

Plenary Lecture

Professional Education and Training for the Next Decade

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Traditionally, higher education in the UK has been largely self-regulating in its response to external pressures. Even the requirements for professional accreditation of degrees have generally reflected current best practice originating from within the university schools and departments themselves; and pharmacy is no exception to this. But central government is having an increased influence through recent policy statements targeted at higher education and plans for the nation. For undergraduate education in pharmacy, two of the current major influences are: [1] the activities of The Quality Assurance Agency for Higher Education (QAA) inspired by Dearing report Higher Education in the learning society and the 1999 Bologna Declaration (as set out in the 2000 QAA document *Bachelors, Masters and Bologna. The Bologna Declaration*) and [2] the provisions of the 2000 The NHS Plan and the associated documents *Pharmacy in the Future—Implementing the NHS Plan and Investment and Reform for NHS Staff—Taking forward the NHS Plan*.

MASTERS OR BACHELORS DEGREE?

A specific issue has arisen concerning the rather unusual designation of the new four year undergraduate degree as a Masters with Honours. The issue has been precipitated by the publication of The framework for higher education qualifications in England, Wales and Northern Ireland by the QAA in January 2001. It sets out generic descriptors for each level of qualification in higher education, to which individual qualifications are expected to conform. The descriptors for "Honours level" and "Masters level" are distinct, with no provision for a hybrid Masters with Honours. The Heads of Schools of Pharmacy are reported to have agreed unanimously to work to maintain the Masters descriptor and we may expect this to be reflected in the Pharmacy Benchmark statement, currently being prepared for the QAA. Institutional implementation of

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these guidelines will be looked at closely and each school of pharmacy will be expected to review its practice to ensure that the programme outcomes accord with the Masters descriptor. The requirements are not trivial. The qualifications framework refers to degrees such as the four year MPharm as "extended undergraduate programmes" which "might have units of Masters level credit equivalent to study over one half of an academic year". It goes on to say that such a period of study a Masters level "is unlikely to be sufficient to enable a student to match fully the expectations of the Masters degree descriptor, in which case an Honours degree (implicitly a Bachelors degree) would be the appropriate award for successful completion of the programme" "Achievement of the full Masters outcomes (which is "unlikely ... in less than the equivalent of one academic year's full-time study") would be needed for the award of a Masters degree". Much depends, therefore, on a comparison of the succinct and carefully chosen phraseology of the descriptors. These are set out in Table I.

A dispassionate consideration of the issue requires judgement as to the attributes expected of a pharmacy graduate about to enter pre-registration training, either as it now is or as it may become following educational developments inspired by the NHS Plan. Unfortunately, bureaucratic matters tend to complicate rather than simplify the issue and cannot be ignored. Despite the unusual combination of Masters with Honours in the MPharm, there remains no requirement to achieve an Honours classification in order to register with the Royal Pharmaceutical Society of Great Britain (RPSGB); a Pass degree is sufficient. The pass mark for a conventional post-graduate Masters degree is 50% but the minimum mark for a Pass degree in the Honours (Bachelors) system is 40%. Assessment of the MPharm continues to be based on the Honours marking range. Experience with the first 4th Year cohort of students at the London School of Pharmacy indicates achievement to a

higher level after four years than after three years, as we should expect. This has been reflected in the final Honours classification with 109 out of the 110 graduating students obtaining an overall score of 50% or more, an outcome which is entirely appropriate for a Masters degree.

But there is yet another consideration. Underlying the QAA's qualification descriptors is a European dimension, The Bologna Declaration of 1999. The overall intent of the Declaration is to promote comparability of degree structures and standards across the 29 subscribing countries, with the further intent to promote mobility of both students and staff between those countries. Attention ought, therefore, be given to the existing or evolving degree structures for pharmacy in the other major countries of Europe.

Altogether, I view the present situation in the UK as innately unsatisfactory. A decision must be made either to retain the Masters title and remove the Honours classification or to revert to the Bachelors title and retain the Honours classification, the choice being dependent on a realistic application of the QAA qualification descriptors. This has all the makings of a classical and protracted academic debate.

CURRICULAR DEVELOPMENTS IN RESPONSE TO THE NHS PLAN

A quite different and, educationally, more important issue arises out of the NHS Plan. The essence is contained in the quotations from the Plan and subsequent Department of Health documents that are reproduced in Table II. The planned developments in education and training are being supported with targeted funds, so the schools of pharmacy must respond quickly.

The bottom line in Table II is that the common learning for students of all health professions "should centre on the needs of patients". There is a clear intent by government for greater

TABLE I Qualification descriptors for Honours (H) level and Masters (M) level quoted from the framework for higher education qualifications in England, Wales and Northern Ireland, quality assurance agency for higher education 2001

