



# The International Dental Therapist: History and Current Status

**ABSTRACT** Dental therapists provide preventive, restorative, and minor surgical treatment, mostly for children in government-sponsored health programs, in more than 53 countries. Their quality of care and acceptance by the public and dental profession has been well-documented. Since 2005, they have been effectively serving native Alaskans in remote communities. Not only do dental therapists provide basic dental care to underserved populations, they enable associated dentists to practice at a higher level of proficiency and efficiency.

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Since their initial deployment in 2005, dental therapists have been providing basic dental care — prophylaxis, sealants, fillings, stainless-steel crowns, pulpotomies, and simple extractions with local anesthesia — to the native Alaskan population in rural communities.<sup>1,2</sup> In May 2009, Minnesota authorized the training of dental therapists to provide oral health care in underserved areas in the state.<sup>3</sup> And in November of the same year, the Connecticut Dental Association's House of Delegates voted to endorse a pilot project for a two-year training program for dental therapists to work in a public setting.<sup>4</sup> In what appears to be a developing trend, a number of dental associations, including the California Dental Association, are reviewing the potential dental therapists have to address the problem of access to care in the United States.

Until recently, many dentists and dental hygienists in the United States were unaware that dental therapists are utilized in at least 53 countries throughout the world.<sup>5</sup> Many dentists question the need for dental therapists or reject the concept as a threat to their profession and their livelihood. A review of the development and acceptance of dental therapists in other countries can be helpful in understanding the positive benefit that the adoption of dental therapists in the United States can have for the profession and society.

## Origins

The development of dental therapists began in New Zealand with recognition of the high rejection rate for military service of its young men and women during World War I due to severe, rampant dental disease. With only 100 dentists for a population of 1.2 million, a ratio of 1:12,000, the impossibility of bringing

dental care to so many people without the introduction of a new auxiliary was recognized. The first training school for dental nurses, specifically for children's dental care, was established in 1920 by the New Zealand Department of Health. Until recently, employment of all dental nurses, now called dental therapists, was restricted to a school dental service, with assignment to small clinics located on public school grounds, supervised by Department of Health dentists. Dental nurses provided care to children, including preschoolers, only to age 12, after which adolescents aged 13 to 16 received care from private practicing dentists paid for by the government. Participation in the program was voluntary, requiring parental permission. By the 1970s, more than 60 percent of preschoolers and 95 percent of schoolchildren were enrolled in the program, with permanent tooth loss virtually eliminated, long before the advent of water fluoridation.<sup>6</sup>

### Expansion

Other countries faced with similar widespread dental disease and a shortage of dentists soon adopted the New Zealand dental nurse model. Initially, their dental nurses/therapists were trained in New Zealand. Many countries now have their own training schools.

It is not only "underdeveloped" nations that utilize dental nurses. With respect to provision of oral health care to their entire populations, most nations are underdeveloped. Thus, countries similar to the United States such as Australia, Canada, and Great Britain have well-established dental therapist programs that are widely accepted by the public.

Counting only those trained on the New Zealand model, there are more than 14,000 dental therapists presently deployed worldwide.<sup>5</sup> However,

China has an estimated 25,000 "assistant dentists" who are very similar to dental therapists in training. They practice independently in rural areas.

### Supervision and Quality of Care

The quality of care provided by dental therapists has been thoroughly investigated. Beginning in the 1950s and to the present, these studies have shown that dental therapists maintain technical standards equivalent to dentists.<sup>7-17</sup>

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Important aspects of their training are an understanding of their limitations, their parameters of care, and their need to work in close association and consultation with dentists. Countries that permit dental therapists to practice independently usually require consultative collaboration with a supervising dentist.

From a public health perspective, few countries have achieved, much less exceeded, the success of New Zealand where virtually all children are enrolled in the school dental program. Malaysia is one of these countries where 96 percent of elementary and 67 percent of secondary school children are seen by school dental nurses, as they are still called there.<sup>18</sup> As in New Zealand, the dental nurses also provide care for preschool children brought to the school clinics by their parents. It is likely that other coun-

tries with an expanding dental therapist workforce will achieve these high utilization rates, which are the sine qua non of a successful oral health care program.

### Current Trends

#### *New Zealand*

More than 95 percent of children under age 13 and 56 percent of preschoolers continue to receive preventive and curative oral health care by dental therapists in the School Dental Service and there is virtually no untreated dental caries by the end of the school year. This extraordinary achievement is accomplished by providing service directly on the school grounds in either fixed dental facilities or mobile units. Because many schools, particularly those in remote rural communities do not need a full-time dental therapist on site, and rather than replacing on-site clinics and equipment, the trend is toward greater utilization of mobile units and community health ("hub") centers that promote a team approach to health care.<sup>19</sup>

Adolescents aged 13 to 18 are eligible for care from private practitioners paid by the Government Adolescent Oral Health Services at no cost to the patient. But only about 54 percent of adolescents access private dentists, significantly fewer than when services are provided directly at school.

