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'Yesterday, Today and Tomorrow'



The
Commonwealth
Dental Association

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Keynote Address: Current Dilemmas in Dental Education how global influences are impacting dental education

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(Department of Epidemiology & Public Health, University College London, UK)



Economic Globalisation

- Not a new phenomenon.
- Impacts different countries differently - not entirely 'a level playing field'.
- Essentially the free movement of money. It is on-going and if there is an end point it is hard to determine what it will be.

Resulting Influences on Access to Care

- Increasing importance to governments of the economic imperative that drives many management styles and decisions.
- Consumer supremacy.
- Human rights issues and ethical issues.
- Increasing challenges in rationing health services.
- New infectious diseases, pandemic of chronic diseases.

Background

Internal Factors

- Increasing complexity of providing oral health care.
- Medical / biological.
- Technical.
- Ethical.

External Factors

- Democracy and the 'free market'.
- Structural adjustment.
- Increase in wealth for some.
- Increased travel for a few.
- Increased international responsibilities of governments.

Terrorism and Violence

- Perceived inequities can and often do result in people taking action into their own hands to redress gross disparities.
- This can result in unstable societies.
- "We could find ourselves literally isolated, a 'fortress America' still relatively prosperous, but surrounded by a sea of struggling, envious and unfriendly nations - a situation hardly likely to strengthen our own state of peace and security....We must create conditions for economic and social progress in the less developed areas of the world" ..(Robert McNamara, Former Defence Secretary, USA and Governor of the World Bank (1968-81))
- "Equity is complementary to the pursuit of long-term prosperity. Equity is doubly good for poverty reduction. It tends to favour sustained overall development, and it delivers increased opportunities to the poorest groups in society". (François Bourguignon, Senior Vice-President and Chief Economist, The World Bank)

The Widening Gap - Access to Care

- Increasing disparities in health mean for many.
- Access to health care is becoming more difficult for people.
- Sophisticated care is available to the rich.
- But common oral health problems go untreated until well advanced for many of the poor.
- New infectious diseases, pandemic of chronic diseases.

The Impact on Health

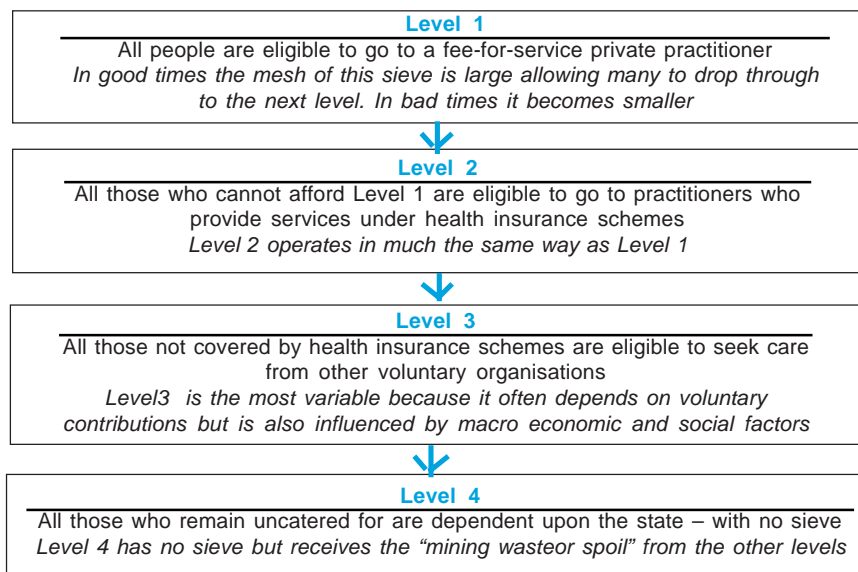
- Although there have been improvements in general health in the past few decades, now.
- The gap between the health of the rich and the poor is widening.
- New infectious diseases pandemic of chronic diseases.
- Transfer of diseases.
- Animals to human; Human to human.

