

Making Pharmacy Education Fit for the Future

Pharmacy, like every other healthcare profession, is changing rapidly. Almost every aspect of its knowledge and practice base is affected by external change – technological developments; changing patient expectations; new professional governance requirements; developments in other professions; a modernising health service; and acute (commercial) competition in the community sector. This is stimulating a variety of excellent and creative responses within the profession - including challenging new and extended roles for pharmacists (such as prescribing), with much greater clinical input and autonomy, and the rapid development of support staff roles.

Such innovation is necessarily often piece-meal, and responsive to particular circumstances - albeit within the broad framework of NHS development plans. For it to be sustainable, and for standards of care to be maintained, it is vital that the educational preparation and development of professional staff keeps pace with – and even anticipates – these changes in practice.

This presents a challenging agenda for all levels of education – from foundation and pre-registration, to post-qualification and continuing professional development. Several fundamental changes have already taken place in pharmacy education – notably the extension of under-graduate training from 3 to 4 years, and the introduction of mandatory continuing professional development – but there is a need to take stock, and to review the existing evidence on the appropriateness of this education for the changing world.

The Royal Pharmaceutical Society of Great Britain - as the body charged with regulating and leading the development of the profession - therefore set up a **Pharmacy Education Research and Development Reference Group** chaired by Professor Peter Noyce. The purpose of the group was to review the current standards, systems and regulation regarding education and training (from undergraduate education through to Continuing Professional Development (CPD)) in the light of current changes in health, education and science policy and practice and make recommendations on research needed to support modernisation.

Members of the reference group were chosen for their particular expertise and experience within the professional education field and represented the breadth of the profession. Membership of the working group included those from the hospital sector, the community sector, academic pharmacists involved in the teaching of pharmacy both at undergraduate and postgraduate levels as well as those involved in continuing education and training. The group also included those involved in the professional education of other health care disciplines.

Defining the outcome: what skills, knowledge and attitudes should the future pharmacy workforce possess?

It is self-evident that any future research agenda for pharmacy education requires as its starting point a clear and agreed statement of the knowledge, attitudes and skills, which the workforce will require in the future. Such a statement will help to define the educational requirements at each level of practice, from Medicines Counter Assistant to Consultant Pharmacist. This will in turn help to specify curricular, appropriate learning

and assessment methods and environments, and will facilitate greater inter-professional learning.

Many other healthcare professions have developed such a statement. In pharmacy, however, there is currently only a somewhat disjointed and partial understanding, which tends to be derived from the requirements of individual elements of education provision (S/NVQs, undergraduate, pre-registration, CPD, etc.), rather than from a holistic appraisal of the appropriate needs of pharmacy in the early 21st century.

As a matter of priority, the RPSGB should lead the development and adoption of a comprehensive knowledge, attitudes and skills (KAS) map for the pharmacy workforce. The map should encompass all current and emerging functions; cover all professional, technical and support worker groups and reflect all types of skills (including generic and vocational skills and personal attributes) required to deliver a modern, patient centred service in pharmacy.

The Society should use methods that allow all stakeholders to contribute to the development of consensus around this map and should also consider how and when the map is monitored, updated and maintained (Recommendation 1).

Delivering the Outcome: Fitness to Practise

Foundation Level

This map will provide a robust benchmark against which to measure the appropriateness of educational provision, from foundation level to continuing professional development. Starting at the foundation level, there is a need to ensure that pharmacists acquire sufficient *clinical* skills and competencies as undergraduates, to equip them for subsequent professional development, whilst also acquiring a sufficient understanding of the scientific basis of practice. University curricula are now in a process of transition, from a concentration on the 'pure' science of the past, to a growing recognition of the relevance and legitimacy of these clinical elements.

Tomorrow's undergraduate pharmacists must also 'learn how to learn' throughout the rest of their professional lives, in order to keep abreast of scientific, technological and other developments. They must understand the social and psychological factors relevant to health and illness, be able to work in multi-professional teams, and be able to apply their knowledge and skills in a wide variety of practice settings (some of which will not yet exist at the time of their foundation training). Undergraduate curricula will need to be reviewed, in the light of the changing requirements of the knowledge, attitudes and skills (KAS) map, to ensure that they continue to play an appropriate role in the overall development of pharmacists. It may be helpful to develop a 'national curriculum framework' to encapsulate these issues, and to allow individual Schools of Pharmacy to innovate within a common set of curriculum parameters.

