

UK Health Computing

Recollections and Reflections

EDITED BY

Glyn Hayes and Denise Barnett



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The British Computer Society,
First floor, Block D,
North Star House,
North Star Avenue,
Swindon, Wiltshire SN2 1FA,
UK
www.bcs.org

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1 BCS involvement in health care informatics

DENISE BARNETT AND BARRY BARBER

The British Computer Society (BCS) was founded in 1957 to provide a national body to represent all aspects of the activities of the emerging computing profession. HRH the Duke of Kent became patron in 1976. The Society was awarded a royal charter in 1984 when it had over 30,000 members in various grades, ranging from the full professional grades of Member and Fellow through to the Affiliate grade.

Affiliates were individuals from other professions who were allowed to participate in BCS activities. Access to the professional grades was through a combination of academic and professional qualifications with supervised, structured experience. The Professional Board supervised the BCS examinations, the professional development scheme and the BCS code of conduct. This was one of the four main operating boards, each chaired by a vice-president, allocated resources by a Finance Board, and over seen by Council.

By 1985 the Branches' Board linked together the activities of 42 local branches, each running a local programme of events. Of greater relevance to the health professions was the Specialist Groups Board. This covered 40 groups, including nursing, medical and primary health care. Each group put on a programme of activity for its members. Any member of the BCS was also free to join any specialist group.

There was a Technical Board to oversee computer developments and to help BCS members keep up to date with issues such as privacy and confidentiality, and the security of the census, as well as the representation of the BCS on the specialist committee of the British Standards Institution.

The BCS maintained a joint library with the Institute of Electrical Engineers. The health section was relatively limited, but it provided a home for the proceedings of national and international conferences. Members of the specialist groups, as BCS affiliates, were able to use the material for reference on site, but not to borrow it. In the 1980s, the BCS published the *Computer Journal*, the *Bulletin* and a BCS Newsletter. The Society also provided a weekly page of BCS news and activities in the trade newspaper *Computing*.

The membership structure of the BCS has now changed, with more professional members joining through other routes. The expected professional and ethical standards have been clearly stated.

HEALTH SPECIALIST GROUPS

There were five groups. The first were the London Medical Specialist Group (LMSG), which was set up in 1967, the Northern Medical Specialist Group founded in 1968 and the Scottish Medical Specialist Group in 1974. The Nursing Specialist Group was established in 1983, but it had its antecedents in the DoH Computer Project Nurses Group, which had been formed in 1974. The Primary Care Specialist Group was established in 1982. The groups' titles might sound to 21st century ears to be uni-professional, but in fact there was a great deal of sharing and cross-fertilization of ideas between and within them. The only reason for developing additional groups was that the first two groups could not come round to exploring topics in Primary Care or Nursing sufficiently often to fulfil the growing need for discussion.

The individual groups

Founder and early members of the specialist groups recall the early days.

THE LONDON MEDICAL SPECIALIST GROUP

The BCS provided a useful forum for discussing medical computing possibilities as a specialist. In the early days the format was usually an evening meeting in central London with a speaker and a glass of sherry to follow – the latter was quite an attraction and a reward for meeting in 'our own time'. This after-hours format worked for quite a while in the early days because that was the only way that time could be found for informal discussion with colleagues, often working in London.

It is interesting in retrospect that after talks on the use of computers in hospitals, audience comments were often along these lines: 'We would like to do this sort of thing but we cannot find the cost of a computer.'

Over time the comments changed to: 'We can find the cost of a computer but we cannot find out the cost of computer maintenance,' and later to: 'We can find the cost of a computer and its maintenance but we cannot find out the cost of security.'

Among the early chairmen of the LMSG were Dr Malcolm Forsythe, Dr Mike Abrams, Dr Barry Barber, Professor John Anderson and Professor Richard Vincent. They were at the heart of the many medical informatics developments across the country. The detailed constitution, minutes and documents have been handed down from chairman to chairman and secretary to secretary but all appear to have been lost in the mists of time.

Doubtless fragments of these records will emerge among individuals' professional papers in the future. All that remains is the idiosyncratic listing of some committees and chairmen when conference proceedings were published or when copy was contributed to the *British Journal of Healthcare Computing* or the various versions of the *Kluwer Handbook*.^{1,2}

Curiously, despite the fact that the chairmen of the BCS Specialist Groups were always approved and recorded by the Technical Board or the Specialist Groups Board it appears that even these records have vanished.

The LMSG joined with the other groups to run national meetings in 1969 and 1971 and then provided the driving force behind the establishment of the annual *Current Perspectives and Healthcare Computing* conferences. The BCS encouraged the group to make the most of available opportunities in medical computing and the Society believed that it was better able to do this without any strong central direction. Senior officers provided the group with support at critical junctures which enabled it to:

- join IFIP TC4 – later to become the International Medical Informatics Association (IMIA);
- help establish the European Federation for Medical Informatics (EFMI);
- run the first EFMI conference in Cambridge in 1978 – the group was given a budget of £30,000 in the year when the library budget of £10,000 was cut;
- run the first International Conference on Nursing Informatics in London and Harrogate in 1982 – which enabled the IMIA to establish its Nursing Informatics Group;
- establish our annual conferences – sometimes the BCS had a conference department that they wanted us to use and sometimes it had not; and
- establish new specialist groups as required to meet our needs – including the Medical Specialist Groups Coordinating Committee which was the forerunner of the present Health Informatics Forum.

The annual conferences very successfully linked with the *British Journal of Healthcare Computing* (BJHC) in providing a combined BCS conference and BJHC Exhibition. Although this turned the event into a very large affair requiring substantial financial underpinning, its success over many years enabled the event to develop sufficient monies without recourse to central BCS funds. In times of financial crisis various BCS Treasurers have discovered how successful the group's enterprises had been. Throughout this time many BCS members continued to run conferences in conjunction with their own professional bodies and their hospitals, regions or the NHS or DoH, but the BCS provided a more permanent home for LMSG activities. However, for these reasons, much of the early medical informatics and medical operational research literature is scattered across many professional journals, organizations and national and international conferences.