So Who Gets Access to Care? - The Scenario

The Patient Sieve

- 'Sieving' is the time honoured method of extracting a larger piece of a substance from another.
- It is used as a simile for the way in which, in modern societies, patients arrive at different parts of the health services.

There are a series of formal and informal sieves that operate within a country's health system:



Results of the System

This arrangement of sieves makes managing health extremely complex because each level interacts with the other and sometimes one provider operates at different levels. It is further complicated by the concept and practice of having 'Purchasers' and 'Providers' of healthcare. Individual practitioners also compound the problems by moving from one level of the service to the other depending on the socio-economic situation.

The Impact on Dental Education

The Dental Public Health Workforce

- In the past decades the development and on-going training of the dental public health workforce have been neglected in sealthy and developing countries alike.
- Current organisation and delivery of dental public health services is inadequate.
- Should governments therefore invest more in building the dental public health workforce who, in turn, will rebuild the system?

The Intellectual argument for public health investment

- Health is included within the UN Universal Declaration on Human Rights in the section on economic, social and cultural rights. These economic, social and cultural rights require governments to create the conditions, which will allow people to exercise those rights.
- There is, therefore, a requirement for governments to create the conditions necessary for a health life for its citizens.
- To create such conditions requires a health workforce with a population-wide and an inter-sectoral approach to health.

More public dentists = better dental health?

- Limited evidence is available and that which exists is not encouraging.
- Existing public health courses are very theoretical and are taught in isolation when a practical inter-sectoral approach is needed.
- In part these are a consequence of the reduction in the public provision of Oral Health care.

Why are changes needed?

- The changing determinants of health (meeting the challenges).
- The need to make the public health services more effective and efficient (managing the health system better).
- The need to reduce health disparities (developing equity in health).

Common Risk/Health Factor Approach - The Need for Oral Health Policy

The new cadre of Dental Public Health Officer should be able to:

- Evaluate existing Oral Health programmes.
- Develop relevant and effective Oral Health strategic plans.
- Effectively advocate at all levels for the implementation of such strategic plans.

Key Elements of Oral Health Strategic Plans - Take-away Message

Do not let Dental Education and the Practice of Dental Public Health be the passive responders to Macro (micro) political and economic factors. But rather make them pro-active to the changes in the world around us so that all can benefit from better oral health.

The Basi(c)s of Infection Control

Dr John Hunt (CDA Vice-President, European Region)



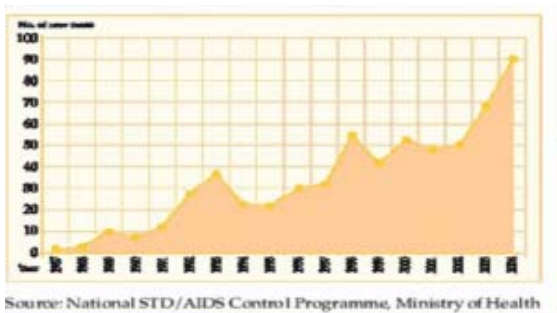
Yesterday: 1 December 1989

Dr David Acer, HIV positive Florida dentist allegedly infects six patients with HIV.

Today: 1 December 2006 - World AIDS Day

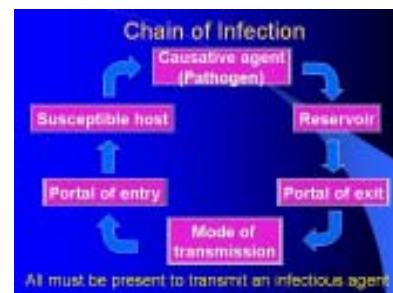
“Unite in the fight against HIV and AIDS. This year, it’s up to you, me and us to stop the spread of HIV and end prejudice”.

- ◆ 40 million people worldwide living with HIV.
- ◆ UK population around 60 million; 60,000 living with HIV = 1 in 1,000.
- ◆ Sri Lanka population around 20 million; estimated 3,500 living with HIV = 1 in 5,700.



