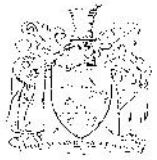
MAKING PHARMACY EDUCATION FIT FOR THE FUTURE

Report of the Pharmacy Education R&D Reference Group

Pharmacy Practice Research Strategy

Investing in Knowledge, Taking Responsibility



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PROLOGUE

Many working groups and committees before us have recommended changes, large and small, to various aspects of pharmacy education. In completing our work to identify and prioritise the Pharmacy Education R&D Agenda we have had the benefit of working in a policy context where the clinical and professional responsibilities of pharmacists and their teams are at last explicit and agreed. Recent government and professional policies (in England, Scotland and Wales) set out clearly the contribution that pharmacy is expected to make to deliver the various national health strategies. The impact of these policies will, over time, change the face of our profession and the education framework that supports it.

The Society's proposals to invest in R&D in pharmacy education is thus timely and welcome and we hope that our 14 recommendations, and the extensive policy analysis that lies behind them, will be helpful to both staff and Council at the Society as well as to the Practice Research Division.

As we worked through what turned out to be a major review of health and education policy we looked in some detail at how these policies are being interpreted by other health professions and implemented in their education frameworks. This process revealed many significant gaps in pharmacy education policy. By comparison with medicine for example, pharmacy education policy is fragmented and diffuse and in relation to post-registration education and learning it is almost non-existent. There are useful documents and processes in place but what is missing is a coherent and robust over-arching policy which sets out the purpose of the different stages of pharmacy education and how they inter-relate.

It was not possible to state with any certainty what is taught, learned and assessed when, how and why during the career of a pharmacist. Similarly key governance questions relating to who accredits what and how, could not be answered with any degree of reliability. We fully appreciate that there are many historical reasons why it has not been possible to address many of these issues in the past. It seems to us that four key issues must now be addressed:

- The fragmented nature of the regulatory powers of the RPSGB which primarily focus on undergraduate and pre-registration programmes of pharmacists.

- The ad-hoc and employer driven education and training market for pharmacy support staff and post-registration higher level and specialised training for pharmacists.

- The relative lack of integration of education (relating to underpinning knowledge) and training (relating to development of clinical skills and professional attitudes) in the undergraduate and pre-registration training programmes (a situation that is driven largely by the funding streams and responsibilities of the different stakeholders in pharmacy education).

- The relative lack of formal education, training and assessment of key attitudes and behaviours that are pivotal in developing autonomous clinical practitioners and their personal and professional regulation.

The setting of policy was not part of the Group's remit. However, we saw this major gap in policy as presenting a significant problem for the profession as it moves forward to take up new responsibilities and to perform new roles. We would urge the Council of the Society to undertake as a matter of some priority an integrated and significant programme of policy development in pharmacy education.

In addition to documenting, in some detail, the relevant national policies and identifying key pharmacy issues arising from them, we have made a number of recommendations that relate to policy as well as to research – we hope that this will be useful to those charged with taking forward any major policy programme. We have identified some key research questions that will need to be addressed as part of the development and implementation of a wider policy development programme and we would urge the Council to take these forward as part of the review. A key development will be the production of a knowledge, attitudes and skills map for the pharmacy workforce.

We have also identified a number of research areas that can be taken forward as independent projects that will generate valuable information regardless of any changes to the overall policy framework. We are pleased to see that two of these are already in train with research looking at teaching, learning and assessment methods and career motivations being commissioned by the Society. This is a very promising and welcome development.

Finally we would recommend that our work is reviewed and updated once the policy work is completed and a comprehensive research programme that addresses the key questions relating to what should taught, learnt and assessed, when, how, why and by whom, can be articulated.

At this point I would like to thank colleagues for their individual contributions particularly for their preparedness to share their wealth of expertise and think "outside the box" in this largely uncharted area. Sue Ambler deserves particular mention for having the vision that this piece of work would be an essential building block in RPSGB becoming a modern integrated professional and regulatory body. Trudie Roberts "raised the Group's game" with her insights, vision and encouragement, from the perspective of a medical educationalist. Equally the Group's contribution would have been the poorer without the well informed, balanced and challenging perspective of the pharmacy technician, from Darren Leech.

Of course we all owe Zoe Whittington a debt of gratitude for managing us and the process – with characteristic good humour and efficiency – and ultimately ensuring our report saw the light of day. Congratulations on producing such a useful and stimulating body of work, and making it such an enjoyable experience.

Professor Peter Noyce
Chair, Pharmacy Education R&D Reference Group

ACKNOWLEDGEMENTS

On behalf of the Council of the RPSGB we would like to thank Professor Peter Noyce (University of Manchester) and the members of the Reference Group for their time, patience and dedication to the task.

When we set out on this journey in 2002 none of us envisaged the size and complexity of the terrain we would cover and the volume of work that awaited us all. The Report seems to have grown in both size and importance as we have gone forward – we very much appreciate all the support that we have received from Peter Noyce and the Group at the meetings and in commenting on the drafts of the report.

Particular and personal thanks must go to Peter, as the Chairman of the Group, his role in structuring the meetings and brigading the Group towards clear recommendations was pivotal in bringing the work to fruition. His support and encouragement for us as the enormity of the task dawned made a tremendous difference to morale and enthusiasm.

Thanks must also go to Ian Bates and his team at the School of Pharmacy, (University of London) for their help in scoping and summarising the relevant literature. The scoping report became an increasingly important reference document for us as we worked our way through the policy and refined the arguments underpinning each of the Groups recommendations. Our thanks go to Virginia Wykes for sharing her knowledge of pharmacy education and writing Appendix 2 to this report, which has been a valuable resource for the Group.

Thanks to colleagues at the Society who commented on the policy analysis and early versions of the recommendations at the Policy Forum meeting in June 2003. We appreciated the opportunity to road test the conclusions and felt a renewed measure of confidence when they, and we, survived the first engagement relatively unscathed. Particular thanks to Lorraine Fearon and Jackie Moon for their help in preparing the Report and putting right our rather amateur attempts at formatting. We also thank Paula Hayes from the Centre for Pharmacy Postgraduate Education at the University of Manchester for proof reading the report.

We would also like to take this opportunity to thank Marcus Longley (University of Glamorgan) for his help in drafting the Briefing Paper that summarises the Groups conclusions so well and so succinctly. The Briefing Paper makes the Group's work accessible in a way that we could never have achieved – the all important distillation process needed a fresh pair of eyes and an uncluttered brain.

This has been an enormous job and there have been times when we wished we had never started – it seemed so simple at the beginning. We appreciate that the report is long, dense and in places "pithy" but, together with the Briefing Paper, we hope that it makes a valuable contribution to what will be the next crucial phase in the development of policy at the Society.

Sue Ambler
Head, Practice Research

Zoe Whittington
Research Manager & Group Secretary

RECOMMENDATIONS

1. RPSGB should lead the development and adoption of a comprehensive knowledge, attitudes and skills (KAS) map for the pharmacy workforce.

2. Existing pharmacy education and training should be mapped onto the KAS map to identify gaps and suggest how these should be addressed.

3. Research is needed to confirm the relationship between CPD participation and continued fitness to practice.

4. An infrastructure should be considered to ensure that CPD is appropriately resourced, managed and implemented.

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

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

7. Pilot schemes should be considered to test the feasibility and implications of increasing access to pharmacy education and training.

8. RPSGB should encourage diversity of provision of the MPharm and other education and training courses to improve flexibility and access eg distance learning and part-time study.

9. Research is needed to explore why people choose to join the pharmacy workforce at every level and what the barriers are to entering and remaining within the pharmacy workforce.

10. Best practice should be developed and shared in areas such as curriculum design and assessment methods used in pharmacy education and training, perhaps through a network of pharmacy education research and development units.

11. Research exploring the teaching learning and assessment methods used in pharmacy education and training should be commissioned and compared to methods used by other healthcare professions.

12. Research should be undertaken 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.

13. 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.

14. 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.

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GLOSSARY

Accreditation – a process to ensure that a qualification meets national requirements or that an awarding body is competent to award a qualification or that a person is competent to carry out a particular role having successfully completed training and/or assessment.

Appraisal - Examining people or the services they offer in order to judge their professional qualities, success or needs.

Competence - represents the *totality* of knowledge, skills, and abilities necessary for professional practice and implies a minimum level of proficiency or threshold in performance.

Competency – having the necessary skills, knowledge and attitudes to undertake a task. A competency is a skill or function, and it includes the underlying knowledge and ability necessary to its performance.

Continuing Education (CE) – refers to methods of learning such as attending workshops, following diploma or distance learning courses or structured reading.

Continuing Professional Development (CPD) – is the process by which a professional keeps up-to-date through learning and involves the person taking responsibility for identifying their own development needs. Learning in CPD can happen both through structured activities (CE) and incidental learning experiences.

Curriculum – a detailed schedule of the teaching and learning opportunities that will be provided. This includes the core curriculum and the student-selected components.

Foundation education – in this report this term refers to the period when prospective healthcare professionals are working towards an initial qualification. For pharmacists this includes both the undergraduate degree and preregistration period and for pharmacy technicians this is S/NVQ Level 3 or BTEC/ScotVEC Certificate.

Interdisciplinary/interprofessional learning – has been defined as occasions when two or more professions learn from and about each other to improve collaboration and the quality of care.

Lifelong Learning – is the continuous development of skills, knowledge and understanding that are essential for employability and fulfilment.

