

# Developing a socially responsive and innovative curriculum: the Fijian model

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## Dental training in Fiji

The Fiji School of Medicine Dental Faculty has been training oral health personnel for the last 49 years in order to meet the oral health needs of Fiji and the South Pacific Islands. A four-year course for assistant dental practitioners (called dental officers) commenced in 1945. Courses for dental hygienists, dental mechanics (dental technicians) and junior dental assistants were also developed. However, the program for dental hygienists was discontinued in 1973 and the program for dental officers was terminated in 1985. Students who were selected to study dentistry were sent to Australia and New Zealand. Meanwhile, the dental therapy program was upgraded in order to provide dental therapists with skills needed to run peripheral clinics on their own.

Initial attempts at curricular modification consisted mainly of additions and rearrangements of courses with emphasis on acquisition of psychomotor skills. Because the curricula was patterned after programs in industrialized countries, modifications were based on trends or educational development in these countries and not on the needs and situation of our society. In spite of this, the program graduated students with the knowledge, skills and attitudes relevant to the needs of Fiji and the Pacific Islands. These graduates have since provided long and distinguished service in dentistry in their respective countries.

However, despite the services rendered by oral health workers, the Pacific countries continued to face the stark reality that oral health care, even in its most elementary form, remained inadequate. In rural areas oral health was unknown and the majority of carious and periodontally infected teeth were not even extracted. Oral diseases were allowed to progress. Patients coped with pain with the use of traditional medicine or by sheer will power. Dental treatment was sought only when the pain became extremely severe and when infection developed. Treatment was usually expensive and was aggravated by cost of travel, loss of working hours and pay, and the actual cost of dental treatment.

A host of variables helped shape this situation. Of major importance were the extent of economic development, the type of government policies, educational level of the population, the cultural and traditional system of the community, and the type of training given to oral health personnel. Under the traditional dental curriculum,

students' training was more hospital based, rather than community based. The majority of oral health personnel were located in urban areas. Care in the outlying areas was usually restricted by malfunctioning equipment, lack of transportation, inadequate instruments, poor quality and insufficient materials, and inadequate remuneration for staff. Teeth with minor lesions were often extracted because this was the only treatment available. Staff morale and motivation were usually low. Dental graduates from overseas were frustrated because they were unable to apply skills they obtained from an education that was oriented to practice in Australia and New Zealand, rather than to specific health problems of Fiji and the Pacific Islands.

It was clear that our educational and health care system was developed to cater mainly to the needs of a small segment of the population, specifically the rich in urban areas. The needs of groups who needed care the most were often neglected. The challenge that we faced was to develop a curriculum that was appropriate to our situation and to train dental professionals who would be more responsive to the needs of society.

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## Modifying the curriculum

We were aware that the task of instituting modifications in dental education required matching the changes in the health care delivery system. Consequently, we had to distinguish the kind of system that was appropriate to our situation. We arrived at the following guidelines for a health care system:

1. Oral health services need to be more integrated with general health services. This means that oral health personnel and consumers must be closely involved in the development of general health policy.
2. Since oral diseases are preventable, all oral health personnel must be involved in the prevention and the solution of oral health problems.
3. Epidemiological data are necessary for planning and evaluation.
4. Any oral health promotion program must be relevant to its cultural context. The understanding and acceptance of health and disease are closely linked to cultural perceptions and beliefs.

5. Oral health care services should be accessible and affordable, flexible to changing trends, effective in achieving results within available resources, appropriate to specific needs and demands, equitable in the distribution of services and observe accountability.
6. Maximum use of existing health care personnel can increase access to care. The delivery system must include a variety of personnel working in teams under the direction and leadership of the dentist.
7. Expected competencies and responsibilities of all oral health personnel should be defined and formally recognized.
8. Improving the present system of dental education and training is the important first step in working toward the goal of better oral health for all.

