

The Second Annual All Island Symposium
on the Public Dental Services

Proceedings of a Symposium

February 2003

February 2003

Oral Health Managers Society of Ireland
Dental Health Foundation, Ireland

Published by Dental Health Foundation, 26 Harcourt Street, Dublin 2.
Tel: (01) 478 0466 • Fax: (01) 478 0475 • Email: info@dentalhealth.ie
Website: www.dentalhealth.ie

ISBN: 0-9540263-5-7

Promoting Oral Health in Ireland



The Second Annual All Island Symposium on the Public Dental Services

Edited by : Ms. J. McGaffin, Dr. J. Mullen, Ms. D. Sadlier, and Ms B. Maher

Supported by:

Department of Health and Children, Republic of Ireland
Department of Health and Social Services, Northern Ireland

The opinions expressed in this report are, those of the respective authors and cannot be construed as reflecting the publishers or wider stakeholders views. Publication of presentations does not necessarily imply that the stakeholders agree with or support the views therein.

Published by: Dental Health Foundation, Ireland
November 2003
ISBN: 0-9540263-5-7

Table of Contents

Preface	4
Introduction and Context	5
Profile of Speakers	6
Welcome Address	9
Dr Wil Coulter – Infection Control: Standards in Dental Practice	10
Dr Caroline Pankhurst - Management of Contaminated Dental Unit Waterlines	14
Question and Answer Session	18
Dr Andrew Bolas - Radiation Protection – a problem for all of us	19
Mr Tom Frawley - Managing and Leading in a Time of Change	23
- Managing Risk: problems, challenges, pitfalls and major benefits	28
Conclusions	30
Acknowledgements	31
List of Participants	32

Preface

After the success of the 2002 Inaugural Symposium of the Oral Health Managers Society of Ireland (OHMSI) we were delighted to learn that a Second Symposium was to be held in Mullingar in February 2003, confident that the Dental Health Foundation, Ireland support for this event would ensure yet another effective outcome.

We are aware that much background work took place in the intervening period to progress the constitution, aims and objectives of this new cross border society for public health dental managers in both the North and South of the island of Ireland.

The chosen theme of "Change" was within this context considered particularly appropriate for the 2003 event.

We all live and work in a rapidly changing and challenging environment and this Symposium moved participants through changes in the clinical environment to challenges in leadership. The resulting outcome for delegates was an opportunity to participate in a second symposium that was both highly relevant to day-to-day working and also very inspirational.

This cross border venture continues to grow and develop and in time along with other initiatives will bring real benefits to our wider public and to our health care systems.

We wish the Oral Health Managers Society of Ireland (OHMSI) continued success into the future.

DOREEN WILSON
Chief Dental Officer
Department of Health, Social
Services & Public Safety

GERARD GAVIN
Chief Dental Officer
Department of Health
& Children

Introduction and Context

The Oral Health Managers Society of Ireland (OHMSI) was founded in 2002 as a forum for leading public dental surgeons from both parts of Ireland to meet and discuss matters of mutual interest. Its annual meeting has two parts, a scientific symposium and a business day. This document is the official record of the Second Symposium, held in Broomfield House, Mullingar, in February 2003.

The original theme of the Symposium was to be health and safety issues in dentistry. The themes covered were infection control, surgery water lines, and radiation protection. We were fortunate to secure the services of three top quality speakers, each a recognised expert in their field. The specialist dental or medical reader and the policy maker will find much of interest in these articles; they may indeed find themselves having to confront some of the challenges contained therein. How are the public best protected from the hazards of cross-infection in a dental surgery or the possible overuse of dental radiographs? What is the appropriate response of the State to assist the dentist who has contracted serious infection through their occupation? These are important questions in both Ireland and the United Kingdom. These articles are significant contributions to the debates on these and other current issues in dentistry.

A second topic for the Symposium was chosen as simply "leadership". At the time of writing, the speaker on this topic held the position of Complaints Ombudsman for Northern Ireland and is a former Chief Executive Officer of a health board. His two articles represent his personal views on managing and leading; they are not a rehash of textbook theory but the thoughts of a man who has "been there, done that" in the real world.

We would like to express our gratitude to the Dental Health Foundation, particularly Deirdre Sadlier, Breeda Maher and Patricia Gilsean, who played a very large part in organising and resourcing the conference. No praise could be high enough to describe the dedication, professionalism, grace and energy they displayed in our cause.

In February 2004, the Third Symposium will take place. The incoming leaders of OHMSI, and organisers of this symposium, are Dr. Vida Reynolds and Mr. Adrian Millen (based in Blanchardstown, Co. Dublin and Ballymena, Co. Antrim respectively). We are delighted to pass the torch on to two such capable colleagues and wish them the very best in their new roles.

Judi McGaffin
Director of Dental Health
Western Health and Social Services Board

Joe Mullen
Principal Dental Surgeon
North Western Health Board

Profile of Speakers

DR. WILL COULTER BSc CONSULTANT SENIOR LECTURE ORAL MICROBIOLOGY

Dr Coulter graduated with a BSc in Biological Sciences University of East Anglia Norwich and followed on completing an MSc in Medical Microbiology and a PhD in Oral Microbiology at the University of Manchester. Dr Coulter was a mature student in dentistry, qualifying with his BDS in 1984 from Queens University Belfast. Dr Coulter has an MRCPATH in Medical Microbiology (Membership of the Royal College of Pathologist).

He is currently a Consultant Senior Lecturer in Oral Microbiology QUB 2000 and his research interests include; infection control, molecular diagnostics in oral disease and the genetic basis of the host pathogen interaction in oral disease.

DR CAROLINE LOUISE PANKHURST BSc PhD BDS MSc MRCPATH SPECIALIST IN ORAL MICROBIOLOGY

Dr Caroline Pankhurst has been a Clinical Senior Lecturer in Oral Microbiology and Infection Control Officer at Guy's, King's St Thomas Dental Institute and has now moved to the Department of Distance Learning. She is an Infection Control Advisor to Southwark PCT. Her research grants and published work have spanned the following fields: - the respiratory risks and management of contaminated dental waterlines, cross-infection control, aetiology and management of Sjögren's syndrome and occupational health risks to dentists. She was the External BDS Examiner in Microbiology at Queen's University Belfast from 1998 -2001. She was elected to serve on the Council of the BSBR from 1995 - 1999 and was Secretary to the Steering Group of the UK Forum for Oral and Dental Research. She is a member of the Editorial Board of the journal "Primary Dental Care" with a special interest in the Oral Medicine section of the journal. She has an ongoing commission from the " BMJ Clinical Evidence" to contribute a chapter on the treatment and prevention of oropharyngeal candidiasis.

DR ANDREW BOLAS BDS FFDRCSI FDSRCS(Ed) MSc SENIOR ADMINISTRATIVE DENTAL SURGEON / ORAL SURGEON

Dr. Bolas is from Lisburn, Co. Antrim. He graduated as a dentist from Queens University Belfast in 1991. He began his career in the Hospital Dental Service in 1992. He was awarded the FFD in Oral Surgery by the Royal College of Surgeons in Ireland in 1994 and the FDS in Oral Surgery and Oral Medicine by the Royal College of Surgeons in Edinburgh in 1995. He worked for a short period in general practice in Derry before opening a part time Specialist Oral Surgery practice in Sligo. At the same time he was studying for his MSc in Dental Radiology in Kings College London. He joined the North Western Health Board in January 1998 while continuing to study for the MSc. He graduated from Kings with his MSc in Dental Radiology in January 2000. His final year thesis was based on a retrospective audit of the quality of panoramic radiographs in the North West of Ireland. Dr Bolas was accepted on to the Dental Council register of dental specialists division of oral surgery in 2002. He is presently employed as Senior Administrative Dental Surgeon and Oral Surgeon for the North Western Health Board.