Medicines Counter Assistants – supply non-prescription medicines in community pharmacies under protocols drawn up by a pharmacist, who must be present for referral if necessary. In 1996, the Royal Pharmaceutical Society of Great Britain introduced a training requirement for medicines counter assistants, which is incorporated in the Code of Ethics. They are the only group of support staff in community pharmacy for which there is currently a formal training requirement.

Multidisciplinary/Multiprofessional Learning – has been defined as occasions when two or more professions learn side by side for whatever reason.

National Occupational Standards - are statements of performance that describe what competent people in a particular occupation are expected to be able to do. They cover all the main aspects of an occupation, including current best practice, the ability to adapt to future requirements and the knowledge and understanding that underpin competent performance.

Pharmacists – are registered by the Royal Pharmaceutical Society of Great Britain. Since 1997, entry to the profession in Great Britain has been via a four year MPharm degree, accredited by the RPSGB, followed by successful completion of one year's preregistration experience and the Society's registration examination. Pharmacists are the only group currently subject to statutory regulation.

Pharmacy/Dispensing Assistants - until recently there was no recognised national qualification for this group of staff. A S/NVQ Level 2 in Pharmacy Services has recently been developed. Hospitals employ pharmacy assistants/assistant technical officers (ATOs) in a range of support functions. From January 2005 the RPSGB is to introduce a minimum competence requirement for staff working at this level.

Pharmacy Technicians – hold a recognised qualification, either (most recently) the S/NVQ Level 3 in Pharmacy Services or the BTEC/ScotVEC National Certificate in Pharmaceutical Science. In addition, many pharmacy technicians formerly qualified through the Society of Apothecaries' examination or the City and Guilds' dispensing certificate, which are still recognised by employers. Pharmacy technicians are employed predominately in the hospital sector with some working in community pharmacy and primary care organisations. The RPSGB will register Pharmacy Technicians from January 2007 which will be preceded by a two-year voluntary registration period.

Post-Qualification/Registration Training – refers to the period after qualification/registration when the professional is acquiring further specialist skills.

Preregistration Training (pharmacy) – a period of assessed training and experience in a workplace which must be completed satisfactorily before a person with a pharmacy degree can be registered as a pharmacist.

Problem Based Learning (PBL) – a form of learning using small groups of learners setting their own objectives coupled with independent learning.

Quality Assurance Agency (QAA) – was established to provide an integrated quality assurance service for UK higher education. Its role is to safeguard the public interest in sound standards of higher education qualifications and to encourage continuous improvement in the management of the quality of higher education.

Qualifications Curriculum Authority (QCA) - is a guardian of standards in education and training. It works with others to maintain and develop the school curriculum and associated assessments, and to accredit and monitor qualifications in schools, colleges and at work. In Scotland the equivalent body is the Scottish Qualifications Authority (SQA) and in Wales it is Qualifications, Curriculum and Assessment Authority for Wales (ACCAC).

Revalidation – is a mechanism whereby healthcare professionals are required at regular intervals to demonstrate to external assessors that they remain fit to practice, and thus are entitled to continue to be registered or recognised as a healthcare professional.

Scottish/National Vocational Qualifications (S/NVQ) - are work-related, competence-based qualifications. They reflect the skills and knowledge needed to do a job effectively, and show that a candidate is competent in the area of work the S/NVQ framework represents. S/NVQs are based on national occupational standards.

Self-directed Learning – a process in which students are responsible for organising and managing their own learning activities and needs.

Skills Escalator – this is part of the NHS Human Resource strategy. The essence of this approach is that staff are encouraged, through a strategy of lifelong learning to constantly renew and extend their skills and knowledge, enabling them to move up the escalator. Meanwhile efficiencies and skill mix benefits are generated by delegating roles, work and responsibilities down the escalator where appropriate.

Workforce Development Confederations (WDCs) – these are responsible for developing an integrated approach to workforce planning and development for health and social care providers. Confederations bring together local health and social care providers to determine the numbers of staff they need now and in the future and the range of skills and competencies staff will need. They also promote Lifelong Learning to ensure that the skills of staff are constantly updated. The equivalent organisations are Human Resources at the National Assembly for Wales (NAfW) and NHS Education Scotland (NES) in Scotland.

Acronyms used in the report

ACCAC	Awdurdod Cymwysterau, Cwricwlwm ac Asesu Cymru/the Qualifications, Curriculum and Assessment Authority for Wales
APTUK	Association of Pharmacy Technicians United Kingdom
ASME	Association for the Study of Medical Education
ATO	Assistant Technical Officer
BTEC	Business and Technical Education Council
CAT	Credit Accumulation and Transfer
CCEA	Council for the Curriculum Examinations and Assessment, Northern Ireland
CE	Continuing Education
CHAI	Commission for Health Audit and Improvement
CHI	Commission for Health Improvement
CPD	Continuing Professional Development
CPP	College of Pharmacy Practice
CPPE	Centre for Pharmacy Postgraduate Education
CRHP	Council for the Regulation of Healthcare Professionals
CSBS	Clinical Standards Board for Scotland
DfES	Department for Education and Skills
DH	Department of Health
ELWa	Education and Learning Wales
EMAs	Education Maintenance Awards
ESTYN	Arolygiaeth Ei Mawrhydi Dros Addysg A Hyfforddiant yng Nghymru. Her Majesty's Inspectorate For Education and Training in Wales
FEDA	Further Education Development Agency
FEFC	Further Education Funding Council

FEFCW	Further Education Funding Council for Wales
FHEQ	Framework for Higher Education Qualifications (England, Wales and Northern Ireland)
GCSE	General Certificate of Secondary Education
GMC	General Medical Council
GNVQ	General National Vocational Qualification
HEFCE	Higher Education Funding Council England
HNC/HND	Higher National Certificate/Higher National Diploma
HEFCW	Higher Education Funding Council for Wales
HR	Human Resources
ILTHE	Institute for Learning and Teaching in Higher Education
KSF	Knowledge and Skills Framework (NHS)
LPS	Local Pharmaceutical Services
LSC	Learning and Skills Council
LTSN	Learning Teaching Support Network
MTO	Medical Technical Officer
MCA	Medicine Counter Assistant
NAfW	National Assembly for Wales
NES	NHS Education Scotland
NHS	National Health Service
NHSU	National Health Service University
NICE	National Institute for Clinical Excellence
NSF	National Service Framework
OSCE	Objective Structured Clinical Examination
PCO	Primary Care Organisation
PCT	Primary Care Trust
PDP	Personal Development Plan
PMP	Patient Management Problems
PODs	Patient Own Drugs
QAA	Quality Assurance Agency for Higher Education
QCA	Qualifications and Curriculum Agency
RAE	Research Assessment Exercise
R&D	Research and Development
RPSGB	Royal Pharmaceutical Society of Great Britain
SATO	Senior Assistant Technical Officer
ScoTEC	Scottish Technical Education Council
ScotVEC	Scottish Vocational Education Council
SCPPE	Scottish Centre for Pharmacy Postgraduate Education
SCQF	Scottish Credit and Qualifications Framework
SFEFC	Scottish Further Education Funding Council
SHEFC	Scottish Higher Education Funding Council
S/NVQ	Scottish/National Vocational Qualifications
SP	Standardised patient
SOP	Standard Operating Procedure
SQA	Scottish Qualifications Authority
SVQ	Scottish Vocational Qualification
TEC	Training and Enterprise Councils (have now been replaced by Learning and Skills Councils)
UfI	University for Industry
WCPPE	Welsh Centre for Pharmacy Postgraduate Education
WDC	Workforce Development Confederation

CHAPTER 1 – INTRODUCTION

"Discovery is a process which often results from original ideas but also from investigation and from the careful use of information. It is important then that discovery leads to learning and that learning leads to change." [1]

Practice Research Strategy

1.1 The Practice Research Division of the Royal Pharmaceutical Society of Great Britain (RPSGB) reviewed its strategy in 2001 to take into account progress and developments within healthcare provision and government policy. The subsequent internal report 'Practice Research Strategy 2001-2006' identified a need to focus the Society's investment in research exploring workforce, ethics and education issues.

In relation to education the report suggested that research is needed to consider the content and delivery of pharmacy education and whether this is producing the type of pharmacists that will be required in the future. The Workforce Research Agenda setting exercise[2] had identified a need to examine what skills and competencies of the workforce, both pharmacists and their support staff, will need in the future. Wider changes in society, such as greater patient expectations, have implications for the type of skills required by professionals. Recent government papers have also indicated a clear direction towards team working with other health care professionals and working in partnership with patients. This style of working may require different skills from those currently taught.

There is a need to explore what type of education programmes and personal development processes are successful in producing the type of pharmacy staff required at all levels – foundation, preregistration, post-registration and continuing professional development. Moves toward the revalidation of professionals to ensure fitness to practise mean education programmes will need to reflect an ongoing commitment to learning and development. There may also be a need to look at generic educational research to ascertain which teaching, learning and assessment methods are most appropriate and effective, especially in the light of increased access to interactive teaching technology.

Pharmacy Policy

1.2 Following publication in 1997 of the results of an RPSGB led consultation, Pharmacy in a New Age[3], the Department of Health launched 'Pharmacy in the Future – A programme for pharmacy in the NHS'[4] for England in September 2000. This document indicates how pharmacy will need to develop in order to meet the challenges laid out in 'The NHS Plan'[5] for England. There are a number of challenges that pharmacy needs to address, firstly to meet the changing needs of patients, pharmacy will need to:

- ensure people can obtain medicines or pharmaceutical advice easily.
- provide more support in the use of medicines.
- give patients the confidence that they are receiving good advice when consulting a pharmacist.

