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HISTORY:

PUTTING BIOMEDICAL SCIENCE ON THE SCIENTIFIC MAP: A BRIEF HISTORY OF THE INSTITUTE OF BIOMEDICAL SCIENCE

The Institute of Biomedical Science (IBMS) is the largest professional body for scientists in pathology and laboratory medicine the United Kingdom. The IBMS currently represents over 20,000 members, the majority of whom are biomedical scientists. It has a strong presence in education provision and is an approved education provider for the Health Professions Council (HPC), a regulatory body for health professionals in the United Kingdom. The IBMS awards the Certificate of Competence, the gateway qualification to HPC registration and a career as a biomedical scientist, as well as providing a portfolio of professional training and educational qualifications covering all levels of professional practice that enable biomedical scientists to enhance their careers. Furthermore, the IBMS enjoys Licensed Member Body status conferred by the Science Council in the UK, enabling it to award Chartered Scientist (CSci) designation to appropriately qualified and experienced members. The IBMS is currently awaiting approval from the Science Council for the award of two further licences that will enable it to confer Registered Scientist and Registered Science Technician status to its eligible members. This will further enhance the Institute's support of the development of the biomedical science workforce at all career levels. The IBMS is recognised by the Departments of Health in all four home countries of the United Kingdom as the professional body representing biomedical scientists, and has built strong relations and good communications with government and its agencies. As it enters its centenary, the IBMS remains committed to providing the highest level of support to its members through education, training and setting quality standards for the profession.



Biomedical scientists at work

The IBMS began its life as the Pathological and Bacteriological Laboratory Assistants' Association (PBLAA) in 1912. The PBLAA was founded during a Pathological Society of Great Britain and Ireland (PathSoc) meeting at the Liverpool School of Tropical Medicine. Its mission was: "To form a means of communication amongst the assistants; to supply information regarding appointments and to assist in the general advancement of its members".

While laboratories and technology may have advanced beyond all recognition over the past 100 years, these principles remain at the heart of all the IBMS does. As the complexity of the science which informs modern laboratory medicine has developed, so has the scope and mission of the IBMS. Its involvement in education, training and standard setting has grown in step with the knowledge and skills required of those working in biomedical science. The IBMS remains dedicated to supporting its members

in their practice of biomedical science, setting quality standards for the profession through training, education and assessment, and the promotion and development of biomedical science in healthcare.

FOUNDATION OF THE INSTITUTE

From its earliest incarnation as the PBLAA, the IBMS has sought to support and advance its members. It set out to provide a forum for communication between members and an opportunity to learn from the latest advances in scientific techniques through national meetings, publishing journals and a structure that would ensure information could be easily exchanged between members and committees.

When the PBLAA was founded in 1912, pathology and bacteriology were becoming an increasingly important part of medical practice. Medical laboratories had previously focused on research, but with introduction of the *Infectious Diseases (Notification) Act 1889* diagnostic bacteriology services became a far more significant aspect of laboratory work. In spite of the growing demand for diagnostic laboratory services, little provision existed for teaching and research in this area, even in medical schools and university laboratories.

Although increasing levels of knowledge and skill were becoming required for laboratory staff, laboratory assistants were viewed as “unskilled” by hospital boards and as a result often poorly paid and lowly in status compared to other unionised hospital workers. Founder members Professor James Lorrain Smith and John McLean both expressed the view that the PBLAA could play a significant role in promoting the recognition of laboratory workers as skilled and knowledgeable individuals. It soon became apparent that there was a need for an organisation that could represent laboratory assistants and provide a network whereby employers could contact qualified and experienced laboratory assistants for the expanding hospital and municipal laboratory services.

The idea of forming an association of laboratory assistants was first proposed by John McLean, but it was Albert Norman, together with others, including McLean, who was instrumental in founding the PBLAA. Norman began his career as a ‘lab boy’ in the Zoological Laboratory of Cambridge University, and by 1912 had worked his way up to become chief assistant at the pathological laboratory of the Department of Obstetrics and Gynaecology at the University of Liverpool. He envisioned an organisation that would benefit both employees and employers in the burgeoning fields of pathology and bacteriology, with an association playing an important role in solving the pressing issues of training, remuneration and career progression for laboratory assistants.

