

PHARMACY EDUCATION

# Is pharmacy education in crisis, or is it simply changing?

*Pharmacists from community practice, hospitals, industry and academia as well as technicians, independent consultants, administrators and politicians participated in this one-day symposium to help inform the development of a strategy for pharmacy education. The symposium was organised by the Royal Pharmaceutical Society, the Academy of Pharmaceutical Sciences and the Academic Pharmacy Group, and held at the Royal Pharmaceutical Society, London, on 17 November. Dr Joseph Chamberlain, former editor of The Journal of Pharmacy and Pharmacology, reports*

Professor Bill Dawson (Bionet Ltd), an independent consultant who is currently working at the interface between academia and industry on educational policies, thought that pharmacy education was at a crossroads. The profession needs to see the wider picture in education with more and better communication; government policy towards education is changing, as typified by the National Health Service skills escalator, and there is an opportunity for the profession to be proactive, engaging in the many consultation opportunities on offer. These consultations include the Higher Education Funding Council for England review of research funding and of funding methods for teaching, the Department of Education and Skills review of the future of higher education and the qualifications for 14- to 19-year-olds, and the Department of Trade and Industry national skills

strategy as well as parliamentary select committees on research councils. Government funding is spread across three ministerial groups (DfES, DTI and the Department of Health), but it is up to the profession to be proactive in improving the situation.

Professor Dawson addressed the question of how pharmacy education will be provided in the future. Pharmacy education may not be the preserve of schools of pharmacy, with education being acquired elsewhere, such as through higher education institutes, by training in the pharmaceutical sciences or by being a Qualified Person. It should not be assumed that schools of pharmacy will continue in their present form. The European dimension may result in procedures being imposed on United Kingdom pharmacy and Professor Dawson believes strongly that UK pharmacy should inform Europe on this matter rather than wait for directives to be imposed.

Other stakeholders outside the immediate circles of pharmacy, include the Learning and Skills Council, the Sector Skills Council, regional development agencies, education and business partnerships, and employers and their organisations such as the Association of the British Pharmaceutical Industry, the National Pharmaceutical Association and the NHS.

There is a range of important questions which need resolution. Should the Royal Pharmaceutical Society be responsible for this dialogue, and if so should its role be advisory or regulatory? Should the debate be wider than that offered by an annual meeting between heads of schools and the Society? Although educational methods should be systematic in their application, there must always be room for the individual to push at the boundaries in an entrepreneurial spirit, Professor Dawson said.

## We need to recognise increasing diversity in education

The limit for planning in universities is much shorter than 20 years, said Professor Stephen Denyer, Cardiff University. By 2010, the government goal of 50 per cent of young people in higher education would be achieved by the development of foundation courses. Courses would be more flexible allowing part-time study and exit and re-entry by students; workplace experience would be a dominant factor in obtaining qualifications.

The Roberts review of the research assessment exercise clearly recognised existence of "least research-intensive" institutions which nevertheless needed funding. Professor Denyer compared the research and teaching profiles of two schools, both rated five in the research assessment exercise, and concluded that diversity already exists. Because more funding is allocated to higher rated institutions, there is a funding drift towards high-rating organisations so the sustainability of research in other organisations is lessened. Even so, some institutions that receive only a few per cent of funding for research are hoping to establish schools of pharmacy. There is growing competition for good quality students and staff, and Professor Denyer envisages that schools of pharmacy will need to recruit students, rather than select them, and individual staff will become

subject to performance rating with local pay agreements also being introduced.

There are forces that will drive the future size and profile of the pharmacy workforce, and these must be taken into account now as students are accepted and courses are designed. Relationships with other health care professionals will need to be addressed, recruitment and retention policies, perhaps bearing in mind local requirements, must be established and there needs to be an appreciation of career development and skills acquisition.

The mission statements of schools of pharmacy need not depend on research. The research and teaching balance does not need to be the same for all establishments; there is little evidence that quality is affected by change in that balance. The Government will look for centres of teaching excellence. There will be closer links between higher education and the local economy, with the former often being funded by the latter.

Other notable features of pharmacy education in the future will be a common core for all health care practitioners, more postgraduate specialisation, multi-professional health care learning environments, increasing expectations for practice placements, increased reliance on teaching technologies and a changing profile of academic staff.

There will be inevitable consequences for the accreditation criteria. Curriculum development aimed at broadening access will increase; there will be a move away from the full-time degree course, and a significant research project will no longer be required.

Autonomous schools or departments of pharmacy will be replaced by membership of larger institutions and the teacher-practitioner involvement will increase.

We need to recognise, as a professional body, that there is increasing diversity in education and we need to decide how we accept and drive this diversity, Professor Denyer said.



*Professor Denyer: research and teaching balance does not need to be the same in all establishments*

## Pharmacy graduates: should they be practitioners or scientists?

Should the pharmacy graduate be a practitioner or a scientist? Three short papers were presented giving the views of individuals from different sectors of pharmacy.

As a community pharmacist, Liam Stapleton, Boots The Chemists, argued that the pharmacist was a member of the health care team and hence was primarily a practitioner. Nevertheless there must be a strong scientific basis underpinning this practitioner role.