As a consequence of the reduction in caries from water fluoridation, the number of dental therapists declined from 1,350 in the 1970s to about 660 today. By 1999, the three regional schools were closed as training of dental therapists was transferred to the University of Otago School of Dentistry in Dunedin. Three years later, a second dental therapist program was begun at the Auckland University of Technol-

ogy. By 2007, each school had merged the dental therapist and dental hygiene programs into one three-year program, with a bachelor of oral health degree. After graduation, registration is required to designate the area of practice, which may be in only one discipline or both. Those credentialed in general dental therapy practice are allowed to treat patients to age 18. Oral health therapists could qualify to treat adults with additional training, but thus far no courses are available for this purpose. There are no treatment age limits if credentialed in general dental hygiene practice.<sup>19</sup>

As a point of historical interest,

dental hygienists were employed by the military as early as 1974, but training of dental hygienists for the general public did not begin until 1994 due to opposition of the dental profession, which had long since accepted dental therapists. There are presently fewer than 250 dental hygienists in New Zealand, but they are rapidly gaining in numbers and acceptance by dentists, particularly with the development of the combined dental hygiene/therapist program.

Since 2003, oral health therapists are permitted to work in the private sector where they may be employed by dentists to care for their adolescent

patients.<sup>20,21</sup> However, the majority continue to provide dental therapy in the School Dental Service. Dental therapists may also own their own practice, with the requirement of a supervisory contract with a dentist, but few, if any, have done so. In a 2008 survey, almost 60 percent of dentists in private practice said they would be willing to employ a dual-trained therapist/hygienist.<sup>22</sup>

With the increase in population and the decline of the existing workforce due to retirement, a shortage of dental therapists is anticipated in the future. But from the standpoint of the newly emerging oral health therapists, the future in New Zealand is positive.



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### Australia

From the time of its inception in 1966 until 2000, dental therapists in Australia were generally restricted to practice only in the School Dental Services, where the large majority of dental care for children is still provided in fixed and mobile dental clinics. As of 2003, 87 percent of all dental therapists were employed at least part time in the schools.<sup>23</sup>

In one state, Western Australia, dental therapists have always worked in private practices as well as public service; since 1983, they have been able to treat adults as prescribed by dentists. Although required to have some dental hygiene skills, they do not qualify nor can they register as hygienists since their dental hygiene training is limited to a six-week to 12-week course. Dental therapists in the public sector are restricted to children and adolescents up to age 18. They do not require diagnostic prescription by dentists. All but one state, New South Wales, have now eliminated employment restrictions so that many more dental therapists work, at least part time, in private dental offices and in community and hospital clinics where they are also permitted to treat adults.<sup>24</sup>

Originally designed as two-year certificate or diploma programs in nonuniversity dental therapy schools restricted to females, a number of universities now offer a three-year "oral health therapist" program that combines traditional dental therapy and dental hygiene, as in New Zealand. The oral health therapists will trend more toward private practice where their periodontal therapy skills have more applicability. The number of dental therapists working in private practice has doubled since 2003. However, most continue to work in both the public and private sector, many part time. "Part-time work is reflective of the majority female workforce and equates with other similar health disciplines including dental hygiene and nursing."<sup>25</sup>

How this will affect the School Dental Services and oral health care for children remains to be seen, but it is likely that many, if not most, dental therapists will continue, at least part time, in the School Dental Service.

### Great Britain

The first dental therapist school was opened in the United Kingdom in 1959, patterned after the New Zealand model. There are now 17 schools that provide dual qualification in dental therapy and dental hygiene, with approximately

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240 therapists/hygienists graduating each year. The diploma courses for both dental hygiene and dental therapy are 27 months in length, compared to three years to obtain a BSc degree in oral health sciences. One school provides for dental hygienists to qualify as dental therapists by completing a three-day a week, 36-week course.<sup>26</sup>

The trend toward dual qualification was stimulated by a shortage of dental therapist positions in governmental and hospital services; whereas, there were more job opportunities for dental hygienists who had long been employed in private general dental practices. Thus, many unemployed dental therapists acquired additional training as dental hygienists, which eventually led to the dual-training

programs. In 2002, the governing General Dental Council granted permission for dental therapists to work in private dental practice. However, many dual-trained dental therapists still work as dental hygienists, although there is increasing recognition and utilization of their combined skills, particularly since more dentists are now trained alongside dental therapists in the same university programs.