At the first meeting of the Provisional Committee of the PBLAA on 6 January 1912, a general outline of the objectives and constitution of the PBLAA were discussed and drawn up. The most important and enduring of these objectives were “to form a means of communication amongst the assistants, to supply information regarding appointments, and to assist in the general advancement of its members.”

A statement of these objectives would appear in the first edition of *The Journal of the Pathological and Bacteriology Assistants' Association*, published in July 1912. These broad principles became the rationale for the activities of the PBLAA and its successor organisations, through to the present-day IBMS.

CHANGING NAMES, CHANGING TIMES

Throughout its 100-year history the IBMS has been known by several different names. Each change in name has reflected the changing professional landscape of the time. From the mid-1930s the PBLAA sought to achieve a more formal status. With the agreement of the UK government’s Board of Trade, in the mid-1940s the PBLAA would become the Institute of Medical Laboratory Technology (IMLT). This reflected the view of many members that the terms ‘pathologist’ and ‘bacteriologist’ were inaccurate and limiting in representing the scope of the work undertaken by members. The transformation from PBLAA to IMLT necessitated the organisation abandoning its function as an employment bureau. Instead the IMLT would focus on formalising qualifications and training for laboratory assistants, setting up an Examining Board overseen by representatives of the IMLT and PathSoc.

In the 1950s the IMLT began campaigning for a move away from the designation of qualified laboratory staff as technicians, arguing that “the term ‘technician’ has been used so freely as to have lost a good deal of its former significance”. During this period the term technician was being applied within the United Kingdom’s National Health Service (NHS) to a range of occupations – some of which had no syllabus of training, set examinations or professional qualifications. This stood in contrast to the increasing scientific elements in the education, skills and practice undertaken by members of the biomedical science profession. This led the IMLT to advocate the use of the term ‘scientific officer’ and a similar grading structure to that employed by the Scientific Civil Service in the United Kingdom.

There was significant support from the IMLT membership for its Council to pursue the revised designation of scientific officer with the relevant government departments and committees. By the mid-1970s it was decided that the IMLT should be forceful

in introducing a more meaningful designation for the profession than medical laboratory technician. In support of this drive to gain recognition for its members' increased scientific knowledge and skills, it was decided that the name of the Institute should be changed to Institute of Medical Laboratory Sciences (IMLS).

A few years later, in February 1978, the government's Joint Industrial Council for Health agreed that the designation Medical Laboratory Technician (MLT) would be replaced by Medical Laboratory Scientific Officer (MLSO) for staff employed in NHS laboratories. The term was adopted in medical laboratories across the country, reflecting the increasingly complex scientific nature of the profession.

Over the following decades the membership of the IMLS broadened to include academia, research and teaching, veterinary pathology, and pharmaceutical research. This led to a final change in name in January 1994, when the IMLS became the Institute of Biomedical Science (IBMS). The new name more accurately reflected the broad membership base, removing the perception that the Institute only represented MLSOs practising in the NHS. Today, the IBMS remains committed to extending its support to members from outside the NHS and its traditional areas of practice.

PROFESSIONAL DEVELOPMENT AND STANDARD SETTING

The IBMS has a proud history of developing qualifications and assessment processes in response to workforce needs. These qualifications have been designed to recognise and award members in their achievement of high standards of professional education and training in the field of biomedical science.

Soon after its formation 1912, the PBLAA decided that a certificate of competence, obtained by examination, would be vital to ensure the status and abilities of laboratory assistants were recognised. By 1919 the PBLAA made a sufficient surplus from advertising in *The Journal of the Pathological and Bacteriology Assistants' Association* to help fund the introduction of a certification scheme for laboratory assistants. To this end, an Examining Council was established in conjunction with the PathSoc a year later in 1920. The first examinations were held in 1921 in Edinburgh, Bristol, London, Liverpool and Manchester, and consisted of a written paper, a practical laboratory test and an oral examination. The introduction of certification by the PBLAA had a major impact on the profession. Employers recognised the value of PBLAA certification and subsequently made it a condition of employment for senior posts.