MR TOM FRAWLEY NORTHERN IRELAND OMBUDSMAN

In September 2000 Tom Frawley became the Assembly Ombudsman and Northern Ireland Commissioner for Complaints.

Born in 1949, Tom moved to Belfast as an eleven year-old from his native Limerick. He studied at St Mary's Grammar School in Belfast and graduated from Trinity College, Dublin in 1971.

Following graduation in 1971 he joined the National Health Service as a Graduate Trainee. In 1973 he was appointed Unit Administrator at the Ulster Hospital, Dundonald and his career in the health service later took him to North and West Belfast and Lisburn.

In 1980 he became Chief Administrative Officer in the Western Health and Social Services Board, at the age of 29, he became the Board's General Manager, the youngest person in the UK to be appointed to such a post. In 1985, following the Griffiths Report, he was appointed the General Manager of the Western Board.

A series of fellowships led to health care study visits to the United States, Australia and New Zealand. In 1994 he headed a Northern Ireland project team which won a competitive tender to advise on the development of the health service system in Zimbabwe. Nearer home he helped to establish a North-South organisation of neighbouring health boards with the aim of mutual help, understanding and shared service development.

In 2001, as Ombudsman, the Standards and Privileges Committee of the Assembly asked that he become the interim Commissioner for Standards at the Assembly. In June 2002, at the invitation of the Office of the First Minister and Deputy First Minister, he became the chair of the Panel of Experts that was appointed to support the Review of Public Administration.

Tom has a keen interest in public and current affairs and in outdoor activities generally but especially Rugby and Gaelic football both of which he has played in the past. He lives in Derry with his wife Marie and three children.

Welcome Address

The Second Symposium of the All Island Meeting on the Public Dental Services took place on Thursday, February 27th, 2003 at Bloomfield House Hotel, Mullingar, County Westmeath.

Chairperson and joint organiser, Dr Joe Mullen of the North Western Health Board, opened proceedings by paying tribute to the Dental Health Foundation for organising the event, and to the Department of Health Social Services and Public Safety (Northern Ireland) for its sponsorship.

Dr Mullen welcomed the delegates, particularly the Senior Administrative Dental Surgeons from the Republic and the Clinical Directors from Northern Ireland. He said he was gratified at the response to this cross-border meeting, which had become an annual event.

Outlining the two main themes of the symposium as "Health & Safety (including Radiology)," followed by "Leadership", Dr Mullen said the informal networking at the event would no doubt be a very valuable facet of the meeting, as was the case in the previous year, where many useful contacts had been made.

Dr. Mullen concluded by wishing the delegates a pleasant and productive conference.

DR WIL COULTER – INFECTION CONTROL: STANDARDS IN DENTAL PRACTICE

Dr Wil Coulter

BDS., BSc., PGCert Ed., MSc., PhD., MRCPATH.

Dr Wil Coulter, Consultant/Senior Lecturer in Oral Microbiology at Queen's University Belfast, was the first speaker. He discussed one of his research interests, infection control, and the standards thereof in dental practice.

He said he wished to gain a perspective on the various issues regarding infection control and the standards dentists hoped to achieve in their practices. He posed two questions: Do dentists deliver a good service to patients? And where was the evidence of good quality care?

Dentists must have this evidence, but unfortunately many dentists work very hard but do not produce the accompanying paper work. In the 1960s, Robert M Pirsig's book on philosophy, *Zen and the Art of Motorcycle Maintenance*, showed that quality was very difficult to define, as was the difference between art and science.

Any quality assurance must have a clear programme to deliver a quality product, must have strict controls, and must be comprehensively assessed. This quality assessment presents a challenge to dental practices in the Republic and in the UK.

Structures to ensure quality include external quality assessment and accreditation. In Northern Ireland and in the UK in general, the former includes practice visits to ensure that they are fulfilling the criteria and achieving the standards set by the relevant advisory body.

This system is very popular and successful and could logically lead to practices being accredited by the health authorities.

Medical audits - the systematic and critical analysis of the quality of medical care - can often be more effective in dental practices than in the larger organisations of hospitals. Clinical audits, on the other hand, look at all the health professionals as a group and how they interact. Audits set the standards; measure performance, comparing it against standards; take corrective action if required, and again measure the subsequent performance.

The central question is - who sets the standards? Normally, scientific evidence is used. But this is very difficult if there is little or no information about a disease, for example CJD. Expert committees are then set up to try to assess risk. Finally, consensus tells us what seems reasonable.

Infections which stretch and test the effectiveness of infection control include viruses, such as SARS, HIV and Hepatitis B, and bacteria, such as diphtheria and whooping cough, and the most important of all, TB. The latter is still alive in folk memory and is coming back.

The attitude, historically, when faced with a new threat, for example, Hepatitis B, was to *identify and refer* paradigm. This was the first line of defence, but not a good one. We have come a long way and our

confidence in treating such patients has increased, with our growing knowledge and awareness of the condition. The chance of catching AIDS, for example, from dental procedures, is virtually non-existent, but without this knowledge, a rational assessment of risk cannot be made.

Once there is evidence and the risks can be rationalised, responsible behaviour can follow. The best way to deal with risk is to employ universal precautions. For example, assume the potential presence of TB and Hepatitis B in all situations. And the concept of risk is applied to the procedure, not just the patient.

Another aspect, often forgotten by the medical profession, is that it is not just what disease patients have, but what is done to them. Dental procedures are often not as high risk as is perceived by the medical society, e.g. CJD, where there is currently much debate as to whether any dental procedures pose a risk of CJD infection transmission.

A vital question asked by a dentist is - what happens to me if I get infected? The powers that be in the UK and the Republic have not yet come to terms with what happens in dentistry. There is a far greater chance of the dentist getting infected, for example with Hepatitis C, from the patient, than vice versa. In the UK, it will soon be a requirement that dentists be checked to see if they are already infected, but dental nurses may not need to be tested. Dentistry is considered to involve a number of exposure-prone procedures, and there is worry about whether a dentist who has suffered a sharps injury might infect a patient with Hepatitis C or B or HIV, for example.

In this situation, the authorities are very worried about how many patients need to be checked retrospectively i.e. the look-back procedure. A recent publication outlines a case where a dentist with HIV practised for twelve years. It cost £300,000 to check his patients - and not one had become infected.

Under some definitions, all dental procedures are exposure-prone, but if a dentist is HIV positive, a look-back is now not automatically done. If a dentist has contracted Hepatitis C or HIV, he or she cannot carry out exposure-prone procedures, and there are very few jobs in dentistry not involving such procedures. Therefore, the dentist is virtually unemployable. This may be a barrier to dentists presenting for testing, if they suspect they may have been exposed to these infections. Infected dentists will require retraining in perhaps another branch of the medical profession.

Hepatitis C is still one of the major infections in the world, with some nine million people infected in Europe alone. The problem is there is no way of patients knowing if they have been infected with the virus. If patients inform their dentists and there is a negative response, they may be unlikely to reveal their status in future. A study of 800 practices in Scotland concluded that there was no risk to dentists of getting Hepatitis C - they had the same level of antibody to Hepatitis C as the general population. Therefore, there was no appearance of significant risk to dentists of Hepatitis C infection, provided they carried out normal universal precautions of infection control. This is an example of the risk being adjusted downward as the profession implemented infection control policies and as our knowledge base increased.

