Chapter 1.1

INEQUALITIES IN ACCESS TO EDUCATION AND HEALTH CARE

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Abstract

The burden of disease is borne by those who suffer as patients but also by society at large including the health service providers. That burden is felt most severely in parts of the world where there is no infrastructure, or foreseeable prospects of any, to change the status quo without external support. Poverty, disease and inequality pervade all the activities of daily living in low income regions and are inextricably linked. External interventions may not be the most appropriate way to impact on this positively in all circumstances, but targeted programmes to build social capital, within and by countries, is more likely to be sustainable. By these means, basic oral health care, underpinned by the Primary Health Care Approach, can be delivered to more equitably address needs and demands. Education is fundamental to building knowledge-based economies but is often lacking, even at primary and secondary level in such regions. Provision of private education at tertiary level may also introduce its own inequities. Access to distance learning and community-based practice opens opportunities and is more likely to encourage graduates to work in similar areas. Recruitment of faculty from minority groups provides role models for students from similar backgrounds but all faculty staff must be involved in supporting and mentoring students from marginalised groups in order to ensure their retention. The developed world has to act responsibly in two crucial areas: not to exacerbate the shortage of skilled educators and healthcare workers in emerging economies by recruiting their staff. Second, they must offer educational opportunities, at an economic rate. Governments need to lead on developing initiatives to attract, support and retain a competent workforce.

Key words: inequalities; access; education; oral health
Introduction

Equitable access to education and health care are considered to be the cornerstones of increased community capacity for societies throughout the world (1). Integrally linked with community capacity building are the twin concepts of social capital and social exclusion. The concept of social capital as defined by Putman (2) suggests that people’s health and psycho-social well-being are determined by the degree to which they interact with their immediate and wider society. It is within Putman’s model that the role of inequality as a mediator of health and social capital is writ large. For those who are marginalised to the edges of society their experience of impoverished social support and lack of mutually trusting social networks results in greater experience of physical and psycho-social ill health and ‘disease’. Such individuals are said to be socially excluded.

The twin concepts of social capital and social exclusion have been expounded and developed in Europe and America to describe those pushed to the edge of society; they have great relevance for communities throughout the world. It is proposed that by carefully exploring these concepts, a framework to understand the role of inequality as a mediator to accessing education and health care may be formulated. Furthermore, it will provide an underlying rationale for the promotion of social support and mutually trusting networks as a means of capacity building. Working in this way will allow the promotion of community capacity (bonding social capital), mutually trusting social networks with neighbouring communities (bridging social capital) and formal and informal links with health professionals (linking social capital).

In order to achieve the goal of increased community capacity, it is necessary to understand the community in terms of its health and health care disparities as well as its physical and psycho-social needs. In essence, what is suggested is that accessible education and health care must form part of a community development approach and the communities' needs must belong with the community rather than being imposed from the ‘top-down’. Of central importance therefore, is the psycho-social structure and health of societies and how these factors impact upon the communities’ access to health care and education.

Demography and Health

In July 2007 it was estimated that the World’s population stood at 6,602,224,175, of whom over one quarter were children under 15 years of age and nearing 10% were over the age of 65 years (3). However, the median age of the population worldwide is only 28 years. Growth rate changes are not always steady; a significant dip occurred for example at the end of the 1950s because of the impact that significant social reorganisation in China had on agriculture, and natural disasters. This resulted in a rapid climb in the death rate and a fifty per cent reduction in fertility. The world population growth rate was 2% in the 1960s, due largely to reducing mortality. Thereafter there was a decline due to later age at marriage and improvements in contraception.
Health is a difficult concept to define; a fairly crude indicator is life expectancy although this takes no account of the amount of a person’s life spent in poor health. Such an indicator is the WHO’s measure of Health Life Expectancy (HALE), which is estimated from current life expectancy figures but includes the number of years spent in poor health, based on indicators of health states in a particular country. For example, in the UK the average life expectancy is 78.5 but the HALE is 70.6 years. Japan has the highest HALE at 75 years but in Sierra Leone it is 28.55 years. In Brazil, regarded as a developing country, life expectancy in males is 68 years and for females, 75 years.