In 1944 the British government announced its intention to establish a National Health Service. Following meetings with representatives of the Minister of Health, it was agreed that the IMLT would be recognised as a tutorial and qualifying body for medical laboratory technical personnel. It was also agreed that it would be regarded as the appropriate body for consultation on matters of major importance in its area of activities.

The IMLT continued to develop its education and qualifications programmes. In response to increasing public and political pressure on professions to provide evidence of reliability and quality, the IMLS introduced additional accreditation schemes in the 1980s. For individual members, this led to the introduction of a Continuing Professional Development (CPD) scheme. Since its inception, the professional body provided a range of educational activities designed to keep members up to date, but the formalisation of the CPD scheme did not take place until the 1980s. Over the following years, with the NHS increasingly subject to inspection and scrutiny, practitioners in all professions needed to produce evidence of CPD. Health service regulators agreed that participation in the CPD scheme fulfilled this professional requirement. In 2006 the Health Professions Council (HPC) made it a requirement for all health professionals on its register to undertake CPD as a legal requirement, and the IBMS CPD profiles would meet those requirements. The IBMS continues to enhance its CPD provision, enabling members to update their professional knowledge and skills and thus deliver the highest possible quality of service in a rapidly evolving healthcare and technological environment.

While the introduction of CPD in the late 1980s ensured that individual professional standards were maintained, this did not ensure the reliability of the laboratory service as a whole. In 1989 the IBMS raised the issue of accreditation of laboratories with the Department of Health. It took action and, working with The Royal College of Pathologists, devised an inspection scheme for laboratories. The scheme recognised that pathologists and biomedical scientists should inspect laboratories jointly and this soon became standard practice.

The IBMS met the challenge of keeping pace with the rapidly changing healthcare landscape. The introduction in 2004 of *Agenda for Change* (a major overhaul of the NHS grading and salary structure by the Department of Health) required an overhaul of career development and standards within the NHS. The IBMS took the opportunity to develop a series of certificates, diplomas and examinations that could be used as evidence of attainment, with the new system built on the use of portfolios, self directed learning and structured laboratory-based training. With this wide range of awards, the IBMS reaffirmed itself as a vital provider of qualifications for those working in and around pathology. Further recognition of the IBMS role in maintaining the high standard of education, training and continued competence of its members came in 2004 when The Science Council awarded Licensed Member Body status. This allowed it to confer Chartered Scientist (CSci) designation to appropriately qualified and experienced members.

The replacement of the regulatory body, the Council for Professions Supplementary to Medicine (CPSM) by the Health Professions Council (HPC) on 9 July 2003 also had a significant impact on the role of the IBMS as a provider of certificates and qualifications. The IBMS took over the issue of logbooks (later to become the Certificate of Competence Registration Portfolio), the approval of laboratories, the issuing of certificates of competence for registration, and the assessment of qualifications. This greatly enhanced its responsibilities and influence as a qualifications provider. The IBMS continues to develop standards for professional practice and maintain its unique body of knowledge and skills to support its members in delivering high-quality care.



Members sharing their expertise at Congress 2011

THE ROLE AS ADVOCATE

The IBMS has always sought to give a powerful voice to biomedical science and its practitioners. Over the past century it has worked to gain recognition of the contribution of biomedical science to healthcare. With the launch of the UK NHS in 1948, the IMLT began to involve itself increasingly in advocacy for the profession. In its former incarnation as the PBLAA, it had focused on two main areas: to support the professional interests of its members through scientific activities; and, to establish an examination system to gain recognisable qualifications and standards of practice. The IMLT was now embarking on an additional role of political positioning and representation.

The IMLT had already worked to establish good relations with the Ministry of Health, pending the advent of the NHS, and had been consulted on several issues. In 1954 the NHS named the IMLT as the appropriate qualifying body for medical laboratory technicians, its Final Examination being cited as the primary qualification.

The massive expansion of pathology in the 1960s, not only in the number of samples submitted but also the range and complexity of investigations offered, plus the introduction of automation, put greater pressure on laboratories to ensure that their results were accurate and reproducible. While the IMLT introduced quality assurance schemes of its own, it was in collaboration and consultation with other professional bodies and with the Department of Health that it had a major influence on the development and introduction of laboratory quality assurance and accreditation.