Three million people die in the developing world each year from Tuberculosis, where 95 per cent of cases occur. The problem is now approaching us in the west, where cases are increasing, especially among the urban homeless, intravenous drug abusers and AIDS patients. The latter pose the greatest risk of TB to dentists.

Pulmonary TB is highly infectious, and there is a very serious TB problem among migrants from the developing world. In 1982, Pulmonary TB developed in fifteen patients following dental extractions by a community dentist with active TB. In contrast, there are no documented cases of dentists, who are acting professionally, spreading AIDS to a patient.

So how do we prevent TB?

Vaccination helps, but is not 100 per cent effective in older people. Very good ventilation (up to six changes of air per hour as in a TB ward) is another useful measure. Universal infection control procedures, including the wearing of masks or visors should be applied. Aerosol control has room for improvement in Irish dentistry, as it requires high-speed suction and fourhanded dentistry - therefore we are vulnerable.

Legionella, which is ubiquitous in aquatic environments and can be transmitted by the inhalation of aerosols, is a serious threat and can kill people. Dental waterlines contain high levels of bacterial contamination - in Northern Ireland and London, only 5–15 per cent of dental waterlines conformed to standards. The European standard is 100 cfu/mL, but counts have been monitored in Ireland of more than one million cfu/mL.

Transmissible Spongiform Encephalopathy Agents or TSE, including BSE and CJD, have a sporadic incidence of one in one million of the population. Mutations of the disease tend to occur in older people, but variant CJD is the greatest threat to dentists - we are potentially susceptible to this, although the risk cannot be quantified.

As in the early days of the AIDS epidemic, we must try to identify the patients and refer them if it is not an emergency situation. Disposable instruments must be used and this must be recorded. We must refocus on instrument decontamination. Taking a thorough medical history should identify patient risk groups, and when treating at risk patients we must question whether absolutely stringent decontamination can be carried out. A six-cycle decontamination procedure is recommended using a vacuum autoclave, and we are advised to send the instruments to a designated sterilisation centre if a suspected case of CJD presents.

Instruments must be quarantined and if CJD is subsequently confirmed, the instruments must be incinerated. The patient must then be referred to a specialist for dental treatment under a named clinician who will oversee their medical care pathway.

Recommendations in the UK on the decontamination cycle stress that cleaning is vital, but that some instruments are virtually impossible to clean. The Health and Safety Executive set as a gold standard the recommendation that everything should be effectively cleaned before being sent to a central decontamination unit (CSSD).

This is not a problem for General Medical practices, but because of the numbers of instruments, presents financial and logistical difficulties in General Dental Practices.

In using our own decontamination units, we must follow procedures and these need to be constantly tested and evaluated - something that is not happening at the moment. Records should be kept for many years regarding the autoclave, with details of tests and breakdowns. Printouts are necessary and should be attached to patients' notes. Traceability of instruments is a huge issue in this regard, as it requires that records be kept of all patient instrument contacts and the decontamination cycle.

Seven hundred practices were assessed in Ireland in 2001 as to their decontamination procedures. Cold sterilisation, which has been found to be unreliable and to pose health risks for the dentist, was used in 49 per cent of practices, and only 52 per cent used autoclaved hand pieces.

Looking at Practice Management, training is a weakness of many dental practices. Health and Safety is vital, especially written policies, as is COSH assessment for all hazardous substances. Protective clothing and immunisation of all clinical staff is recommended, as is the servicing and maintenance of autoclaves and radiographic equipment. Practice waste should be segregated for appropriate disposal, and risk assessment of all hazards within the workplace is incredibly important.

Risk taking imposes new rules and obligations upon the dental profession in terms of risk management, financing cross-infection measures, applying universal infection control precautions, and producing evidence of compliance. Risk assessment and management is the future of infection control, and dentists are professionally obliged to keep up to date with the standards of good practice.

In order to maintain public confidence in the safety of dentistry, we must produce evidence of quality control measures to ensure good quality care. Self-regulation and quality assurance make for the best way forward. We must engage more in the debate related to infection control. This would ensure that the recommendations are reasonable and capable of being implemented by the dental profession, and that we practise safe and effective dentistry.

DR CAROLINE PANKHURST - MANAGEMENT OF CONTAMINATED DENTAL UNIT WATERLINES

Dr Caroline Pankhurst

BSc., PhD., BDS., MSc., MRCPATH, Specialist in Oral Microbiology

Dr Caroline Pankhurst is at the GKT School of Dentistry in London. Her talk dealt with the management of contaminated dental waterlines.

Dr Pankhurst said that although there had been research in this area for forty years, the change in attitude to DUWL contamination had happened only in the past five years. The issue had now to be taken seriously in the UK because of clinical governance, and litigation success against dentists in the US had sparked a similar change in attitude. In California, a dentist can be sued for professional misconduct if his/her waterlines have more than the permitted bacterial content - < 200cfu/ml. The European standard is much more rigorous - <100cfu/ml - and the water used for restorative procedures should be of the same quality "as for drinking water." The UK and American guidelines recommend separate sterile water supplies for surgical procedures.

A study carried out by Dr Pankhurst, comparing DUWLs in London with those of Northern Ireland, found that only 36 per cent of surgery cold tap water in London had less than 200cfu/ml of aerobic bacteria, compared to nearly half in Northern Ireland. Looking at the DUWLs, there was a very low compliance rate in London - just five per cent - compared with 15 per cent in Northern Ireland. Therefore, London dentists were at a disadvantage - the quality of the incoming mains water was worse.

The retrograde movement of oral fluids and independent water reservoir systems were also important sources of microbial contamination.

Most environmental organisms in dental waterlines do not cause particular problems, but in the last few years, research has focused on the link between exposure to endotoxins in waterlines and inflammatory reactions. USA Pharmacopeia has set a limit for endotoxin for irrigation sterile water at 0.25 EU/ml. High levels of bacteria mean high levels of endotoxins also. Therefore concern has been expressed about contaminated humidifiers, which have been shown to provoke an inflammatory response in this regard. Biofilm in humidifiers can cause *humidifier lung* - a hypersensitivity pneumonitis, a reaction to endotoxins released by colonising bacteria.

Preliminary results suggest that dentists who developed asthma since qualifying are more likely to be exposed to heavily contaminated dental waterlines.

Biofilms form readily in dental waterlines² because of the combination of very narrow microbore tubing coupled with the way water is used in dentistry - only for a few minutes - with low flow rates of 40-100mls per minute, and the problem is compounded by overnight stagnation. On average in dental surgeries, the waterlines are not used for 130 hours per week. Bacteria also adhere more readily to the plastic tubing used in dental equipment. The key factors associated with biofilm formation are stagnation, amplification and aerosol formation.

Biofilms are barriers to disinfectants, resulting in very poor penetration. To eradicate biofilm bacteria, 1500 times the biocide concentration is necessary than would be the case to kill the same bacteria in suspension. Everything works against the dentist trying to keep the biofilms clean. The source of mains water is very important, together with the age of the dental unit - older units are associated with higher counts.

Interestingly, higher counts of *Pseudomonas* are associated with newer plumbing, (perhaps the use of plastic?) as are larger practices.

The difference between exposure to water bacteria in the home and in a dental practice is that organisms can be aspirated into the lungs in dentistry rather than just swallowed³.

While *Pseudomonas* are not normally found in people's mouths, these respiratory pathogens have been isolated from dental water, and have been shown to cause infection⁴. However, a study of Danish Cystic Fibrosis patients treated in dental clinics showed that the risk of colonisation was the same as the background annual acquisition rate for CF patients⁵.

One million organisms are required for a healthy person to become infected with *Pseudomonas*. As such high concentrations are rarely encountered in DUWLs, the risk of a healthy person becoming colonised is minute.