The greatest impact on the world’s population, predominantly in the developing world, has been the effect of malaria, TB, HIV and AIDS. Although the repercussions of the HIV epidemic have still to be fully felt, the combined effects of a distortion in age structures alongside declining survival rates (the average life expectancy in sub-Saharan Africa is declining to around 30 years of age) and lack of support systems have impacted seriously in many countries of the region. During the years since the pandemic took hold, more than 20 million people worldwide have died and a further 40 million are living with the consequences of HIV infection. Most of these will die within the next ten years unless a solution is found to this infection. Internationally AIDS is the fourth largest cause of death but is the number one killer in Africa and accounts for significant mortality in Asia. In four countries of Sub-Saharan Africa, more infants are projected to die from AIDS by 2010 than any other cause.

The risk factors for high infant and adult mortality, seen in places like Sub-Saharan Africa and Afghanistan are lower average incomes, more extreme poverty, higher inflation and less trade (4). Ruger and Kim (2006) have shown that, in addition, there is one-fifth of the spending on outpatient visits, hospital beds, and physicians in countries with high as compared to those with low, mortality rates. There was a 20-fold difference in spending on healthcare between countries with low and high adult mortality. In addition, there was a 50-fold difference in spending between countries with low and high under-five-year-olds mortality.
Health and socio-economic status are inextricably linked and it is now acknowledged that the former is a key driver for the latter. But, poverty continues to contribute to poor health and chronic illness keeps many populations below the poverty line. Health promotion, of which oral health is a part, is governed by the ethical principle of equity of access such that attainment of health should not be hampered for socio-economic reasons or poor health service delivery systems.

Whilst the transition for many countries from socialist systems founded in the last century has been stormy, the countries of central and Eastern Europe (CEE) along with the Commonwealth of States (CIS) has given the prospect of financial and economic security. The same can be said for the new accession states to the EU, with all that that potentially brings for these countries. Outwith the enlarged EU, the picture is different with more than 60 million people who are poor (< $2.15 per day) and 150 million are economically vulnerable ($2.15- $4.15 per day). An upturn in economic prospects may only be transitory and there is an increasing recognition that to sustain growth for the future in these economically vulnerable countries, investments need to be made in health capital. Ill health is shown to play an important role in determining people’s labour market performance, on top of other potentially important economic effects.

Chronic diseases, such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, are by far the leading cause of mortality in the world, with the exception of Africa, representing 60% of all deaths. This unacknowledged epidemic is a significant cause of poverty and frustrates the economic development of a country; 80% of deaths from chronic diseases are in people from countries where there is low-to-medium per capita income. In its Charter for Health, The World Health Organisation emphasizes the important role of environment and behavioural determinants of health. – safe water, clean air.
Some of these chronic conditions share a common aetiology with oral diseases. The Common Risk Approach (Fig.2) presents an opportunity for dentistry to align itself with primary healthcare in tackling many of these so-called lifestyle effects, for example, obesity. Out of the 35 million people who died from chronic disease in 2005, half were under 70 and half were women. Throughout the world, the majority of health workers are women.

Many of these people are socially excluded thus ill health and poverty affect their social capital, increasing inequalities and reducing community capacity which in turn leads to greater deprivation.

**Epidemiology of Oral Health Worldwide**

Oral health means ‘being free of chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affect the mouth and oral cavity’ (6).

Global oral health trends have changed over the last few decades. Whilst dental caries declined in developed countries towards the end of the last century, and polarised to the extent that 80% of the disease became concentrated in 20% of the population, the same was not the case in developing countries. For many of the latter, oral health worsened. Paradoxically the decline in oral health in those developing countries has occurred in urban areas and in those whose socio-economic status has improved. This is seen as a consequence of increasing affluence but in the absence of factors that have led to an improvement in oral health in developed countries: fluoridated toothpastes, better oral hygiene and dietary improvements.

The sequelae of poor oral health affect the individual and the state. People compromised by poor oral health have a reduced quality of life. This is especially so for older people, many of whom now retain more teeth longer into old age. The need to re-orientate oral care services in developed countries to reflect this changing demography is vital. In developing countries, where the lack of dental manpower focuses the strategy on preventive care, there is a need for this approach to be inclusive of the needs of older people as well. There is a need to align the delivery of oral care with medicine, particularly in developing countries where basic dental care should be offered along with primary health care initiatives, especially in the light of the more complex health issues of an increasingly elderly population.