Over the following decades the IBMS issued a number of policy statements on staffing and management issues. It used these opportunities to highlight the lack of progress towards achieving an integrated staffing structure for scientific staff and criticise the outdated and unrealistic arrangements for management of laboratories. This, combined with a refusal by the government to recognise the status of medical laboratory scientists carrying out the diagnostic analysis integral to the delivery of healthcare, prompted the establishment of management courses and examinations around the United Kingdom and the redoubling of its communications with government departments on these issues.

Although the IBMS was not a trades union, it took up the issue of its members' employment conditions in the late 1990s, when recruitment and retention of staff by the NHS was becoming increasingly difficult, and salaries were lagging significantly behind those of other health service staff. The IBMS expressed the view that the employment conditions of its members were having a deleterious impact on the quality of the profession and the service it delivered. The IBMS developed a strategy to raise the awareness of the public, politicians and other opinion-formers, of the role of the profession, the difficulties it was experiencing, and the implications this had for patient care. This led to the Department of Health resolving to work with the IBMS "to develop a solution to the career structure and salary problem to resolve this critical problem".

The IBMS continues to act as advocate on behalf of its members and promote the profession of biomedical science. Over the past decade several government initiatives have sought to modernise pathology services and scientific careers (Modernising Pathology Services in 2004, the Carter reports in 2005 and 2007, and Modernising Scientific Careers in 2010). The IBMS continues to be actively involved in the negotiations surrounding the implementation of these initiatives, to ensure that the standards of the profession are protected, maintained and advanced.

WORKING TOGETHER TO ADVANCE BIOMEDICAL SCIENCE

The IBMS has always recognised the value of forging international connections to facilitate the development of biomedical science. In his launch of the centenary year, IBMS President Derek Bishop highlighted the importance of an international outlook: “. . . it is also important that we have an international perspective; other countries offer valuable learning opportunities for the profession”.

From the outset, the PBLAA had an international membership drawn largely from what was then the British Empire, and would go on to develop a worldwide reach and inspire the formation of similar organisations around the world. At its first annual meeting in 1913 the PBLAA opened up membership to those from outside the United Kingdom. Three overseas applications for membership were accepted, with one each coming from Canada, Sri Lanka and the Sudan. By the beginning of 1914 the PBLAA could also boast members from as far afield as New Zealand and Australia, where the first overseas branch of the PBLAA was formed. By 1916 the PBLAA had members from South Africa, Uganda and India. The increasing overseas membership moved the PBLAA to agree to form a Division to represent its overseas members. Over the following decades the PBLAA would offer support for education and guidance on technological developments to a membership drawn from countries all around the world. In the 1960s the IMLT sought to move with the changing times. It continued to support its overseas members and assisted in the formation and development of similar professional bodies. In the early 1970s it began working in partnership with the Commonwealth Foundation to investigate the development of the biomedical scientific profession within the Commonwealth. It sought to identify areas of technology that could be brought up to date using the knowledge of the IMLT. The Commonwealth Foundation published a report (*Problems Facing the Medical Laboratory Profession within the Commonwealth*), the recommendations of which formed the basis for further development in biomedical science and technology throughout the Commonwealth. The proposals included regular zonal meetings and the formation of a secretariat to coordinate further development. The Commonwealth Foundation agreed to provide funds for the Institute to take on this important role in promoting the necessary knowledge and skills to enable biomedical scientists throughout the Commonwealth to achieve consistently high standards of professional practice and utilise the latest developments in science and technology.

In 1975 the IMLT established a branch in Hong Kong and, despite major political changes in the intervening period, the branch remains active within the IBMS. Two new overseas branches were formed in 1991: Cyprus in April and Gibraltar in May. The IBMS continues to encourage membership from all around the world and enjoys global recognition for its work.



Delegates from around the world attend the IBMS Congress 2011

LINKS WITH EUROPE

The IBMS has consistently pursued an international outlook and has been a keen advocate for its members and their profession in the Commonwealth. Its expertise has also proved invaluable in other parts of the world, most significantly in the European

Union. Following the United Kingdom's decision to join the European Community in 1973, the IMLT took the lead in the formation of the Standing Representative Committee (SRC) for Medical Laboratory Technology. Keen to work in partnership with other organisations to promote innovation and harmonise standards within the profession, the IMLT enthusiastically embraced its central position in the SRC. The role of the SRC was to act in a consultative capacity, providing advice to the European Commission on matters of importance to the biomedical scientific profession.