Though accustomed to dental hygienists, the public is generally unaware of the role of dental therapists, which makes it difficult to obtain consent to their care. Even after the qualifications of dental therapists were explained in recent surveys, only 61 percent of adults would accept treatment from them. On the other hand, a recent survey reported that those patients receiving care from dental therapists expressed a higher degree of satisfaction than patients treated by dentists.<sup>27</sup> For dental therapists to be more widely accepted as oral health care providers in private practice, the public needs to be better informed and reassured of their qualifications and competence.<sup>28-30</sup>

There has been a remarkable shift in employment, with 50 percent of dental therapists now in private dental practices, compared to none six years ago. Slightly more than half work part time, averaging about 25 hours a week.<sup>31</sup> Nearly two-thirds work in multiple locations and are paid an hourly rate or a monthly salary and one-third are self-employed.<sup>32</sup> They treat both children and adults. It is estimated that therapists have the potential to provide the treatment in 35 percent of dental visits and 43 percent of clinical time.<sup>33</sup> Wherever they practice, a written treatment plan must first be developed by a registered dentist, after which they can implement treatment independently, based on their own judg-

ment of priorities and techniques. The treatment plan may be very detailed, or just state “restore.”<sup>34</sup> Many therapists are concerned that dentists do not fully appreciate their clinical skills, that they are not being fully utilized, and that more patients could be referred to them.<sup>35</sup> However, their employment by dentists is still limited because the National Health Service, under which most dental care is provided, does not yet pay for treatment by dental therapists in private practice. The NHS contract is being revised and it is hoped that treatment by dental therapists in all settings will soon be covered.<sup>30</sup>

**Fiji**

The Republic of Fiji was established in 1970 after being granted independence by Great Britain and its territory includes more than 322 islands in the southwest Pacific, east of Australia and north of New Zealand. Only a third of the islands are occupied by its population of a little more than 900,000.

In 1998, the Fiji School of Medicine, Department of Oral Health, established a “multientry, multiexit” career “Dental Ladder.”<sup>36</sup> This modular approach to dental education takes full advantage of work experience. In most other countries, including the United States, many dental assistants

become dental hygienists and a few dental hygienists go on to become dentists, but there is virtually no credit allowed for previous experience or training, particularly for hygienists. The Fiji program allows full credit so that it requires only a second year of training after the first year of introductory dental assisting courses to be certified as a dental hygienist; a third year leads to a diploma in dental therapy; two additional years, for a total of five, qualifies for a bachelor of dental surgery (BDS), the equivalent of a DDS/DMD in the United States.

Fiji’s career Dental Ladder is not limited to its territorial sovereignty. Since its begin-

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ning 11 years ago, 16 dental therapists from other areas stepped up the ladder to become dentists: American Samoa (2); Kirbati (2); Nepal (1); Papua New Guinea (4); Samoa (1); Solomon Islands (4); Tonga (1); and Vanuatu (1). In addition, 14 dental hygienists have advanced to become dental therapists.<sup>37</sup>

At present, there are approximately 100 dentists for a dentist/population ratio of 1:9,000 and more than 70 dental therapists. Entry up the ladder is determined by the needs and availability of funds as assessed by the Ministry of Health. There is only one oral surgeon, so general dentists are trained not only to extract teeth, but also to reduce and wire mandibular fractures. In addition to preventive and restorative services, dental therapists perform extractions on both adults and children, which, unfortunately, is a much needed service particularly in the outer island villages that are unlikely to have more than an annual visit by a dentist.<sup>36</sup>

### Canada

From a high of 365 in 1990, there are presently 280-300 dental therapists serving in governmental, nongovernmental, territorial, and aboriginal organizations. Of these, 128 (or 45 percent) are in private practice; 105 in the province of Saskatchewan.<sup>38</sup>

The Saskatchewan Dental Health Plan was remarkably successful. By the mid-1980s, with a staff of 400, including about 26 dentists and 150 dental therapists and their assistants, more than 80 percent of school children received annual examinations, preventive, and restorative treatment in school and community clinics. Yet, by 1992, after years of declining financial support, the school program was eliminated. Oral health care for school children is now completely in the hands of the private dental sector with a sharp decline in utilization and consequent increase in untreated dental disease.<sup>5</sup>

Despite the negative impact of conservative governments, fiscal restraints and professional opposition, the dental therapists have survived in many parts of Canada, particularly in Saskatchewan, Manitoba, and the Northwest Territories. Indeed, dental therapists in Saskatchewan, who number more than 200, are unique in that they are a self-regulating profession, licensed by the Saskatchewan Dental Therapists Association.<sup>39</sup> Nonetheless, they are required to have a formal referral

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or consulting relationship with a dentist, whether as an employee in a governmental organization, a community health center, or a private practice. That they have been so well-incorporated in the private sector by dentists, as well as continuing to serve in the public sector, should allay concerns that they are competitors with dentists rather than colleagues on the dental team.