Secondly, pharmacy needs to respond to the changing environment especially in community pharmacy where services are provided in an ever changing and increasingly competitive retail environment. Information technology also means that the public have access to medicines and information about medicines in different ways than previously. A third challenge to the profession is to ensure that public confidence in the profession is maintained and enhanced.

"This means more than modernising the arrangements for dealing with things that go wrong. It means making sure that professional education and training meets the needs of tomorrow's world. And it means making sure pharmacists are keeping their skills up to date"[4].

The programme sets out targets in four areas:

- Better Access to Services – Building on the Strengths of Pharmacy.
- Helping Patients Get the Best from their Medicines.
- Re-designing Services Around Patients – Getting the Structures Right.
- Ensuring High Quality Services, Getting the Most from Staff.

1.3 A subsequent consultation document has been published recently by the Department of Health 'A Vision for Pharmacy in the new NHS'[6]. This document builds on the pharmacy plan and indicates areas where progress has been made in meeting the targets. The document focuses on community pharmacy and in particular, discusses the contribution that community pharmacy makes to improving public health and to the wider promotion of health through smoking cessation, sexual health and reducing obesity. The vision highlights that community pharmacies have the potential to extend this contribution to reducing health inequalities and that this will be reflected in the new contract. The vision also sets a target of 2005 for a pharmacy public health strategy that is integrated with the government's wider approach to tackling public health.

1.4 The pharmacy programme may require changes in the education and training of pharmacists to support the development of new services and roles for example Local Pharmaceutical Services (LPS) and pharmacist prescribing. In relation to education and training the programme identifies that the RPSGB will be responsible for ensuring that pharmacy keeps pace with other professions in developing core training in communication skills and NHS principles and organisation. The programme states that the Centre for Pharmacy Postgraduate Education (CPPE) will work with the RPSGB to promote lifelong learning through the development of new training materials to meet new priorities and the use of modern delivery methods to provide more flexible support.

While it is recognised that there are increasing numbers of students entering pharmacy degrees, it is necessary to analyse and predict workforce supply across all sectors. It is recognised that not all pharmacy graduates go on to be employed directly by the NHS, with many taking up careers in the

community sector, primary care, industry and academia and elsewhere i.e. non pharmacy based careers. The programme calls for a debate on the roles and responsibilities of pharmacists and support staff to ensure that skill mix in pharmacy is appropriate.

The document identifies that the RPSGB in line with other regulatory bodies needs to modernise its procedures for ensuring continuing professional competence and for dealing with those pharmacists who fail to meet acceptable standards.

1.5 The 'Pharmacy Workforce in the NHS' paper[7] sets out the Government's views on how to *"secure a flexible, appropriately trained and enthusiastic workforce, equipped to perform current and future tasks within rapidly changing pharmaceutical services in the community and in hospitals".* This focuses on four key areas:

- Continued extension of the role of pharmacists in supporting patients with their medicines, e.g. through medicines management schemes, supplementary prescribing, medication review, local pharmaceutical services.

- Parallel development of the role of pharmacy technicians and other support staff to provide improved patient services.

- Development of appropriate training standards and a system of regulation for pharmacy staff to underpin this.

- Development of pilot 'protocol medicines supply schemes' in which suitably qualified and accredited pharmacy technicians, working within standard protocols, can dispense and supply medicines without the personal supervision of a pharmacist.

1.6 'The Right Medicine: A strategy for pharmaceutical care in Scotland'[8] outlines the ways in which pharmacists and the Scottish Executive will work with key stakeholders to improve the public's health, provide better access to care, deliver better quality services for patients, users and carers, and develop the pharmaceutical profession. The strategy acknowledges that the changes outlined lead to the need to ensure that staff are fully trained for their new roles and will require the provision of high quality education and training, good workforce planning and the appropriate skill mix.

The Scottish Executive's strategy paper 'Learning Together'[9] sets out a framework for shared learning in NHS Scotland to encourage multidisciplinary working and sharing of best practice. A new Special Health Board for NHS Education (NHS Education Scotland, NES) will encompass existing bodies for postgraduate education in the healthcare professions to promote multidisciplinary learning at the post-graduate level. The need to review the skill-mix requirements in hospital and community pharmacy and examine how to fully utilise the skills of pharmacy technicians, dispensers and assistants is recognised in the pharmacy strategy.

1.7 'Remedies for success - A strategy for pharmacy in Wales'[10], sets out a 10-year vision to provide people with fast convenient access to pharmaceutical care, when they require it tailored to their needs and delivered to a

consistently high standard. The strategy aims to build public understanding of the role of pharmacy, in relation to access and the support it can provide to people. It will also consider the issues of workforce, buildings and equipment. It will enable the profession to fulfil its potential and deliver high quality pharmaceutical services through service redesign and effective use of resources.

The strategy recognises the central role that pharmacists play in:

- promoting and supporting healthy lifestyles
- managing common ailments
- managing prescribed medicines
- managing long-term conditions
- advising and supporting other healthcare professionals

The importance of meeting the education and training needs of existing staff in delivering a quality service is also noted. The commissioning of appropriate education and training for pharmacists and support staff in Wales will remain the role of the Welsh Committee for the Professional Development of Pharmacy. The strategy identifies the importance of accreditation to ensure that training provided is consistent and achieves demonstrable outcomes. There is also a need for training delivery methods to be creative and use new technologies to ensure flexibility and accessibility. The strategy acknowledges that there may be a need for modification of the current undergraduate curriculum to ensure that pharmacists in the future are fit for the roles ahead of them for example in the areas of management and leadership skills.

Pharmacy Education Research & Development Reference Group

1.8 The first step in the Society's programme for education research was to develop a detailed research and development agenda, which draws together the Society's work on developing and accrediting the pharmacy undergraduate curriculum and the wider education research. Development of this education research agenda was taken forward by the Pharmacy Education Research & Development Reference Group, chaired by Professor Peter Noyce (University of Manchester) and supported by the Practice Research Division.

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.

Members:

Dr Sue Ambler, Head of Practice Research, Royal Pharmaceutical Society of Great Britain.

Professor John Cromarty, Chief Pharmacist, Highland Acute Hospitals NHS Trust (Scotland).

Dr Robert Dewdney, Head of Education, Royal Pharmaceutical Society of Great Britain.

Mr Digby Emson, Superintendent Pharmacist, Boots the Chemist and Council Representative for Education Research, RPSGB (Aug 2002 – Jan 2003).

Dr Sally-Anne Francis, Lecturer, School of Pharmacy, University of London.

Professor Bob Hider, Head, School of Pharmacy, King's College London.

Dr Dai John, Senior Lecturer, Welsh School of Pharmacy, Cardiff University (Wales).

Dr Janet Krska, Chair, Research Committee, College of Pharmacy Practice (CPP).

Mr Darren Leech, Associate Director, Pharmacy Department, King's College Hospital NHS Trust, London.

Professor Peter Noyce, Chair of Pharmacy Practice, Drug Usage and Pharmacy Practice Research Group, School of Pharmacy and Pharmaceutical Sciences, University of Manchester (Chair).

Mrs Helen Remington, Council representative for Education Research, RPSGB and Chief Pharmacist, Addenbrooks, Cambridge (Feb 2002 – Aug 2002).

Professor Trudie Roberts, Director, Medical Education Unit, University of Leeds.

Mrs Susan Sanders, Director, London Pharmacy Education & Training (NHS).

Dr Angela Trikic, Assistant Director, Open Learning, Centre for Postgraduate Pharmacy Education (CPPE), University of Manchester.

Miss Zoe Whittington, Practice Research Manager, Royal Pharmaceutical Society of Great Britain (Secretariat).

Ms Virginia Wykes, formerly Education Development Officer, Royal Pharmaceutical Society of Great Britain.

1.9 The terms of reference of the group are listed below:

The reference group will lead on the development of a Research & Development programme relating to pharmacy education and will:

- review the current standards, systems and regulation regarding education and training (from undergraduate education through to continuing professional development) in the light of current changes in health, education and science policy and practice;
- review the existing evidence base relating to adult learning and professional education;
- make recommendations on research needed to modernise and highlight particular aspects for the RPSGB.

The final report will:

- collate and interpret the evidence in relation to education research within the context of pharmacy;
- identify gaps and key areas for future research.

1.10 At its first meeting the Group decided that its remit should be 'pharmacy education' rather than 'pharmacist education' and therefore education and training for pharmacy support staff should be included. It was decided that a pharmacy technician (Mr Darren Leech) would be invited to join the group to ensure that issues relating to pharmacy support staff were covered. Unless specifically stated, the comments and recommendations within this report apply to all staff in pharmacy rather than pharmacists only.

1.11 The group met five times over the course of 2002 and 2003. The first meeting covered the historical background of pharmacy education, discussion of government policy drivers for change and the group decided how they would approach the task ahead of them. It was agreed that a framework would be used to consider relevant issues with the next three meetings being focused on the following topics:

- Infrastructure and Governance
- Content and Delivery
- Monitoring and Assessment

At each meeting consideration was given to the different stages of education and training:

- foundation for both pharmacists and pharmacy support staff
- preregistration for pharmacists
- post-qualification for both pharmacists and pharmacy support staff
- continuing professional development (CPD) for both pharmacists and pharmacy support staff

At their final meeting the group discussed the recommendations and finalised the content and structure of this report.

