It's Time to Reimagine the "New Dental Graduate"

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"Do you think all dentists should provide care for patients with special needs, or should it only be specialists?" This is a wonderful question a new first-year dental student asked me in a recent class. At first, it seemed fairly straightforward; but on further reflection, it became one of those questions that keep me awake at night. As I considered my role and responsibility as a teacher, I realized this question cuts to the heart of how we define ourselves as a profession. Should we see the care of the most challenging patients as being "my responsibility," or is it best left to the experts, i.e., someone else? Furthermore, is the sole responsibility of dental schools to provide the best education to prepare graduates for successful careers as dentists? Or is it our obligation to serve the greater good and foster development of future-ready health professionals fully prepared to address the diverse oral health care needs of all persons, individually and collectively, even those with complex problems, one person at a time, and as a community?

For most of my career as an oral medicine specialist, I have had the privilege of caring for patients with complex special needs and have seen how the dental profession has often not served well the most vulnerable among us, the people who need us most. These patients need for their primary care dentist to have broad and deep knowledge of medicine and dentistry; superb technical skills; the patience that comes from compassion and commitment to the core values of the profession; the ability to listen and communicate effectively with them and with other health professionals; and, most of all, the highest ethics and professionalism to truly put the patient's needs above all else. Patients must be able to trust their dentists: it's the only way the relationship works. At the same time, dentists need to stay in business to be able to provide care. My answer to my student will be revealed at the end of this guest editorial. For now, I'd say it depends on what we believe we are as a profession. The definition of the new general dentist, captured in the competencies that anchor dental education and assessment of readiness for practice, must truly represent all of this.

In this month's issue, Mohan and Ravindran propose a conceptual framework for "preparedness for practice," based on a rigorous systematic review of the literature, to support development of educational programs and assessment systems to ensure new dental graduates are not only competent (based on knowledge, skills, and behaviors) but fully prepared for independent practice (based on confidence).[1] Their study was motivated by recent trends in many low and middle income countries in which dental education systems are decentralized and highly privatized and the practice environment is highly competitive and economically challenging. Given these conditions, there is concern that new dental graduates may not be ready to successfully transition from the familiar, structured, and safe educational environment to the unfamiliar, complex, and risk-filled environment of dental practice. These researchers' goal was to develop a broad conceptualization of the construct "preparedness for practice" and to understand the factors that influence it, in order to provide the basis for dental curriculum reform and assessment.

Mohan and Ravindran's conceptual framework consists of six domains essential for preparedness for practice: academic and technical competence; communication and interpersonal skills; protective mechanisms and adaptive skills; professional attitude and ethical judgment; clinical entrepreneurship and financial solvency skills; and social and community orientation.[1] These domains resonated with my own image of what patients need their general dentists to be, in the context of people with great dental needs and scarce resources. The authors also identified factors that influence preparedness for practice: training-related factors, gender and experience of students and graduates, and opportunity for internship along with the nature of post-training work experi-

ence. They concluded that more research is needed to better understand this construct and how to apply it. In the U.S. and countries around the world, dental educators, accreditors, and examiners have a shared responsibility to train and certify a dental workforce able to care for the oral health needs of their patients and communities. Although Mohan and Ravindran did not address assessment of preparedness for practice, their study has implications for the competency frameworks used in this process as well.

In 2005, the American Dental Education Association (ADEA) launched the Commission on Change and Innovation in Dental Education (ADEA CCI), a broad-based initiative to address challenges of curriculum reform in contemporary dental schools.[2] For the first time, the pervasive barriers to curriculum reform in dental education were systematically identified and addressed, while, in parallel, changes were being made to the National Board Dental Examination (NBDE) and Commission on Dental Accreditation (CODA) standards that aligned with the ADEA CCI's goals.[3] One of the ADEA CCI's most valuable and successful outcomes was the creation of a shared resource, a framework to support competency-based education, the ADEA Competencies for the New General Dentist, which were approved by the ADEA House of Delegates in 2008.[4] The supporting foundation knowledge and skills were defined in a companion document approved by the ADEA House of Delegates in 2011.[5] By 2015, these competencies were being used by at least 76% of U.S. dental schools.[6] The domains of competence in these documents are 1) Critical thinking; 2) Professionalism; 3) Communication and interpersonal skills; 4) Health promotion; 5) Practice management and informatics; and 6) Patient care (assessment, diagnosis, and treatment planning; and establishment and maintenance of oral health).

These competencies have served U.S. dental education well, but a lot has changed in the past ten years, and we should have the same concerns as Mohan and Ravindran about whether our new dental graduates are prepared for practice in a constantly changing health care environment. Recent developments are driving a need to update this document to provide a more contemporary and comprehensive framework for curriculum innovation and clinical licensure reform. Such a process would also benefit from recently introduced models and tools that can help dental schools implement a new vision for the practice-ready dental graduate.

In 2017, for example, ADEA recommitted to the Commission on Change and Innovation with the launch of ADEA CCI 2.0, which has the following three goals: "person-centered health care will become the dominant model in health systems; future-ready graduates from health professions education programs will deliver the health care; and graduates will be educated in a transformative learning environment."[3,7] This initiative is a call for continuous change, and providing tools to help schools lead change is part of this effort.