Those suffering from nutritional deficiencies develop conditions like noma, with all the stigma attached to the consequent disfigurement, should the person affected survive. Taking on undesirable lifestyle elements seen in developed countries, like tobacco use and excess alcohol consumption results in oropharyngeal cancers in countries without the health service infrastructure to cope with such diseases and people’s rehabilitation from them.

The *Federation Dentaire Internationale* (7) cites budget limitations, lack of infrastructure, resources and knowledge, lack of capacity, different priorities, or even unwillingness to act, as the key elements preventing global improvements in oral health. Lack of funding as well as overt poverty strongly influence people’s access to oral health care although factors other than funding are influential: age, frequency of visiting when dental care is available and dental status, are predictors of oral health.
perceptions (8). Access is still a major determinant when comparisons are made between urban and rural populations.

Across the world, an undue emphasis on the biomedical aspects of care, to the detriment of the psychosocial, environmental and governmental aspects means vulnerable groups may lose out on essential oral care (9). Indeed, the World Health Organisation’s Global Goals for Oral Health for 2020 have assumed a more directed public health approach in achieving these goals, in particular, the potential to modify risk factors, many of which are common to those for other chronic diseases (10,11).

According to the World Health Organisation, some six hundred million people live with disabilities of various types. This number is rising due to the increase in chronic diseases, injuries, car crashes, falls, violence and other causes, like ageing. Of this total, 80% live in low-income countries; most are poor and have limited or no access to basic services, including rehabilitation facilities.

The unmet need for oral care amongst people with disabilities is, on the whole, more acute than it is for non-disabled populations. The epidemiology of oral disease amongst such disadvantaged groups is documented, mostly in local but also in some national surveys. Despite significant changes in public health care systems in many countries, people with disabilities of all ages continue to compare less favourably with their normal peers. Whilst the prevalence of untreated disease is often similar, the lack of specialist facilities and general access issues mean that the provision of even limited care amounts only to extractions, often on an emergency basis. Users of these very limited services comment on the lack of appropriate skills amongst clinicians. Some studies highlight the need for greater investment in auxiliary personnel to provide, for example, more frequent dental hygiene visits since periodontal disease is an overriding concern for many adults with disabilities (12-14). The profile of people with disabilities attending for care is likely to be that of poorer educational attainment, little if any provision for funding, be it insurance or other such schemes, more likely to be unemployed and little or no independent income and thus to be reliant on state funding for access to care.

In the US, children living in poverty or whose parents had little formal education were at greater risk of disability (15). Adolescents with disabilities were three times more likely to visit a doctor each year and nine times more likely to have hospital visits annually than their non-disabled peers. There would thus be opportunities for oral health promotion if dentistry were more closely aligned with medicine. Because of the common risk factors in both medicine and dentistry, oral diseases have much in common with non-communicable chronic diseases and it is important that dentistry aligns itself more closely with medicine. This is relevant too, with the increasing age profile of the population who will seek dental care and who, as a consequence of ageing, will require new dental graduates to have a much better understanding of medicine.

In the UK there are approximately 17,000 families who have one or more disabled children. Some 6,500 families care for two or more severely disabled children. Such families are more likely to be single parents, less likely to be in paid employment but if they are, for them to be in semi-skilled or unskilled jobs. They are thus families who are reliant on state aid and less likely to own their own homes (16).

Scant attention has been paid to the role and health care needs of a sizeable proportion of the population who are part- or full-time carers for people with disabilities. In the US, there are of the order of 53 million caregivers who provide an estimated $257-$389 billion of unpaid care to people with disabilities and/or chronic
illness. The majority of these, like healthcare workers, are women. In 2004 a survey of such persons indicated that the health of these people was substantially poorer than those not involved in regular care giving (15).

There is a need for the ongoing collection of epidemiological data on, not only normative need but also peoples' perceptions of their need: felt need, expressed need. Comparative need is brought more sharply into focus for some excluded groups living in real poverty where setting priorities is a daily occurrence. In these instances, oral health care may never make its way to the top of the list.