1.12 To support the work of the Pharmacy Education Research & Development Reference Group the Practice Research division commissioned a scoping exercise in Education Research. The purpose of this work was to identify what research had been conducted (in pharmacy and other relevant professional groups), identify evidence gaps and suggest areas where future research could be commissioned. The scoping exercise used a number of methods, including a review of the literature on health professional education, interviews with professional representatives and key stakeholders to provide important contextual information. The report identified some of the underlying issues:

- the need for a knowledge map
- the issue of outcomes in pharmacy education
- the theoretical framework underpinning education and learning
- issues of integration

that were relevant to the work of the Group. These ideas have been integrated into the work of the group during the meetings and have been useful in informing the group's thinking. Further information on this piece of work can be found in Appendix 1.

Structure of this Report

1.13 While the Group used the framework described above to ensure that relevant issues were discussed during the meetings, a thematic approach is taken with this report. This first chapter provides an introduction to the report and the work of the Pharmacy Education Research and Development Reference Group. The next two chapters outline the current pharmacy education and training provision and the wider health and education policy context.

Chapter 2 gives an overview of current Pharmacy Education and Training provision with further details being provided in Appendix 2.

Chapter 3 reviews the Health and Education policy context to establish how changes in pharmacy sit within this wider context of change and development.

The following five chapters explore the themes identified from the policy context in greater depth. The relevant policy issues are described, with key issues for pharmacy outlined before the discussions and recommendations of the Reference Group are articulated.

Chapter 4 considers the need for a Knowledge, Skills and Attitudes map for pharmacy, a key theme identified by the group.

Chapter 5 explores the theme of Lifelong Learning and its relevance to pharmacy.

Chapter 6 looks at the issues of Access, Flexibility and Transferability in pharmacy education and training.

Chapter 7 reviews Approaches to Teaching, Learning and Assessment in the pharmacy context.

The final chapter (Chapter 8) brings together the Group's recommendations and provides some discussion for how these recommendations can be taken forward.

CHAPTER 2 – EDUCATION AND TRAINING IN PHARMACY

This chapter briefly describes the current provision of pharmacy education and training, further details relating to how this has developed and additional information are provided in Appendix 2.

Pharmacists

2.1 Through its charter the Society is responsible for promoting education to support the practice of pharmacy. Since the charter was awarded, entry requirements to the profession comprise a combination of a taught programme and a period of workplace training. The Society's powers were strengthened in 1954 with the Pharmacy Act, with the Society being responsible for setting the standards for entry onto the register and accreditation of degrees. The Pharmacy Act 1954 provides for the establishment of a Register of Pharmaceutical Chemists. The purpose and function of the Register of Pharmaceutical Chemists is to protect the public by providing reassurance that any person who practises as a Pharmaceutical Chemist in Great Britain has, at one time, acquired the requisite knowledge and skills and is bound by the requirements of the profession's Code of Ethics. The criteria for entry onto the Great Britain Register of Pharmaceutical Chemists for graduates from Schools of Pharmacy in the United Kingdom and overseas pharmacists (other than those who are registered pharmacists in a country with whom the RPSGB has a reciprocal arrangement e.g. New Zealand) are as follows:

- attainment of a recognised qualification in pharmacy
- satisfactory completion of a recognised period of training
- pass the Registration Examination
- good character
- good physical and mental health
- age over 21
- payment of registration fee

2.2 In the undergraduate arena standard setting is currently achieved by the setting and monitoring of criteria for accreditation and an indicative syllabus for pharmacy degrees, through a continuous cycle of 5-yearly review visits to schools of pharmacy. In 2001 the Society carried out a thorough review of its degree accreditation process and introduced a revised indicative syllabus, together with new accreditation criteria for outcomes and processes[11]. This new syllabus and criteria was implemented in September 2003 following piloting with several schools of pharmacy.

The Society's quality assurance of pharmacy degrees is complemented by the higher education sector's own quality management and enhancement mechanisms. This quality management and enhancement system comprises quality assurance mechanisms of the pharmacy schools themselves, their parent universities and the Quality Assurance Agency (QAA). The RPSGB accredits degrees to ensure that they are fit for the purpose of preparing students for preregistration training and later, for practice as a pharmacist. The higher

education sector's own quality assurance mechanisms concentrate on the maintenance and enhancement of the quality of provision and the standards of awards.

2.3 Currently the pharmacy degree is funded by the Higher Education Funding Councils for England, Scotland and Wales (HEFCE, SHEFC and HEFCW). In addition, universities also receive some funding from tuition fees paid by, or on behalf of, students. Tuition fees were limited to £1,000 per year in 2002; however the recent Government education paper, 'The Future of Higher Education'[12] published in 2003 stated that the level of tuition fee to be paid will be at the discretion of individual universities from 2006.

Pre-registration Training

2.4 The precursor to the current preregistration training year was the one year's practical experience included within the Pharmaceutical Chemist qualification, which continued into the early years of graduate entry. The terms of the 1954 Pharmacy Act ensured that this period prior to registration as a pharmacist would continue. Following graduate entry to the profession in 1970, there was a defined 'common core' applying to all preregistration trainees and a checklist to be followed according to the sector of practice in which the trainee was working - community, hospital or industry. At that stage there was little monitoring of trainees' performance or progress by the Society, and the year was generally viewed as a 'time-serving' year at the end of which the trainee would automatically join the register.

2.5 There were a number of changes to preregistration training following the 1986 Nuffield Foundation Inquiry into Pharmacy[13] and the RPSGB Council's working party report on pharmacy education[14]. These paved the way for a move away from preregistration training as mere time-serving towards some form of assessment of trainees' suitability to join the register.

In 1993 a competence-based training and assessment programme and near-end-of-training registration examination were introduced. Together these were intended to assess whether preregistration trainees' knowledge, skills and attributes were of an acceptable standard for registration as a pharmacist. In order to be admitted to the register, trainees had to demonstrate their meeting of the competencies in the workplace, via assessments by their tutor, and pass the registration examination. This approach shifted the emphasis of responsibility for the trainee's learning and development from the tutor (with the trainee able to merely 'time serve') to the trainee him/herself. The competence-based approach represented a change from an input model of training – assuming everybody is the same at the start and that therefore the same inputs will lead to uniform outputs – to an outcome based approach in which the outcome of training is assessed.

2.6 In the late 1990s the decision was taken to develop a new training programme which would cover aspects of hospital and community practice, the aim being to enhance patient care and produce trainees with a better understanding of the whole health care system. A new programme was developed and introduced with the first cohort of graduates from the 4-year degree, in the 2001/2 training year. The new programme comprises new performance standards for trainees to meet, new training materials for tutors and trainees, a new system of quarterly

progress reports and a revised registration examination format and syllabus and incorporates cross sector training[15].

There has traditionally been a culture of trust within preregistration training which continues today. This means that the quality of training placements and tutoring is assumed to be satisfactory unless there is evidence to the contrary e.g. by the complaints of a trainee or repeated failure of trainees at the examination from a particular training placement. Although this is anomalous in the sense that it is less rigorous than the quality assurance of pharmacy technicians' qualifications, this can perhaps be explained by the fact that preregistration training has existed for a long time, and began in an era when quality assurance as a concept or reality did not exist anywhere. Therefore, a quality assurance system would have to be bolted on to existing programmes. Conversely, the Scottish/National Vocational Qualification (S/NVQ) programmes for pharmacy technicians were instigated at a time when there was widespread recognition of the need for quality assurance, and so mechanisms were included as a fundamental and integrated part of the new programmes.

2.7 Funding for preregistration training occurs differently in the hospital and community sectors. The system for community pharmacy has remained the same for some years, with each pharmacy contractor who employs a trainee being paid a grant in recognition of this. The monies are taken from the global sum paid to contractors by the Department of Health for the totality of pharmaceutical services. In the hospital sector, preregistration salaries and training costs are paid from local budgets, which are administered according to the system of funding applying at any given time. Funding is currently administered via the Workforce Development Confederations (WDCs) in England, Human Resources at the National Assembly for Wales and NHS Education Scotland (NES) in Scotland.

Post-registration Education

2.8 In the late 1980s and early 1990s the Department of Health established Centres for Pharmacy Postgraduate Education in England (CPPE), Scotland (SCPPE) and Wales (WCPPE). These developed the provision of distance learning materials for registered pharmacists and provide face-to-face workshops supported by a local tutor network. In England this was initially in community pharmacy with NHS regional pharmacy education and training services dealing with the secondary care sector. In addition to these non-qualification based learning opportunities, there are a number of post-graduate courses available to pharmacists (and non-registered pharmacy graduates) ranging from post-graduate diplomas to PhDs and Doctorates (PharmDs/DPharms). MScs and Diplomas in Clinical Pharmacy were originally introduced due to the demand for greater clinical pharmacy training in the secondary care sector as hospital pharmacy developed its clinical pharmacy role. These have evolved over the past 20 years and now increasingly cover primary care and community pharmacy with the majority of Schools of Pharmacy offering courses, including some provided by distance learning, as well as other University departments and organisations.