BARRY BARBER

THE NORTHERN SPECIALIST GROUP

The origins of the Northern Specialist Group, or the Northern Medical Specialist Group (NMSG) as it was originally known and is still affectionately referred to, can be traced back to 1968. Following the example of the London

Group, the NMSG was founded by Dr David 'Nobby' Clark who was then a newly appointed research fellow in medical computing at Manchester University. He collaborated in this venture with Dr Peter Harvey, a consultant from Lancaster Royal Infirmary, Professor Bernard Richards and several others including Dr Gillian Cooper, Dr Peter Farrer, and Dr Brian Gill.

The NMSG met three or four times a year in the Computation Department at the University of Manchester Institute of Science and Technology (UMIST). One of the first speakers to be invited was a high court judge. Judge Sigismund, discussed some of the ethico-legal issues that were likely to arise when computers were used to store medical records. I joined Nobby's unit, and the Group, in 1970. I believe it was to one of these meetings, held in Lancaster in the early 1970s, that we gave what must have been one of the very first demonstrations of tele-computing in medicine. We showed that we could search records held at Manchester and see the results on a terminal 60 miles away. Unfortunately due to a programming error on my part the demonstration came to a halt as soon as we tried to enter a search term in the second half of the alphabet.

Jean Roberts joined the Group in 1973 and played a major role in several key developments. An important milestone was the introduction of a national meeting for health computing. In his role as NMSG chair Nobby took on the task of organizing the exhibition when the inaugural meeting was held in Lancaster in 1978, and was reprimanded – so he tells me – for overspending his budget on overseas telephone calls to potential exhibitors. The first EFMI meeting was held in 1978 in Cambridge, when many of the NMSG were heavily involved.

After the 1970s, and as Nobby and I moved into other areas of activity, the Group entered a fallow period. It was re-launched in 1996 with the resumption of active participation by Professor Bernard Richards and by me, under the leadership of Steve Kay. It has been extremely active ever since – organizing up to 12 meetings a year, mostly in Manchester.

TOM SHARPE

THE SCOTTISH MEDICAL SPECIALIST GROUP

Half a dozen or so of us from Scotland ended up at that seminal BCS Medical Specialist Group meeting held in Birmingham in 1969. There were three or four of us there from Glasgow and we had not even met before. Following that meeting internal chat suggested that we should have a Scottish group. I personally approached the BCS HQ and went through the hoops to have established the Medical (Scotland) Specialist Group.

We held our first meeting in Paisley with about 60 attendees, and established a committee and held meetings around Scotland about every six to eight months. Having a meaningful committee with the geography of Scotland was a challenge. We established the principle of a core group committee of secretary,

treasurer and chairholder, based on Glasgow, and the rest of the committee coming from the Scottish city where we were holding the meetings in that particular year.

Sometime before 1981 Barry Barber and Bud Abbott set up a meeting with Mike Heasman – the then guru of Scottish health IT – and me to encourage the Scottish Group to become part of the Health Informatics Committee. Up until then we had been solely represented through the BCS Specialist Groups Committee.

The rest is by and large history. I was certainly too long as chairholder. Ray Jones succeeded me and then we went into the doldrums of early electronic mailing lists and deciding how everyone was to be kept posted. Following Ray's move south there was a problem period of a new chair and secretary far removed from rapport with the others.

Heather Strachan has now succeeded as an excellent chairholder and the group is beginning to thrive again.

JOHN BRYDEN

PRIMARY HEALTH CARE SPECIALIST GROUP

In 1979, Geoffrey Dove, a London GP set up a Medical Computer Club. Similar organizations were set up by Geoffrey Clayton, from Norwich, and Alastair Malcolm in the north-east of England. These organizations came together to form the Primary Health Care Specialist Group (PHCSG). The inaugural meeting was held at the ICI Conference Centre at Alderley Edge, Cheshire in 1981. Geoff Clayton was the first chairman and Geoff Dove the treasurer. Both were emphatic that medical computing should be open to all contributors, that meetings should be well lubricated, and that the responsibility of the treasurer was to ensure that this could be afforded.

From the start the Group's membership was an eclectic mixture of GPs, GP staff, academics, health authority and DoH staff, plus technical professionals working in primary care. This mixture of members and the independence of being a BCS Specialist Group gave it greater influence and wide-ranging activities.

Soon after its formation the Group set up a sub-group for the BBC Micro, which was being used by many GPs at the time. It also accepted an invitation to send a representative to the Joint Computer Policy Group of the British Medical Association and Royal College of General Practitioners. The groups started holding two major conferences each year. These became a major source of debate and academic publication of work in the field. The Group published a regular newsletter and was and is still a melting pot for technical and organizational strategy development. In the early years one of its main activities was spreading the word about the benefits of computers to the general practice population.

After five years in the post Geoff Clayton retired as chairman and his place was taken by Glyn Hayes. Under his leadership the group developed a more political role, applying pressure and offering advice on primary care IT to all levels of the NHS. It also started think-tanks on technical subjects, which played a major role in the development of GP computer systems.

In 1990, the PHCSG organized a workshop on International Primary Care Computing in Brighton under the auspices of the IMIA. This workshop produced a book that described the thinking on the subject and included a large bibliography.³

The newsletter grew and subsequently, under the editorship of Sheila Teasdale become the *Journal of Informatics in Primary Care*, an indexed scientific publication with an international exposure.

GLYN HAYES

NURSING SPECIALIST GROUP

The nursing profession owes a particular debt to the BCS in that when the experimental projects were being developed, the small band of nurses involved in these projects grouped together for mutual discussion and support. They then looked to their national professional body, the Royal College of Nursing, for further support but found little interest or enthusiasm for the subject of computing at that time. The group welcomed the possibility offered to them of creating a Nursing Specialist Group (NSG) within the BCS. Furthermore, it gave them easy links with the other health professionals, both nationally and internationally. The Group has kept a careful list of its officers as follows:

Claire Ashton, Chair 1983–87

Yvonne Bryant, Secretary 1983–90, Chair 1990–93

Brian Layzell, Treasurer 1983–95, Vice Chair (administration) 1996

Ron Hoy, Chair 1987–90

Deirdrie Gossington, Vice Chair 1989

Madeline Gillies, Vice Chair 1990

Heather Strachan, Secretary 1990–96, Vice Chair 1997

Keith Oswin, Treasurer 1995–2002

Derek Eaves, Secretary 1996–97, Membership Secretary 1991

Nick Hardiker, Vice Chair 1996

Graham Wright, Chair 1993–97

Peter Murray, Chair 1997–99

Paula Procter, Secretary 1997–2004

Carol Cooper, Chair 1999–2001, Membership Secretary 1996

Helen Sampson, Vice Chair 1999, Chair 2001–04

Richard Hayward, Chair 2004–

Janette Bennett, Treasurer 2002–

The group, like the PHCSG also, established their own conferences to address nursing issues in a multidisciplinary way. The themes of these conferences offer a good reflection of the concerns of the NSG.