Access to Education

Education provides knowledge and skills that a person needs in order to better their life and play a role in building a peaceful and equitable society.

Sub-Saharan Africa is characterized by massive educational deprivation. Not only are large numbers of children, in particular girls, denied access to school, but many do not complete the primary cycle. It is stated that for half the countries for which data are available, the survival rate to grade 5 is less than 67% (17).

Access to tertiary education is also an issue for countries with more developed economies (18). Marginalisation of populations in gaining access to education links in with community capacity and the building of social capital.

The Millennium Development Goals aim to lower this disparity through international cooperation by initially halving the problems of poverty, hunger and providing universal primary education for all boys and girls by 2015. However, in Sub Saharan Africa no country is currently on target to meet the goals. The tragedy here is that it is known what works and what kinds of actions make for more rapid and equitable progress (19).

In the developed world, dental schools have traditionally attracted students from socio-economically advantaged groups within the population.

Reorientation of dental education

Schools in the US have recognised the need to alter their focus to take account of changes that significantly impact on their viability. In the report of the Institute of Medicine in 1995 entitled 'Dental Education at the Crossroads: challenges and changes' (20) five themes were identified to ensure a more certain future. These were:

- An increase in medical knowledge of all practitioners and closer working relations with other healthcare practitioners
- The teaching of more desirable models of clinical practice with outreach programmes to increase students' breadth and volume of clinical activity
- To demonstrate value to their university and community, rather than being isolated into centres of technical expertise
- Continued reform in the accreditation and licensure process to reduce current deficiencies
- To promote experimentation with different models of education and practice in order to prepare the new graduate for a more uncertain future
There was an acknowledgement that schools would need to develop curricula that recognised both patient and student diversity and in the US, respond to the challenge of “managed care” in an increasingly competitive healthcare market. Funders are seeking care that is less like the traditional academic centre and more allied to primary health care – with fewer specialists. As well, the costs of research and education are not the concern for such funders. Medical coverage should also cover dental care.

Educational systems must take account of the need to respond rapidly to the need for change in the number and type of healthcare professionals, this will vary from community oral health workers to dental specialists who should be able to follow a flexible career pathway. What is certain is that the skill mix of the work force must match the needs and expectations of the community it serves.

The lack of sufficient dental manpower has dogged many developing countries. In recent times it has become an issue for the developed world. In the latter, changing expectations by the public and a greater demand for sophisticated services by patients has led to a shortfall in the dental workforce. How countries in the developed world respond to this varies but in many, is governed by how that workforce is regulated. In the UK the lack of dental manpower has been addressed, in the short-term, by recruiting dentists from overseas. Longer term, there has been an expansion in the number of training places as well as the siting of two new dental schools in areas traditionally underserved by dentists. The extension of the rights of dental therapists to work in dental practices, and not confined to the public services has potentially opened up the access, particularly for children. It is envisaged that a different method of remuneration will retain those already providing primary dental care and place a greater emphasis on continuity of care and a more preventive approach.

In developing countries, the growth of mostly private dental schools has widened access – for urban areas, often at the expense of rural areas. Thus there has been an overall increase in availability but paradoxically a rising inequality of access and possibly a lower quality of dental education (21). In Ethiopia, there are only 52 qualified dentists for a population of 63 million people; a dentist to population ratio of 1 : 1.2 million. Contrast this with the UK where there is one dentist to every 2,100 people. Other African countries, ravaged by war, like Sierra Leone and Rwanda have only 10 dentists for the whole population and no dental school. Imaginative ways need to be found to deliver dental education, both at undergraduate and postgraduate levels, in such areas that ensure expensively trained staff are retained in the areas of need.

**Attracting and retaining students**

Dentists tend to work in capital cities among the better-off populations. In India, whilst 80% of the population live in rural areas, only 10% of healthcare professionals work there. In Uganda, there are 10 new graduates per year, which has been the case since 1988 but only 48 dentists work in government hospitals, the remainder either work in private practice or have left the country. A lack of facilities and an overwhelming demand quickly leads to demoralisation amongst the few dentists who choose to work in rural areas.

The haemorrhaging of dentists from less developed or developing countries to support a declining workforce in developed countries is to be deprecated. In Uganda
in 2004, there are reports of such an exodus with 5 of the 11 dentists who had completed training in 2002 having already left the country.