The need to map existing pharmacy education and training onto the knowledge, attitudes and skills (KAS) map should be considered, as such an exercise could usefully identify gaps and suggest how these could be addressed (Recommendation 2).

Continuing Professional Development (CPD)

Much progress has recently been made in embedding CPD into the core of pharmacy. As the requirement for CPD grows, and its elements are better differentiated, more research is now required to establish how CPD can best contribute to professional excellence – helping to define appropriate subject matter, modes of delivery, and means of assessment. There is also a need to explore how CPD requirements could best be applied to non-pharmacist members of the team, and to develop appropriate systems of quality assurance of all CPD.

There is a need for research to confirm the relationship between CPD participation and continued fitness to practice (Recommendation 3).

Consideration should be given to the infrastructure required to ensure that CPD, as part of wider revalidation, is appropriately resourced, managed and implemented (Recommendation 4).

Revalidation

CPD is an essential, but not sufficient aspect of professional revalidation. In more general terms, there is a need for all pharmacists to be able to demonstrate continued competence and fitness to practise. As always, the requirements of revalidation should be appropriate to the task, manageable, and effective. More development work is required before pharmacy can institute such a system.

Research to develop efficient, effective and appropriate mechanisms for collecting and assessing evidence of competence (at all levels of practice) should be considered (Recommendation 5).

Delivering the Outcome: Access, Flexibility, and Transferability

Widening Access

There are two main drivers for change in relation to access to foundation education in pharmacy. First, the *demands* placed upon pharmacists are changing. The knowledge, attitudes and skills required *prior* to entry may need to be redefined in the light of the outcomes specified in the new map. This might reflect the sort of changes that are now taking place in entry requirements for medicine, for example. Second, the *supply* of students is changing. Increasing competition for students, and the demands of an expanding workforce, may require new entry standards, and the need to value more highly the non-traditional achievements of older candidates. They may also require new modes of delivery, such as elements of distance learning. All of these changes could have significant impact on access arrangements, and more research and evaluation on the implications of these supply and demand changes – and the most appropriate ways to respond to them - is required.

Research is needed to explore why people choose to join the pharmacy workforce at every level, and conversely, what are the barriers, now and in the future, to entering and remaining in the pharmacy workforce (Recommendation 9).

The establishment of pilot schemes to test the feasibility and implications of increasing access to pharmacy education and training should be considered (Recommendation 7).

The RPSGB should encourage diversity of provision of the MPharm and other education and training courses to improve flexibility and access e.g. distance learning and part-time study (Recommendation 8).

Flexibility and Transferability

The changing nature of roles within the pharmacy workforce may also require new approaches to the development and flexible use of existing staff. The concept of the 'skills escalator' fits well with the current range of staff roles, but more work is required to identify the extent of the demand for increased flexibility and movement 'up the escalator', from both staff and employers, and on the implications of that demand.

There is a need to scope demand and interest for transferability and flexibility for those wishing to work in pharmacy at all levels (Recommendation 6).

Delivering the Outcome: Teaching, Learning and Assessment

Foundation Level

The various curricula used in Schools of Pharmacy already conform to certain national standards and requirements, but there is scope for engendering greater comparability, and for ensuring that all curricula meet the changing requirements of clinical practice, in its various settings. The knowledge, attitudes and skills (KAS) map (Recommendation 1) will inform this; a national curriculum framework would provide the detail that Schools of Pharmacy could use to shape their own provision.

There is a need to develop and share best practice in areas such as curriculum design and assessment methods in pharmacy education and training, perhaps through a network of pharmacy education research and development units. As a first step, pharmacy education should be a topic for debate and discussion at the annual British Pharmaceutical Conference (Recommendation 10).