Source: National STD/AIDS Control Programme, Ministry of Health

New HIV Cases Each Year - Sri Lanka 1987-2004



Chain of Infection

all must be present to transmit an infectious agent

Causative Agent (Pathogen)		
Bloodborne Diseases	Oral & Respiratory Diseases	Prion Diseases
<ul style="list-style-type: none"> ◆ Hepatitis B ◆ Hepatitis C ◆ HIV 	<ul style="list-style-type: none"> ◆ Viruses eg herpes, influenza ◆ Bacteria eg Strep Neiseria (MRStaph Aur) ◆ Mycobacterium eg TB ◆ Fungi eg Candida Albicans 	
<ul style="list-style-type: none"> ◆ Some disease agents are more infectious than others (more virulent) ◆ The less infectious the agent the higher the volume of exposure required to cause infection in the host ◆ Hepatitis B virus is highly infectious 		

Risk of Infection after Needle Stick Injury				
Source	Risk		Reservoir	
HBV	6.0 - 30.0%	1/3	Infected organs	Oral respiratory fluids
HCV	1.8%		Laboratory culture	Dental unit waterlines
HIV	0.3%	1/300	An infected person	Donated blood
Mode of Transmission				
<ul style="list-style-type: none"> ◆ Direct contact with blood and body fluids ◆ Indirect contact with contaminated Instruments or surfaces ◆ Contact of mucosa of the eyes, nose or mouth with droplets or spatter ◆ Inhalation of airborne microorganisms ◆ Direct contact with blood and body fluids ◆ Indirect contact with contaminated instruments or surfaces 				
Portal of Entry			Susceptible host	
<ul style="list-style-type: none"> ◆ Breaks or cuts in the skin ◆ Mucous membrans of mouth, respiratory tract and lungs ◆ Conjunctiva of eye 			<ul style="list-style-type: none"> ◆ Immuno-compromised individuals ◆ Complex medical treatments ◆ Aged and infirm ◆ Immunisations not given or out of date 	

Infection control is all about interfering with the chain of infection at as many points as possible
Use 'standard' precautions

Standard Precautions

Hands are the most common mode of disease transmission

Personal Protection

- ◆ Hand Hygiene
- ◆ Personal protective equipment
 - Gloves
 - Masks
 - Eyewear

Hand Hygiene

- ◆ When hands are visibly dirty, contaminated, or soiled, wash with non-antimicrobial or antimicrobial soap and water.
- ◆ If hands are not visibly soiled, use an alcohol-based handrub for routinely decontaminating hands.
- ◆ Gloves are not a substitute for hand-washing!
- ◆ The wearing of rings, bracelets and wristwatches is not advised as there can be infection e.g fungal under a ring.

Key Message 1
Wash your hands - or use an alcohol based hand-rub

Protective Eyewear with Side Shields is better "When it comes to personal protection Size Does Matter"

Masks and Eye Protection

- ◆ Wear a surgical mask and either eye protection with solid side shields or a face shield to protect mucous membranes of eyes, nose and mouth.
- ◆ Be certain of a proper fit for masks and eyewear.
- ◆ Change masks between patients.
- ◆ Clean reusable face protection between patients; if visibly soiled, clean and disinfect.

Instrument Washing and Sterilisation

- ◆ Manual washing
- ◆ Away from clinical area
- ◆ Correct detergent / concentration
- ◆ No aerosols
- ◆ Ultrasonic cleaner

- ◆ Dedicated area
- ◆ One way flow
- ◆ Double sink / double drainer
- ◆ Manual washing
- ◆ Mechanical washer / disinfectant

Steam Sterilisation

Temperature OC	Holding Time Minutes
134 - 137	3
126 - 129	10
121 - 124	15
115 - 118	30

Key Message 2
Clean instruments thoroughly before sterilising - preferably using mechanical washing machine

Prevention of Injury

- ◆ Use instruments to retract
- ◆ Use safety needles and recappers
- ◆ Pass instruments correctly
- ◆ Use sharps containers and re place before full