The IBMS continued to provide the Chairman and Secretary for the SRC until it amalgamated with the International Association of Medical Laboratory Technician's (IAMLT) European Group to form the European Association for Professions in Biomedical Science (EPBS). The aims of this new body were to raise the profile of the profession and to develop professional standards; aims that had been at the heart of the IBMS and its predecessors since 1912.

The first President elected to the EPBS was Institute member Martin Nicholson, who would hold the position until 2004. During his tenure he was an energetic advocate of involving prospective biomedical scientists in developing the future shape of the profession. To this end, he established a students' forum within the EPBS that was tasked with developing policy ideas. The students' forum continues to produce policy propositions for the EPBS General Assembly. Martin also began the process of establishing common agreement on training and education standards across Europe; a project that continues today. The IBMS has pursued a number of other avenues for European involvement. In 1992 a European Affairs Committee of the IBMS Council was established. This allowed the IBMS to engage with European initiatives in a more cohesive manner. Such initiatives have ranged from professional and educational issues to safety, standardisation of laboratory materials and reagents, and, more recently, the cross-recognition of qualifications within the European Union.

The IMLT also played a significant role in the development of the IAMLT, which was founded in 1954. The purpose of the IAMLT was to encourage international understanding and cooperation among medical laboratory technologists around the world. In 2010 the IBMS joined the IAMLT's successor, the International Federation of Biomedical Laboratory Science (IFBLS). It took the view that, as the IFBLS had a growing political influence, working closely with World Health Organization (WHO) and was actively involved with International Organization for Standardization (ISO) standards, it was important that the IBMS was involved with, and contributed to, these activities. The IBMS maintains links with European biomedical science organisations and continues to advance its role in the development of the profession on the European stage.

WORKING WITH PARTNERS

Over the past century, the IBMS and its predecessors have been keen to pursue strategic alliances with other professional bodies in order to advance the profession and support its members. In the formation of the PBLAA, advice was sought from the PathSoc and, later, the honorary secretaries and treasurer of the PathSoc were made honorary members of the PBLAA. This would cement a formal link between the two bodies that was to last for many years. The IBMS has also worked closely with The Royal College of Pathologists (RCPath), establishing a Standing Joint Committee to maintain an effective dialogue on biomedical science issues.

In 1999 the IBMS and RCPath created the Pathology Forum to consider accreditation, competence and other issues of interest to the membership of both organisations. With the addition of the Association of Clinical Biochemists (ACB) in 2000, the Pathology Forum became the Pathology Alliance, which was replaced in 2005 by an agreement between its members to work collaboratively on issues including quality assurance, safety and workforce.

The IBMS recognises the continuing importance of building relationships with professional bodies active in the same field and holds regular meetings with the Association of Clinical Pathologists (ACP) and ACB. It also maintains close contact with single specialty groups including the Association of Biomedical Andrologists (ABA), the British Association for Cytopathology (BAC), the British Blood Transfusion Society (BBTS), the British Society for Histocompatibility and Immunogenetics (BSHI), as well as with the other professions covered by the HPC. Through successful efforts at relationship building, the IBMS and its partners have been able to ensure that they influence the development and implementation of relevant government policies.

Developing and maintaining productive relationships with other professional bodies has become of even greater importance following reforms of the NHS in the 1980s and 1990s. This period saw the devolution of decision-making in the NHS, which would require the ability to exert influence at local, regional and government level to ensure that members of the IBMS and its partners retained a strong voice on policy issues. Responding to these healthcare reforms coincided with a period of increased political scrutiny of pathology and other healthcare-related sciences. This led to the IBMS becoming further involved with related professional bodies, taking a leading role when the Federation for Healthcare Science (FHS) was formed in 2002. The Federation was formed as an umbrella organisation to represent the interests of, and act as a single voice for, the 40 or so groups of healthcare scientists in the NHS. Among its aims are to enhance the profile of healthcare science and those

professions working within it, and to emphasise the roles performed relating to patient care, quality, clinical governance and health improvement. These aims mirror those that have been at the heart of the IBMS since 1912.