The qualifications	
Bachelors degrees with Honours	Masters degrees
Are awarded to students who have demonstrated:	
(i) A systematic understanding of key aspects of their field of study, including acquisition of coherent and detailed knowledge, at least some of which is at or informed by, the forefront of defined aspects of a discipline;	(i) a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study, or area of professional practice;
(ii) an ability to deploy accurately established techniques of analysis and enquiry within a discipline;	(ii) a comprehensive understanding of techniques applicable to their own research or advanced scholarship;
(iii) conceptual understanding that enables the student: <ul style="list-style-type: none"> • to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline; and • to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline; 	(iii) conceptual understanding that enables the student: <ul style="list-style-type: none"> • to evaluate critically current research and advanced scholarship in the discipline; and • to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses;
(iv) an appreciation of the uncertainty, ambiguity and limits of knowledge; and the ability to manage their own learning, and to make use of scholarly reviews and primary sources (e.g. refereed research articles and/or original material appropriate to the discipline).	(iv) originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline.
Typically, holders of the qualification	
Bachelors degrees with Honours	Masters degrees
(a) Apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry our projects;	will be able to: (a) deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences;
(b) critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution—or identify a range of solutions—to a problem;	(b) demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level;
(c) communicate information, ideas, problems, and solutions to both specialist and non-specialist audiences;	(c) continue to advance their knowledge and understanding, and to develop new skills to a high level;
(d) the qualities and transferable skills necessary for employment requiring: <ul style="list-style-type: none"> • the exercise of initiative and personal responsibility; • decision-making in complex and unpredictable contexts; and <ul style="list-style-type: none"> • the learning ability needed to undertake appropriate further training of a professional or equivalent nature 	and will have: (d) the qualities and transferable skills necessary for employment requiring: <ul style="list-style-type: none"> • the exercise of initiative and personal responsibility; • decision-making in complex and unpredictable situations; and <ul style="list-style-type: none"> • the independent learning ability required for continuing professional development

TABLE II Extracts from the NHS plan and related documents that impinge on pharmacy undergraduate education

From The NHS Plan:

Radical reform is required in NHS education and training to reshape care around the patient.

There will be new joint training across professions in communication skills and in NHS principles and organisation. They will form part of a new core curriculum for all education programmes for NHS staff.

A new common foundation programme will be put in place to enable students and staff to switch careers and training paths more easily.

From Pharmacy in the Future—Implementing the NHS Plan:

As the body responsible for setting the standards for undergraduate and pre-registration training, the Government will look to the Royal Pharmaceutical Society of Great Britain to ensure pharmacy keeps pace with other professions.

From Investment and Reform for NHS Staff—Taking forward the NHS Plan:

The NHS Plan committed us to developing common learning programmes for all health professionals.

In taking this work forward we will work with others to develop new common learning programmes within a framework which means that:

- All health professionals should expect their education and training to include common learning with other professions;
- Common learning should run from undergraduate and pre-registration programmes through to continuing professional development;
- Common learning should take place in practice placements as well as in the classroom;
- Common learning should centre on the needs of patients.

collaboration between the professions. Any concerns about the possible loss of professional identities should be minimised if the sharing of learning experiences is used to build understanding and respect by students of one profession for the special expertise that each of the other professions brings to patient care. These are the roots of establishing effective inter-professional collaboration and the best stage to begin the process is during the undergraduate years. So, the challenge to pharmacy is to adopt the undergraduate curriculum to incorporate elements of learning in the workplace alongside students studying medicine or nursing or an

allied profession. Sharing of lectures is not an adequate, or even necessary, means of achieving the objectives, no matter how attractive it may be as an economy measure.

In recent years, all schools of pharmacy have evolved their undergraduate programmes in response to the development of clinical pharmacy and, indeed, some have contributed to that development. The RPSGB indicative syllabus reflects this evolution in the requirement that pharmacy practitioners and other healthcare professionals be involved in the teaching. It also encourages appropriate elements of learning by pharmacy students "alongside and together with students of other health professions", where this is possible. The ways in which these provisions are implemented varies considerably between schools and, to my knowledge, no school goes sufficiently beyond them to meet the achievable aspirations set out in Table II. A few schools make substantial use of local hospitals or primary care services in the teaching and learning of clinical pharmacy and therapeutics, with most of the other schools making a variety of less extensive arrangements for their patient-based learning. In general, the learning experiences at present are rarely shared with students of other professions.

I suggest, therefore, that all schools should enhance the use they make of learning in the workplace. I do not have in mind a model in which the RPSGB's pre-registration training is divided into two blocks and sandwiched between components of the undergraduate curriculum. Rather, I envisage the integration of workplace experience and learning into the degree curriculum, with the schools taking responsibility for ensuring educational best-practice of the whole. Effective arrangements with local schools of medicine and nursing must be made to establish the inter-professional student contacts. Appropriate NHS pharmacy staff should be given honorary university appointments and a share of the funding earmarked for NHS-based undergraduate edu-

cation secured. The workplaces involved, whether hospitals or multi-professional enterprises in primary care, will need to meet criteria for designation as pharmacy teaching establishments. Importantly, I do not see the workplace learning confined to "near-patient" matters but to include the pharmaceutical manipulation of materials and the provision of drug information as well. This would, of course, have knock-on consequences for the design of the subsequent RPSGB pre-registration training which could, in turn, be geared to a higher level.

Such developments should certainly encourage interprofessional flexibility of working on behalf of patients but, as mentioned earlier, each profession will wish to make a distinctive contribution of special expertise to the team effort and this, of course, is fundamental. The distinctiveness of pharmacists is often expressed in the term "medicines experts". A need to define this term in the contemporary context is, perhaps, even more challenging than the further development of patient-focussed learning. The latter clearly requires a comprehensive knowledge of therapeutics. But what is the range and

the depth of scientific knowledge in chemistry, formulation science, pharmacology, pharmacokinetics, and molecular and cell biology necessary to underpin the status of "medicines expert"? An answer to that question is crucial to guide the structure of the entire undergraduate curriculum in pharmacy.

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