Non-disposable Syringes

- ◆ To re-cap a needle on a non-disposable dental anesthetic syringe
 - Place the cap on a firm surface
 - Using one hand, guide the needle into the cap (scoop technique)
 - Or, use a device for one handed recapping
- ◆ Alternatively, use a self-resheathing needle or syringe

Environmental Safety

- ◆ Medical waste disposal
 - Sharps
 - Blood-contaminated disposable products

Elements of Post-Exposure Management

- ◆ Managing the wound
- ◆ Referral to qualified health-care professional
- ◆ Reporting the incident
- ◆ Assessment of infection risk
 - Type and severity of exposure
 - Blood-borne infection status of source person

Key Message 3
Prevent percutaneous injuries

Immunisation of all Oral Healthcare Workers

Immunisation Programme

- ◆ Recommended vaccinations
 - Hepatitis B
 - Measles / Mumps / Rubella
 - Varicella (Chicken Pox)
 - Diphtheria / Tetanus
 - Polio
 - Influenza
 - Others depending on disease prevalence in the area

Hepatitis B - Vaccination Schedule

HBsAg + Adjuvant
IM injection
Adults
 ↓
0, 1, 6 mos.
 ↓
Anti - HBs
 1. Confers protective immunity
 2. Up to 92 - 96% respond

Non Responders to HBV Vaccination

Results of Additional Injections

Results	% Responding
4 th	25%
5 th	40%
6 th	50%

Recipient negative after 6 injections:

- ◆ Genetic hepatitis B vaccine non-responder
- ◆ Active hepatitis B virus infection: prodromal or icteric disease phase
- ◆ Hepatitis B carrier (HBsAg +): vaccine ineffective in carriers

Key Message 4
Ensure you and all the team are properly immunised

The Dental Laboratory

- ◆ Potential for disease transmission in the dental lab is well documented
- ◆ Potential pathogens can be transported to laboratory via orally soiled impressions, dental prostheses/appliances
- ◆ All disinfection procedures are accomplished prior to delivery to laboratory
- ◆ Disinfection procedures are done in dental surgery
- ◆ Disinfection is the responsibility of the dentist
- ◆ Recommend that impressions are labelled and signed as disinfected
- ◆ Repeated disinfection is undesirable

Key Message 5
Clean and disinfect impressions and other materials before transport to laboratory

Key Messages	The Future
<ul style="list-style-type: none"> ◆ Hand hygiene ◆ Clean instruments thoroughly before sterilising ◆ Prevent percutaneous injuries ◆ Ensure you and all the team are properly immunised ◆ Clean and disinfect impressions 	<ul style="list-style-type: none"> ◆ Increased life expectancy ◆ Mass population movement ◆ Ecological and climate changes ◆ Microbial changes e.g Bird Flu ◆ International travel and commerce ◆ Technology

Continuing Education

Professor Martin Hobdell

(Department of Epidemiology & Public Health, University College London, UK)



Why Bother?

- Ethical Reasons
- Consumer Power
- Government Concerns –
Accountability and cost containment
- Personal Concerns

The Current Position

- Many industrialized countries have evolved systems of continuing education linked to annual licensure requirements
- Other countries are thinking about such approaches and the infrastructural requirements for such

What has to be considered before beginning

(1)

- The specific learning needs of the potential groups of participants;
- The nature of the course and/or speciality;
- Availability of educators;
- Concentration of suitable participants;

(2)

- Availability of administrative support;
- Availability of technical support;
- Financial resources available to educators, participants and administrators

So it is Decided to Start

If a Continuing Education requirement becomes part of the annual licensure requirement what is the evidence that it improves the quality of services provided to patients?

Learning Wants and Needs

- Getting people to learn what they need to learn rather than what they want to learn
- A learner's experience determines the point of entry to the learning process, but is otherwise not central to it the dominance of the behaviouralistic (or technological) approach in CE.
- The behavioural (technological) approach aims to improve performance, production and efficiency. Therole of the educator is to instruct and the student to learn and become competent. This behaviouristic approach has overtones of social control. But...
- To adults their experience is in them. They define who they are, establish their self identity, in terms of a unique series of experiences.... they have a deep investment in the value of their experience. And so, when they find themselves in a situation in which their experience is not used, or its worth minimized, it is not just their experience that is being rejected.