In addition, in September 2018, the joint American Dental Association (ADA), ADEA, and American Student Dental Association (ASDA) Task Force on Assessment of Readiness for Practice published a report calling for major changes in the dental licensure process.[8] The task force's third recommendation is to "work on a national level to establish a common core of dentist credentials for licensure that can serve as a basis for licensure compacts between states." The opportunity to develop this national standard comes from the evolution of competency-based education in accredited dental schools and effective new pathways of dental clinical assessment. A new ADEA Competencies for the New General Dentist framework should be integral to this process and must reflect the full scope of what a new general dentist needs to be able to do in order to both succeed in practice and serve the public.

Finally, new competency frameworks and assessment models have been developed by dental education and accreditation organizations around the world, based on best practices and contemporary models of competency-based pedagogy and assessment in health professions education and workplace-based assessment in Canada, Europe, and Australia.[9-13] We can learn from and build on these models.

The first is the Association of Canadian Faculties of Dentistry (ACFD) Educational Framework for the Development of Competency in Dental Programs (2015).[9] Its domains are 1) Patient-centered care; 2) Professionalism; 3) Communication and collaboration; 4) Practice and information management; and 5) Health promotion. A second model is the Association for Dental Education in Europe (ADEE)'s report on the graduating European dentist (2017).[10] Its domains of competence are 1) Professionalism, 2) Safe and effective clinical practice, 3) Patient-centered care, and 4) Dentistry in society. Third is the Australian Dental Council's Professional Competencies of the

Newly Qualified Dentist (2016), with statements in the areas of 1) Professionalism; 2) Communication and leadership; 3) Critical thinking; 4) Health promotion; 5) Scientific and clinical knowledge; and 6) Patient care (clinical information gathering; diagnosis and management planning; and clinical treatment and evaluation).[11]

A fourth model is the Association of American Medical Colleges (AAMC) Core Entrustable Professional Activities (EPAs) for Entering Residency (2014). Similar to standards developed in graduate medical education, this new framework was designed by an AAMC task force to support curriculum innovation for predoctoral medical education, to help ensure standardization in the preparation of all new graduates entering medical residencies throughout the U.S.[12] It is being implemented now.[13] EPAs are *observable* units of practice that require multiple competencies to perform. Through observation and assessment of these units of practice in the workplace, faculty members can assess multiple competencies at once and over time to provide feedback for learning, summative assessment to support decisions about academic progress, and global assessment of competence and readiness for independent practice. This framework includes milestones as developmental components of the EPAs that are used to map, support, and assess individual trainee development and design curricula.[12]

All of these frameworks include definitions of individual competency domains or statements. The ACFD framework maps each competency statement and its components to the corresponding knowledge, skills, and attitudes of the Canadian National Dental Examining Board and its indicators: the specific knowledge, skills, and behaviors that can be observed and measured during dental education.[9] The components are similar to EPAs, and the indicators are similar to milestones used in medical education. Each of these frameworks explicitly addresses person-centered care and commitment to society, communities, and public health.

To date, an EPA framework has not been implemented in dental education, but with the support of an ADEAGies Foundation grant, faculty members at the University of Michigan School of Dentistry are working with educators from around the country to develop an EPA framework for general dentistry.[14] The framework is meant to support curriculum innovation for future-ready graduates and to support global assessment of readiness for practice, taking it beyond assessment of one competency at a time.[15] This project was presented in a faculty development workshop at the 2017 ADEA Fall Meetings and is still under development.

These recent developments and new resources present a favorable opportunity to combine our efforts through ADEA CCI 2.0 to create a new competency framework for the new dental graduate based on the structure of EPAs, competencies, and milestones, used in conjunction with workplace assessments such as e-portfolios and longitudinal direct observation of practice behaviors.[15] Such a new framework can support curriculum innovation, help schools design assessments that support learning, and aid educators in performing global assessment of competence including fitness for practice. It must holistically define the competencies needed by the new dental graduate, according to the vision of ADEA CCI 2.0.[7]

Despite fundamental differences in dental education, accreditation, and licensure systems throughout the world, there is a global need to define "preparedness for practice" in order to develop educational and assessment models that produce health care providers able to serve the needs of their patients and communities. The framework proposed by Mohan and Ravindran[1] has many elements in common with dental education frameworks recently developed or updated. However, being based on a systematic review of the literature, it is, by definition, anchored in the past. It is time for ADEA to reimagine and redefine the ADEA Competencies for the New Dental Graduate to support the goals of ADEA CC1 2.0 and to build on the best evidence and newer models of competency-based education developed in dental education around the world and in other health professions.

My answer to my student's question in the first paragraph was the following: "Yes, there is something *all* of us as dentists can and should do. Only the dental profession can meet the dental needs of our patients and our communities. Each dentist has a role to play in applying his or her knowledge and skills to caring for those who need us most. It takes commitment and courage and a willingness to try. It also takes knowing when it is in the patient's best interest to ask for help and acting accordingly." Through ADEA CCI 2.0, we can support this vision of preparedness for practice. It is time for a new definition of the "New Dental Graduate."

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