

Back to the future, IHEEM edition

The Institute of Healthcare Engineering and Estate Management celebrated its 75th Anniversary in 2018, HEJ Editor, Jonathan Baillie, looks back at the Institute's beginnings, its early and continuing goals, and some of the key milestones in its history, beginning with the first meeting at City Hospital Nottingham in August 1943. He draws on a variety of interesting archive material recently uncovered by members of the Head Office Team.

A 'Statement' published in 1965 explains that 'the Institution' was founded on 28 August 1943 at an inaugural meeting at Nottingham City Hospital attended by 'some 40 people'. These included Chief Engineers from hospitals in England and Wales, and representatives from the Institution of Engineers-in-Charge and the L.C.C Engineers' Organisation. It notes that 'the founders were of the opinion that there was a need for a national organisation to co-ordinate exchange of information between the engineers themselves, and between the engineers and those with whom they came into contact, about the work engineers in hospitals did'. The first overseas member, a French hospital engineer, was elected in 1959, and a quarterly journal – in the form of a 'newsletter' – introduced in September 1945. By 1953 this had developed into 'a monthly journal of a technical nature.'

Splendid isolation

A separate document later published in 1995 – by The Institute of Hospital Engineering West of Scotland Branch, and titled 'Resumé of Background and Activities', meanwhile, notes that 'the Institute had its beginnings prior to the advent of the National Health Service', adding: 'At the time, hospitals were administered each in splendid isolation by a number of different authorities'. The Scottish document explains that hospitals were 'financed by private subscription, and administered by management committees, with the teaching hospitals organised in a similar way', but 'further assisted by grant aid from associated universities', while 'institutions such as infectious disease hospitals' were managed by local authorities, and the 'asylums' or mental hospitals 'by management committees under the Mental Health Acts'.

The operation and maintenance of services was 'accomplished in a variety of ways' – in some cases the post of 'Engineer-in-Charge' or 'Superintendent Engineer' was held by a Chartered Engineer, while in others the same job was 'deemed to be performed by little more than handymen'. The West of Scotland Branch document explains that, 'recognising the growing importance of engineering to the well-run hospital, a great many in the field with a devotion to the cause of hospital engineering and the plight of the hospital engineer set themselves the task of creating an organisation which would have recognition and approval as a body with which all authorities would negotiate on any subject relative to the required qualifications, salaries, and conditions of service'.

Title changed

Providing a slightly different slant on the founding of IHEEM's predecessor to the 'Statement', the West of Scotland Branch document reports that 'thus, in October 1943, the National Association of Hospital Engineers was founded', with the first AGM held in December 1944 at the 'Gas Company Showrooms' in Nottingham. At this meeting, the organisation's title was changed to the 'Institution of Hospital Engineers', and even then plans were being made to seek incorporation. At the AGM it was revealed that membership had grown in the previous months from 180 to 297,*.

The 'prime object' of the Institution's formation was 'to raise the standards of engineering in hospitals and of the engineer, and to introduce adequate standards of competency and qualification'.

The Scottish document later explains: 'Joint conciliation committees were established with the Mental Hospitals Association and the British Hospitals Association, and from 1947 the Institution was deeply involved in drafting the Constitution of the Whitley Council Committee, which would deal with the salaries and conditions of service of professional and technical staff in the NHS after the appointed day of 5 July 1948.' The separate 'Statement' adds: 'When, in the late 1940s, the various Whitley Councils for the Health Services were established, the Institution, as most effectively representing hospital engineers, was allocated two of nineteen seats on the staff side of Professional and Technical Staff Council B.'

A growing membership

The Scottish document explains that the organisation's title was changed to 'the Institute of Hospital Engineering' on becoming an incorporated body on 1 January 1967, when the Institute 'extended its sphere of membership to certain consultants and designers who had demonstrated interest in the hospital service'. 'Technical representatives of certain manufacturers' were 'offered a liaison' with the Institute – through Affiliate Membership. The 'Resumé' adds: 'The aims of the Institute of Hospital Engineering are the advancement, development, and application of engineering science in health care, and the management of engineering and allied staff employed in this work in Great Britain and abroad. To achieve these aims the Institute co-operates with the Department of Health and Scottish Office, NHS Estates Department, and with industry, in the promotion of training courses, symposia, and seminars.'