**The curriculum was planned to have a strong community orientation, with emphasis on the problems of local communities. It was also meant to include training in diagnostic skills, communication abilities, prevention and self-help.**

### **A community-oriented curriculum**

Having determined the kind of health care delivery system that was appropriate for our region, we then proceeded to develop the new curriculum using several criteria. We decided that the structure of the curriculum should be based on the principles of primary health care and must be oriented towards prevention rather than treatment. There must also be involved participation from the community. We wanted to ensure that learning tasks took place in settings similar to where graduates would be expected to live and work, i.e., with families in urban, suburban and rural communities. In this set-up, the student was expected to gain an understanding of the relationships between development, social systems, special interest groups, elite groups, women, and the poorer sector of the community. Students were to take part in community surveys, community diagnosis, action plans and ongoing community projects. It was also planned that they work under supervision in primary care settings, such as in health centers, dispensary and district or rural hospitals. Overall, the design of the community-based educational program was to be characterized by the following:

- It is responsive to priority health needs of the community.
- It relates to all needs of the individual.
- It promotes health education which fosters self-reliance.
- Its competencies are clearly stated.
- It teaches and encourages problem solving and motivates the community to be involved in learning.
- It encourages team work and team building.

### **Introducing innovation into dental education**

The planning for new dental training that is both innovative and relevant to the needs and conditions in the Pacific island countries involved several stages. First, a careful study was done to assess the pattern of oral diseases in the island countries and to determine the cultural, social, and economic factors which influence the standard of oral health care. The general picture of the oral health condition showed a much higher prevalence of caries in the primary dentition and a high prevalence of periodontal diseases in persons age 15 years and over. These diseases remained uncontrolled and have led to an increase in edentulousness starting at age 30. Serious physical and

nutritional problems heightened the problem for those 45 years and over. The demand for extraction was high, which resulted in a high demand for dentures later in life.

Other problems specific to ethnic groups and other Pacific countries were also

identified. Some of these are malocclusion among the Indian population, causing aesthetic and psychological problems, and oral cancer in Papua New Guinea and some parts of Micronesia. Other factors which were found to exacerbate oral health problems included ineffective communication in health education, malnutrition in children, lack of appreciation of oral health in relation to general health, shortage of personnel, lack of finance, and lack of transport. Target groups needing priority attention were also identified. Among these are preschool children, primary and secondary school students, expectant and nursing mothers, edentulous adults age 45 years and over, and residents of villages and rural settlements.

The political coup in 1987 led to a dramatic reduction in the number of oral health personnel; 40% of dental officers and 9% of dental therapists left the country. Consequently, existing staff were only able to cope with 2% of the need for care. The high demand for extraction allowed personnel to look after only 2% of the restorative needs and 1% of the periodontal needs. An overall assessment of oral health personnel needed to carry out the task of providing care to the country required dental assistants, dental hygienists, dental technologists, dental therapists and dentists.

The new curriculum was designed to ensure that the students' education is relevant to the conditions of the populations they will serve and that it will be appropriate to meet the oral health needs in Fiji and the South Pacific. The curriculum was planned to have a strong community orientation, with emphasis on the problems of local communities. It was also meant to include training in diagnostic skills, communication abilities, prevention and self-help. A well-defined pathway of progression into the levels of training was established. Educational modules were prepared in a sequential structure that would allow

exit and re-entry at each level for dental assistants, hygienists, technologists and dental therapists. Each graduate would be prepared to meet the requirements of each level as detailed in job descriptions of each position.

The teaching approach was to focus on problem-based learning rather than on teacher-centered, subject-based, didactic teaching. Knowledge of basic and preclinical sciences would be acquired by students at each level of training; students would study aspects of the different sciences that are applicable to clinical or community problems that they encounter. Learning of clinical skills would be introduced early in the training through incorporation of procedures designed to develop these skills. More complex skills would be acquired through more rigorous procedures as they progress in their training. Finally, the program was designed to graduate internationally acceptable BDS degree holders at the end of five years continuous training.

### General structure of the course

The entire length of the course consists of 49 modules. The first year consists of 13 modules; the first four of these are designed to introduce students to the concept of primary health care and provide one month of training for other health workers such as teachers, nurses and village health workers. The primary health workers exit after one month while the rest of the students proceed to the next phase. After the first year, students can follow one of three paths: exit as qualified dental assistants, proceed to the dental technology program or proceed to the dental hygiene program. At the end of one and a half years, students may exit as dental hygienists or proceed to the dental therapy program. Those that fail to qualify for either program exit as qualified dental assistants. At the end of three years, students may exit as dental therapists or proceed to pursue the final two years of the program. Those who do not qualify for either program exit as dental hygienists.