2.9 Since the mid 1990s the Society has made it a professional responsibility of pharmacists to undertake at least 30 hours' continuing education per annum[16] in order to meet their professional obligation to keep up-to-date. However, it has come to be recognised in pharmacy as in other professions that counting hours does not necessarily lead to improved competence or patient care. The Society

is currently rolling out a new framework for pharmacists' continuing professional development (CPD) which will require pharmacists to identify their own learning and development needs, meet these needs (via continuing education or any other route) and evaluate their learning and development. The pharmacist will need to keep a CPD portfolio, which will be evaluated by the Society and feedback given[17].

Pharmacy Support Staff

2.10 It has been recognised that the effectiveness of a pharmacy service depends to a very large extent on the capabilities of all staff in the pharmacy. More recently, clinical governance, the impact of the 1999 Health Act[18] and the 'Learning from Bristol'[19] report have reinforced the need for all health professional groups to concern themselves with the training and performance of all staff levels in their field. In addition, it is increasingly the case that pharmacy technicians are fulfilling roles traditionally undertaken by pharmacists in order that pharmacists might also move forward and develop roles envisaged by government, such as medicines management and prescribing. Therefore, any discussion about the education and training of pharmacists to fulfil their roles must take into account also the education and training of support staff and the issue of skill mix between and within the various groups.

Community Pharmacy

2.11 There have traditionally existed three 'levels' of community pharmacy support staff who have some involvement in the sale or supply of medicines. As part of their normal roles: medicines counter assistants (MCAs), who sell medicines; dispensing assistants (sometimes called dispensers), who help with the mainly routine aspects of dispensing; and, pharmacy technicians who might undertake some of the more challenging aspects of dispensing and medicines' sales. Different community pharmacies have a different combination of staff members from amongst these levels, not necessarily employing all three.

Until the mid 1980s many community pharmacy support staff did not have a formal qualification: they were simply employed without any particular selection criteria and then learned the necessary skills and knowledge on-the-job. There was no requirement for them to be trained unlike hospitals where certain qualifications were required for particular grades of staff. Courses for dispensing assistants were available, e.g. from the National Pharmaceutical Association, City & Guilds of London Institute and the Society of Apothecaries, but not all contractors used these to train their dispensers. Some of the multiple community pharmacy companies provided their own in-house training schemes. For example, Boots ran a two-year distance-learning course for their dispensing assistants, which was supported by the supervising pharmacist and included practical work. Items were made in the shop e.g. pills and suspensions, and sent to Head Office for assessment, along with assignments and answers to questions. However, such in-house training courses were not recognised outside the companies concerned so the person did not have a transferable qualification.

2.12 In 1986 the Nuffield Foundation Inquiry report[13] recommended that the RPSGB should be more involved in the education and training of support staff and so in November 1988 the Council set up a working party to look at the issue. The Working Party reported in June 1990[20] and defined education and training needs for medicine counter assistants (MCAs) and dispensing assistants in community

pharmacy, and hospital pharmacy technicians. Some courses already existed for community dispensing assistants, as described above, but it was not until this time that courses for MCAs were developed, for example by the National Pharmaceutical Association and Buttercups Training. In 1994, a RPSGB Working Party report[21] on the sale of medicines in pharmacies led the Council to introduce a requirement – which took effect from July 1996 – that any member of staff whose work regularly includes the sale of medicines is trained for that aspect of his/her role. This was not a legal requirement but a professional responsibility upon the pharmacist in personal control of the pharmacy. Suitable courses were accredited by the Society (via a system operated by the College of Pharmacy Practice, CPP).

2.13 In the late 1980s the government introduced Scottish/National Vocational Qualifications (S/NVQ) to provide a framework of training and qualifications for the many workers across all sectors who did not have such training or qualifications. These qualifications set standards of performance for an occupation, against which appropriately trained assessors assess the student in the workplace. In 1996 the S/NVQ Level 3 in Pharmacy Services for pharmacy technicians was launched, to run concurrently with the pre-existing BTEC/ScotVEC/ScoTEC National Certificates in Pharmaceutical Science and Applied Pharmaceutical Science. However, the S/NVQ Level 3 was considered by some to be inappropriate for community dispensing assistants and so a Level 2 S/NVQ was launched in 2002**.**

2.14 From 1 January 2005 all staff involved in dispensing will be required to attain a minimum standard of competence (this date was set by a Council resolution in 1999). It is likely, though still the subject of discussion, that the standard to be achieved will be based on the S/NVQ Level 2. By this date written Standard Operating Procedures (SOPs) covering the dispensing process will also have to be in place and operational. In December 2001, the Council decided to move towards the regulation of pharmacy support staff[22] as part of the modernisation of the Society as a whole, in line with the 1999 Health Act[18]. Medicines Counter Assistants and dispensing staff working to S/NVQ Level 2 will be regulated by the Society but there will not be a separate register for these staff (as there will be for pharmacy technicians at S/NVQ Level 3), because they do not work unsupervised. Regulation by the Society of these support staff will include:

- setting professional requirements for minimum levels of training and/or competence (as described above) together with standard operating procedures (SOPs)
- setting professional requirements for ongoing training and updating to maintain competence
- monitoring compliance with professional responsibilities through inspection[23]

Staff in the community pharmacy sector who are qualified 'pharmacy technicians' are no different from hospital pharmacy technicians in terms of their training and RPSGB policy. These are covered in the sections on hospital pharmacy below.

Hospital Pharmacy

2.15 In the hospital sector a person, who provides general support for pharmacy services, including dispensing, was traditionally referred to as a 'hospital pharmacy assistant'. Now most of the staff in hospital pharmacies at this level

are employed as Assistant Technical Officers (ATOs), in one of two spines for assistants, assistant technical officer (ATO) and senior assistant technical officer (SATO). In some hospital trusts Ancillary and Clerical grades are used. Both of these are general staff grades that also exist in other disciplines. Until the advent of the S/NVQ Level 2 in Pharmacy Services, pharmacy staff at this level were trained in-house.

Pharmacy technicians are employed on one of the six grades on the medical technical officer (MTO) pay spine. In 1982 the Business and Technical Education Council was created in England (BTEC, now known as Edexcel) and the Scotland Vocational Education Council (ScotVEC) in Scotland, to develop qualifications for administrative and technical staff across all sectors. As a result the BTEC National Certificate in Science (Pharmaceutical) was introduced. BTEC/ScotVEC National Certificates were part-time qualifications, obtained by students working for most of the week and attending a college-based course on a day or an evening per week basis. A range of other BTEC/ScotVEC national certificates in science existed, in addition to the one for pharmacy technicians.

2.16 From 1984 until 1996 the BTEC/ScotVEC national certificate was the only accepted qualification for hospital pharmacy technicians. Then in 1996 the S/NVQ Level 3 in Pharmacy Services was launched, to run concurrently with the BTEC/ScotVEC National Certificate. Most hospital trusts now train their pharmacy technicians using the Level 3 S/NVQ, with the BTEC/ScotVEC course providing the underpinning knowledge. From 2005 ATOs and MTOs in hospital will have to meet the same minimum competence standard as their community counterparts.

Quality Assurance

2.17 The quality assurance of training for support staff exists only where formal qualifications are used. Medicines counter assistants' courses have to be accredited; the S/NVQ system includes trained assessors with internal and external verification mechanisms; BTEC and ScotVEC have systems to verify standards at colleges.

The Future for Support Staff

2.18 Roles of support staff might change in the future if the Department of Health's 'Pharmacy Workforce in the NHS' discussion paper[7] takes effect. Support staff training needs will then require review and qualifications amended. For example, checking pharmacy technicians might become the norm rather than being specially trained to a separate qualification as they are now.

In addition, the Council decided in December 2002 to instigate a register of pharmacy technicians (those qualified to S/NVQ Level 3 or higher)[22]. This will be brought about via an Order under Section 60 of the 1999 Health Act. Provided this legislation can be put in place in time, mandatory registration of pharmacy technicians will be introduced from 1 January 2007, with a two-year voluntary period preceding this.

CHAPTER 3 – HEALTH AND EDUCATION POLICY CONTEXT

"There is the largest ever investment now going into public services, but the challenge remains to make the money work alongside fundamental reform to deliver the quality schools, hospitals and transport we need." [24]

Health Policy

3.1 The 1997 white paper 'The New NHS: modern and dependable'[25] introduced a ten year plan to modernise the way in which the NHS functions. This modernisation plan aimed to improve quality, cost-effectiveness and to make the NHS easier for the public to use. It aims to help develop continuity of care by linking NHS services to those provided by related organisations such as social services and local authorities. The plan introduced structural reforms in primary care which aim to make Primary Care Trusts (PCTs) the main engine of development and delivery in the NHS. These organisations will ensure greater local flexibility supported by national initiatives to improve consistency. Quality improvement and professional accountability are key themes in the Government's agenda for the NHS, and a number of approaches have been taken to achieve these ends by:

- developing a programme of **evidence-based National Service Frameworks (NSFs)** setting out the patterns and levels of service which should be provided for patients with certain conditions
- establishing a **National Institute for Clinical Excellence (NICE)** which promotes clinical and cost-effectiveness by producing clinical guidelines and audits, for dissemination throughout the NHS
- establishing a **Commission for Health Improvement (CHI)** to support and oversee the quality of clinical governance and of clinical services (changed in 2003 to **Commission for Health Audit and Improvement, CHAI**)
- working with the professions to strengthen the existing systems of **professional self-regulation**

3.2 The subsequent 'NHS Plan – a plan for investment, a plan for reform'[5] outlined a ten year plan for the radical modernisation in the NHS and sought far reaching reforms to bring about a cultural change that will impact on the way patients are treated and services delivered. The Plan describes how:

- care will be reshaped around the patient
- quality will be improved
- better use will be made of the skills and dedication of NHS staff

The vision in the NHS Plan is one in which the NHS offers people fast and convenient care delivered to a consistently high standard and services when

and where people require them. In relation to NHS staff the vision is of careers that are developed, not stagnant, and staff that are paid properly for good performance. The Plan outlines a number of developments to enable the NHS to meet patients' needs such as NHS Direct, Walk-in Centres, electronic health records, multidisciplinary working in primary care, and extension of roles such as prescribing for nurses and pharmacists and hospital appointments to suit patients. The plan recognises that there are a number of underlying problems which have contributed to the NHS failing to deliver care centred on the patient, including under-investment, lack of national standards, lack of clear incentives, professional demarcations and dis-empowered patients.