Mycobacteria can get into the body through food or water. Dental waterlines can amplify the concentration by 400 per cent. Respiratory colonisation can result from gargling with *M. avium* contaminated water. But exposure to organisms might also boost the immune system.

Following some nasty outbreaks of *Legionella* in the UK in the summer of 2002, many people were scared, although there are 250 cases reported there each year. The mortality rate is 12 per cent, even when treated early. Transmission is from contaminated water or a colonised reservoir, most cases are sporadic, and the source is unknown. Ninety per cent of infections are due to *L. pneumophila*, mainly serogroup 1.

Could dental waterlines have been the unknown source?

One in three homes contain *Legionella*, but there is a very low attack rate in an outbreak, just 2-5 per cent. *Legionella* flourishes in all water types, in temperatures of 20-45 degrees Celsius, and likes stagnation, sediment and scale.

When isolation rates of *L. pneumophila* in DUWLs were looked at, nearly a quarter of all units in a Dental Hospital were found to be infected with *Legionella*. It was assumed that similar rates would be found in practices, but interestingly, only one practice out of 270 tested in greater London and rural Northern Ireland had *Legionella*⁶. Water which is stored in tanks and distributed via complex plumbing systems is more likely to become contaminated than in dental practices, where the water is taken directly from the mains. Unfortunately, once a plumbing system is colonised with *Legionella*, it can persist for many years.

When risk factors for Legionnaire's disease were assessed among dentists in the 1980s, higher counts of seropositivity were found among dentists than in the general population, but their DUWLs were not checked for the presence of *Legionella*.

Oppenheim in 1987⁷ and Pankhurst in 2002⁶, however, found no higher levels among dentists than in non-exposed controls. There are no proven cases of Legionnaire's disease linked to dental treatment, but one dentist exposed to contaminated dental water in his practice died from Legionnaire's disease.

One of the ways of preventing *Legionella* occurring in water systems is to use thermal control. It is advised that water storage between 20-40 degrees Celsius should be avoided, and hot water should be at 50 degrees at all points of use within one minute. Cold water should be below 20 degrees after running the taps for two minutes, and DUWLs should be drained down and cleaned at the end of each working day⁸.

There are both disadvantages (biofilm formation in the bottle interior) and advantages (bypasses mains water; complies with requirement for type A air gap; can be used to purge waterlines with disinfectant) to independent water reservoir systems.

The regular application of biocides keeps organism levels in DUWLs down to US and/or European standards, but does not always destroy the biofilm itself. Some, like chlorine, can release low levels of a carcinogen and lysed bacteria can release endotoxins. Other methods include point of use filters fitted adjacent to the handpiece to trap suspended organisms. These can be very expensive in terms of time and cost as they have to be changed daily or weekly, but can produce good quality water. However, they do not remove upstream biofilm, so the system can fail.

Autoclavable systems provide a single use DUWL and deliver sterile water to hand pieces, whereas water purifiers treat incoming mains water with electrochemically activated water, UV light or ozone filtration, to remove or inactivate microbes. Anti-retraction valves reduce retrograde flow of oral fluids from the mouth, but are prone to clogging and require regular maintenance³.

In terms of compliance with DUWL guidelines, 67 per cent of General Dental Practitioners were found to have a written cross-infection policy in a Pankhurst 2002 study. Larger practices and those in Northern Ireland were found to be more likely to use a written cross-infection control policy. Less than one third of dentists used a method of water decontamination. Dentists were more likely to have fitted a DUWL decontamination system if they practised in London and had a newer dental unit. Men were more difficult to persuade to comply in this regard than women. Although dentistry is becoming a feminised profession, most senior positions are still held by men, and this group must be targeted⁹.

No improvement in water quality was found among those who used independent water reservoir systems, because they were not being used correctly. Only 12 per cent of dentists used biocides to purge their dental units, and of those using a water reservoir, only 29 per cent used the reservoir to flush the waterlines with biocide.

Less than half of surgeries had a policy on flushing DUWLs and less than six per cent flushed prior to and between patients.

Dentists were more likely to flush their DUWLs on a daily basis if they worked in Northern Ireland, worked in larger practices and had more patients per day. Eighty three per cent of GDPs performed MOS procedures, but less than one in five complied with guidelines by using a separate sterile water supply for MOS.

There was evidence to suggest that DUWL infection control measures were being used incorrectly and there were low levels of compliance with published guidelines. The implementation of recommended procedures was dependent on the gender of the GDP, the size of the practice, the number of patients seen each day, and the location of the surgery.

Probably due to the low levels of compliance with published guidelines and the manner in which they were used, recommended water management guidelines did not significantly impact on the microbial quality of the dental water.

In conclusion, contaminated dental waterlines are a manageable health risk. While there is an urgent need to redesign dental equipment in the long term, the technology is there to allow dentists to comply with the US and European guidelines. However, a strict adherence to manufacturers' instructions and the implementation of DUWL infection control measures is required.

References

1. Mills SE The dental unit waterline controversy: defusing the myths, defining the solutions. J Am Dent Assoc 2000; 131: 1427- 1441.
2. Shearer BG. Biofilm and the dental office. J Am dent Assoc 1996; 127: 181-189.
3. Pankhurst CL. Risk assessment of dental unit waterline contamination. Primary Dental Care 2003; 10:5-10.
4. Martin MV. The significance of the bacterial contamination of dental unit water systems. Br Dent J. 1987; 163:152-154.
5. Jensen E T, Giwercman B, Ojieniyi B, Bangsborg JM, Hansen A, Koch C, Fiehn NE, Hoiby N. Epidemiology of Pseudomonas aeruginosa in cystic fibrosis and the possible role of contamination by dental equipment. J Hosp Infect 1997; 36:117-122.
6. Pankhurst CL, Coulter WA, Philpott-Howard J, Harrison T, Warburton F, Platt S, Surman S, Challacombe SJ. Prevalence of Legionellae waterline contamination and Legionella pneumophila antibodies in General Dental Practitioners in London and Rural Northern Ireland. Brit Dent J 2003; in press.
7. Oppenheim BA, Sefton Am, Gill ON, Tyler JE, O'Mahony MC, Richards PJL, Harrison TG. Widespread Legionella pneumophila contamination of dental stations in a dental school without apparent human infection. Epidemiol Infect 1987; 99: 159-166.
8. Health and Safety Commission (2000). Legionnaires' disease. The control of legionella bacteria in water systems. Approved code of practice and guidance. Third Edition. HMSO, UK
9. Pankhurst CL, Coulter WA, Philpott-Howard J, Challacombe SJ, Harrison T, Warburton F, Rooney PJ. Compliance with waterline management guidelines amongst dentists in London and Northern Ireland. J Dent Res 2002;81 Special issue A: 446.

QUESTION AND ANSWER SESSION

Dr Pankhurst was asked about the use of distilled water in dental surgeries. She said that the distilling process did not remove all the bacteria or endotoxins. Very high levels of bacteria were found where dentists were using independent water systems filled with distilled water. The sources of contamination were inadequately cleaned stills and the storage of water at temperatures that promoted bacterial growth. She said that the stills should be cleaned with diluted hypochlorite. One-litre bottles of distilled water should be stored for 12 hours only, preferably in a fridge. Using non-sterile water in the reservoir had been shown experimentally to require longer disinfectant treatment to produce the same results as with sterile water. She concluded that the option should be left open – but she would not advise purchasing a still.

She was asked about the type of water that should be used in an autoclave reservoir. She said that to prevent endotoxin contamination, even the best quality water in the water supply was no good if there was biofilm in the autoclave reservoir. There was pressure to improve the design of dental unit waterlines and autoclave reservoirs - the problem is solvable.

