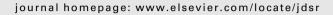


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Review article

# Current challenges for dental education in Japan and the United States

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#### **KEYWORDS**

Dental education; Distance learning; Web-based learning; Curriculum reform; Dental research Summary The education systems for dentists in Japan and in the United States face several current and future challenges. While there is an increasing demand for new dentists in the United States to this relatively financially rewarding health profession, there is a critical shortage of recent graduating dentists entering full-time academic and research positions at US dental schools. In Japan, while there are more extensive training programs to insure new future researchers and academicians, there is a perceived oversupply of dentists and an attempt to reduce the numbers of new dentists, which in turn discourages entry into dental education programs. Meeting these different challenges in both countries requires developing and reforming dental school curriculums that should be both scientifically and clinically up to date, that will stimulate critical scientific thinking and active life-long learning, and that will encourage students to pursue academic and research careers. In this review, both the common and different strategies developed by dental schools in Japan and the United States to encourage students to apply to dental schools and to pursue academic and research careers are presented, with emphasis on the reform efforts at the University of California, San Francisco (UCSF) and Tokyo Medical and Dental University (TMDU).

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#### 1. Introduction

"It was the best of times. It was the worst of times"

This famous opening line of "A Tale of Two Cities" by Charles Dickens, has many different meaning for different people and cultures. When reading this quotation from the perspective of the challenges of dental practice and dental education, there are "best of times" and "worst of times" in Japan and the United States that share common characteristics as well as some striking differences. In this review, these similarities and differences in dental educational challenges between Japan and the United States, will be presented. This paper will present these challenges both from a general overview from these two countries, and from the perspective of the institutions of the two authors of this paper, the University of California, San Francisco School of Dentistry (UCSF) and Tokyo Medical and Dental University (TMDU). These challenges include attracting the best students into dental schools; maintaining high academic standards through the continuous training and development of new faculty; and improving dental curriculum, teaching methods, and assessing outcomes, in order to meet present and future public health care needs, and to incorporate new scientific developments into dental practice.

## 2. Academics and private practice: the two-way relationship in Japan and the United States

In the United States, the practice of dentistry in the private sector is considered one of the most financially rewarding professions even in this current economic downturn. This is evident in the increasing number and quality of applicants who apply to dental schools in the past decade. In Japan, the situation of dentistry in the private sector is a bit different, and may have major impact on future applications to dental schools. Specifically, as compared to the developed countries, the number of registered dentists per 100,000 population in Japan is not extremely high (77.9/100,000 as of December 31, 2008). Yet dental practitioners and the Japan Dental Association feel strongly that dental schools should decrease their student enrollments, with concerns there are already too many dental clinics. In the 1960s and 70s, dental clinics receiving more than 50 patients a day were common, mainly for basic treatments covered by the national health insurance. According to the data of 2005, a dental clinic in Japan accepted an average of 19.1 patients per day (the total number of patients divided by the total number of dental clinics). With the changing epidemiological structure and higher patients' expectations, dentists whose skills are just good enough for treatment covered by the national health insurance have difficulties, while some dentists enjoy good business by only treating the patients who pay out of their pocket. Naturally the Japanese Government has tried to control the costs of the dental treatment covered by the national health insurance to prevent further expansion of total government-reimbursed medical expenses. As a result, the fees paid to the dentists for dental treatments, including root canal treatments, are much lower than in many other developed countries such as the United States. On the positive side, these lower fee structures mean that Japanese patients are less inclined to have their teeth extracted for financial reasons, and more inclined to preserve their natural teeth. However, from the dentists' perspective, adjusting the level of treatment to the remuneration could lead to a lower quality of treatment and a lack of interest in improving their skills. Decreased income of dentists can be an ideal topic for tabloid magazines in Japan. In Japan some dentists can be called "working poor," which means people who are poor even though they work very hard. While this publicity is often exaggerated, this type of negative image may discourage promising young people to pursue a dental profession. In reality, some private dental schools have already found it very difficult to recruit enough students.

However in the US, despite this very promising environment for the current and future dental private practitioner, and the increase in numbers and quality of applicants to dental schools, the actual education of new dentists in both public and private dental schools faces some major challenges if it is to continue in its present form. Foremost among these in the United States is the major shortfall in new educators in dentistry, particularly full-time academicians who can both educate and continue the research necessary to advance the field of dentistry [1]. In fact according to current estimates, there is a cumulative shortfall of 500-1000 unfilled academic positions in United States dental schools [1]. This major shortfall is expected to increase dramatically as current faculty reach retirement age. This problem is somewhat mitigated by the fact that in the United States, there generally is no mandatory retirement age for faculty. This is in contrast to the dental education system in Japan, where there is generally a mandatory retirement age. This lack of mandatory retirement in the United States has naturally led to an increase in the average age of dental faculty. While this may partially offset the increased numbers of faculty vacancies in the United States in the short term, for the longer term, the dental educational system in the United States needs to find ways to stimulate more interest in students to pursue full-time academic careers.

At the University of California, San Francisco School of Dentistry, this issue is being addressed with several strategies including a combined PhD/DDS program over a 6—7-year period that is designed to train dentists for academic careers. As with similar programs at other US dental schools, this program enrolls between 3 and 4 students per year. However it should be noted that of these students enrolled in these programs, only a very small fraction will pursue an academic career. This situation is in striking contrast to programs at the leading national research and academic dental institutions in

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