3.3 Underpinning the NHS Plan is a set of core principles, which represent the common ground between the Government and the NHS:

NHS Core Principles[5] –

The NHS will provide a universal service for all based on clinical need, not ability to pay.

The NHS will provide a comprehensive range of services.

The NHS will shape its services around the needs and preferences of individual patients, their families and carers.

The NHS will respond to different needs of different populations.

The NHS will work continuously to improve quality services and minimise errors.

The NHS will support and value its staff.

Public funds for healthcare will be devolved solely to NHS patients.

The NHS will work together with others to ensure a seamless service for patients.

The NHS will help keep people healthy and work to reduce health inequalities.

The NHS will respect the confidentiality of individual patients and provide open access to information about services, treatment and performance.

3.4 The NHS plan for Scotland, 'Our national health: a plan for action, a plan for change'[26] focuses on the delivery of change in improving the health of the people of Scotland and reducing health inequalities between rich and poor. As with the plan for England, the role of the patient at the centre of healthcare is emphasised, as is partnerships between the NHS and other organisations and raising quality through standard setting and performance management. The subsequent 'Rebuilding Our National Health Service'[27] maps out the implementation of organisational changes needed to meet these aims.

'Improving Health in Wales – A plan for the NHS with its partners'[28] describes an ambitious agenda for change and improvement based on partnerships both within the NHS and between NHS Wales, local government, the voluntary and independent sectors and the communities they serve. The prime aim of the plan is to achieve wide scale improvements in patients' services and quality of care. To achieve these, fundamental changes are required to deliver a people-centred and participative health service, which is designed to be:

- simpler for patients to understand;
- accountable for the actions it takes and the services it delivers;
- and a stronger democratic voice in the way it is governed.

3.5 The consultation document, 'A First Class Service - Quality in the NHS'[29] describes how the NHS can set, deliver and monitor quality standards. The diagram below demonstrates the different mechanisms for ensuring quality:

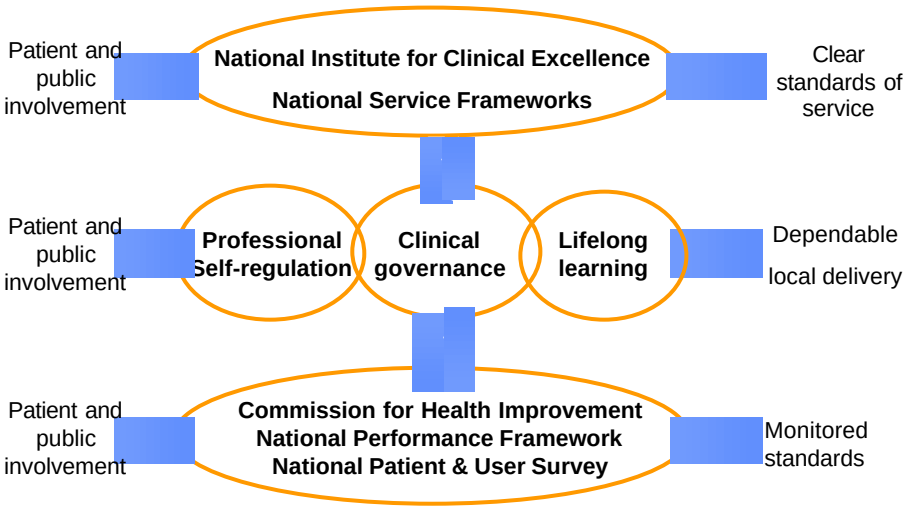

Fig. 1 - Quality Standards in the NHS taken from A First Class Service[29]

Clinical Governance

3.6 The introduction of clinical governance in 1998 was designed to introduce a systematic approach to the delivery of high quality health care. A duty of quality was placed on NHS organisations in the 1999 NHS Act[18]. This introduced corporate accountability for clinical quality and performance. The widely accepted definition of clinical governance is:

> "*A framework through which NHS organisations are accountable for continually improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish*" [30].

There are four main components of clinical governance:

- clear lines of responsibility and accountability for the overall quality of clinical care
- a comprehensive programme of quality improvement activities
- clear policies aimed at managing risks
- procedures for all professional groups to identify and remedy poor performance

"*Clinical governance will provide a systematic framework that can be extended into the clinical community at all levels. Successful clinical governance will rely on proper arrangements for accountability, which are seen to be effective by the public, the wider health service and individual practitioners"* [30].

A comprehensive programme of quality improvement would also include clinical audit, continuing professional development, clinical guidelines, research and development and effective monitoring of clinical care.

3.7 On 1 January 2003, the Clinical Standards Board for Scotland (CSBS) became part of a new organisation called NHS Quality Improvement Scotland. NHS Quality Improvement Scotland brings together the CSBS, the Clinical Resource and Audit Group, Health Technology Board for Scotland, Nursing and Midwifery Practice Development Unit and Scottish Health Advisory Service. The role of NHS Quality Improvement Scotland is to improve the quality of healthcare in Scotland, through setting standards and monitoring performance, as well as providing advice, guidance and support to NHSScotland on effective clinical practice and service improvements.

In Wales 'Quality Care and Clinical Excellence'[31] details a ten-year plan for improving quality of service and this has been followed by 'Clinical Governance – Developing a Strategic Approach'[32] and the report of an all-Wales audit of clinical governance[33]. These two documents take forward the development of clinical governance culture and reaffirm the commitment to the quality agenda.

Education and Learning in the NHS

3.8 The publication of 'HR in the NHS – More staff working differently'[34] in 2002 arose from long-standing concerns about the way in which NHS staff are educated, trained and deployed.

"modernising education and training to ensure that staff are equipped with the skills they need to work in a complex and changing NHS"[34].

It stresses that education providers should be fully involved in developing workforce plans in local health economies. It notes that the NHS needs to work with higher education providers and regulatory bodies to improve the flexibility of basic and post basic training that provide scope for switching training and career paths during and after training. In particular it states:

"that those commissioning and supplying education and training for healthcare employees should ensure that the impact of changes in healthcare

are reflected in education to prepare students for a constantly changing future" [34].

3.9 The equivalent NHS plans for Scotland and Wales also acknowledge the need to invest in the skills of all NHS staff to help them perform to their full potential. 'Our National Health – a plan for action, a plan for change'[26] from the Scottish Executive states "*our success in delivering the change described in this plan depends on individuals, teams and organisations in the NHS and elsewhere. They must be supported through formal development activities to enable them to deliver real improvements in health and health services*". 'The Health Plan for Wales, Improving Health in Wales – A plan for the NHS with its partners'[28] recognises the key roles of staff in implementing the reforms. These include the need to adopt new roles of working; multidisciplinary team working; breaking down barriers between professions, clinical and managerial leadership; and contributing to service modernisation. This document was supported by 'A Human Resource Strategy for NHS Wales'[35] published in 2000.

3.10 Part of the NHS Human Resource strategy is focussing on modernising the pay structures within the NHS. Proposals for a new national NHS pay and terms and conditions system were introduced in the 'Agenda for Change'[36] document. It seeks to introduce new pay bands and harmonised terms and conditions for NHS workers. The system has been negotiated by the health departments and the National Joint Staff Side unions. The pay system will be based on a new NHS Job Evaluation Scheme[37] to address issues of equal pay for work of equal value. All jobs would be placed in one of the pay bands according to how many points they score under the Job Evaluation Scheme. The NHS Knowledge and Skills Framework[38] will support the process of annual development reviews and design of personal development plans (PDPs) for all staff.

Health care professions have been involved in establishing national occupational standards for particular roles. Standards setting bodies have always been required to develop national occupational standards, which capture the wider aspects of competent performance. National occupational standards have been developed to raise the standard of practice within a given sector by providing a benchmark against which performance both at individual and organisational level may be assessed and measured. They go beyond routine work activities and reflect the critical importance of key characteristics such as being creative and the ability to apply ethical judgements. Skills For Health, the Health Care National Training Organisation, has been involved in developing multidisciplinary national occupational standards in health care to support NHS reforms. A number of these have involved pharmacists such as Specialist Practice in Public Health, Mental Health and Drugs and Alcohol.

3.11 The reshaping of care around the needs of patients will impact on education and training. *"There will be reforms in health curricula to give everyone working in the NHS the skills and knowledge to respond effectively to the individual needs of patients"*[34]. Subsequent documents, such as 'Working Together - Learning Together'[39], have explored in more detail the impact reforms in the delivery of health care will have on the education and training of health care professionals. A number of themes emerge including:

- Access to education and training.

- Lifelong learning.
- Revalidation.
- Competency to practise.
- Interprofessional learning.