The question was also asked whether plastic tubing in waterlines might be the reason for increased contamination, and because *Legionella* was linked to iron, would that be the reason for the advance of plastic.

Dr Pankhurst said the two problems were not related, but, in the example of tanks, iron was associated with rust. Therefore, it needed to be kept scrupulously clean because iron promoted the growth of bacteria.

DR ANDREW BOLAS - RADIATION PROTECTION – A PROBLEM FOR ALL OF US

Dr Andrew Bolas
BDS., FFDRCSI., FDSRCS (Ed.), MSc.

Dr Andrew Bolas, Senior Administrative Dental Surgeon and departmental oral surgeon with the North Western Health Board, gave a talk on radiation protection.

He said radiation protection was a problem for all dentists and health professionals, and involved everyone. Dr Bolas said John Hewitt of the National Radiation Protection Board UK had hit the nail on the head in 1989 when he said: "the objective of dental radiology should be to obtain the maximum diagnostic information relevant to the clinical examination with the minimum of radiation dose to the patient, dental surgery staff and members of the public."

In assessing risk, it should be considered that one in approximately 16 million people is likely to win the Lotto; one in two million is likely to be involved in a plane crash; one in one million will be knocked down crossing a road; one in three people will get cancer, and when considered statistically, you have a one in six chance of getting the loaded chamber in Russian Roulette.

All relative risks pertaining to dental radiography refer to the risk of inducing additional fatal carcinomas within a population. In terms of radiological risk of inducing a fatal carcinoma, as far as can be ascertained, the risk is one in 30 million if modern intra-oral equipment is used.

This compares to one in 3.7 million for an antero-posterior chest x-ray; one in three million for a modern OPG and an intra-oral using old equipment, and one in 51,000 for a CT scan of the lungs.

Many dental x-rays are being taken. From January to December 2001, well over two million panoramic radiographs and over six million intra-orals were taken on NHS patients in England, at a cost of £46.4 million. Seven hundred million dental radiographs were taken in the USA in 1990, at a cost of \$1.2 billion.

Most legislation governing this area is derived from E. U. Directives translated into UK and Irish law by regulations given legal effect through Statutory Instruments. There are in addition several pieces of relevant primary legislation giving rise in to an unwieldy legal framework for radiation protection. The following are the main pieces of Irish legislation relevant to radiation protection; Health Act 1953; Safety, Health and Welfare at Work Act, 1989; Radiological Protection Act, 1991; Medical Ionising Regulations, 1988 and 2002 and Ionising Radiation Regulations 1991.

In the UK, the law is of more recent vintage, including the Ionising Radiation's Regulations, 1999, and the Ionising Radiation (Medical Exposure) Regulations 2000. EU legislation largely focuses on justification for the procedure and optimisation – maximising diagnostic potential.

Changes to the body as a result of ionising radiation are divided into two tissue types – *somatic* (all tissues and cells within the body except those concerned with reproduction) and *genetic* (all tissues and cells containing information likely to be passed on to any offspring).

The biological effects on somatic and genetic tissue and cells are termed *stochastic* i.e. we can only guess at the dosage required to produce a change, although we can have some idea from the experience of Hiroshima. *Non-stochastic* changes can occur within somatic tissues, when any exposure over a threshold dose allows us to predict with some certainty that changes or damage will occur.

An x-ray interacts with an object in one of four ways – it is completely absorbed; some is absorbed and some is scattered; all is scattered, or the beam is transmitted unchanged. Only the transmission unchanged has no effect on the object. In dental radiography, the x-ray beam is made up of thousands of *photons* or packets of energy, any of which can cause damage. Unfortunately, we do not know which ones do.

Radon is responsible for over half of all sources of radiation exposure and presents the most serious problem in this regard, with especially high levels in areas where volcanic and igneous rocks are found. Medical x-rays make up just 11 per cent of all exposure to radiation.

Radiation protection in the dental surgery must apply to staff, patients, and the public. It is vital that all staff members are involved in implementing the guidelines for radiation protection. These include special training, the use of controlled areas, the wearing of TLDs, local rules, and limitation of usage and quality assurance programmes. The question must be asked – should only the dentist be allowed to press the button? The numbers wearing TLDs in Ireland have increased over the last few years, and very few dentists get exposed to even low doses of radiation.

The exposure of patients can be controlled by reducing the dosage received during each examination and by reducing the number of x-rays carried out.

The public exposure can be limited by the positioning of equipment, the possible shielding of the room, perhaps with materials such as barium plaster (this is only required when the workload is high). Entry to the room should be restricted, local rules should be implemented, and it must be remembered that the public can become patients.

Although dental radiography involves a very low dose of radiation, it also involves a high volume of examinations. Dosage can be reduced by the use of selection criteria – all radiographic exposures must be clinically justified. Digital receptors should be used where possible and repeat x-rays should be prevented. The radiographer must be informed of possible diagnosis, and *E* or *F* speed of film should be used, together with higher kilovoltage sets, which allow greater penetration of the x-ray beam.

The volume of x-rays can also be reduced by the use of selection criteria, the avoidance of repeats and refraining from screening procedures, the improvement of diagnostic skills, and the reduction in the number of patients radiographically examined.

Why should an x-ray be taken?

The dentist should ask if it is needed to improve the patient's care and treatment. One anonymous dentist had a unique take on this – he said it was "easier to take an x-ray than to think."

The key issue in radiation protection is selection criteria. In Ireland, the RPII Code of Practice for Dentistry 1996, states that all radiographic exposures **shall** be clinically justified, whereas in England, the NRPB Guidelines 2001 say they **must** be justified.

The European Communities (Medical Ionising Radiation Protection) Regulations 2002 states that: "medical exposures shall show a sufficient net benefit, weighing the total potential diagnostic or therapeutic benefit it produces, including the direct health benefits to an individual and to society, against the individual detriment that exposure might cause."

There have been two cases in the UK where dentists have been charged with professional misconduct by the General Dental Council for taking x-rays without justification. One was admonished; the other dentist was erased, but is appealing.

Within the North Western Health Board area, a set of Selection Criteria for Panoramic Radiographs has been adopted, based on that produced by the Faculty of General Dental Practitioners in the Royal College of Surgeons in London.

Payments under the Dental Treatment Services Scheme (DTSS) for extra-oral radiographs would be approved in cases where there was a clinical suspicion of active pathology; symptomatic third molars (a suspiciously high number - 43 per cent - of dentists cited this reason in a recent three month-period); multiple extractions; serious periodontal disease, and trauma cases.

Payments would be denied for asymptomatic third molars; routine screening; mild periodontal disease; anything outside the remit of the DTSS, and referral back to the Health Board, or where the dentist could not prove the radiograph was clinically justified.

However, there are some arguments against the use of selection criteria – missed pathology because of a lack of screening, for example.

A study by Zeichner and Ruttimann in 1987 showed that only five cases of malignancy were missed in a year for every one million radiographs taken, at an estimated cost of \$2 million for each malignancy detected. The benefit of detecting a malignancy is outweighed by the risk of a radiation-induced malignancy.

It could also be argued that unnecessary controls are imposed by the use and enforcement of selection criteria - there is a lack of trust in dentists' judgement, and their practices may be restricted.

Arguments in favour of selection criteria include health concerns, health benefits, working within fixed budgets, scientific evidence, and probity – we must be able to look at cases and say we are doing things according to *best practice* as reflected in the available policies and guidelines.

Currently, only three per cent of examinations in the NWHB area involve OPGs – the figure is 15 per cent in the rest of Ireland.

So why do dentists like panoramic radiographs so much?

