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Medinfo98 – the Ninth World Congress on Medical Informatics, Seoul Korea August 1998 (Part 2)

This report is compiled from contributions given by Jean Roberts, Heather Strachan and Peter Murray


Medinfo98 was gracefully opened by the First Lady of Korea. Her presentation, simultaneously translated, was followed by a stunning display of rapid Korean drumming, a cultural event that featured in many of the ceremonies and social events associated with the conference. Given the presence of so many heavily-armed security personnel in the venue, the wisdom of a sudden burst of loud drum beats was questionable; when it started, for a split second, it made you wonder whether the strict security surrounding her presence had actually been successful! Modern conferences are so tightly-packed with presentations, that anyone with any degree of involvement finds it difficult to participate in the social programme that also tends to surround conferences, although the British contingent did participate as fully as is expected. The River Han Cruise on which we had booked was cancelled due to the river being in flood following the monsoon rains - so instead, we visited the Korea House cultural centre. This visit featured a Korean buffet and tour around the centre, followed by a display of – yes, Korean traditional drums, as well as dancing, music and singing; it's amazing how many different types of drums they have, and how many ways they use them.

Of course, the purpose of attending any conference is to listen to the papers and participate in the workshops. The following are recollections of and reflections on some of the sessions we were able to attend. The conference proceedings are published as B. Cesnik et al (Eds.) Medinfo 98. Amsterdam. IOS Press. 1998, and all abbreviated references refer to this.

Electronic records

Ted Shortliffe of Stanford University started his semi-plenary session on ‘The evolution of health-care records in the era of the internet’ by outlining key clinical workstation functions (clinical applications, administration, research, scholarly functions, office automation) and indicated a major forthcoming change in Internet functions as considerable US Federal money is invested. He explored the integration of the information that forced healthcare practitioners to become ‘power users’ but which did not actually produce integration, indicating that the web gives the opportunity for seamless applications to actually be generated. He suggested that the new incarnation of the Patient Record is electronic, shareable but confidential, but we must ‘rethink its nature – it is not an object but a process’. He suggested that for that reason it is not possible to buy a medical records system ‘off-the-shelf’ and that recurring issues, such as standards for terminology, security and privacy, physician
data entry and the integration of medical records (as is) with other sources, must be looked at to gain a critical mass of functionality which he called ‘an ENTERPRISE INTRANET’. The Enterprise Intranet, he suggested, will give access to the outside world - the Global Health Information Infrastructure (and virtual health record) - but the ‘problems of the last mile’ towards this goal would not be easy to overcome.

A second semi-plenary, ‘From electronic medical record to personal health records: present trends in the European Union’ was given by Ilias Iakovides of the European Commission, Telematics Application Programme (Health Sector) and presented some interesting proxy comparisons of the investment in informatics in health (less than 300 ECU per employee) to the financial services sector (about 5000 ECU per employee). He suggested that there will be an average increase of investment of 15-10% per annum in the latter, compared to about 3% of health expenditure (which equates to about 15-20 Billion ECU - big bucks!). He confirmed the direction in Europe as towards ‘shared care’ (managed care) but recognised that a balancing exercise between quality, efficiency and access to care would need to be struck. He indicated that a number of European projects were addressing the middleware necessary to bring about the migration from legacy systems to full integration to support the emerging care scenarios. However, he outlines the residual problems as: cultural and societal/ organisational issues; a need for clarity in national and regional strategies; a need to establish user acceptability for privacy measures and the human-computer interface. He ended by pointing out that we must start to consider not just the patient as a user of informatics in health but the general citizen too.

A lively session on the activities underway and the key issues facing the (re) emerging and developing nations highlighted access to training and education and the quality of Internet access and content as their main problems. Exchanges between participants from over 15 countries will no doubt bring about some progress in these areas.