- 1984 Microcomputers in Nursing
- 1990 IT Beyond the Theory
- 1991 Information Technology – Nursing and the Multidisciplines
- 1992 Informatics for the Nursing Professions: The What, Why, When, Where and Who of Information Use
- 1993 Managing Information for the Benefit of Patients
- 1994 Sharing Information – Focusing on the Patient
- 1995 Patient Privacy, Confidentiality and Data Security
- 1996 Making the Right Connections Electronic and Human Networks
- 1997 Clinical Informatics – A Health Alliance
- 1998 IM&T – The New Strategy
- 1999 Solving the Jigsaw – Supporting the Frontline Practitioner
- 2002 Information in a Multidisciplinary World

More detail about the BCS NSG is in Chapter 19.

In the 1990s, with encouragement from members of the NSG who were also members of the College, the Royal College of Nursing appointed a part-time and then full-time advisor. It was the first of the three professional nursing bodies to do this. It also provided an important resource in Anne Casey who did a lot of work on nursing and clinical terms, both nationally and internationally.

The advent of the Nursing Professions Information Group encouraged the Royal College of Midwives and the Community Practitioners' and Health Visitors' Association (CPHVA) section of the more general health staff union, Unison, to develop their advisory membership structures and to invest in staff time on informatics issues. Members of these organizations were often also members of the NSG.

The NSG, like its fellow BCS specialist groups, provided printed versions of the papers given at its conferences, first as supplements within its newsletters and journal, later as the INFormed Touch Series. These papers were priced to come within the purse of the average staff nurse and were later added to the NSG website from where they can be downloaded without charge. The NSG faced major logistics problems in communicating with the very large number of nurses, midwives and health visitors working within the NHS, independent hospitals, hospices, private nursing homes and charities.

DENISE BARNETT AND MAUREEN SCHOLES

Internet contact

The current BCS health informatics member groups are available on the internet to individuals who may join one or more of the groups. Visit www.bcs.org/forums or a group's individual website:

Health Informatics Interactive Care

www.hiicsg.bcs.org

London and South East

www.hilsesg.bcs.org

Health Informatics Northern

www.bcs-nmsg.org.uk

Health Informatics Nursing

www.nursing.bcs.org

Health Informatics Primary Health Care

www.phcsg.org.uk

Health Informatics Scotland

www.scotshi.bcs.org.uk

Health Informatics South West

(No website.)

EXPANSION OF THE HEALTH SPECIALIST GROUPS

For a period, Barry Barber was vice-president (specialist groups) and during this time it was recognized that the existing groups could not cover all the topics that were of interest to those concerned with computing in primary care or nursing. This was a difficult decision because it was important that the health specialist groups should not disintegrate into separate islands of knowledge when they were all emphasizing the need for systems and organizational integration.

The Medical Specialist Groups Coordinating Committee

The Medical Specialist Groups (MSG) Coordinating Committee grew out of the organizing committee that was assembled to run the first international nursing informatics conference. It included representatives from all the health specialist groups as well as from other professional groups that were known to be involved in health informatics. Sometimes this was linked to individuals being active members of other professional groups as well as their BCS specialist group. For example, Barry Barber chaired the first computer topic group of the Hospital Physicists Association (HPA) in 1965–66.

The MSG came together to organize the first national conference from 6–10 January 1969 at the University of Birmingham, which attracted around 400 delegates. The Organizing Committee was chaired by Malcolm Forsythe of the Wessex Regional Hospital Board, the secretary was Julian Bogod from ICL, the proceedings editor was Mike Abrams of Guy's Hospital; Conway Berners Lee of ICL and Barry Barber of The London Hospital were additional committee members. The proceedings were published as *Medical Computing – Progress and Problems* for the BCS.⁴

This was followed by a smaller meeting, held at the University of Bristol from 15–17 September 1971. The proceedings were again edited by Mike

Abrams as *Spectrum* 71.⁵ The Minister of State, Lord Aberdare, gave the opening address. After this the serious health informatics effort was channelled into local meetings of the three specialist groups. There was a lull in big conferences while people got on with some serious work arising from the first flood of ideas and opportunities, as well as work coming out of the DoH Experimental Real-Time Computer Programme.

The MSG Coordinating Committee held a conference in 1984 when the HPA was represented by John Newell, and the MUMPS User Group by Jo Milan. The lessons of the success of the coordinated effort were not lost. The MSG was gradually developed into the Health Informatics Committee and then the Health Informatics Forum, to be as inclusive as was possible with other professional organizations concerned with health informatics and its development.

The BCS medical specialist groups return to Birmingham University in March 1984 initiated the present series of *Current Perspectives in Healthcare Computing*, the title given to the published proceedings of successive conferences.

- 1984 Birmingham University
- 1985 Sussex University
- 1986 UMIST, Manchester
- 1987 University College, Cardiff
- 1988 Brighton Metropole
- 1989 Harrogate, Conference Centre
- 1990 Brighton Metropole

After that, the conferences were held annually in Harrogate as this offered the best way of fulfilling the needs of the conference and the exhibition.

In the introduction to the 1984 proceedings, Barry Barber said:

For many years Health Computing has been an uphill struggle; a struggle for funds, a struggle for suitable facilities and a struggle for acceptance.

He went on to indicate that things had changed.⁶

An online conference planner was introduced to help each participant create and print a personal schedule for the event. This could be linked to obtaining an appropriate attendance certificate for continuing professional development credits.