(Knowles, M. *The modern practice of adult education: andragogy and pedagogy*. Chicago: Follet Publishing Co, 1970)

Needs Assessment the key to continued effectiveness as a clinician

(after Dixon 1978)

Subjective		Objective	
Self	Competence	Performance	Patient outcome
Reflection on: <ul style="list-style-type: none"> • Patient encounter • significant event • reading • course attended • discussion with peers • self audit / log 	<ul style="list-style-type: none"> • Multiple choice quizzes • Objective structured examinations • Simulated consultations 	<ul style="list-style-type: none"> • Simulated patient in real practice • Chart review • External audit with feedback • Targets (eg sealants placed) 	<ul style="list-style-type: none"> • Clinical review

Identifying Gaps in Professional Capability

Ultimately what matters is a practitioner's performance in the real work setting this requires a humanistic approach to learning as well as a behavioristic approach. Common themes to this approach are:

- Learner motivation
- Assessing learning needs and professional gaps
- Enhancing reflection
- Developing a personal framework for relating theory to practice in order to change and move on.
- Developing a personal framework for relating theory to practice

Reflection

- If the key to continued clinical effectiveness is keeping up to date then it can be argued that the key to keeping up to date is the enhancement of reflection.
- Capability to return to and re-evaluate an experience in order to identify professional gaps and make sense of how personal frameworks for understanding knowledge and practice fit together and can be altered

Choosing a Course Format

- **Lecture series**
- **Hands on practical courses**
- **Journal clubs and groups**
- **Practice quality assurance programmes**
- **Individual review of specific journals**
- **Scientific meetings**

ADA CERP Recognition Standards and Procedures

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Dental Auxiliaries Across The Commonwealth

Dr Anthony Kravitz (CDA Treasurer)



The Survey

A survey across the Commonwealth was conducted during 2006. The aim was to obtain dental workforce data from across the Commonwealth. All 53 members of the Commonwealth and also self-governing dependencies were contacted (where possible) with a standard questionnaire to dental associations or dental councils. The questionnaire asked questions about oral healthcare systems, regulation workforce numbers. The survey also used information harvested electronically from the FDI and the CIA *World Factbook*.

At the end of November 2006, complete information had been collected from 30 independent countries and 2 dependencies. Partial (thus incomplete) information had also been obtained from 11 countries and 3 dependencies.

No information had been received from 12 full member countries of the Commonwealth.

The problems encountered during the survey included:

- ◆ Failure to find any person to contact in many countries.
- ◆ Lack of verification in many cases.
- ◆ Misunderstanding of terms, eg Dental 'Technician'.
- ◆ Too little information from some and too much from others.

The History of Dental Auxiliaries

The term *Dental Care Professionals* is used in the United Kingdom.

- ◆ Paintings in various galleries showed the use of Dental Assistants going back for 12 centuries.
- ◆ The first recorded use of Dental Hygienists was by Dr Fones in Connecticut, USA in 1906.
- ◆ The precursor to Dental Therapists known as Dental Dressers, started in Derbyshire, UK in 1916, with New Zealand following in 1921 with their Dental Nurses scheme.
- ◆ The first country to introduce legalised Denturists (Clinical Dental Technicians) was Finland in 1964, although legislation permitting these was enacted in Tasmania, Australia in 1921 - without any further movement subsequently to introduce this class until the late 20th century. Illegal practise was rampant across the world, however, since the 19th century.