In Tanzania, undergraduate students spend 25% of their programme working in community clinics; they are assigned a research project in year 1 and cannot graduate until this is completed. The students receive appropriate teaching in subjects like social factors, behavioural sciences and epidemiology to accompany such programmes. In Ghana and Brazil there are similar outreach programmes financially supported with student stipends. The view is that this approach encourages students to remain in these areas of dental need, having committed so much time to the area during training. In others, students are funded through the programme and are then expected to serve the local community for a period of years. In the States, there is a loan repayment scheme for those students who choose to work in community clinics.

In recent years there has been a shift in the gender balance in the dental student population in that a preponderance are now female, many of whom work less hours than male counterparts, although this is not always the case in all countries. However, more favourable working conditions to include parental leave arrangements, enshrined in individual countries legislation may mean that access issues arise as a consequence.

Across the world, there exists an inequity in recruitment to dental schools so that those from under-privileged backgrounds cannot easily attain dental school places. Schools have attempted to address this issue with innovative strategies aimed to attract and recruit students from under-represented minorities. In Brazil there are quotas for marginalised students to gain entry to dental school, varying from 3% to 40% of the intake. These students are taught to be responsive to the needs of the local community with an emphasis on prevention, moving on to restorative treatment. The Surgeon General’s Report in the US in 2000 (22) made the point that there were still major factors of access to care, quality of care, cultural differences, discrimination and severe poverty for many sectors of the population but that dental schools had not made sufficient progress in addressing these disparities. Action was needed to develop a workforce able to tackle the disparities in oral health rooted in race and ethnicity. The report acknowledges that recruiting people from diverse backgrounds is essential to achieving the goals of the National Oral Health Action Plan, to improve oral health and the quality of life by eliminating these disparities. New graduates must be able to provide culturally competent care to patients.

Engaging students during their course is vital to achieve this aim. The majority of students (67.4%) but a minority of alumni (38%), in one survey in the US indicated that their education and training had equipped them well to provide care to people from different socio-economic backgrounds. An increased proportion, 71% and 55%, respectively said they were well prepared to treat patients from different ethnic/racial backgrounds. Such students are more likely to see culturally diverse and socially excluded groups in their practices. It would appear that including education on the need to treat people from all parts of society into a dental course is vital if these graduates are to provide care to such groups (23).

These sentiments are echoed for socially excluded people including those with disabilities. Surveys in the US have demonstrated that inclusion of the management of disabled patients into the education and training of dentists is more likely to ensure that graduates feel well prepared to provide care to disabled people (24). However, most courses do not prepare the new graduate well. There is little or no evidence to indicate if such educational initiatives will in fact encourage dentists to provide care
for people with disabilities. There is a continuing debate as to whether this is a pre- or post-doctoral educational activity, or both. More pertinent may be the funding arrangements for care in that those on a fee for item of service may perceive access to be less good than those who have capitation type payment plans but this may be the reality, given that the reimbursement of fees for clinicians is better under managed care options.

Education on disability

As is the case for more disadvantaged and poorer people to be resident in rural communities, so it is for people with disabilities. Thus, the difficulties of access are compounded.

In the US, lobbyists have been successful, through the Association of American Dental Schools, in reinserting a requirement for education on the needs of people with disabilities to be included in undergraduate curricula for both dentists and dental hygienists (24). For a subject area that was excluded in many schools this is now a requirement. In part, this acknowledges the evidence indicating that familiarity with a topic ensures a greater likelihood that a new practitioner will incorporate such techniques or patient groups, into their daily practice. Some years ago the Federation Dentaire Internationale conducted a worldwide survey of dental schools and dental organisations. This enquiry aimed to see how much teaching there was devoted to the needs of people with disabilities and, as well, the views of the dental organisations on the competence of new graduates in this area. Provision of education on the needs of people with disabilities in undergraduate schools in Europe is very variable. What emerged from this enquiry was the disparity between what deans thought was the level of competence of their students and how the latter was perceived by dental organisations, who represented those who were employing new graduates. Interestingly, some schools saw a role for DentEd to audit educational activities and one school had set up a commission after their DentEd visitation in order to review such educational activities (25).