CHANGING TECHNOLOGY IN A CHANGING HEALTHCARE LANDSCAPE

From the very beginning, education, training and the sharing of scientific, technical and management knowledge and skills have been major roles for the IBMS. This followed naturally from one of its founding principles “to assist in the general advancement of its members”, and from its motto *Disce ut proficias* (Learn, that you may improve).

From its foundation it was hoped that the PBLAA would be an important conduit for the exchange of ideas and information between assistants, building unity within the fledgling profession. To further these aims it was decided to produce a monthly journal that would provide a mechanism for informing members of developments within the PBLAA, along with advertising job vacancies and a means to publish articles on technical and scientific developments and practices. The IBMS continues to recognise the value of a monthly journal as a means of communication, publishing *The Biomedical Scientist* and distributing it to members. Like its predecessor, *The Journal of the Pathological and Bacteriological Laboratory Assistants' Association*, *The Biomedical Scientist* includes features on education, training, laboratory practice, safety, scientific and technological developments along with Institute activities.

Since the first national conference, held in 1924, the professional body has used its conferences as a platform for communication, education and developing contacts for its members and the pathology community at large. National conferences also reached out to educate and inform the general public. The 2011 Biomedical Science Congress lecture programme offered biomedical scientists the opportunity to hear about the latest professional developments, scientific techniques and technical innovations. Over 3000 delegates attended this three-day meeting, making it one of the world's largest biomedical science events.



Delegates at the inaugural PBLAA conference held in Edinburgh in 1924

The IBMS has worked hard to ensure that its members have the knowledge and skills necessary to embrace new and changing technologies. Developments in medicine and science in the late 1950s and early 1960s resulted in major changes to the work undertaken in medical laboratories. The complexity, range and number of tests and investigations carried out had grown significantly. It was during this period that success was achieved in lobbying the Ministry of Health to grant the necessary paid time off for medical laboratory technicians to attend classes that would enable them to keep up to date with the latest laboratory techniques.



Delegates at the IBMS Congress in 2011 where innovative laboratory equipment and techniques are showcased

The IMLT issued a policy statement in 1972 entitled 'Staffing in Medical Laboratories' in which it described the increased scientific elements in both education and practice, adding to the skills and knowledge of members of the profession. This would result in the President at the time, Professor George Dick, stating that the term of 'technician' was no longer appropriate for members and that they should be known as scientific officers, due to the high level of qualifications required of the profession. This would result in the professional body changing its name to the Institute of Medical Laboratory Sciences.

The introduction of the internal market in the NHS in the 1990s saw senior laboratory staff needing to acquire new skills. The development of a 'business environment' and increased scrutiny meant that the demand for education on these and related topics was increasing. Over the next few years the IBMS provided national and local meetings on topics such as marketing, costing, workload measurement, accreditation, the Control of Substances Hazardous to Health (COSHH), workload indicators, standard operating procedures (SOPs), job descriptions and benchmarking to enable laboratory staff to meet the new demands of a rapidly evolving healthcare environment.

The IBMS celebrates its centenary in a period of rapid advances in technology and in the understanding of disease. Members of the IBMS remain dedicated to attaining the skills and knowledge needed to deliver the highest quality of patient care in new and traditional environments. The 21st century IBMS continues the work it began in 1912 – to support its members in the practice of biomedical science and promote the role of biomedical science in society.

The IBMS enters its centenary committed to supporting its members and their profession through advocacy, education and standard setting. While the precise wording of the mission statement may have changed over the past 100 years, the IBMS remains dedicated to the promotion, development and delivery of excellence in biomedical science through the support of its members, and the setting of quality standards for the profession through training, education, assessments, examinations and continuous professional development.

A history of the IBMS may be found in the recently published book, Letters of Consequence: A History of the Institute of Biomedical Science, written by David Petts and Tony Harding, edited by Brian Nation. Copies are available from the IBMS in hardback (ISBN 978-0-9570866-0-9), softback (ISBN 978-0-9570866-1-6) and in Kindle format (ISBN 978-0-9570866-2-3).