Expanding knowledge

Expanding the knowledge of members has always been a key IHEEM goal, and from 1962 onwards the Institute began holding annually 'a series of Post-Experience Courses in the development of Management Effectiveness at Keele University', planned 'with the cooperation of the Engineering Division of the Department of Health and Social Security'. These were 'always 'very well attended and popular', to the extent that even when, in 1976, they were taken over by the Department and transferred to the National Hospital Engineering Training Centre at Falfield (later Eastwood Park), 'they continued to be affectionately known as the Keele Courses'.

Meanwhile, from 1973 the Institute began staging one-day seminars on topical subjects each year, 'at the London headquarters of the three major Institutions' and the Imperial College of Science and Technology'. Topics covered ranged from 'Contracting and Management Procedures related to hospital building', and 'The Design of a Contamination-Free Environment in Health Buildings', to 'Making the best use of the NHS estate', and 'Noise Pollution – Its effect on the Health Service'.

Contributing views to the Tyler Committee

Interestingly, the 'Statement' alluded to earlier notes, in 1961 the 'Institution' was invited to contribute its views to the Tyler Committee, set up by the then Minister of Health 'to advise on the work, grading, training, and qualifications of hospital engineers'. Additionally, the Scottish 'Resumé' explains, the Institute 'entitled' 1980 as 'Hospital Energy Year', holding four symposia on 'Hospital Building Energy Conservation'. It also contributed to the International Year of Disabled People by staging a special one-day symposium at London's Royal Festival. The one-day seminars continued right up until 1993 (and were later superseded by further seminars), and covered a wide range of engineering, hard and soft FM, procurement, security, and construction-related subjects. The Institute of Hospital Engineering West of Scotland Branch document also alludes to HEJ's forerunner, when it says "United Kingdom Members and those overseas all receive the monthly Journal, 'Hospital Engineering'", which it notes was originally (first) published in 1945 'despite the post-war

shortages', and entitled 'The Hospital Engineer Newsletter'. In January 1990, the magazine's name was changed to 'Health Estate Journal – The Journal of the Institute of Hospital Engineering'.

Communication and international editions

The Scottish document notes that 'the Journal is used as the means of communicating between Health Care Engineers in the countries involved in the International Federation', and 'published as a Federation issue each quarter, with the technical content in five languages'. It later explains that the involvement in the Federation prompted the Institute 'to find means of promoting schemes whereby financial aid could be given to Engineers to study hospital engineering in the UK and abroad, and to encourage the younger members of the profession to widen their knowledge'. In 1978, Council thus announced the offer of a bursary to aid young British people in the UK engaged in Health Care Engineering, which the document explains 'was made possible via financial support from the Board of the King Edward's Hospital Fund for London'. The following year, the Institute staged its first 'International Seminar' for senior hospital engineers, held over a three-week period at the National Hospital Engineering Training Centre at Falfield 'for senior graduate engineers employed by the State or National Government to plan or co-ordinate health service facilities or those who were responsible for the management of services'.

Chartered Engineers

The Scottish document notes that 'the Institute holds membership of the Engineers Registration Board', and in 1978 was admitted as an Affiliate of the Council of Engineering Institutions. The document notes: "Through its affiliate Membership of the CEI, the Institute has been able to successfully sponsor three members for registration as Chartered Engineers. 'Also, in connecting with its Affiliate Membership of CEI and membership of the ERB Section Boards, the Institute had adopted 'Rules of Conduct and Disciplinary Procedures', and 'Draft Training Regulations'."

Also discussed are the branch network and structure at the time of the Scottish document's publication; in those days there were 14 branches UK-wide which held meetings, including two in Scotland. At branch meetings, it reports, 'papers are read and visits to healthcare buildings and industrial establishments arranged to broaden the knowledge of those working in hospital engineering'.