One of the reasons is simply profitability. The advantages are plainly outlined in advertisements in trade magazines in terms of cost analysis showing how a panoramic x-ray machine could be used to generate income for the practice. Time is another factor – they are quick to do, and patient compliance is good (patients tend not to like intra-orals because of the gag reflex). Patient education is another issue, and x-rays can assist in treatment planning.

But how beneficial are OPGs?

An audit of the quality of OPGs in the North West of Ireland showed the overall quality of OPGs was not up to the standards laid down in the NRPBs guidelines. The disadvantages of such x-rays included distortions and shadows, and they were generally of poor quality – an audit showed only five per cent were perfect, while forty three per cent were diagnostically unacceptable. A similar study in England by Rushton et al showed only 0.8% were perfect and 33% were diagnostically unacceptable. It was found that insufficient formal training had been given over the years to this subject.

The resolution of the OPGs as a whole is also very poor (four line pairs per mm) as opposed to the direct-action intra-oral film, with three and a half times' better resolution (15 line pairs per mm).

So what lessons can we learn from the past? It is not all doom and gloom. Berrington et al in 2001, writing in the British Journal of Radiology, found that British radiologists had fewer deaths from cancer than had their peers, and had greater longevity!

References

Hewitt J.M., Shuttleworth P.G., Nelthorpe P.A., Hudson A.P. Improving protection standards in dental radiology. Paper presented to the 4th International Symposium. Malvern, June 1989.

Radiological Protection Institute of Ireland. Code of Practice for radiological protection in dentistry. Dublin. RPII 96/2.

National Radiological Protection Board. Guidance notes for Dental practitioners on the safe use of X-ray equipment. NRPB 2001.

Zeichner S.J., Ruttimann U.E., Webber R.L. Dental radiography : efficacy in the assessment of intraosseous lesions of the face and jaws in asymptomatic patients. Radiology 1987 Mar; 162(3): 691-5.

Berrington A., Darby S.C., Weiss H.A., Doll R. 100 years of observation on British radiologists: mortality from cancer and other causes 1897-1997. Br J Radiol 2001 Jun; 74(882): 507-19.

Dental Practice Board of England and Wales. Online Enquiry.

Bolas A.J. A retrospective audit of the quality of panoramic radiographs in the North west of Ireland. Research project for MSc Dental Radiology. Kings College London.

Rushton V.E., Horner K. and Worthington H.V. The quality of panoramic radiographs in a sample of general dental practices. BDJ 1999; 186(12): 630-633.

MR. TOM FRAWLEY - MANAGING AND LEADING IN A TIME OF CHANGE

Mr Tom Frawley

Northern Ireland Ombudsman

Mr Tom Frawley became the Assembly Ombudsman and Northern Ireland Commissioner for Complaints in September 2000. He was the final speaker of the day, and his talk was on management and leadership.

Dr Judi McGaffin, joint Chairperson and organiser of the symposium and Director of Dental Health in the Western Health and Social Services Board in Northern Ireland, introduced Mr Frawley. She said she had worked for him when he was General Manager of the Western Health and Social Services Board, but he had never been her boss, because a boss in her experience directed – rather he had been her leader, one who led. She said a boss would often say go, whereas a leader like Tom Frawley would say *let's go*. Dr McGaffin said the confidence and vision communicated by Tom was something to which everyone should aspire.

Mr Frawley opened his presentation with the Chinese curse – *May you live in interesting times*. He explained that he was in no doubt that we were living through such a period. He suggested that people working in healthcare sometimes felt that outsiders did not understand the level of challenge and complexity in their work, but he said they failed to recognize that these sentiments were experienced by people working in all sectors. He said the world in which we worked was becoming increasingly complex. No one could have conceived what an incredible catharsis September 11 was for America.

Other significant catalysts were the impending war with Iraq, the collapse of the telecoms bubble and the threat of global recession – the world was indeed 'in a state of chassis.'

We must understand the implication of such convulsive change, but also see that it presents us with opportunities. We should take confidence from whence we have come – remember, we survived the 20th Century. Despite two World Wars, Korea and Vietnam, and wars in the Middle East, Falklands and Africa, and here at home, the troubles in Northern Ireland, he said people's resilience and ability to respond were amazing. While things often seem dark and gloomy, our world and the opportunities it presents are constantly expanding. What is clear is that change is our only certainty. To meet that change, we need to look at the strength within us.

Tom Frawley suggested that, for example, the Dental Health Foundation should take heart from its own achievements. The special projects outlined in the booklet, *Second Meeting of Oral Health Managers Society (Ireland): Information on Projects 2003* (distributed to delegates) should be publicised much more widely. It was powerful, he said, to read of those championing, for example, the oral health needs of the elderly in nursing homes. The Dental Health Foundation must fulfil a critical role in disseminating this important work, demonstrating innovation and best practice. There was a tendency, he said, to understate smaller projects, but such initiatives could create real impetus for change, and more importantly, create confidence and competence in both professionals and the public.

Tom Frawley then posed a challenge. Are we seriously harnessing technology to transform what we do? Some of us find this challenge too difficult. We are content to remain on the margins. But we need to challenge the way things are done if each one of us is to make a difference. He cited the example of the

debate about hospitals. One hundred million pounds would be needed for a hospital in the South West of Northern Ireland. But if we look at the imperatives for a clinical network, does it make strategic sense to make only a one-dimensional investment? Is it also not essential to build a technological platform through creating infrastructure to provide an integrated system of community health and hospital care? Such technological investment was transforming clinical networks in the US.

In technological terms, he said, the health service was still failing to exploit the opportunities offered by technology. He emphasised that we needed to harness and develop technology rather than limit its potential by failing to develop a real strategic approach matched by the capital and revenue investment to implement it.

The Republic of Ireland has been transformed by investment in its road infrastructure. Roads, in turn, transform access to health, but there can also be other significant spin-offs from such investment. One can count four ambulances on the road to Belfast from Derry or from Dublin to Letterkenny, but have we seriously looked at the potential of railways as a means of patient transport? Functionally designed carriages to comfortably transport ill or convalescing patients could be allocated to trains. We must look for more creative solutions.

Mr Frawley commented that all of us within our respective jurisdictions seemed to be determined to be self-sufficient in healthcare. However, one of the most successful initiatives taken by the Western Health and Social Services Board was to send cardiac by-pass patients to England. Put another way, necessity was the mother of invention. There was insufficient capacity in Northern Ireland and the Board negotiated access to the National Heart Hospital in London. Key to the ability to do this was the opportunity to fly patients with a relative to England.

In Derry in 1980, Mr Frawley said it was still seen as a real innovation to get a hip replaced, but how that has changed! The Health Service, he said, had been and continued to be a huge success, even acknowledging its limitations. It is important that we remember that the Health Service is a core building block of civil society. A surgeon who was a member of the Western Board, summed this up well when he said:

'We as Board members and officers have a stewardship/responsibility for the health and social care system, and it's our challenge to hand it on to those following us in at least the same standard as we received it, and hopefully we will have improved it.'

Mr Frawley said that one of the critical challenges facing the Health Service was extending life expectancy, resulting in increasing numbers of older people, particularly the frail elderly. Importantly, this situation was being compounded by a slowing birth rate that was having a fundamental effect on the number of people available to care for older people and also to generate the taxation to fund their care.

There are also changes in relation to gender – the managerial cadre, while not totally composed of men, had a preponderance of men. However, he explained, that for him, personally, one of the key challenges was around ethical choices, because every health decision had an ethical dimension. He commented that while Health Boards could take thirty minutes to confirm the reallocation of the previous year's budget, it would take weeks to decide the allocation of £1m growth money. Increasingly, as professionals and managers, we must ask whether everything we do is as important as what we wish to do. This is a vital issue when resources are limited and need is infinite.