Problem-based learning is adapted whenever possible which makes it feasible to incorporate relevant details of basic and preclinical disciplines into appropriate modules without having separate modules for these disciplines. These include anatomy, physiology, biochemistry, pathology, oral anatomy, oral physiology, diet and nutrition.

Community dental education is an integral part of the program. Modules are designed to allow students to be involved in community dental education very early in their educational experience. Students continue with modules on community dental education throughout their final year. The general principle is to have the curriculum 50% clinically based and 50% community based. In the second year students are assigned for one day a week for 14 weeks in a village or rural settlement. By actually working with the people they would be able to understand the social and cultural elements of community life and how these influence oral health activities.

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The curriculum takes into account the trends in oral diseases, social needs and other factors that contribute to the difficulty in accessing care. In our situation, we see the auxiliaries as the personnel who will take dentistry to the people. The dental hygienists are trained not only to do scaling and polishing but also to carry out oral cavity sealants.

They are also trained in applying the Atraumatic Restorative Technique. Dental therapists, in addition to being able to carry out all that dental hygienists can do, are also able to do fillings and extractions to both adults and children. Attempts are made to foster close team work between the dentist and the auxiliaries. The plan is for a triangular model of manpower output with more auxiliaries at the base and the few dentists on top.

### Conclusion

A critical analysis of our situation helped us to arrive at a consensus that the best way to solve our problems was to change the curriculum to emphasize the teaching of prevention and the promotion of oral health using the principles of primary health care. Hard decisions were made to determine the best types of personnel to carry out our programs. Flexibility in the curriculum was deemed necessary to allow personnel to exit and re-enter the program at an appropriate level, which provides career pathways for students. We hope that this program will produce the type and quality of oral health personnel who will be able to face the challenge of providing oral health care to every individual and achieve our goal of "life for teeth and teeth for life".

### Reference

1. Educational Imperatives for Oral Health Personnel: Change or Decay? Report of a WHO Expert Committee. WHO Technical Report Series No 794. Geneva: World Health Organisation, 1990.
2. Community Based Education for Health Personnel. Report of a WHO study group. WHO Technical Report Series No 746. Geneva: World Health Organisation, 1987.
3. Alternative System of Oral Care Delivery. Report of a WHO Expert Committee WHO Technical Report Series No 750 Geneva: World Health Organisation, 1987.
4. An Inquiry into the Training and Education of Personnel Auxiliary to Dentistry. A Report to the Nuffield Foundation, 1993.
5. Davies G.N. Achieving Oral Health in Developing Countries. Paper delivered to the International Conference on Oral Health, Sri Lanka.
6. Davies G.N. The Training of Oral Health Personnel: Fiji School of Medicine. WHO Consultant Report, January, 1991.

7. Davies G.N. Primary Oral Health Care for Developing Countries. World Health Forum 12:168-174,1991.
8. Davies G.N, Atalifo S.F, Tuisuva.J, King.T, Mucunabitu.M, Nawawabalavu.M, Vukunisiga.S, Singh.V. A New Approach to the Training and Education of Oral Health Personnel. N.Z Dental Journal:113-118.1993.
9. Finau. S.A. (1992) Oral Health and Human Resource Needs in the Pacific. A Review. Noumea. South Pacific Commission.
10. Mason, Sir David. The Changing Role of the Dentist. Br Dent J.,1994;59.
11. Sheiham A. The Future of Preventive Dentistry.BMJ.1994;309:-2145.
12. The Berlin Declaration on Oral Health Services in Deprived Communities. Proceedings of an International Workshop held at the German Foundation for International Development(DSE) Villa, Borsig, Berlin, September 1992.

Those of us who have the duty of training the rising generation..... must not inseminate the virgin minds of the young with tares of our own fads. It is for this reason that it is easily possible for teaching to be too "up to date". It is always well, before handing the cup of knowledge to the young, to wait until the froth has settled.

*(Sir Richard Hutchison in BMJ, 1925; 1:995)*