**Cybermedicine and case-based reasoning**

Warner Slack of Harvard Medical School, addressing ‘Cybermedicine: how computing empowers patients for better healthcare’ presented the semi-plenary which woke us up on the third day. His talk on improving cybermedicine systems also recognised the generic patient / citizen as a factor in informatics support for health. He suggested that computing could be used wisely for both practitioners and the public, but that ‘any doctor who can be replaced by a computer, deserves to be replaced by one’!. He recommended that the clinical record be ‘declassified’ for the patient. His amusing asides on how a patient interview system should have response buttons for questions felt inappropriate by the interviewee, entitled ‘None of your damn business’ or ‘Skip it’ depending on the sensitivity of the location, made an underlying useful point - patients need to trust the clinician and to feel that the requested information will be useful to decisions about their ultimate care. His final point challenged us all to work towards democratised computer support to patient care.

Case-based reasoning was an interesting concept explored by Shamsul Chowdry and colleagues from Sweden (Knowledge discovery and case based reasoning in health-promotion: development of a help-desk for prevention of occupational injuries). In looking at occupational injuries, twenty features of an incident were grouped by ‘victim’, employer, working conditions and patterns extracted. Marie-Christine Jaulent of Paris described the evaluation of key points to inform a diagnosis,
determined from images, which had been proven in breast tumour histopathology. It could usefully be applied, she said, in other areas. She stressed the need, when looking at stored reference images, to retrieve useful images, reuse them in similar cases, revise the indicators and points made in the light of that reuse and retain the updated/enhanced material for subsequent uses. This was an interesting model and warrants further consideration.

Evidence-based practice

Brian Haynes of McMaster University, Canada successfully explored the hypothesis that innovations in healthcare are 'most likely to be enhanced by intertwining best evidence with best informatics'. He advocated the explicit, judicious and conscientious use of current best evidence from healthcare research in making decisions about the healthcare of individuals and populations. He suggested that current health research, on which the US spends 55M dollars per year, does not impact quickly enough on current best practice, creating the 'Evidence Transfer Gap'. He noted a number of useful journals which were attempting to redress this situation: they were informing the processes of getting the evidence straight, developing clinical policies and then applying them. He sounded a word of caution about the research into clinical guidelines which has been published, some of which is not relevant directly to particular situations and must be customised and set into the local context. He also alleged that in some circumstances, there was no overlap between what physicians wanted to do and what delivered the best results, and that more work should be done on using patient data collection to match the individual patient characteristics to the appropriate evidence base, to bring about prevention guidelines. He stated the main challenges as: dealing with the heuristics of getting from research into practice; factoring in evidence to clinical practice; and consistently coupling best evidence with best IT.

Nursing and multi-disciplinary perspectives

The session on Perspectives in Health Informatics covered a comprehensive profile delivered by Marion Ball (FCG, Baltimore - Medical Informatics in the New Millennium), an exploration of where informatics and psychological/organisational factors interact from Danish research (Eva Hultengren), questioning of how health informatics has developed in multi-disciplinary and single professional directions (Jean Roberts), and what are the main priorities of nursing informatics research in the USA (Patricia Brennan). The debate on why different healthcare professions do not always interact synergistically linked these contributions together and prompted much debate with the audience.

Jean Roberts (Health or Unidisciplinary Informatics Initiatives - Why are we where we are today) noted the multidisciplinary focus and traced the development of health informatics from a segregated, uni-disciplinary beginning to an environment in which multidisciplinary health informatics and uni-disciplinary work co-exist reasonable harmoniously. The inhibitors to a multidisciplinary focus were identified as organisational reluctance, the traditional hierarchical nature of the health professionals and professional tribalism. However she believed the future looks more optimistic. She suggested that as health care delivery teams become more acceptable, different professionals will recognise the strengths of each other and work together in harmony. Information systems and technology must be developed to support this practice and professionals must establish ground rules for working together.
The theme of cross disciplinary collaboration was highlighted by Hultengren (Health Informatics and the Humanities) who outlined the difficulties and challenges facing co-operation from different scientific disciplines because of the different approaches they may have to a particular problem. It was suggested that health informatics has been a collaboration of people with technical, scientific and medical education who may have different comprehensions and difficulties integrating with scientists from a humanities background, i.e. social and organisational psychologist, communication or language researchers. Nurse researchers were also mentioned under the latter category. Hultengrens’ argument was based on the assumptions that the computer and medical scientist have a predominantly technical focus. While this may have been the case, health informatics has been strongly influenced by information scientist and nurses who have help to soften the technical focus by providing the humanities view. However Hultengrens’ ultimate message was one of key significance: whatever scientific or professional background you come from it is key to keep an open mind and learn from the other sciences. Cross disciplinary collaboration, she asserted requires: a deep understanding of your own discipline; being open, curious and searching when issues are presented; the ability to give information about your own scientific theories and methods; the ability to listen to others; and a knowledge of the process of co-operation.