When the conference was moved from a university to a modern hotel conference setting, the arrangements proved not only more expensive, but also more difficult for the exhibitors, who struggled to bring in their big trucks full of equipment. The move to an annual conference in Harrogate each March came about because it appeared to be the only site in the UK that provided a large hall with enough smaller conference rooms, as well as sufficient space for the large exhibition that is now associated with it. The media facilities at Harrogate, including a well-equipped press area, encouraged a wide

dissemination of news from the conference, including video clips on local, and occasionally national, television news programmes.

The organizing committee found that the exhibition was at the end of a long series of tasks, such as sorting out the programme and the organizational arrangements. In 1986, it invited Jenny Alloway of the *British Journal of Healthcare Computing* to organize the exhibition. This very important step freed the BCS Organizing Committee from the worries of trying to develop an appropriate exhibition to partner the expanding conference. It also established a professional, year-round basis for that exhibition. Soon it was bringing large numbers of people to the Harrogate Conference Centre: some 3,000 visitors over a three-day period, as well as about 1,000 conference delegates. The arrangements had to be booked years in advance in order to ensure continuity and the appropriate financial planning. Nettie de Glanville has now overseen the exhibition arrangements for many years and it has grown into a major attraction for National Health Service (NHS) staff and for those providing computing and consulting services.

Over the years new activities and facilities have been added, such as a business centre; a large area for poster presentations, with guided tours; internet access; and a new technology zone for innovators to present cutting-edge medical devices or smart health care solutions.

The *Exhibition Guide*, produced by BJHC Limited, provides both details of new products and contact information for each exhibitor, while the conference guide is a useful source of biographical details of the plenary speakers. Award ceremonies have also been added to the programme, with the presentation of the Healthcare IT Effectiveness Awards, and latterly with the BCS HC Achievement Award to honour an individual's lifetime contribution to the field of health care informatics. The Leadership in Health Informatics Accolades acknowledge and reward good practice in the collection and management of data and information in the English NHS.

BCS Health Informatics Forum

The BCS Health Informatics Forum (BCS HIF) was formed in January 2005. It evolved from the BCS Health Informatics Committee to provide leadership in all aspects of informatics in support of health. It also acts as a source of professionally recognized expertise. Its main activities are to:

- co-host the annual *Health Computing* conference and exhibition;
- comment on all major reports and proposals from Government;
- meet with Government, ministers or departments where necessary;
- compile, via its Policy Task Force, responses to relevant Government documents from the home countries, the European Commission and internationally, and also prepare BCS HIF policy on other health informatics issues;
- publish work, fund projects and arrange workshops to develop the science of health informatics;

- appoint the UK representatives to the two relevant international bodies: IMIA and EFMI;
- work with the NHS, clinical royal colleges, NHS IT organizations and other bodies towards developing health informatics professionalism in the UK, through the UK Council for Health Informatics Professions; and
- host quarterly meetings that welcome liaison groups.

RADICAL STEPS

Radical Steps is the generic name for a series of think-tanks and consultations on issues surrounding major topics of concern in informatics to support health care in the UK since 2002 – when a phase of significant investment in informatics was launched. It was named ‘Radical’ because it makes possible plain speaking and observations on both the positive and negative aspects of the way development and implementation plans are being realized – without fear of personal retribution.

Radical Steps initially related to consultation about the NHS National Programme for IT (NPfIT) and has been repeated annually since then. The concept has also been replicated in scrutinies of open source use and educational content relevant to the health and social care domain to date, both nationally and internationally. These projects produce formal position papers after views are synthesized and validated across the market; these statements have proved to be of interest more widely than the domain of health in the UK. (Visit www.bcs.org/bcs/Forums/health for more details.)

JEAN ROBERTS

INTERNATIONAL INFORMATION EXCHANGE

In the early days of developing computers to help in health care, enthusiasts came together for mutual support and to share ideas. The international exchange of ideas relied on the telephone, on paper and on face-to-face meetings. Although the European and worldwide conferences and related publications developed at the same time, often involving the same people, for clarity the European activities are described first.

European Federation for Medical Informatics

The French organization, Institut de Recherche en Informatique et en Automatique (IRIA), had been running International Medical Informatics conferences (Journées d’Informatique Médicale) annually in Toulouse since 1964. John Anderson and Malcolm Forsythe from the UK were keen supporters of these events. The proceedings of the 1976 conference were edited by M. Laudet, John Anderson and F. Begon and published by Taylor and Francis of London.⁷ However, there was a growing feeling that there

should be a European organization to promote these activities. The advent of the successful *MEDCOMP* conference, held in Berlin as a result of an initiative by OnLine Conferences Ltd from Brunel University, helped to focus minds among the European medical informatics community.⁸

It was clear that the IFIP TC4 *MEDINFO* conferences, which were being planned on a three-year cycle, could not come back to Europe much more often than once in a decade and it was necessary that the European activity should be wider than the French Toulouse meetings. Accordingly, the BCS was invited to a meeting to explore these issues, to be held under the auspices of the World Health Organization (WHO) (European region) in Copenhagen on 10 and 11 September 1976. In addition to the UK there were participants from Belgium, Denmark, the Federal Republic of Germany, France, Finland, Italy, Norway, Sweden and The Netherlands, as well as representatives from the WHO.

Following discussions during the meeting, a Declaration of Intent was drawn up and signed as follows:

European Federation for Health/Medical Informatics

The Federation shall be constituted as a non-profit organization concerned with the Theory and Practice of Information Science and Technology within the Health and Health Sciences in a European context.

We declare that the ten delegates here today from ten national societies shall constitute the Preliminary Council of the Federation which hereby exists.

COPENHAGEN, 11 SEPTEMBER 1976

The declaration was signed by a participant from each country.

There were a number of key issues that had to be resolved. The first was whether the organization should be one of national societies or of individuals. This was resolved in favour of national societies in order to foster their development: one organization per country. In EFMI the voting would be on the basis of one vote per country represented. A second issue was the adoption of the term 'Medical Informatics' or 'Health Informatics' to describe the activities. There was no problem of scope, but rather that of its accurate description. The working language adopted was English.