History of annual conference

IHEEM's annual Healthcare Estates show is now extremely well-established; the Scottish document says of the event's early days: 'Nationally, the Institute organises an annual-three-day conference at venues throughout country'. Among early venues were London Olympia, the Guildhall in Portsmouth, City Hall, Sheffield, the University of Aston, and the Royal Hotel in Bristol, while in the 1980s the event was held in cities including Manchester, Portsmouth, Cambridge, Glasgow, Cardiff, Dublin, and Newcastle-upon-Tyne. When the West of Scotland branch 'Resumé' was published, membership was around 2,000, of which 210 members were attached to the West of Scotland Branch. There were at the time two Scottish branches, which organised a Joint Scottish Branch Conference every two years. The 'Resumé' also lists Past and Present Institute Presidents from 1967-1969; the first President following the Institution's 1967 incorporation was the late Lionel Northcroft OBE, in honour of whom IHEEM still today annually presents the Northcroft Silver Medal. The 'Resumé' also notes that the Institute, 'together with the National Associations of Hospital Engineering in France, Italy, and Greece' was a founder member of the International Federation of Hospital Engineering, formed in Rome in 1970.

A different 'spin'

The archives at IHEEM's Portsmouth head office are extensive, and it is interesting to note the varying tone of some of the reports. Another interesting document, published on 28 December 1993, and handwritten under the pseudonym Lord Cantspell ('Motoring Correspondent'), gives its own distinctive 'take' on the Institute's early history and the 'lot' of the hospital engineers. It begins: "During WWII a meeting was held at the Ministry of Health to discuss 'the additional troubles' found in hospitals as a result of the war. Among those invited were the hospital architects and the hospital engineers." The account continues: "Walking down the steps of the Ministry after the Meeting, Mr R Findlay Dalglish (who may perhaps have been the author?), the Hillingdon Hospital Engineer, suggested to the two other engineers they should have a private meeting now and again where they would discuss the troubles first, and then be able to appoint spokesman, who might be able to speak with equal authority to the architects."

'Treated with little respect'

The report on 'The Start of the Institute of Hospital Engineering' notes that 'At the time many hospital engineers were treated with little respect, and they often would be expected to deal with a 'dud' electric lamp bulb in the middle of the night, while their assistants were expected to work all day with no food available, and even to work on all night, anyway being on call at all times. It was not long before other hospital engineers asked if they could join the small meeting, as they had similar matters to discuss'.

The 'Lord Canstpell' missive explains that the 'Mr Dalglish' had been in the Army during the First World War, and thus 'knew a thing or two about formal meetings'. When the Engineers arrived at the Ministry of Health for the next meeting, 'they talked as a group, and the Ministry Staff respected them for their detailed knowledge'. The report adds: "From then onwards they were never treated again as the 'grease monkeys' for the architects. As you can imagine, the Engineer in a hospital was like an Engineer on a Ship. During wartime without a good Engineer many a hospital would not function."

The forerunner to 'HEJ'

Looking back at the history of what is now 'HEJ', and September 1945 saw the publication of the first 'The Hospital Engineer Newsletter' – an A5-sized 12-page 'pamphlet' headed above the main title 'Confidential Bulletin for the Use of Members'. With this first IHEEM 'journal' published as news emerged that Japan was about to surrender, the 'Editorial' begins: "It is with very great pleasure that your Council present the first edition of the 'Newsletter', and with even greater pleasure that even as these lines are being written, we hear news that the whole civilised world awaits, the 'unconditional surrender of Japan, the last enemy' is imminent."

Constructive rather than destructive

The 'Editorial' continues: 'It is to be hoped this 'Newsletter' will therefore be born in an atmosphere of peace, and that this condition may endure for all time, so Engineers everywhere may devote their skill and scientific knowledge to devising, producing, and maintaining equipment beneficial to mankind, instead of the destructive munitions of war, which, for the first six years at least, we were reluctantly forced to produce, in order to counter and overcome the hideous devices conceived by the world's war lords, and to preserve the life and liberty of humanity.'

With two years having elapsed since the Institute's establishment, the Editorial also explained that "during the greatest part of this period' efforts had been constantly made to produce a 'Journal' or

'Newsletter', including via the appointment of a 'sub-committee". The Editorial added: 'Due to paper restrictions, labour shortage, and the various other factors which govern the lives of mankind during a world war, this has not been possible until now. Even now, this is of necessity very limited in size, but we look forward to being able to produce a full-scale journal as soon as conditions permit'. Even in those early days for the IHEEM 'journal', the 'committee' was clear that the publication's goals should include keeping branches informed of their counterparts' activities, producing 'edifying technical articles', and including a 'question and answer column' to help provide answers to technical queries.