Another view of the future was identified by Patricia Brennan (Setting a National Research Agenda in Nursing Informatics), who undertook a Delphi study via electronic mail to examine future nursing informatics research priorities. The top five priorities were identified as: formalisation of nursing vocabularies; technology development to support patient care; data base issues; patients use of information technology; and using telecommunications technology for nursing practice, i.e. telenursing and home care. Brennan concluded that in recent years there is greater emphasis on the application of emerging technology to nursing practice problems, and the expansion to consider patients as direct users of information systems.

**Home telehealth**

The benefits of patients using information systems was outlined in an interesting paper by Yoo et al (Home Telecare Systems Integrated with Periodic Health). The system described offered periodical health reminders to patients for health promotion reasons; multimedia health information; access to the patients electronic medical record from anywhere, and video teleconsultation from the patient’s home. The latter function enabled eight out of twelve consultations with the hospital consultant to be conducted from the patient’s home with the resulting cost saving to the patient in relation to personal time and transport.

Key to the design of home health care systems must be the need and benefit of the system. One such systems being developed in Japan (Inada, H. et al, A study of Development of a Home Health Care Support Information System) appeared to have overlooked the idea of benefits and need. The system, which it was suggested would be “useful to support home health care” enabled the patient’s vital signs, including blood gases to be monitored from home. While hospital at home schemes are more common these days little was mentioned of the type of patient that would use this system and why. The trial was undertaken on a group of elderly people who found the weight and size of the equipment to be a problem, and the accuracy of the test results were also questioned. The paper also identified a system that viewed the patient’s movement via a camera. While monitoring movement could be useful to monitor
patients at risk of falling, how many patients would want their privacy invaded to this extent?

A more useful home care support system was described by Finkelstein et al (Telematics System for Monitoring of Asthma Severity in Patients’ Homes) who had designed a system which supported severe asthma suffers and allowed their physicians to monitor the patients’ condition from home. The resulting benefits of reducing the incidence of asthma exacerbation and subsequent hospital admission were gained by improving reliability of self testing procedures; improving access of this information by the physician and prompt reciprocal exchange of relevant information between patient and health care providers.

Whether we have revolution or evolution around the year 2000 it certainly seems that the emphasis of health care informatics is changing. There appears to be a growing recognition of the need for systems that support the clinical practice. While the key focus of cost containment will never be removed, the recognition that supporting clinicians is the best way to achieve cost effective care must be endorsed. The realisation that patients are partners in their health care is also acknowledged by the growing development of systems for patient usage. Who would have thought, five years or so ago, that the Internet would have grown as much as it has, not just for use by business but by individuals. This presents many opportunities for improving health and the quality of health care delivery. These opportunities need to be seized by all health professionals, including nurses, if we are to meet the challenging agenda of the future.

Among other sessions presented by UK delegates and not already described were:

- Medical education and distance learning – a workshop by Peter Murray and Evelyn Hovenga (Australia);
- Education and training in medical informatics – a workshop by Jean Roberts
- Nursing e-journals: are current models using the web’s potential? – a paper by Peter Murray and Denis Anthony
- G7 initiatives to enable a global information society – a workshop by Ray Rogers.

Remarkably, Year 2000 issues had little mention, with only one workshop and one other paper dealing primarily with them.

Korea may be a little far for many people to travel; this distance, and the general economic downturn and uncertainty affecting much of the Far East may have resulted in lower numbers attending from the UK and Europe. However, the next Medinfo, in September 2001, will be much nearer home, in London. Start planning to attend now. Further information on Medinfo2001 is from Jean Roberts (jmroberts@fcgnet.com) or the website at http://www.medinfo2001.org