The scope of the 'European' membership was based on the WHO's list of European countries, which explains why countries such as Israel were included.

The Copenhagen meeting elected Antoine Remond of France as the preliminary chairman, Barry Barber from the UK as the preliminary secretary and Peter Reichertz from the Federal Republic of Germany as the preliminary treasurer, together with three other members to carry through the agreed arrangements. The decisions taken in Copenhagen were gradually developed into detailed statutes, or a constitution. The first meeting of the Preliminary Council was scheduled to take place during the next Journées d'Informatique Médicale in Toulouse to be held 22–25 March 1977. There

were many decisions regarding the details of the arrangements that were used later to develop the organization's constitution, but a clear three-year rotating period of office was established. This did not prevent the same individuals from serving several terms of office but it did ensure that the national society, on whose behalf they were acting, considered the matter and made an appropriate appointment at regular intervals.

In addition, it was decided that the membership fees should be kept low to encourage the widest spread of members: the initial fee was set at 100 Swiss francs. This, of course, was not the cost of membership because this would involve the travel and subsistence of a representative attending Council meetings once or twice a year: but a membership fee that included such expenditure would appear prohibitively expensive. In the early years it was possible to combine the work of EFMI Council with that of the Scientific Programme Committee for the conferences, thus reducing the costs of membership.

The statutes were approved at the second and final Preliminary Council meeting held on 23 March 1977 during the meeting in Toulouse. The statutes were deposited in Switzerland by Werner Schneider: he was then able to open the EFMI bank account. This groundwork cleared the way for the first EFMI Council meeting that was held on the same day.

The second EFMI Council meeting was held in London on 8 December 1977 to review the arrangements for the congress and the third took place in Cambridge on 3 September 1978 during *MIE 78*. Peter Reichertz was elected as the chairman, Barry Barber as the secretary and Antonio Fernandez Perez de Talens from Italy as the treasurer.

BCS runs the first EFMI Congress

It became clear that the EFMI would need to run European Conferences. The UK delegate was able to table two working papers that proposed holding the first EFMI Congress in Cambridge on 4–8 September 1978, together with a letter of support from the BCS. These plans were gratefully accepted and it was noted that the national societies should pay for the attendance of their representatives at the required two or three programme committee meetings, but that the congress fees should subsequently cover these expenses. It was also agreed that for this first congress, any excess of income over expenditure should be shared between the BCS and EFMI on a 60:40 basis in favour of the BCS.

The second Congress was allocated to the Federal Republic of Germany and was held – following a successful independent conference organized by Online Conferences Ltd, which had many BCS members on the programme committee – in a new conference hall in Berlin in 1979. It was agreed that EFMI should not attempt to compete with the world *MEDINFO* meetings and hence the next congress was arranged for 1981 at Toulouse in France.

The programme committee for the first EFMI Congress was chaired by John Anderson and met in London on 11 and 12 December 1976 to finalize

the call for papers. It met in March 1977 in Toulouse to discuss session chairmen; and in London in December 1977 to finalize the programme and issue the delegate brochure. Barry Barber, then chairman of the LMSG chaired the BCS Organizing Committee. This included Ken Goulding, Peter Hammersley and Stan Sargent from the LMSG, David Clark and Peter Harvey from the Northern MSG and John Bryden from the Scottish MSG, in addition to the Programme Committee Chairman, John Anderson. Similar timescales and the separation of a programme committee from an organizing committee have continued to be used for subsequent EFMI congresses.

The 822-page proceedings of the conference were edited by John Anderson and published by Springer Verlag in Berlin as the first volume of a new series: *Lecture Notes in Medical Informatics*.⁹ The series was edited by Donald Lindberg and Peter Reichertz.

The report of the organizing committee for the first EFMI Congress, *Medical Informatics Europe 78*, showed an attendance of 435 participants compared with an initial estimate of 405 and, of these, 394 were fee-paying participants. Fifty-six per cent of the delegates came from outside the UK.

The BCS were fortunate in having the right honourable Mr David Ennals, Secretary of State for the Social Services, to open the congress and speak at the congress dinner. This nearly did not happen because the Prime Minister Jim Callaghan had pencilled that day in as a possible general election date. Sir Douglas Black, President of the Royal College of Physicians, and Professor Maurice Wilkes gave keynote addresses in the opening session. Political and professional support have always been a matter of national pride for hosting nations.

The good news of an excess of income over expenditure of £4,673 was reported to the BCS Finance and General Purposes Committee. The BCS received its £2,804 share at about the same time as the organizers of the BCS national conference, *BCS 79*, reported an excess of expenditure over income of about £5,000 for the conference and a similar amount for the associated exhibition. The EFMI results were warmly received.

The second EFMI Congress to be held in the UK was held in Glasgow on 20–23 August 1990. The proceedings, *Medical Informatics Europe 90*, were edited by Rory O'Moore, Stellan Bengtsson, John Bryant and John Bryden.¹⁰ This was number 40 in the series of lecture notes.

Barry Barber continued as an officer of EFMI, becoming vice-president, president and vice-president Europe (IMIA Vice President (Europe)) and eventually an honorary fellow. The UK has continued to support EFMI with John Bryant and John Bryden as officers, with numerous delegates, and the second UK congress, *MIE 90*. In 1984, Bud Abbott organized a coach-load of delegates to travel from the North East Thames Regional Management Services headquarters in Brentwood to the congress in Brussels. The BCS established a productive trend that has now been followed for over a quarter of a century.

The EFMI (Medical Informatics Europe – *MIE*) Conferences were:

Cambridge	1978
Berlin	1979
Toulouse	1981
Dublin	1982
Brussels	1984
Helsinki	1985
Rome	1987
Oslo	1988
Glasgow	1990
Vienna	1991
Jerusalem	1993
Lisbon	1994
Copenhagen	1996
Thessalonica	1997
Ljubljana	1999
Hanover	2000
Budapest	2002
Saint Malo	2003
Geneva	2005

The BCS continues to be represented on the EFMI Council and EFMI continues to develop its activities with main conferences in between the triennial *MEDINFO* conferences, special interest conferences and the activities of its 13 working groups (www.efmi.org/). It continues to bring Eastern European countries on board and medical informatics societies in 29 countries are currently EFMI members. The costs in terms of time and resources in travelling to EFMI activities are substantially less than is required to attend IMIA activities and they are often more closely focused on the needs of European countries.