Wartime challenges

A subsequent article in this first 'newsletter' gives a distinct feel for some of the challenges hospital engineers had faced during World War II. One extract says: "The cessation of hostilities in Europe has not given relief from all the many irksome and heavy burdens we have been called on to carry during the war, and we, as Hospital Engineers, may have to 'make do and mend' for some considerable time, but we are at last free from the menace from the skies. What a menace it was, and how well we remember these hectic nights guarding our hospitals from fire, and patching up the broken wards and casualty reception departments. Many of us have seen our hospitals grievously damaged by fire and high explosives, and therefore there will be a considerable amount of rebuilding and reconstruction of hospitals in the near future. New ideas and new techniques – some born of the war – in both the medical and the surgical treatment of our patients, will have a direct reaction upon the design and equipment of our new buildings. This is the Hospital Engineers' own field, and here he must bring to bear his knowledge and experience, in an effort to eliminate the many causes for complaints which unfortunately exist in many of our hospitals." A case of 'Plus ça change' perhaps?

Looking ahead

Indulging in some 'crystal ball gazing' as to the future might hold for such professionals, the same article says: 'The Council of the Institution is doing its utmost to obtain 100% membership, and you can help in this endeavour. It is only by full and enthusiastic support that the recognition of our status and improve of our conditions can be achieved. Much good work has been done, but there is still much to do. Great accomplishments are necessarily the products of many minds and hands; hospital engineering in its development has been no exception, and if our profession is to have and hold its proper status, all within it must do their utmost to help towards this end.' The article added that while sufficient paper was not yet available to publish a journal, the editorial committee was "looking forward to the day when the 'Hospital Engineer' would be on sale to all its members".

Re-published

This first 'Hospital Engineer Newsletter' was re-published in the Institute's 50th anniversary year, 1993, and again on its 70th Anniversary, in 2015. Other editorial in this first issue includes a technical paper on 'The Grid and Independent Generators in Parallel at a Large Hospital', focusing on the electrical supply at the 1,000-bedded hospital where the author was based, a report on a meeting of the Institution's Berks, Oxon, and Northants Branch, similar short accounts on meetings of the Notts, Derby, Leicester, Lincoln and Rutland Branch, and the London Branch, and a humorous look at some of the varied tasks that hospital engineers were asked to undertake – from replacing a castor on a patient's bed, and 'bleeding' a radiator, to locating a 'rogue' mouse in the hospital kitchen, as well as more 'serious' tasks such as providing nursing staff with a new oxygen cylinder to enable the gas to be administered to a 'very ill' patient. An extract describes the scene as the engineer arrives thus:

'He comes, with a spanner in his pocket and very soon the cap is loosened and the cylinder in position'.

'Any germ's idea of Hell!'

Amusingly, it goes on to report: 'The operating theatre is, of course, any germ's idea of Hell! Everything is so clean, so scrubbed. Linen, towels, gowns, masks, and instruments are all sterilised. The steriliser is a most precious object and, though nothing remotely connected with panic or flurry is ever known in a hospital, the steriliser going wrong brings the theatre staff very nearly to tip-toe'. The article's author here neatly alludes to its title, when he says: "By now you know the solution – 'Send for the engineers'." This time they hurry.' Another anecdote reports: 'It is rumoured, in a certain hospital, that the engineers of a rival establishment, on being called to attend a blocked drain, pushed and panted for some long time and eventually fished out.... a patient. The episode is firmly denied by the hospital concerned!'

The article adds that 'Of all the trials calculated to bring grey hairs to engineers that of the 'black-out' must hold first place'. It says: "Hospitals, with their many and large windows, are extremely difficult to black-out, and policemen, wardens, firemen, and friendly passers-by all pop in with: 'Sorry! Light showing.' Unending struggles by Sister and nurses, with advice from patients given freely, are of no avail. The engineers come, with patience only slightly strained. They look, finger the blinds, run their hands over the strips of black paper along the window edges, mutter to themselves (I imagine, very powerful words), and finally clamber up a ladder, adhesive tape in hand, and stick the 'ruddy blind to the window frame." The piece signs off: 'Don't forget the engineers. They are always willing, cheerful, and helpful. At any hour of day or night they come to answer a call, big or trivial. I verily believe that if anything happened to the engineers, the whole hospital would be sunk in gloom!'