Rupi Pannu, AstraZeneca, said that, in theory, all MPharm graduates should be trained in both attributes regardless of the final specialist area but, in reality, experience within research and development suggests new graduates have a poor scientific approach, poor laboratory skills and minimal specific knowledge required for R&D. Undergraduate degrees focus predominantly on community and hospital aspects with no real teaching on scientific principles and methodology. Students are spoon-fed just to pass examinations. The industrial environment expects excellent verbal and written communication skills from the graduate,

good planning and organisation skills, the ability to work as part of a team, flexibility, enthusiasm and initiative. The graduate must bring the scientific attributes of questioning, challenging, problem-solving, lateral thinking, reasoning skills, laboratory skills and skills in experimental design and appraisal.

Julie Sowter, Leeds University, gave the view of a hospital pharmacist. When a new pharmacist joins the health care team, hospitals want a person with sound scientific knowledge, interpersonal skills and an enquiring mind, but with an understanding of the roles of other members of the team and where pharmacy fits in. The new graduate should be clearly aware of his or her career pathway. The pharmacist is expected to provide in-depth knowledge of pharmacological principles as applied to the whole body, and knowledge of pharmacokinetics and pharmaceuticals, Ms Sowter said. The ideal graduate should have early exposure to practice, patients, practising pharmacists and other health care professionals.

## Pharmacy could fall behind other professions if foundation degrees are not implemented

A foundation degree is an employment-related higher education qualification, probably with input on the syllabus from employers. It can be a springboard to career development or further education and employs flexible learning systems.

The course consists of 240 credits (equivalent to two-thirds of an honours level degree). Many such courses are available nationally. Dr Joan Taylor, De Montfort University, described the foundation degree in pharmacy as implemented by the People's College, Nottingham and the Leicester School of Pharmacy.

The degree is designed for two years of full-time study, but more usually takes three to four years part-time with some study in

the workplace. Employers are likely to support the degree because it is patient-centred (in line with the NHS pharmacy plan) and it is staff-centred (in line with the NHS skills escalator).

The degree formalises technician roles, allows specialisation, progression and evolution, increases professional interaction, and improves patient care and safety. Dr Taylor suggested that if we do not implement foundation courses in pharmacy, then formal training will depend on others, in-house training may not benefit from a spread of best practice updates, and pharmacy could trail behind other professions in providing stepping stones to professional goals.

## Changing the MPharm course content

Sue Jones described experiences in changing the content and delivery of the MPharm degree at King's College London.

The existing MPharm course had a traditional structure of a foundation course up to Christmas in the first year, followed by four separate streams (sources and chemistry of drugs, dosage form design and manufacture, the scientific basis of therapeutics, and pharmacy practice), with a research project in the fourth year.

Compartmentalisation was thought to result in students not recognising the full importance of various facets of the education process and a new course was implemented in September 2002.

The first year involves a pharmacy orientation course, interprofessional education, essential skills, principals of pharmacy (chemistry of drugs, physical pharmaceuticals, biochemical basis of therapeutics, pharmacy practice and biopharmacy, law and ethics). The second and third years will include topic-based teaching, and integration of knowledge and skills. The fourth year is still being finalised but will concentrate on pharmacy in practice, a project, electives and preparation for practice, with updates in clinical and practice pharmacy.

Initial feedback from students has been excellent, particularly in the appreciation of the importance and interrelation of previously isolated elements, said Ms Jones.

## Workshop sessions

### *Professional training or science education?*

Eileen Neilson, Royal Pharmaceutical Society, reported on the workshop discussions relating to the broad question of professional training or science education.

Professional training and science education needs to be integrated and there is a core of knowledge that all pharmacists need. Industry would not be happy with the idea that specialisation for pharmacists would not come until after the initial education.

### *Should the teaching base be research-informed?*

Dr David Wright, University of East Anglia, began with an emphatic yes to the question of whether the teaching base should be research-informed, but required justification for this view. Literature reports were not clear-cut, with there being equally persuasive surveys for the positive, negative and neutral effects of the research background of teaching institutes.

Nevertheless, the group considered that a new school of pharmacy should not be allowed to open if it did not intend to be research active. There were tangible benefits to delivering research-informed teaching, such as the transfer of skills from one generation of teachers to the next, inculcation of a better understanding of research, experience in problem-solving, and the positive effect of an enthusiastic teacher. Even with an indicative syllabus there is a need for imparting knowledge that was not closed or settled.

### *Does accreditation stifle innovation?*

Professor Ian Marshall, Caldaran Research, reported that the workshop group gave a firm no to the question of whether accreditation stifles innovation, and indeed pressed the opposite view. The process of accreditation enabled non-pharmacy academics to appreciate the profession of pharmacy and accreditation was helpful in achieving extremely good scores for the institutes in quality assurance exercises.

The group emphasised that innovation and diversity can be achieved within the existing criteria. However, with the number of schools of pharmacy set to rise to perhaps 30, it was strongly believed that the Royal Pharmaceutical Society needed to allocate more resources to the accreditation process.

## Push for funding

A lively closing discussion emphasised the crucial need for science to underpin the pharmacy degree, but the two aspects of practice and science must be taught as an integrated specialty called pharmacy.

Although some thought it was perhaps too much to expect a fully formed pharmacist at graduation, there are certain expectations that were not being met and the view was expressed that the lack of funding, particularly for laboratory experience was not an acceptable excuse; we must push for the necessary funding — that is our responsibility for the future, said Professor Bill Dawson.