European projects

The then European Economic Community launched successive 'Framework Programmes for Research and Development'. The second framework in 1989 included telematics applications in health care (AIM) and flexible and distance learning (DELTA). Work was done in the AIM projects on:

- decision support;
- image processing;
- multimedia patient records;
- cooperative working;
- telemedical applications;

- man–machine interfaces;
- signal handling; and
- information transfer and advanced data storage.

The DELTA programme included: co-authoring multimedia courses; two-way distance teaching using satellite links; and ISDN video-conferencing.

In 1990–94, the European Commission set up a series of research and technological development programmes to bring together people of different nationalities from the, then, 12 member states. The 1993 telematics programme had six areas: health care, along with flexible and distance learning provided research funding, contributing about 50 per cent of the costs for 36 projects, but competition for funds was intense.

As the reflections in the remainder of this book will demonstrate, health service staff and academics in the UK were involved in pioneering in these and other areas.

BSI support for CEN TC 251

National and international exchange of information is easier if there are common systems and terminology. The European Committee for Standardization (Comité Européen de Normalisation or CEN) was made up of the standardization bodies across Europe. In the UK the British Standards Institution (BSI) provides the national standards. The European informatics community used its technical committee structure to identify, discuss and agree its response to the proposed standards. Technical Committee 251 (TC 251) was shadowed in the UK through the BSI, so that proposals could be reviewed for application or for potential problems for the UK. BCS members were actively involved and were able to take back the relevant issues to their specialists groups for further discussion.

The CEN TC 251 working groups covered such areas as:

- medical records structure;
- vocabulary;
- confidentiality and personal data protection;
- information security;
- health care information frameworks;
- syntax for interchange;
- coding systems;
- semantics representation;
- medical image and related data interchange formats;
- interchange formats and protocols for electrocardiography;
- information content of patient data cards; and
- decision support.

Worldwide activities

International Medical Informatics Association (IMIA)

In 1969, the BCS received a letter from Professor François Gremy suggesting that the BCS might like to join a technical committee of the International Federation for Information Processing (IFIP). There was surprise at the thought that anyone would travel 'overseas' to go to a committee meeting, but nevertheless BCS joined, being represented by Malcolm Forsythe on Technical Committee 4. This was known by the obscure and unwieldy acronym of IFIP TC4. It developed into the world body linking medical informatics organizations. Malcolm was the first secretary of the group with Professor Gremy as the chairman.

The first worldwide IFIP TC4 conference was held in Stockholm as *MEDINFO 74*. John Anderson and Malcolm Forsythe from the UK edited the proceedings. BCS members from the UK have continued to play a part in these triennial conferences, which provide the health informatics community with a snapshot of what is going on across the world, as well as the chance to meet experts in every aspect of health informatics. Naturally, these events, like the Olympics, do not come to an individual continent or country very often:

Stockholm	1974
Toronto	1977
Tokyo	1980
Amsterdam	1983
Washington	1986
Singapore and Beijing	1989
Geneva	1992
Vancouver	1995
Seoul	1998
London	2001
San Francisco	2004
Brisbane	2007

Tallberg and her colleagues analysed the underlying themes of the papers given at *MEDINFO* as part of a comparison with those at *MIE* and international nursing informatics conferences.¹¹ Some topics have given way to new approaches as technological solutions have developed.

After the first ten years IFIP TC4 became more autonomous – as the International Medical Informatics Association – and this event was celebrated in Paris in 1979 with a long bus trip to Tours. (In the tradition of medical events there were various interesting stops on the way, like the visit to the royal abbey at Fontevraud and the wine cellars in Saumur.)

Following the untimely death of Peter Reichertz, Barry Barber edited the *MEDINFO 89* proceedings with Gustav Wagner. This *MEDINFO* had to be hastily transferred from Beijing to Singapore, but the proceedings reflect the conference that the programme committee intended to run rather than the actual situation of two rather different events.

MEDINFO IN LONDON

The BCS applied to host *MEDINFO* on two occasions before becoming successful at the IMIA General Assembly in Sydney in 1997 with its application to host *MEDINFO 2001*. A core team was established to bring the event to the UK from activists in the community, lead by Jean Roberts as local organizing committee chair. The proposed month of September and IMIA-preferred London location resulted in the use of the new ExCeL congress and exhibition centre in London Docklands, which at the time of the bid had not been built. The 24/7 webcam, which showed site progress, was visited very frequently by IMIA board members as the development came to fruition.

In addition to logistics, the UK team were involved in preparing the congress management, scientific programme selection, editorial production of the proceedings, a full tutorial programme, social programme and travel arrangements, exhibition, bursary scheme and all the marketing – by snail mail and web. No mean feat for people who all had day jobs to hold down.

The event was ultimately financially and scientifically successful, with an internationally refereed 12-stream programme with 270 formal papers, 28 workshops and 11 panels. The plenary session speakers were invited from seven countries and 160 posters complemented the verbal presentations. A parallel exhibition contained vendor, multinational project and Government agency information stands. Proceedings were produced on CD-Rom and in hard copy. At the end of the event, the UK team handed over to the next city, San Francisco.

JEAN ROBERTS

The first international nursing conference

The collaboration of the medical specialist groups around the first EFMI conference continued as the Medical Specialist Groups Coordinating Committee. Their experience enabled the BCS to run the first International Nursing Informatics Conference in 1982 following the interest in nursing informatics expressed at the Tokyo *MEDINFO* in 1980. The BCS put together an organizing committee that was able to handle the technical conference arrangements but also the participation in international medical informatics activities enabled it to bring together an international group of nurses involved in computing projects. In this sense it was required to act as scientific programme committee as well as organizing committee.