There is great uncertainty in modern life – on one level we have never had it so good, and yet we have never been so uncertain, disconnected.

Mr Frawley then questioned how we were responding to the challenge presented by change. He said we had become technologically sophisticated, but still we seemed unable to address the challenge of work-life balance. This lack of balance is often what we bring to work with us. It is therefore a critical life choice, whether we decide merely to survive, or to adopt and develop the life skills that could put us in control of our own destiny.

In relation to these issues, he said the values and culture that informed the way an organisation worked were very important – we must take responsibility for where we work. How authentic are we? Bureaucracies can be damaging – full of insincerity, and even worse, corrosive cynicism.

Therefore, one of the great challenges for organisations and their leadership is to be **real and supportive**, to acknowledge commitment and contribution. It is sad and unacceptable when staff say that senior staff rarely say thank you or acknowledge a contribution. This also translates into our experience of the wider community - the rudeness and brashness evident in daily encounters - the absence of real civility. We need to examine and reflect on how we behave, in particular how we treat each other. If we are committed to our values as leaders, we will offer our staff a sense of belonging and authenticity.

These were significant challenges, he said, which reflected that we were certainly living in interesting and exciting times. The Public Service is undermanaged, in that a critical mass of quality managers is required. There are currently not sufficient risk takers - people who go to the hard places, to make hard choices. Do we all strive to achieve the highest level of managerial outcome possible? Short-termism is a huge obstacle – we are driven by it, the urgent squeezes out the important. Every day we surrender space to the urgent, but it is essential that we keep our eye, not only on the bottom line, but also on the horizon.

We are obsessed with structures, because they bring status – where am I in the hierarchy? This gets in the way of real integrated working. This is an issue not only in the healthcare system, but also in all sectors and across the public system.

In a period of change and transition such as this, Mr Frawley offered what he hoped would be some useful advice, for example, *if you must play, decide the rules, the stakes and the quitting time*. And he quoted Rollo May: *the most effective way to ensure the value of the future is to confront the present courageously and constructively*.

He said it was important to accept that some things would not always be achieved in full. In some circumstances, if we achieved 80 per cent of the objective, that could be a good outcome. We need sometimes to make a judgement that the resources and energy required to achieve that final 20 per cent are not warranted by the outcome.

We live in a time of significant global, organisational, professional and personal change. We must not ignore the challenges this presents – if we do, these challenges will become even more intractable, and worse - we could be missing real opportunities. Therefore, it is essential that we avoid adopting an approach of deferment and postponement. Quoting Peter Drucker, the great management guru, he said the only things that evolved by themselves in an organisation were disorder, friction and malperformance.

Professional structures must be developed in a way that included an essential organisational perspective, ie dentistry in the bigger system. We must keep an eye on the strategic view, five to seven years in the future. We lost the argument on fluoridation – the politicians were clearly opposed to it. However, if fluoridation is of such critical importance to the oral health of our population, particularly our young people, the advocates of that view must examine ways of ensuring that the debate on fluoridation is reopened. Everyone claims he or she wants to be part of a successful, patient-centred service. But how sensitive is the service you work in to users? How often do we ask users about the quality of service, or are we afraid of discovering what patients really think?

Of the 3,000 contacts to the Office of the NI Ombudsman in the past year, 650 detailed investigations were initiated. Of these, a finding in favour of the complainant was made in 320 cases. In this context, Mr Frawley suggested the public service performed reasonably well. However, he said, we must also realise that many still find it difficult to complain, believing the process to be inaccessible, too convoluted and too extended.

Mr Frawley said that to respond effectively to the challenges presented in healthcare, he believed we needed to focus on four critical transitions: from professional to organisational management; from operational to strategic management; a transition to an improvement focus through doing more with the same resources, and a transition to a more user-sensitive service.

If we are to achieve these transitions, it is essential that we practice real delegation, so that people can begin to own their own problems and develop appropriate responses. It is important to remember a series of nudges can become organisational shifts, and as a result, new contracts emerge between the centre and the periphery. But where is the centre of the healthcare system? Mr Frawley said he believed it should be where the patient was – if our service was really patient-centred.

He said if we were to achieve this, we needed to develop a clear service focus, not using the language of business – patients were not customers. It was his view that that kind of language alienated the public.

He said it was important to be aware of the strategic estate – we must use equipment and space more efficiently and effectively. Large amounts of capital assets are tied up and underused - for example we must change the attitude that results in everything in Outpatients becoming 'silent' on a Friday afternoon. By being creative, we could at such times create an appropriate atmosphere in which to look after the most vulnerable – for example, the profoundly learning disabled or those with traumatic brain injury.

He stressed the need to broaden the sense of what healthcare was – of course we needed that piece of equipment, but our patient might need something else even more. Do our clinics start on time? Are they well managed in terms of support and infrastructure? Are we suiting ourselves as professionals and then expecting the patients to fit into a service, or do they have primacy?

He said all of our services needed to establish a concierge strategy – listening to what patients and staff were saying, measuring their satisfaction, and building on what was working. Performance appraisal of managers is also important – quality and productivity are critical indicators of performance. He said we must identify and understand the fundamentals of service and manage them.

This culture must be encouraged and permeate all levels of the organisation – everyone wants to know how well he/she is doing, and how to do better. There is a need to work smarter, not harder, to ensure we do not put key priorities at risk, and that we use all our resources creatively.

For example, we need to rigorously manage outputs and outcomes, the key to which is to robustly audit utilisation and establish technology assessment. There is a need to look at new models of how we structure and manage the system, but this will only happen if there is real leadership. Everyone in an organisation has a leadership responsibility - it is not just about Chief Executives and Directors - it is essential at all levels. Leadership can be taught - it therefore can be learned.

He said a leader innovated, rather than administered; had a long-range perspective, rather than a short-range view; asked what and why, rather than how and when; had his or her eye on the horizon, not on the bottom line, and always challenged rather than accepted the status quo. No one can lead alone – others must want to follow. The ability to lead and inspire others is far more instinctual than premeditated, and is acquired through experience of everyday life.

Mr Frawley continued that leadership is difficult to define – perhaps the sum of a person's values, skills and talents, but he believed it was the most important ingredient in an organisation achieving success. He said leadership was the ability to inspire other people to work together as a team, following your lead, to achieve a common objective.

The job description for leaders is not about the title on the door or the headed stationery or the obsession with status. The best context for leadership is sport – for example, look at Brian O'Driscoll, a young man of 24, inspiring and leading every time he takes the field. Effective leadership is having a vision for where we wish to go and equipping our staff to achieve that goal. He said we must constantly evaluate to ensure success, not to punish failure, but to acknowledge progress and to secure greater commitment of our staff. People's views must be taken seriously, and even failure can be intelligent when we learn from it. Leadership as a culture is about everyone participating in a whole system approach. Vision and values must be real and adhered to in a transparent way and supported by strong commitment to communication. But remember, such systems are not democracies.

Individual characteristics of effective leaders, he said, included trust, integrity, being a good listener, affording praise, and correcting difficulties early. Good leaders deal with negative dissent, for example, the corrosive cynicism that saps energy and makes people feel despondent. Leaders focus on implementing change and know that people are their greatest asset in creating a future. Everyone has a gift or a talent – we must acknowledge everyone's contribution.

He said we must come to grips with the fact that public service needs and expectations were constantly changing. Organisations are created to institutionalise a way of doing things and ironically, can thereafter resist all change.