### The Netherlands

Although specific to the Netherlands, the following quotation summarizes the impetus for change in the character and delivery of oral health care, "A number of factors, including rising expectations for the quality of life in modern society, the related need for medical care and an increase in the volume of knowledge available, have produced pressures for more knowledgeable and skillful health

professionals, including dental hygienists. Dental awareness in the general population has grown. Patients have become more assertive and, with increased possibilities to obtain information (e.g., Internet), demand different kind of treatments. They are also more oriented toward preventive health care, including preventive oral health care. The aging population is increasingly retaining teeth and needs more, and often more complex, care than the previous elderly generation who were often edentulous."<sup>40</sup>

Beginning in 2002, the Netherlands began a major transformation of its dental profession. There are no longer dental therapists and dental hygienists, but rather a combination of the two that retains the name "dental hygienist." The "new-style dental hygienist" provides the basic preventive and periodontal services of the traditional dental hygienist, plus the basic restorative treatment and noncomplex extractions of the dental therapist. The university training has been increased from three to four years, culminating in a bachelor's degree.<sup>40</sup>

Competing with the dental hygienist is the "prevention assistant," a trained dental assistant who receives further training in an eight-day course developed by the Dutch Dental Association. Employed by dentists, prevention assistants do prophylaxis including supragingival scaling and fluoride applications. Because they are paid less, many dentists prefer them to dental hygienists. Nonetheless, most dental hygienists, approximately 1,500 (or 65 percent), are traditional hygienists in association with or employees of private dentists. About 800 (or 35 percent) work as private entrepreneurs.<sup>41</sup>

In consideration of changing demographics, particularly the aging of the population, the "new-style dentists" are to be the oral physicians of the future, with their

training increased from five years to six. Ideally, their practice will be devoted more toward the medically compromised and elderly populations that require greater knowledge, skills, and experience, while the new-style dental hygienists provide routine oral health care for the younger, healthier population.

It should be noted that although the Dutch dental profession opposed this transformation, it was enabled by the support of other professional organizations, educational institutions, consumer organizations, and the health insurance industry. There are as yet too few new-style practitioners to assess their impact on dentistry and the acceptance by the public.

## Summary

Advocates of dental therapists believe their addition to the oral health workforce in the United States will enhance the profession. Not only do dental therapists provide necessary care to underserved populations, they have the potential to enable dentists to practice at a higher level of proficiency and efficiency. Far from being a novelty, this brief review of the long history of dental therapists and their current status in five representative countries demonstrates their remarkable contribution to the oral health of their recipient populations and ultimate acceptance by private dental practitioners and their representative associations. ■■■■