After *MEDINFO 80* soundings were taken within the BCS and elsewhere to explore the possibility of organizing and funding an international

nursing informatics conference. When these soundings proved positive, an organizing committee was established under the chairmanship of Maureen Scholes who was at that time the chair of the Computer Project Nurses Group established by Dame Phyllis Friend, the Chief Nursing Officer at the then Department of Health and Social Security (DHSS). The committee comprised six nurses involved in various computing activities, three people from the DoH, one from the NHS training centre at Harrogate and two from the LMSG. Between them they were able to develop a two-centred international conference; the first part was a large, two-day, open gathering at Church House, Westminster. This helped to raise money for the second event, which was a closed workshop at The White Hart, the NHS Training Centre in Harrogate. There were 550 participants in the open conference and 59 invited to the closed workshop. The proceedings were published by North-Holland as *The Impact of Computers on Nursing*.¹²

The worldwide interest in this topic was reflected by the establishment of IMIA Working Group 8 on Nursing Informatics at the 1983 *MEDINFO* in Amsterdam, with Maureen Scholes as the first chairman. The group thought that there should be a series of such conferences every few years and that the chair should be rotated on a three-year basis to ensure worldwide coverage. The second conference in the series was held in Calgary, Canada in 1985. The BCS Nursing Specialist Group continued to play a large part on the international scene. The list of the initial conferences is as follows:

London and Harrogate	1982
Calgary	1985
Dublin and Killarney	1988
Melbourne and Sorrento	1991
San Antonio and Austin	1994
Stockholm and Lidingö	1997
Auckland	2000

These developments are outlined in *International Nursing Informatics*.¹¹

Worldwide specialist groups

IFIP TC4/IMIA developed a number of working groups (WG) and they held working conferences on topics in their particular area. The ones that spring to mind most immediately are WG1 on education and WG4 on data protection and security. Both groups were active from a very early date and have continued this activity over many years. The BCS has been well represented at IMIA with Malcolm Forsythe being followed by Mike Abrams and Bud Abbott. Also the UK has been well represented in the working groups with David Kenny and Barry Barber following Gerd Griesser's initial chairmanship of WG4.

In the early days it was difficult to get programme committees to include whole sessions on nursing issues, even though *MEDINFO 74* had included papers from four British nurses. However, by the time of *MEDCOMP 77* in

Berlin there was a full nursing session of papers from three British nurses and by *MIE 79* there was a nursing session comprised of papers from four British nurses. As noted above, at the 1980 *MEDINFO* in Tokyo there was a strong interest in nursing informatics issues. It was during these discussions that the BCS thought that we might be able to host an international nursing informatics conference that would assess developments and the need for a nursing working group within IMIA. As well as nursing informatics activity in the BCS Health Informatics Specialist Groups, Maureen Scholes was the initial chair of the Nursing Working Group, WG8, which eventually became the IMIA Special Interest Group Nursing Informatics.

All the various IMIA Working Groups are accessible to BCS members but they all work in different ways and have different ways of pursuing their activities. The website www.imia.org shows the sort of activities that are in progress and the current BCS representatives can advise about the best ways of participating.

SPREADING THE WORD

In the early days of clinical computing members of the clinical professions with an interest in IT were thinly scattered across the UK. Finding out what was being done within one's own specialty was difficult, let alone in another specialist area with similar general problems. Finding the money and the annual leave to attend conferences was also difficult if not impossible, so the printed word was a vital source.

Although the BCS held its second conference on medical computing in Bristol in 1971 and the papers were published, most of the content was on the role of computers in management and in relieving staff of repetitive tasks in handling information about care or hotel-type services. Clinical issues were only addressed when the technology improved.

Another problem for the clinician was to finding a way through the many abbreviations and acronyms. There were three sets to learn: the jargon used by the engineering and software professionals in the NHS; that of European information technology projects; and the clinical jargon and NHS terms. It was not until 1995 that Hugh de Glanville and Adrian Stokes published their very useful *Abbreviary*.¹³ Projects were known by their initials and some people twisted the title to produce a clinically related acronym.

Most of the papers from the UK conferences and those of the individual specialist groups were published, either as proceedings, series such as *INFORMed Touch* from the nursing group, or as papers within professional journals. Sadly many of the key plenary papers, particularly from the *Healthcare Computing* conferences, were not submitted far enough ahead of their presentation to be included in the relevant *Current Perspectives in Healthcare Computing*. Most have evaporated into the ether.

In coming together to review the early development of health information systems some of the remaining pioneers were concerned that a large volume

of potentially useful material had never been published in book form or as conference papers. The local reports and commercial systems descriptions and other 'grey literature' were not systematically collected in any central location. The frequent changes in the structure of the NHS, with relocations of offices and responsibilities, have not helped in retaining items. Nor have the acquisitions and mergers of commercial suppliers. Informal arrangements were made to collect items held by individuals coming up to retirement from their jobs and those older members who were moving house. There remains a major challenge to catalogue and conserve the material. In 2006, the University of Lancaster bravely took on this role. It will also hold the relevant health informatics publications.

International conference papers

The International Federation for Information Processing held the first world conference on Medical Informatics in Sweden in 1974. There were 18 themes and the resulting publication ran to nearly 1,000 pages.¹⁴ Similar fat volumes appeared every third year. The education of staff in computing techniques and the use of computers to help in medical education were discussed. Anderson – of King's College Medical School – and two French colleagues reported the first international survey by questionnaire for medical professionals, nurses and health administrators' health workers in Western Europe.¹⁵ Sayers, of Imperial College, London, gave an inaugural plenary paper on the analysis of biological signals.¹⁶

The First Congress of the European Federation of Medical Informatics was held in Cambridge, England, in 1978 and was recorded as the first of the *Lecture Notes in Medical Informatics* series. From the start there was an editorial board and the approach was scientific. Associated industry presentations on hardware and software were not included, so some of this 'soft' data were lost within the individual company archives, at least until mergers and acquisitions slimmed the initial bulge of small firms. There were, and still are, pre-conference teaching sessions for clinical and technical staff who are just getting involved in clinical informatics, most recently in the middle-European countries, with UK professionals acting as experts. Again their contributions have been lost to general view within personal collections. Photographic slides, overhead projection acetates and later the ubiquitous software presentations are no longer available.