3.12 In Scotland, NHS Education for Scotland (NES) was established as a Special Health Board on 1st April 2002. This new body will build on the work of the National Board for Nursing, Midwifery and Health Visiting for Scotland, the Post Qualification Education Board for Health Service Pharmacists (which oversees the work of the Scottish Centre for Postgraduate Pharmacy Education) and the Scottish Council for Postgraduate Medical and Dental Education, in extending its activities to cover all staff groups. The aim of NHS Education for Scotland is to contribute to the highest quality of health care in NHSScotland by promoting best practice in the education and lifelong learning of its entire staff.

Regulation of Health Care Professionals

3.13 The Government signalled its intention to strengthen existing systems of regulation in 'The New NHS – modern, dependable'[25]. The issue of healthcare professional regulation was covered in the report of the Bristol Royal Infirmary Inquiry[19], which stated that regulation:

"extends from entry into a profession, to continuing in it, to ensuring that competence is up to date through revalidation, to processes of support for improvement and, if that fails, to removal from the register" [19].

This report also stated that one body should be charged with overseeing all aspects relating to the regulation of professional life: education, registration, training, continuing professional development, revalidation and discipline. Such a body was proposed in the NHS Plan and would provide the unifying principles and the co-ordination necessary to ensure that the various bodies serve the needs of the public. The report recommended that the Council for the Regulation of Healthcare Professionals (CRHP) should:

- have formal powers to require bodies which regulate the separate groups of healthcare professionals to conform to principles of good regulation
- act as a source of guidance and of good practice
- seek to ensure that in practice the bodies which regulate healthcare professionals behave in a consistent and broadly similar manner
- And as a matter of priority promote common curricula and shared learning across the professions.

3.14 The Department of Health issued a consultation document in August 2001, 'Modernising regulation in the Health Professions'[40], on the functions of the Council for the Regulation of Healthcare Professionals and mechanisms for accountability. Subsequently, the National Health Service Reform and Health Professions Act 2002[41] established the Council for the Regulation of Healthcare Professionals with the general functions:

- to promote the interests of patients and other members of the public in relation to the performance of their functions by the regulatory bodies[42] and by their committees and officers,

- to promote best practice in the performance of those functions,

- to formulate principles relating to good professional self-regulation, and to encourage regulatory bodies to conform to them, and

- to promote co-operation between regulatory bodies; and between them, or any of them, and other bodies performing corresponding functions.

In addition, the Society's Council decided in December 2002 to instigate a register of pharmacy technicians (those qualified to S/NVQ Level 3 or higher)[22]. This will be brought about via an Order under Section 60 of the 1999 Health Act. Provided this legislation can be put in place in time, mandatory registration of pharmacy technicians will be introduced from 1st January 2007, with a two-year voluntary period preceding this.

Education Policy

Lifelong Learning

"Learning helps makes ours a civilised society, develops the spiritual side of our lives and promotes active citizenship. Learning enables people to play a full part in their community. It strengthens the family, the neighbourhood and consequently the nation. It helps us fulfil our potential and opens doors to a love of music, art and literature. That is why we value learning for its own sake as well as for the equality of opportunity it brings"[43].

3.15 The Government's policy on education as outlined in the consultation paper 'The Learning Age'[43] is a vision of how lifelong learning could enable everyone to fulfil their potential and cope with the challenge of rapid economic growth and social change. Lifelong learning can enable people to play a full part in developing their talent, the potential of their family, and the capacity of the community in which they live and work.

"The country needs to develop a new learning culture, a culture of lifelong learning for all. It is essential to help…all of its people meet the challenge they now face as they move towards the twenty-first century"[44].

Vision of lifelong learning is built on the following principles[43]:

- investing in learning to benefit everyone;
- lifting barriers to learning;
- putting people first;
- sharing responsibility with employers, employees and the community;
- achieving world class standards and value for money; and
- working together as the key to success.

The Learning Age

3.16 'The Learning Age'[43] marks government recognition of the need to increase the number of people who take part in education and training. It reflects too, the changes in the nature of work and the economy. The Learning Age recognises the need to improve the skills of the workforce in the UK and enable people to continue training for as long as they need to. It puts education and training at the heart of the UK's economic future. The paper documents the fact that learning is not just about economic competitiveness but enables people to play a full part in their community. Qualifications:

"are a means to an end and not an end themselves. Once seen as being purely for young people, today qualifications give signals about employability and allow us to progress. They tell individuals and employers what is needed to achieve a given standard or skills. They help motivate people to stick with learning. They provide step by step progress through education and training, thus helping people to move forward or changing direction in their careers"[43].

3.17 The Learning Age draws on a number of reports produced by:

- the Committee on Widening Participation set up by the Further Education Funding Council and chaired by Helena Kennedy QC[45]
- the committees on 16-19 qualifications[46] and on higher education[47] chaired by Sir Ron Dearing
- the National Advisory Group for Continuing Education and Lifelong Learning chaired by Professor Bob Fryer[44]
- the University for Industry Design and Implementation Group chaired by David Brown of Motorola Ltd.

3.18 The Learning Age introduces the University for Industry (UfI) which will act as the hub of a learning network, using modern communication technologies to link businesses and individuals to cost-effective, accessible and flexible education and training. The UfI will provide flexible learning opportunities using a variety of mediums, courses at a number of locations, CD-ROMs, interactive TV, radio or internet. The report highlights that one of the main barriers to learning is accessing information on what is available. To overcome this, Learn Direct - a new national telephone helpline and web based service (www.learndirect.co.uk) has been launched which offers advice both on how to get started and on courses to suit individual needs.

Quality Assurance in Education and Learning

3.19 The series of reports which make up government policy on education, 'The Learning Age'[43], all address the issue of quality and standards within education. There are a number of government agencies to ensure quality and maintain standards in education provision – the Qualifications and Curriculum Authority (QCA) is responsible for schools and further education provided in colleges and work places and the Quality Assurance Agency (QAA) is responsible for the quality assurance of higher education. There are a number of other bodies involved in standard setting such as Sector Skills Councils, the Office for Standards in Education, the Learning and Skills

Council, the Adult Learning Inspectorate, Learning and Skills Development Agency.

3.20 The Scottish Qualifications Authority (SQA) is the national body in Scotland responsible for the development, accreditation, assessment, and certification of qualifications other than degrees. Its role and remit includes developing qualifications, it also accredits qualifications, is involved in the assessment of people taking SQA qualifications and quality assures establishments offering SQA qualifications. SQA qualifications include National Qualifications (including Standard Grade and National Units and Courses at Access, Intermediate, Higher and Advanced Higher levels), Higher National Certificates and Diplomas (HNC/HND) and Scottish Vocational Qualifications (SVQs).

3.21 In Wales, there is ESTYN, which is the office of Her Majesty's Chief Inspector of Education and Training in Wales, with the aim to raise standards and quality of education and training in Wales through inspection and advice. The national council of Education Learning Wales (ELWa) was established in April 2001 from the merger of the four Training and Enterprise Councils, the Council of Welsh Technical Education Councils (TECs) and the Further Education Funding Council for Wales. It is responsible for the planning and promoting of further education, work based training, adult and continuing education and school sixth forms. Awdurdod Cymwysterau, Cwricwlwm ac Asesu Cymru/the Qualifications, Curriculum and Assessment Authority for Wales (ACCAC) is the National Assembly for Wales's principal advisory body on all aspects of the school curriculum, examinations, assessment and vocational qualifications.

Qualifications and Curriculum Authority (QCA)

3.22 Qualifications and Curriculum Authority (QCA) is a guardian of standards in education and training. It works with others to maintain and develop the school curriculum and associated assessments, and to accredit and monitor qualifications in schools, colleges and at work. The strategy of the Department for Education and Skills (DfES) as set out in its 'Education and Skills: Delivering Results - A Strategy to 2006'[48], is to help build a competitive economy and inclusive society by:

- creating opportunities for everyone to develop their learning
- releasing potential in people to make the most of themselves
- achieving excellence in standards of education and levels of skills.

QCA helps the Department for Education and Skills to achieve its aims by guarding standards in education and training. It provides advice to the Secretary of State about the school curriculum, about ways pupils and students are assessed and about qualifications in both general education and training. Its objectives are to:

- develop and monitor the national curriculum
- develop and manage the national assessment system
- develop, regulate and monitor the national qualifications system
- provide national data, information, guidance and support for those involved in education and training.

National Qualifications Framework

3.23 The Dearing Review of Qualifications for 16-19 year olds[46] recommended that all qualifications are brought under one common framework. Following the Education Act 1997[49] (Section 24), the Qualifications and Curriculum Authority (QCA) developed with its partner regulatory authorities in Wales (Qualifications, Curriculum, Assessment and Authority for Wales, ACCAC) and Northern Ireland (Council for Curriculum Examinations and Assessment, CCEA), a coherent and transparent national framework of qualifications to guarantee quality and standards, meeting the full range of needs of learners and those who provide education, employment and training.

The aims of the national framework are to:

- widen participation and promote life-long learning;
- clarify the relationships between qualifications, including broad equivalencies and routes of progression;
- facilitate choice and combination of qualification types, and breadth of study or specialism within a particular area where necessary for progression;
- allow reasonable choice and scope across different qualification types for innovation, whilst avoiding unnecessary overlap and duplication;
- command public and professional confidence in the qualifications system.