Continuing professional development

Inclusion of care for vulnerable, often marginalised groups, needs to be included in undergraduate and continuing education curricula as this is an increasing proportion of our societies, particularly as populations’ age. Dental education and training, as in other areas must reflect the needs and demands of the society it serves. In the UK, teachers in dental schools have developed guidelines for the content of the undergraduate curriculum to ensure that students have adequate exposure to, and training in, the care of excluded groups (26). This can be used as a resource by other countries developing curricula in this area.

Undergraduate education in many developing countries is strained by the pressures of incorporating new technology in materials sciences and equipment that disproportionately drain the meagre budgets of the dental schools. Often the technological approach is inappropriate for the overriding health care needs of the population. Students who wish to embark on postgraduate education are frequently hampered by a lack of scholarships, which may exist but may be founded in well established groupings to the exclusion of others (27). As well, the very high fees charged by universities for non-home students, is a barrier to obtaining postgraduate education. Allied to this, the reluctance sometime in these students to return home means that, understandably, governments may be reticent to fund such ventures.
Scholarships more frequently exist in public health but not for clinical disciplines. Pressure to develop preventive strategies and a primary care approach mean that students who have been successful in obtaining postgraduate training abroad often stay in these countries and do not bring their clinical expertise back to their own country.

The use of distance learning modules and the bringing of specialist clinical expertise to the students, rather than the other way around, is one means to avoid a fees burden and to retain specialist in their home country.

**Addressing priorities in oral healthcare delivery**

Access to appropriate oral health care amongst disadvantaged communities is seen as a priority amongst oral health care personnel but in the context of competing demands on a day-to-day basis, is often of little consequence. In the competition for resourcing of clean water and basic healthcare, oral health needs often go underserved. However, many would see a moral and ethical imperative to ensure equal access to oral healthcare as part of general health. All too often, such provision becomes the preserve of aid agencies responding to a need as yet not seen as a priority for government funding. Such provision could serve as a model for government funded services in the future. Funding of services by non-governmental bodies is, however, sometimes at variance with local salary levels. This leads to considerable friction amongst a workforce where some are being paid at different rates for innovative programmes.

**Oral healthcare delivery**

In 1981, in ‘Pursuit of Health for All by the Year 2000’ (28), The World Health Organisation stated that ‘All people in all countries should have at least such a level of health that they are capable of working productively and of participating actively in the social life of the community in which they live’. As part of this, The Primary Health Care Approach based as it is on accessibility, affordability, acceptability, appropriateness and availability should allow for the equitable distribution of services and would provide a basis for oral health care that is appropriate i.e. with community involvement (29).

However, for disadvantaged groups, there are more barriers than prospects:

- Lack of government engagement and unhelpful legislation in relation to disadvantage
- Poor healthcare education
- Symptomatic consultations
- Inequitable distribution of healthcare workers
- Cultural barriers
- Lack of professional commitment to excluded groups
- Lack of under- and postgraduate education in the field of special care to motivate young colleagues to make a commitment to this field of dentistry.
- Non-economic patients, from the dentists perspective
- Economic inaccessibility, from the patient’s perspective
Models of oral healthcare delivery need to acknowledge the Common Risk Approach (30) (See Fig.2 above). In order for this to be effective, primary healthcare teams must be developed and prioritised. However, a concentration on treatment techniques and management modalities suited to the oral health needs of developed populations, perpetuated in undergraduate teaching in many parts of the world, do little to encourage the new graduate who is highly technically skilled, to take on the role of delivering oral health care in remote areas. Cognisance must be given to the culture underpinning the values in any one country – more important if people will access dental care, even with good facilities, rather than only the presence of the services. This is especially true for rural and indigenous populations in whom a distrust of new medicine is a strong deterrent to accessing care from other than their traditional sources. Traditional beliefs and practices have both positive and negative dimensions: dismissing them altogether may lead to rejection of any health interventions. Utilising the role of the practitioners of such traditional medicine practices may be a way to introduce and sustain changes in small communities, which builds social capital.