The Current Situation

Two thirds of the population of the Commonwealth currently live in one country, India. This nation also has 44% of all the dentists and 75% of the 298 dental schools. Preliminary results showed that:

- ◆ Just over half the countries reported their use of dental hygienists. In Antigua, Cyprus, Kenya and Pakistan the title is not protected.
- ◆ Only Antigua does not insist on formal training of hygienists.
- ◆ For nearly half the countries hygienist training is overseas. Training periods were from 2 to 3 years.
- ◆ Only the Bahamas, Canada and New Zealand (and the UK soon) insist on CPE for hygienists.
- ◆ Most countries allow hygienists to work without a dentist on the premises.
- ◆ About two thirds of countries reported their use of dental therapists.
- ◆ Most train them internally and formally. Training is 3 years in most (Nigeria 4 years). Only a handful 2 years.
- ◆ Registration is required in all but Cyprus, Fiji, Malaysia, Sri Lanka and Tanzania.
- ◆ CPE is required in Malaysia (!), Bahamas and New Zealand.
- ◆ In about half of the countries therapists may work without a dentist on the premises, but many more turn 'a blind eye' to this.
- ◆ Only two countries (British Virgin Islands and Turks & Caicos Islands) reported that they did not have dental laboratory technicians.
- ◆ About half train them internally. Training is 2 to 5 years.
- ◆ The title is protected in about half the countries. Registration is required in about half - but not necessarily in the same countries!
- ◆ Only 7 countries (Antigua, Australia, Canada, Jamaica, New Zealand, Pakistan and Tanzania - with the UK soon) reported the legal use of denturists.
- ◆ Training is formal and lasts 2 to 5 years. Registration is necessary in all these countries.

Ghana, Guyana, Uganda and the UK have other types of therapists, not fitting into the above categories.

The Impact of a World Dental Organisation (FDI) on the Daily Practices of Each Dentist Worldwide

Dr Michèle Aerden (President, FDI World Dental Federation)



Founded in Paris in 1900, the FDI represents 156 National Dental Associations, 23 international associations and almost one million dentists in 140 countries. It has an official relationship with the United Nations (UN), World Health Organization (WHO), International Organization of Standardization (ISO) and the International Association of Dental Research (IADR). It is a partner of the World Health Professions Alliance. The FDI develops policy statements, conference declarations, joint statements at meetings and endorses and promotes policies.

With the goal *Optimal Oral Health for All*, the FDI develops, supports and promotes programmes aimed at the prevention of oral diseases and the improvement of general and oral health. It provides expertise advice, and guidance in health policy formulation. It supports local pilot initiatives and global advocacy at highest political levels.

The FDI World Dental Development Fund supports oral health projects worldwide with a strong focus on education. This Fund was established in 1999.

Live, Learn, Laugh—is a partnership between FDI and Unilever with the aim of increasing oral health education and promotion in countries around the world. It was officially launched in Montreal in August 2005 and there are now 42 National Dental Associations from 38 countries participating in the partnership.

The FDI collaborated with WHO on the following programmes:

1981: Global Goals for Oral Health 2000.

2004: Global Goals for Oral Health 2020.

2004: Oral Health Conference, Nairobi.

2005: Tobacco Control Guide – '*Framework Convention for Tobacco Control (FCTC) – Reducing Risks to Health*'.

FDI has put out Statements in connection with the following:

- ◆ Dental Amalgam – WHO Consensus.
- ◆ Associations between Oral, Cardiovascular and Cerebro-vascular Health.
- ◆ Illegal Dental Practice.
- ◆ Infection Control.
- ◆ Oral and Dental Care with People with Disabilities.
- ◆ Global Goals for Oral Health.
- ◆ Principles of Ethics for Dental Profession.
- ◆ Improving Access to Oral Health Care.

The FDI has 4 categories of membership: Regular Members, Associate Members, Affiliate Members and Supporting Members. Support to members is through the FDI committees and sections.

At the FDI World Dental Congress in Kuala Lumpur (2001) it was agreed that *FDI Women Dentists Worldwide* exists to:

- ◆ Coordinate the activities of national groups.
- ◆ Promote the collection of information about women and their patterns of working.
- ◆ Address inequalities where they exist.
- ◆ Facilitate contacts between women dentists worldwide and enhance their full participation in all branches of the profession.

The FDI President finished by reiterating her advocacy of *Excellence in Medical Ethics*:

- ◆ Excellence in our actions.
- ◆ Medical positioning of our profession.
- ◆ Ethics in our behaviour.