## REFERENCES

- Nash DA, Nagel RJ, A brief history and current status of a dental therapy initiative in the United States. *J Dent Educ* 69(8):857-9, 2005.
- Nash DA, Nagel RJ, Confronting oral health disparities among American Indian/Alaska native children: the pediatric oral health therapist. *Am J Public Health* 95(8):1325-9, 2005.
- American Dental Association. Minnesota governor signs dental therapist legislation. *ADA News Today* June 6, 2009.
- Connecticut Dental Association. House of Delegates Resolution #29-2009 (Adopted November 18, 2009).
- Nash DA, Friedman JW, et al, Dental therapists: a global perspective. *Int Dent J* 58:61-70, 2008.
- Friedman JW, The New Zealand school dental service: a lesson in radical conservatism. *J Am Dent Assoc* 85(9):609-17, 1972.
- Fulton JT, Experiment in dental care: results of New Zealand's use of school dental nurses. Geneva, Switzerland, World Health Organization, 1951.
- Bradlaw R, Douglas THT, et al, Report of United Kingdom mission on New Zealand school dental service. *NZ Dent J* 47(228):62-78, 1951.
- Roder DM, The effect of treatment provided by dentists and school dental therapists in the South Australian school dental service. *Aust Dent J* 18(5):311-9, 1973.
- Roder DM, Diagnosis, treatment planning and referral by school dental therapists. *Aust Dent J* 19(4):242-9, 1974.
- Roder DM, The effect of treatment provided by dentists and school dental therapists in the South Australian school dental service. The second report. *Aust Dent J* 21(2):147-52, 1976.
- Ambrose ER, Hord AB, Simpson WJA, Quality evaluation of specific dental services provided by Saskatchewan dental plan: final report. Regina, Saskatchewan, 1976.
- Crawford PR, Holmes BW, An assessment and evaluation of dental treatment in the Baffin region. A report to the medical services branch of national health and welfare, Jan. 25, 1989.
- Riordan PJ, Espelid I, Tveit AB, Radiographic interpretation and treatment decisions among dental therapists and dentists in Western Australia. *Community Dent Oral Epidemiol* 19(5):268-71, 1991.
- Trueblood RG, A quality evaluation of specific dental services provided by Canadian dental therapists. Medical services branch, epidemiology and community health specialties, health and welfare Canada, 14 pages, undated.
- Agency for Healthcare Research and Quality. Dental health aide program improves access to oral health care for rural Alaska native people. AHRQ Innovations Exchange. Available at: <http://www.innovations.ahrq.gov/popup.aspx?id=1840&type=1&name=print>.
- Bolin KA, Assessment of treatment provided by dental health aide therapists in Alaska: a pilot study. *J Am Dent Assoc* 138:1530-5, 2008.
- Malaysia Ministry of Health Annual Report 2004: health management information system (oral health sub-system). Kuala Lumpur: information and documentation system unit, Ministry of Health, May, 2004.
- Coates DE, Kardos TB, et al, Dental therapists and dental hygienists educated for the New Zealand environment. *J Dent Educ* (8);73:1001-8, 2009.
- Kardos R, Personal communication, Aug. 2, 2009.
- Dental Council of New Zealand. Health practitioners competence assurance act 2003. Notice of scopes of practice and prescribed qualifications.
- Moffat S, Personal communication, Sept. 8, 2009. University of Otago, School of Dentistry, New Zealand.
- Teusner DN, Spencer AJ, Dental therapists labor force, Australia, 2003. AIHW Dental Statistics and Research Series No. 29. Canberra, 1992.
- Satur J, Personal communication, June 8, 2009.
- Satur J, Gussy M, et al, Patterns of dental therapists' scope of practice and employment in Victoria, Australia. *J Dent Educ* 73:416-25, 2009.
- Rowbotham JS, Godson JH, et al, Dental therapy in the United Kingdom: part 1. Developments in therapists' training and role. *Br Dent J* (8);207:355-9, 2009.
- Sun S, Burnside G, et al, Summary of: patient satisfaction with care by dental therapists. *Br Dent J* 208(5):212-3, 2010. (The full paper can be accessed at [bdj.co.uk](http://bdj.co.uk), under 'Research' in the table of contents, vol. 208, issue 5.)
- Robinson P, Personal communication, Oct. 5, 2009.
- Dyer TA, Robinson PG, Social acceptability of skill-mix in dentistry. *Int Dent J* 58:173-80, 2008.
- Dyer TA, Robinson PG, Public awareness and social acceptability of dental therapists. *Int J Dent Hygiene* 7:108-14, 2008.
- Godson JH, Williams SA, et al, Dental therapy in the United Kingdom: part 2. A survey of reported working practices. *Br Dent J* 207(9):417-23, 2009.
- Williams SA, Bradley S, et al, Dental therapy in the United Kingdom: part 3. Financial aspects of current working practices. *Br Dent J* 207(9):477-83, 2009.
- Evans C, Chestnutt IG, et al, The potential for delegation of clinical care in general dental practice *Br Dent J* 203:695-9, 2007.
- Rowbotham JS, Csikar JI, Personal communication, Nov. 19, 2009.
- Csikar JI, Bradley S, et al, Dental therapy in the United Kingdom: part 4. Teamwork — is it working for dental therapists? *Br Dent J* 207(9):529-36, 2009.
- Scola S, Scola C, Multientry multiexit program: Fiji School of Medicine. The Dental Herald 4:8-9, 2009. Official newsletter of the Fiji Oral Health Workers' Association. (Copy available from [drjfriedman@sbcglobal.net](mailto:drjfriedman@sbcglobal.net).)
- Prasad N, Personal communication, July 26, 2009.
- Quiñonez CR, Locker D, On the pediatric oral health therapist: lessons from Canada. *J Pub Health Dent* 68:53-6, 2008.
- Saskatchewan Dental Therapists Association. Accessible at [sdta.ca](http://sdta.ca). Accessed Oct. 1, 2010.
- Heuvel J van den, Jongbloed-Zoet C, et al, The new-style dental hygienist — changing oral health care professions in the Netherlands. *J Dent Health* 44(6):3-10, 2005.
- Heuvel J van den, Personal communication, July 14, 2009.

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