Overcoming barriers and improving access are enshrined in the 5 tenets of the WHO’s Primary Health Care Approach (31): equitable distribution of services, appropriate technology, focus on prevention, community involvement and a multi-sectoral approach. Likewise, the Ottawa Charter (32) lays out principles to provide a framework for a community based approach to optimising oral health, without which appropriate education and service delivery cannot happen:

- Building public policies which support health so that it becomes an agenda item for policy makers and requires governmental and organisational action
- Creating supportive environments for health that create living and working conditions that are safe, stimulating, satisfying and enjoyable.
- Strengthen community action by giving people control over their own initiatives and actions.
- Develop personal skills that enable people to access information that allows them to make healthy choices.
Reorientation of health services to make them a shared responsibility by all in the community

All too often the education provision in dental schools, modelled on teaching in countries with very different oral health care needs and demands, raises unrealistic expectations amongst new graduates. Not unreasonably, many of these new dentists cluster in urban areas where access to populations who have the ability to pay for expensive dental care consolidates their training.

At the same time, such innovation may appear attractive to some academic staff whilst others have, in updating their ways of teaching, to reflect change. One danger inherent in many curricula is allowing the tools of learning and application of knowledge to become the focus rather than the means to solve the oral health problem.

Workforce issues

Health workers are disproportionately distributed throughout the world. Here again the trend is for there to be more health workers in the developed world as compared to the developing world.

![World Distribution of Health Workers](image)

**Fig. 3: World Distribution of Health Workers**

Furthermore, there are imbalances within countries. It is reported that Sub-Saharan Africa has 11 percent of the world’s population and 24 percent of the global burden of disease, and yet it has only 3 percent of the world’s health workers (34).

### The Health Workforce in the Americas versus Sub-Saharan Africa

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<th>The Americas</th>
<th>Sub-Saharan Africa</th>
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<tr>
<td>14% of the world's population</td>
<td>11% of the world's population</td>
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<tr>
<td>10% of the global burden of disease</td>
<td>25% of the global burden of disease</td>
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<tr>
<td>42% of the world's health workers</td>
<td>3% of the world's health workers</td>
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<td>&gt;50% of global health expenditure</td>
<td>&lt;1% of global health expenditure</td>
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The chronic undersupply of health care workers is due to a combination of too few in training, emigration and unequal distribution. Many African countries are seeking to retain skilled healthcare workers by innovative programmes – recognising the occupational threat of HIV and arranging appropriate healthcare and support for affected health workers is one example. It needs to be remembered that in many of the South African countries, death from HIV/AIDS accounts for the major loss in the workforce. Other strategies include building infrastructure and focussing essential supplies in remote areas, which have led to dramatic increases in nurses going to work in rural states. For oral health care, attention should be given to managing a scarce manpower pool by simplifying and delegating tasks. Whilst the former is not a pre-requisite for the latter, it facilitates it. Care needs to be taken in continuously monitoring the outcomes from such an approach to ensure that the move is effective and that it gives value for money.

As in the US, African countries have turned to recruitment of local people into the healthcare professions in an attempt to retain qualified staff in remote areas. The evidence to date is that such workers are three to eight times more likely to stay in underserved areas. Additional incentives – hardship and educational allowances, housing, funding for postgraduate education - to stay in remote areas has also been successful in countries like Zambia.

Another tactic has been to increase the numbers in training but as in more developed countries, this cannot happen without a commensurate increase in the number of academic staff, otherwise the quality of education and training will suffer. In the same way as there is a need to actively recruit, train, sustain and retain healthcare workers, the academic workforce needs to be managed similarly. There needs to be a recognition of the growing proportions of the both the academic and health care workforce that are female and the differing needs which that implies.
Across the globe the competing demands on academics - research, clinical service, teaching and administration often place greater emphasis on the first two to the detriment of teaching. In planning for the workforce of the future, due consideration needs to be given to the needs of the academic workforce, particularly given its changing demography.

A related issue is the exponential increase in private provision of tertiary education in many developing countries; admission to government funded facilities is based often on poorly funded second level education. However, with the appropriate support and mentoring, retention of students on undergraduate courses can have a rewarding outcome. Imbuing a sense of lifelong learning is fundamental to the more rapidly changing needs of the population, wherever one is in the world. This is particularly pertinent in the area of management of chronic diseases, of which oral disease is one. A significant proportion of the morbidity and mortality from chronic diseases is due to errors on the part of healthcare workers.