A half-century

In this 75th anniversary year, it is also interesting to view the Contents page of the November 1993 issue of HEJ. In his Editor's Comment, headed '50 Years old this month!', Sandy Ratcliffe, CEng, MICE, MIMechE, FIHospE, begins: '50 years ago this month the Institution of Hospital Engineers was founded during the depths of the second World War. It is interesting to speculate exactly why it was founded first at this time when all human affairs were in such flux, with no foreseeable outcome and with everyday life at a standstill. It was founded as a professional body with all the normal rules we all know and recognise, such as the right to require qualifications of prospective members, publish technical papers, amongst many others. Very unusually, and wisely, it also took powers to represent members in negotiating terms and conditions of employment, exactly as Trades Unions would do. These powers were clearly fully exercised in the post-war upheavals in society, which included, amongst many others, the formation of the NHS and arguably, inflation used as an instrument of policy by many successive Governments of all political colours.'

A fast-changing world

The 'Editorial' continues: 'By the late 1960s the world had changed very considerably, and the Institution of Hospital Engineers adroitly saw the time was ripe for change too. The Trades Union activities were dropped, the role of the professional body strengthened, and the title changed to the Institute of Hospital engineering to emphasise the metamorphosis. Since then the professional role has been continuously strengthened, and now the Institute of Hospital Engineering is recognised by the Engineering Council and fully able to register Engineers with the Council.'

In the November 1993 HEJ it is interesting to read the Editor's thoughts on how things might develop medically in the future. He says: "It is also customary to look forward; the thought that someone may well be reading, or worse still, quoting these words in another 50 years at the Institute's Centenary is pretty daunting, but no excuse. The crystal ball shows all but dimly, that the GP will become much more the frontline of health care using many more non- or minimally invasive techniques for a great range of conditions. Major surgery will still be needed for repair, or more likely, replacement of a whole range of parts, so a number of 'high tech' hospitals, small, extensive, and well equipped, will be dotted around the country. This would suggest a return to the 'cottage hospital' centred on communities, but these would be 'low tech', low cost health care treatment centres. As a result, Hospital Engineering will itself become much more 'high tech', with wide use of electronics. The Hospital Engineer will, willy-nilly, become much more an Asset Manager, a Manager / Administrator, rather than a 'doer'."

Golden Jubilee supplement

In the previous month's (October 1993) HEJ, , meanwhile there is a reprint of part of the December 1947 'Hospital Engineer News Letter', which includes news that just before the edition went to press the Institution's first President – Lord Calverley, had taken up the role. The October 1993 edition also incorporates a special 'Golden Jubilee Supplement', looking back at 'some of the early journals', discussing how the 'tone and balance' of articles changed over the years to 'more technical papers and news of new equipment', and explained how – from an initial position where advertisers were 'non-existent – an advertising base was built up. There is also a mini-competition asking readers to identify some famous and familiar 'faces' from IHEEM's past, for a chance to win £25.

The section of the 'Supplement' entitled 'Looking backwards' includes a look at the Institution's 'growth and development, noting that there were over 800 members by 1950. Drawing on editorial published from the mid-1940s on, there are also interesting and pretty illuminating reports on early NHS pay rates for healthcare engineers and other personnel working in healthcare engineering / estate management teams, a piece on November 1953's establishment of a 'Working Party' by the Minister of Health 'to devise a system of costing the departments and services of a hospitals', and two quite in-depth technical articles focusing on 'Planning a modern operating theatre' and Lighting, as well as a small 'Situations' Vacant' panel.

Looking back and to the future

The various archive documents I have 'quoted' have, I hope, helped present an interesting snapshot of how IHEEM began life, its early aims – many of which remain similar today, and some of its key milestones. It would be fascinating to have a crystal ball that could predict how the medical and clinical world will look in a further 25 years' time, and, equally, how the job of the healthcare engineer / healthcare estate manager will have changed.

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