It is essential that managers change the physical reality of how things happen in order to achieve a desired result. Therefore, the challenge is to create and manage organisations that embrace and exploit change, rather than fear and resist it.

After all, he concluded, what lay before us and what lay behind us were tiny matters compared to what lay within us.

MANAGING RISK: PROBLEMS, CHALLENGES, PITFALLS AND MAJOR BENEFITS

Mr Frawley explained that this brief presentation was offered as an outline of an approach rather than a solution or a detailed response to risk management. Risk management, he said, was a set of processes that needed to be integrated into the organisational life of a public body. He said it was a very sobering experience to look at the level of risk in an area for which you were responsible. In large organisations, there is a high level of risk in the following key areas: reputation, employment, financial, assets, duty of care, knowledge management and partnerships.

Human Resources

Employment covers recruitment and retention, both areas need to be assessed. Exit interviews are an effective mechanism to find out why people are leaving an organisation. Turnover rates can also inform an assessment of duty of care risks. Skill deficiencies can be another problem, when people are asked to do something that they are not competent to do - a lack of succession planning and the Health and Safety agenda are also becoming increasingly important in this regard.

Finance

In the financial area, risk management is necessary even at relatively low levels – the manager, for example, signs the travel claim form and is therefore accountable for it. But how robust and conscientious are we in meeting these responsibilities?

Maintenance and Health and Safety

In terms of assets, lack of capital investment, poor maintenance, operational breakdown, inadequate security and no systematic replacement policy, can all cause problems and need to be proactively managed.

Decision Making

Uncertain, delayed or unclear decision making can cause difficulties, as can being unaware of or not up to date with vital information or legislation relevant to the organisation's responsibilities and its responses.

Partnerships

Partnerships with the voluntary and independent sectors are becoming increasingly common, but how many of us are aware of their governance systems, whether they exist, and importantly if they exist are they complied with? We could also be accountable for the performance of our partners' tasks, particularly if they are in formal or contractual relationships with us.

Contingency Planning

Contingency planning is absolutely vital – assuming the unexpected, for example 9/11. Emergency plans need to be comprehensive and practicable, and tested. Back-up systems are essential, particularly in the event of computer failure, and contingency reserves are needed in cases where budgetary deficits could

occur. Health and Safety procedures must come into play if there is an industrial accident, and insurance cover in the event of professional negligence. An equal opportunities code is essential to address the potential for an allegation of discrimination.

Culture

Finally, good governance should be demonstrated through an organisational culture supported by a clear strategy leadership, ongoing risk evaluation, testing compliance with regulations, evaluating service delivery by competent individuals and prompt response to audit and inspection. In other words, there should be an explicit commitment to best practice.

Conclusion

In conclusion, he said, there were three levels of approach to building a culture of good governance – tell me and I will listen; show me and I will remember, and the rarest of all, involve me and I will understand.

It is essential, he said, that we acknowledged and accepted that what we were doing was important and that we could and should make a difference. He advised people to empathise with the people they work with and for, and importantly, retain their sense of humour.

The only certainty is change, which is likely to accelerate in the future. And remember the wise words of Henry Thoreau:

Things do not change; we change.

Conclusions

We live in a constantly changing and challenging world. It is however through changes and challenges that we learn, grow and develop.

The speakers in to-days first session moved us through a health and safety change agenda, in the clinical areas of cross infection control standards, through the management of dental water lines to radiation protection.

The contents of these lectures has I'm sure both posed and answered questions about current and future priorities back in our own workplaces. There may be a requirement for the development of policies and implementation strategies so that the practice of dentistry locally can change, grow, develop and progress to ever-higher standards.

The second session developed the theme of how to take the first steps on that challenging journey and lead the change agenda.

Risk management and managing the assessed risks are an ever increasing and important part of our daily work. It underpins all we do and is an integral part of clinical governance. This is an area that we as a group may wish to discuss in more depth in the future in relation specifically to dentistry and oral health.

Today we have continued our life long learning in an attempt to progress ourselves as individuals and as essential members of the healthcare team.

A much used but certainly true quote says that "Change doesn't necessarily ensure progress but progress implacably requires change"

If any of you have read the book "Who moved my Cheese" by Dr. Spencer Johnson you will be aware of the suggested route to success when faced with change.

- Recognise change - it happens
- Anticipate change
- Monitor change
- Move with the change
- Enjoy change

Thank you to all who made today happen especially to the DHSSPS (NI) and the Dental Health Foundation (I) for resources.

Tomorrow we as a society will be continuing to build capacity in the public health services in Ireland through collaboration and cooperation.

Change is happening – lets embrace it!!!

JUDI MCGAFFIN
Director of Dental Health
Western Health & Social Services Board

Acknowledgements

We would like to express our appreciation to Mrs Doreen Wilson, Chief Dental Officer, Department of Health, Social Services & Public Safety, Northern Ireland and Dr Gerard Gavin, Chief Dental Officer, Department of Health and Children, Republic of Ireland.

We would like to thank the speakers for their important and valuable contribution to the event.

We would like to acknowledge and thank all delegates for their support of this the Second Symposium of the All Island Meeting on the Public Dental Services.

Finally, we would like to thank Ms Patricia Gilsonan, Administration and IT Assistant, Dental Health Foundation for the organisation and planning of this event.

List of Participants
THE SECOND ANNUAL ALL ISLAND SYMPOSIUM
ON THE PUBLIC DENTAL SERVICES

Thursday, 27th February 2003

Bloomfield House Hotel, Mullingar, Co Westmeath.

DELEGATE	ORGANISATION
Nick Armstrong	East Coast Area Health Board
Andrew Bolas	North Western Health Board
Geraldine Breen	Southern Health Board
Borghild Breistein	North and West Belfast Trust
Stephen Brightman	North Western Health Board
Leo Burke	South Eastern Health Board
Pauline Carson	Ulster Hospitals and Community Trust
Fergal Connolly	North Eastern Health Board
Wil Coulter	Royal Victoria Hospital
Imelda Counihan	Mid Western Health Board
Padraig Creedon	South Eastern Health Board
Frank Daly	South Western Area Health Board
Maurice Delaney	Mid Western Health Board
Siobhan Doherty	South Western Area Health Board
Nader Farvardin	North Western Health Board
John Finnerly	Causeway Trust
Tom Frawley	Northern Ireland Ombudsman
Niamh Galvin	Southern Health Board
Gerard Gavin	Department of Health and Children
Patricia Gilsenan	Dental Health Foundation
Donal Goggin	South Eastern Health Board
Pamela Halton	South Eastern Health Board
John Hardie	Down and Lisburn Trust
Margie Houlihan	Mid Western Health Board
Breeda Hyland	Dental Health Foundation
John Jones	Southern Health Board
Maria Kenny	Midland Health Board
John Lee	Midland Health Board
Grainne Lynn	Foyle Trust
Will Maxwell	Eastern Health and Social Services Board
Cora McCarthy	Mid Western Health Board
Judi McGaffin	Western Health and Social Services Board
Adrian Millen	Northern Health and Social Services Board
Michael Mulcahy	Midland Health Board
Joe Mullen	North Western Health Board
Barney Murphy	South Western Area Health Board
Niall Murphy	South Eastern Health Board
Solveig Noble	Homefirst Trust
Barbara O'Brien	South Eastern Health Board
Colleen O'Neill	South Western Area Health Board
Caroline Pankhurst	Guy's Hospital
Ray Parfitt	Sperrin Lakeland Trust
Vida Reynolds	Northern Area Health Board
Catriona Roe	Northern Area Health Board
Aideen Sweeney	South and East Belfast Trust
Matt Walshe	Western Health Board
Doreen Wilson	Department of Health Social Services & Public Safety