Developed countries too need to exercise their ethical responsibilities in not draining the skilled workforce from developing regions of the world. As well,, external funding agencies need to be sensitive to the demands they make on scarce skill-sets by demanding onerous reporting on projects that detract from the application of those skills to their areas of real expertise.

**Recommendations**

**Theme 1: Community-based mission**

1.1 Promotion of equitable access to education and health care is the responsibility of the whole profession: the school philosophy should encompass a community-based approach to its education and health care delivery.

1.2 There must be an holistic approach (common risk factor approach) for the delivery of both education and health care services to promote health, and oral health, outcomes, based upon the needs of the community.

1.3 Regular collection of epidemiological data, including attitudinal and behavioural data, in order to design and deliver culturally competent and appropriate services (community development approach), is vital. The skills mix of the oral health team should be responsive to the disease prevalence and the needs of the population.

1.4 The oral health care team should be preventively orientated in terms of care delivery and integrated with the primary health care team. More advanced care can be offered when resources permit.

**Theme 2: Achieving equity in education**

2.1 The incorporation into undergraduate education, including all those members of the team delivering oral health care, of exposure to, and teaching on, disadvantaged populations serves to foster a more inclusive attitude in dental graduates. Dental students should provide care for patients from all segments of society, especially those with disability.

2.2 Dental students should be drawn from all segments of society irrespective of economics, race, disability, gender or ethnicity; financial resources should be available to make this possible. Intra- and inter-governmental policies and incentives should encourage students to return to their home communities.
2.3 Postgraduate education should be facilitated across and between countries. The didactic elements of the programmes could be supported by distance learning programmes with students remaining in their home communities.

2.4 Dental educators should be culturally competent and have experience of cultural diversity and training in disability awareness, communication skills and appropriate attitudes to those considered to be socially excluded.

2.5 Academic staff should include those from minority populations to act as role models. All faculty members need to be encouraged to act as mentors and support students from disadvantaged backgrounds.

2.6 To prepare adequately the workforce to deliver care to disadvantaged populations, dental undergraduate programmes should have in-depth educational components in dental public health as well as a significant clinical outreach experience.

**Theme 3: Achieving equity in health care**

3.1 Governments need to provide legislation and, with NGOs and the private/corporate sector, facilitate access to education; together they should provide the finance, for the necessary service infrastructure to deliver care to those with greatest need.

3.2 There needs to be encouragement of research and development strategies that devise appropriate technologies, which reflect the needs of all populations and not just those who are economically advantaged.

3.3 There should be continuing research to elucidate the evidence for the most appropriate, acceptable, accessible, affordable and available oral health care systems for diverse communities throughout the world.

**Theme 4: IFDEA: mission statement: world-wide resources**

4.1 IFDEA should act as a world-wide resource for scientific and educational information exchange for oral health.

4.2 It is essential that all programmes are evaluated and that examples of good practice are readily available and accessible through the IFDEA website.
References


24. Waldman HP, Perlman SP. Mandating education of dental graduates to provide care to individuals with intellectual and developmental disabilities. *Ment Retard.*, 2006; **44**: 184-8


Glossary of terms

[1] Community capacity
Community capacity describes an active process in which the community increases its capacity for accessible structures, mutually trusting networks and health gain. Community capacity is integrally linked with community development and empowerment (1).

Social capital describes social networks and social trust between and across communities. It is connected to two key and complementary elements – structure and process. Structure provides the opportunity to re-establish social networks by increasing the frequency and durations of interactions between people using social support and communication. The process associated with social capital is related to the actions to promote purposive behaviours which are in the best interests of the individual with regard to access to education and health care (35).

[3] Typologies of social capital (2, 36,37)
- ‘bonding’ social capital is the social cohesion which exists within communities and is essential for ‘getting by’. These are social networks between equals.
- ‘bridging’ social capital describes inclusive social networks across different and distinct groups of people and communities and is also essential for ‘getting by’.
- ‘linking social capital’ describes vertical networks which link the powerless to the powerful. They are a subtype of bridging networks.

[4] Disability
The World Health Organisation defines disability as:
‘Disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is a complex phenomenon, reflecting an interaction between features of a person’s body and features of the society in which he or she lives.’ (38)