The nature of foundation level teaching and learning in pharmacy poses particular challenges. For example, undergraduates need to be exposed to practice-related learning needs in an appropriate manner; and assessment should include a suitable method, which demonstrates *competence* as well as academic achievement. Given

these issues, it would be helpful to identify current best practice, in order that such practice can be adopted universally.

Research exploring the teaching, learning and assessment methods used in pharmacy education and training should be commissioned (Recommendation 11).

Preregistration

The preregistration period currently represents the vital transition from university-based to practice-based learning for pharmacy students. Assessment of competence at the end of this period is also inherently difficult, given the wide geographical spread of pre-registration placements, and the somewhat diffuse and ill-defined level of skills competence required. Further work is now required to identify a practical and more robust means of assessment at the end of the pre-registration period, which accurately measures levels of competence that are safe but reflect the entry stage of pharmacy careers.

Following the development of the knowledge, attitudes and skills (KAS) map, research to test the feasibility of developing and implementing more appropriate teaching, supervision and assessment methods for key skills and attitudes needed to enter the register should be undertaken (Recommendation 12).

Interprofessional Development

There is now general acceptance that a much greater proportion of professional development – from undergraduate education to CPD - should involve mixed groups from more than one profession. The benefits for each profession, and for integrated and effective clinical team work, are clear.

RPSGB and Schools of Pharmacy should explore the use of interprofessional teaching (with pharmacy technician, medicine and nurse students) for example, in therapeutics and prescribing (Recommendation 13).

Teaching Infrastructure

The difficulty of striking a balance between 'science' and 'practice' at the foundation level is also reflected in the numbers of staff equipped to teach each element: the number of pharmacists employed in Schools of Pharmacy is declining. There are several causal factors, including the (non-practice) orientation of the Research Assessment Exercise, and the salary differentials between university and service posts. Several different attempts are also being made to address the problem. However, there may be scope for central research, and resources, to address some of the common elements of this problem.

There is a need to explore whether the pharmacy undergraduate curriculum would benefit from restructuring to integrate clinical and professional teaching and learning more effectively. Such restructuring may have implications for the academic workforce which would need to be considered (Recommendation 14).

Conclusions

Our remit was to identify and prioritise the pharmacy education R&D agenda, the process we used required a detailed exploration of wider education and health policy to articulate the key issues for pharmacy. As a result of comparing how national education and health policies were being integrated with the policies of other health professions (and implemented through their education frameworks) we were struck by the significant gaps that exist in pharmacy education policy. We identified several fundamental barriers to progress which not only made our job in relation to identifying and prioritising the R&D agenda difficult also present a real threat to the future of the profession – these are detailed in the Prologue to the full Report.

We would therefore urge the Council of the Society to undertake, as a matter of priority, an integrated and significant programme of policy development in pharmacy education. Some of our recommendations should be taken forward as part of that programme and others can be progressed in isolation. We hope that the policy analysis that we have undertaken, and that is documented in some detail in the preceding chapters of this report, provides a useful starting point for the development of an integrated pharmacy education policy programme at the Society.

The Group has limited itself to fourteen key recommendations, many of which depend on the development of a knowledge, attitudes and skills (KAS) map for pharmacy (Chapter 4, Recommendation 1). There is a danger that work in the area of pharmacy education will be fragmented and perhaps contradictory if not placed in the context of such a map covering all staff groups and specialisations within the pharmacy workforce. It is also necessary to ensure that any overlaps with other healthcare professionals (e.g. prescribing roles with nurses and doctors) are incorporated into such a map to ensure consistency.

The Practice Research Division is already taking forward some of the recommendations from this report and is commissioning a survey of teaching, learning and assessment methods in pharmacy undergraduate programmes and research to explore the career choices and expectations of pharmacy undergraduate students. Work on the initial stages of producing a knowledge, attitudes and skills (KAS) map for pharmacy is currently being discussed by relevant Society staff.

The recommendations in this report provide an opportunity to proactively develop education and training in pharmacy and it is essential that this opportunity is grasped to avoid changes being imposed by others. By taking such an opportunity, pharmacy will be ensuring that its current and future workforce is fit for purpose.