan HMOs and preferred provider organizations (PPOs) that provide medical care to Medicare recipients. These plans now enroll about a third of the Medicare population, and their market share is growing rapidly.[19,20] About 40% of these plans offer "bare bones" preventive dental benefits to their members using funds from their Medicare medical payments. Patients who want more dental coverage have to pay additional premiums out-of-pocket.

This is an important development because it indicates that the Medicare population wants dental coverage and that providing some dental benefits is a competitive advantage for the HMOs. Interestingly, the two major HMOs that now offer integrated medical and dental care have reported that offering both services gives them a marketing advantage.[12] In support of this trend, at the 2017 American Dental Education Association Annual Session & Exhibition, a Kaiser Permanente executive from southern California discussed Kaiser's interest in offering dental care to its members.[21] Kaiser's proposed delivery model was not presented, but the company has investigated a telehealth community-based care system in California schools and nursing homes.[22]

Dental Delivery System in 2040

The transition from solo to group practice in dentistry is already under way, and it is likely that the majority of dentists will be employed in some form of group practice by 2040. As noted by Brown, there are likely to be many different types of group practice companies.[1] Some will be investor-owned for-profit corporations; others will be part of voluntary sector integrated medical systems. Most of these dental delivery systems will have large market share at the local level, and many will have the capacity to accept risk and contract directly with private and public payers. This development would lead to a restructuring of the current stand-alone dental insurance industry. Some small dentist-owned group and solo practices will continue in rural areas and in upper income suburbs and urban centers.

My experience leads me to expect that, by 2040, regardless of the political party in power, Medicare and Medicaid will offer basic dental benefits to all enrollees, so the percentage of the population with private or public dental insurance benefits will substantially increase. However, most dental care to publicly insured members will be provided by dental groups that have the financial risk.

As groups gain market share to perhaps 20% or 30% of patients, they will begin to be successful in changing state dental practice acts to meet the needs of their business model. As noted by Catalanotto, most industries and professional associations try to co-opt their public regulatory agencies, and dentistry is no different.[2] When fee-for-service solo practice dominated, state dental boards set up many regulations to protect this delivery model from competition. Catalanotto cites a recent U.S. Supreme Court opinion in a restraint of trade case in which Justice Alito wrote, "Nor is there anything new about the suspicion that the North Carolina [Dental] Board . . . was serving the interests of dentists and not the public. Professional and occupational licensing requirements have often been used in such a way."

While federal and state courts and regulatory agencies are slowly addressing this regulatory problem, real change will come when consolidated dental group practices gain the political power to change practice acts to meet their needs and protect their practice model. They are certain to challenge restrictions on non-dentists' owning dental practice, barriers to licensing reciprocity among states, limits on the clinical roles of allied dental personnel, and the licensing of foreign-trained dental providers.

In this new regulatory environment, group practices at financial risk will delegate as many dental services to allied dental professionals as possible (e.g., dental therapists and expanded function dental assistants). This model means that dentists will have

a significant management role in supervising a much larger staff and will spend most of their time dealing with patients who have more serious dental, medical, and behavioral health problems.

Implications for Dental Education

The current focus of predoctoral dental education is preparing students for solo dentist-owned practice after four years of education. This model will become a problem in the future because, by 2040, many dentists will be employed in group practices, working in teams with allied dental staff and other health professionals, and subject to formal internal and external quality assurance systems to produce value-based care. More group practices will be part of fully integrated medical and dental care systems. This trend suggests that more pre- and postdoctoral clinical dental education needs to take place in patient-centered group practices, where students and residents can gain the knowledge and skills necessary to succeed in this new practice environment (see Sections 1 and 3 of this project).

Of special importance, general dentists will need to have more experience providing many advanced services that are now the purview of specialists. This projection is because routine restorative, prosthodontic, and surgical services will likely be delegated to various types of allied dental staff. Given current demographic and disease trends, patients will be older and have many systemic diseases or special needs that impact oral health care. This change in patient mix will require dentists to have much stronger background in clinical medicine (see Section 3 of this project).

For these reasons, four years of dental education will not adequately prepare graduates for their new roles. Especially in a period likely to see a growing surplus of dentists, group dental practices will have their choice of applicants and will select those who have the advanced knowledge and skills to succeed in the group delivery environment. Dental graduates who want to find good positions in group practices will need to have formal postdoctoral training. In that environment, the marketplace rather than state license regulations will lead graduates to take advanced education programs.

Accreditation standards are a critical issue for schools trying to adapt to an evolving practice environment. To support dental schools in this transition period, the Commission on Dental Accreditation (CODA) will need to continually review, change, and enforce standards to meet these new challenges.

Conclusion

In most states, medicine has undergone a period of rapid vertical and horizontal integration and consolidation into large delivery organizations. Many of these systems are also insurers that sell directly to employer groups. Dentistry has also experienced a significant decrease in solo practice and the growth of large group practices. These groups are not consolidated at the state level, but further consolidation is expected as dental organizations try to increase their negotiating leverage with dental insurers. At this time, there is limited integration of medical and dental care in terms of financing, regulation, education, and delivery. This situation may change as HMOs and integrated medical systems begin to offer dental care to their members. These delivery systems are likely to have a major impact on dental education. By 2040, a large percentage of dentists will be employed in group practices and working with allied dental staff with expanded duties and other health professionals, and more dental graduates will seek formal postdoctoral training to obtain better positions in group practices.

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