Reports of international meetings also have a bias towards those able to attract the funding to attend, including university professors and clinicians involved in nationally funded or multi-site European projects. There was a core of 'familiar faces' at every European and International Medical Informatics Association conference. This was reflected in the first authors of the papers, because that was the person expected to present the paper. Getting the money to attend did not mean the first author had done the bulk of the work on the clinical application. There was also a bias introduced by

the location of the conference, with nationals offering more papers, such as at the ninth congress in Glasgow, in 1990. The total number of papers submitted exceeded the number of available 'slots' so good clinical work had to compete with computer science papers.

BCS members contribute to 'blind' reviewing and scoring potential papers for consideration by the scientific committee of a conference. This role was made easier when the internet became more widely available. More recent conferences have been able to provide papers on CD-Rom to reduce the bulk to be carried home.

Journals

In the early days, when clinicians and technicians worked together on computing problems, publication of the technical issues and possible solutions might be in journals such as *Medical & Biological Engineering & Computing* or the *Journal of Medical Engineering & Technology*. One example was an article on a microprocessor-controlled signal generator for the functional testing of electrocardiographs. In 1984, with the fourth issue, the *British Journal of Healthcare Computing* began to publish a bibliography of articles on health care computing from such journals. The bibliography was compiled by the South West Thames RHA's library service. Clinicians faced the challenges of finding a library that stocked the journal to obtain a copy of the referenced article, and then of making sense of the technical details familiar to another discipline. Early computer developments could be hard intellectual slog.

British Journal of Healthcare Computing

In 1983, Jeny Alloway carried out a market survey about the content of a magazine that could carry papers and news about medical computing activities. This research developed into *The British Journal of Healthcare Computing* (BJHC).

It was thanks to Hugh and Nettie de Glanville that this magazine made it from the drawing board into practical reality in 1984. The venture was supported from the first by the various BCS health specialist groups and their members (who initially received free copies of the BJHC). The early issues included regular reports from, and contact details of, the BCS specialist groups, as well as other groups with a particular interest in a clinical specialism. However, as the BJHC grew and flourished, it developed in a variety of directions. It has been a keen supporter of BCS activities in health care, as well as being a sharp commentator on the growing field of health care computing. The journal of the Nursing Specialist Group, *Information Technology in Nursing* (ITIN), was initially typeset and published through the BJHC, with the staff providing practical help and advice to the novice editor. Hugh de Glanville, as a member of the European Association of Science Editors (EASE), ensured rigorous standards for both journals. (For more information about ITIN see Chapter 19.)

The BJHC became *The British Journal of Healthcare Computing & Information Management* (BJHC&IM) and ran a number of conferences in this field as well as handling the exhibition accompanying the annual *Health Computing* conferences. The BJHC&IM has also printed conference news, with many of the proceedings of the conferences printed for the BCS through BJHC Ltd, Weybridge.

Medical informatics and the internet in medicine

The *Medical Informatics and the Internet in Medicine* journal was started in 1975 and is published by Taylor and Francis in London. It was edited by John Anderson for many years, before John Newell, John Bryant and then Steve Kay took over as editor. For a long time it was one of the few places where academic work in medical informatics could be published apart from in *Methods of Information in Medicine* and at world (IMIA) and European (EFMI) conferences. Throughout, this journal continues to provide a valuable place for refereed papers in health informatics to be published worldwide.

Books

Initially, the majority of books were published by authors from North America. Over time the publications by UK authors increased, particularly in relation to clinical computing topics. The BCS also had an influential publishing committee that comprised the editors of its journals and series. North-Holland (Elsevier) published *MEDINFO* and IMIA working group conference proceedings from the beginning. Springer Verlag published *MIE* conference proceedings in their series of *Lecture Notes in Medical Informatics* and IOS Press from Amsterdam published the results of many Advanced Informatics in Medicine projects, and later projects in their series of *Studies in Health Technology & Informatics*.

Handbook of Information Technology in Health Care

Discussions with the Institute of Health Services Management (IHSM) led to a decision to publish a loose-leaf, updateable book on information technology in health care. At that time the BCS did not wish to undertake such a project, even though almost all the authors were going to be BCS members or colleagues of members. The initial publisher was Kluwer Publishing Ltd and then the Longman Group. The initial publication was in 1986 and issue 13 came out in 1991.² The driving force for this work came from Bud Abbott and he ensured existing authors updated their material and he found new authors as new topics emerged or old authors got worn out. The list of contributors and their short bibliographies provide details of many of the UK's most influential national and international pioneers.

In due course the IHSM decided not to continue the project and the BCS Health Informatics Specialist Group bought the rights to the material. It published the updated material in four volumes in 1996 as a one-off publication.¹ There were four handbooks: *Handbook A: Introductory*

Themes; Handbook B: Aspects of Informatics; Handbook C: Primary Care; and Handbook D: Hospital Systems.

Other resources

Pamphlets and leaflets

The close involvement of the DoH in funding many of the major hospital developments, and some of the general practice systems, led to regular publications to support and explain developments. The Information Management Group was, for a while, a very active participant at the annual exhibition associated with the *Healthcare Computing* conference, taking a large stand and providing its own seminars, demonstrations and presentations. Many of the IMG staff were also active members of the BCS, Stan Lajka was a regular presence at conferences, able to pull together all the resources in a distant location. Financial support through the IMG was also given to support the publication of relevant papers from BCS groups.

System suppliers and some of the large consulting groups distributed copies of research papers and descriptions of the development of their systems. These ranged from explicitly promotional material to robust scientific papers. Again the annual *Healthcare Computing* exhibition was a favoured outlet.

Open Software Library

The Open Software Library was based in the Education Centre at Warrington District School of Nursing. It was organized by members of the Warrington Computer Group with help from lecturers from North Cheshire College, Manchester Polytechnic and tutors from a number of schools of nursing. The main function was to collect computer programs dealing with health care that might not be generally available and to disseminate them on cassette tapes or floppy disks. The story of its development is given in Chapters 19 and 21.

Videos, teaching materials and websites

The development of video programmes on specific subjects can be found in later chapters. BCS members were also very active in creating teaching materials, websites and CD-Roms. Some of these were developed as part of their 'day jobs' for their employers, others were activities undertaken by a BCS specialist group or for commercial publishers.

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