3.24 Qualifications admitted to the framework fall within one of three categories - general, vocation-related/vocational and occupational, with the occupational focus of qualifications increasing as one moves across the framework from general to occupational. Qualifications are assigned to one of six levels - Entry level, plus Levels 1-5 - the levels being distinguished by the degree of knowledge, skills and understanding, autonomy, analysis and creative thinking within the qualification. All qualifications accredited into the framework have to meet a set of common criteria. There are additional criteria which each qualification type (GNVQs, NVQs, GCSEs and A and AS Levels) have to meet, and for some qualifications a close or direct link to national occupational standards is expected. Awarding bodies also have to conform to a common code of practice.

Table 1 - National Qualifications Framework

Level of qualification		General	Vocationally-related	Occupational
5		Higher-level qualifications BTEC Higher Nationals		Level 5 NVQ
4				Level 4 NVQ
3 advanced level	A level	Free-standing mathematics units level 3	Vocational A level (Advanced GNVQ)	Level 3 NVQ
2 intermediate level	GCSE grade A*-C	Free-standing mathematics units level 2	Intermediate GNVQ	Level 2 NVQ
1 foundation level	GCSE grade D-G	Free-standing mathematics units level 1	Foundation GNVQ	Level 1 NVQ
Entry level		Entry level certificate		

The level descriptors for NVQs can be found in Appendix 3.

3.25 In Scotland all qualifications (including higher education) are part of the Scottish Credit and Qualifications Framework (SCQF) (see Appendix 4). The central aims of the Scottish Credit and Qualifications Framework (SCQF) are to:

- enable employers, learners, and the public in general to understand the full range of Scottish qualifications, how they relate to each other, and how different types of qualifications can contribute to improving the skills of the workforce; and
- help people of all ages and circumstances access appropriate education and training over their lifetime to fulfil their personal, social and economic potential.

The SCQF is designed to make the relationships between qualifications clearer. It will clarify entry and exit points and routes for progression within and across education and training sectors. It will also maximise the opportunities for credit transfer. In these ways it will assist learners to plan their progress and learning.

Further Education

3.26 In the 'Learning Age'[43] the government identified that high standards must continue to be a priority for further education. While there are many examples of high quality, responsive and accessible courses, it was recognised that in others there is a persistent problem of low achievement and poor retention rates. The Government proposed that it would work with colleges, the Further Education Funding Council (FEFC) and the Further Education Development Agency (FEDA) to adopt a rigorous approach to standards, with systematic assessment and target setting. It was also proposed that all new teachers in further education should hold, or within two

years of appointment have begun, a recognised initial teacher training qualification. This would apply both to full-time teachers and those with a substantial part-time commitment.

The Learning and Skills Council (LSC) was established in April 2001 and is responsible for the public funding of over 16 year olds in England, through four main funding streams: further education; school sixth forms; work-based learning; and adult and community learning. The Council has brought together the skills of the Training and Enterprise Councils and the Further Education Funding Council to work with partners, employers, learning providers, community groups and individuals to develop and implement strategies that meet the Government's aims set out in the 'Learning to Succeed'[50] White Paper. There is a national office and 47 local learning and skills councils, which have representation from employers, learning providers and community groups in order to provide local solutions to local needs.

3.27 Scotland has the Scottish Further Education Funding Council (SFEFC) which aims to develop the contribution of further education to Scotland's success, by funding opportunities that enable students to achieve personal, social and economic goals. SFEFC is responsible for securing adequate and efficient provision of further education in Scotland and allocates funding to further education colleges. Education and Learning Wales (ELWa) was established in April 2001 from the merger if four Training and Enterprise Councils (TECs), the Council of Welsh TECs and the Further Education Funding Council for Wales (FEFCW) and is responsible for the planning and promoting of further education, work based training adult and continuing education and school sixth forms.

The proposed reforms of the further education sector in England outlined in 'Success for All – Reforming Further Education and Training: Our Vision for the Future'[51] include developing a framework for quality and success through a new planning, funding and accountability system, based on greater partnership and trust. This framework will include a new system of targets and performance management that will set clear expectations about minimum performance levels and provide extra funding linking to the achievement of improvement targets.

Higher Education

3.28 'The Learning Age'[43] recognised the important role higher education plays in enabling young people to complete their initial education up to the highest levels and increasingly provides education opportunities for mature students. The Government recognises that Universities and higher education colleges are changing with increasing numbers of mature students and part-time students and remains committed to the principle that anyone who has the capability for higher education should have the opportunity to benefit from it. Recent Government policy on higher education has focused on funding issues with the introduction of tuition fees of £1,000 per student per year. Changes to student funding arrangements were announced in the white paper 'The Future of Higher Education'[12] published in January 2003. This enables Universities to determine the level of fees charged to students up to a maximum limit of £3,000 from 2006/7 per year.

3.29 The future development of Higher Education was the subject of a report by the National Committee of Inquiry into Higher Education chaired by Sir Dearing[47]. This Committee was established to make recommendations on how the purposes, shape, structure, size and funding of higher education should develop to meet the needs of the United Kingdom for the next twenty years. It also dealt with staff training and development, qualifications and standards, research, information technology and governance. The report 'Higher Education in the Learning Society'[47] was published in 1997 and the Government's response report 'Higher Education for the 21st Century' was published in 1998[52].

A priority is to increase participation of those that have been under-represented in higher education, including people with disabilities and young people from semi-skilled or unskilled family backgrounds and from poorer localities. While 54% of young people from professional and managerial homes go on to higher education, only 17% of those from semi-skilled and unskilled family backgrounds do so. This lower participation rate mainly stems from their under-attainment at earlier stages of education. The Dearing Committee made a number of recommendations on under-represented groups in higher education[47]. These include targeting additional funding at universities and colleges with a commitment to widening participation and plans to improve access, joint further and higher education projects to address low expectations and low achievement and to promote progression to higher education and incentives from funding bodies for the enrolment of students from particularly disadvantaged localities.

3.30 The Quality Assurance Agency (QAA) was established in 1997 to provide an integrated quality assurance service for UK higher education. It is an independent body funded by subscriptions from universities and colleges of higher education and through contracts with the main higher education funding bodies. The Agency's core business is to review the quality and standards of UK higher education. This is achieved by auditing the way in which each university and college manages the overall quality and standards of its provision; and by reviewing academic standards and the quality of teaching and learning in each subject area.

The Quality Assurance Agency

The Agency's mission is to promote public confidence that quality of provision and standards of awards in higher education are being safeguarded and enhanced. It will do this by:

- working with higher education institutions to promote and support continuous improvement in the quality and standards of provision;
- providing clear and accurate information to students, employers and others about the quality and standards of higher education provision;
- working with higher education institutions to develop and manage the qualifications framework;
- advising on the grant of degree awarding powers and university title;
- facilitating the development of benchmark information to guide subject standards;
- promulgating codes of practice and examples of good practice;

- operating programmes of review of performance at institutional and programme levels.

3.31 The Dearing report[47] indicated a need for a radical change in attitudes towards teaching and proposes the establishment of a professional Institute for Learning and Teaching in Higher Education. The Institute for Learning and Teaching in Higher Education (ILTHE) was launched in 1999 and is the professional body for all who teach and support learning in higher education in the UK. It exists to enhance the status of teaching, improve the experience of learning and support innovation. It also develops and maintains professional standards of practice. It is becoming the main source of professional recognition for all staff engaged in teaching and the support of learning. The ILTHE also hosts the generic centre of the Learning and Teaching Support Network (LTSN) which aims to promote high quality learning and teaching through the development and transfer of good practices in all subject disciplines.

3.32 The report[47] also argued the case for a national framework for higher education qualifications to provide a structure that is standardised across the UK. This framework should:

- cater for a wide range of aspirations and achievement
- have recognised standards
- enable students to progress through higher levels, as well as move between programmes as appropriate
- enable attainment to be recognised, providing it can be reliably assessed
- articulate with other areas of tertiary education
- encompass vocational and academic qualifications
- have standing here and abroad

The main elements of the framework should be:

- standardised nomenclature for awards
- agreed and common credit points at relevant levels
- the inclusion of additional and recognised stopping off points

The framework adopted by the Quality Assurance Agency has five levels, three of which are undergraduate and two are postgraduate:

Table 2 - Framework for Higher Education Qualifications (FHEQ)

1	Certificate	**C** level	Certificates of Higher Education
2	Intermediate	**I** level	Foundation degrees, ordinary (Bachelors) degrees, Diplomas of Higher Education and other higher diplomas
3	Honours	**H** level	Bachelors degrees with Honours, Graduate Certificates and Graduate Diplomas
4	Masters	**M** level	Masters degrees, Postgraduate Certificates and Postgraduate Diplomas
5	Doctoral	**D** level	Doctorates

The level descriptors for this Qualifications Framework for Higher Education are in Appendix 5.

3.33 It is widely acknowledged that higher education institutions have a dual responsibility, which encompasses research as well as teaching. The Dearing report[47] recognised the tension that therefore exists between teaching and research in the University sector:

"If the future of the UK depends on the quality, effectiveness and relevance of its provision for education and training, it should be a national objective for its teaching and management of learning to be world class….. But its realisation does depend on a change in the values of higher education, where research is currently the main basis for professional reward and advancement."

The tension described by the Dearing Committee is still to be resolved and a number of recent documents[12 53] continue the debate.

CHAPTER 4 – KNOWLEDGE, ATTITUDES AND SKILLS MAP FOR PHARMACY

"Productivity and social cohesion are key twin challenges facing the UK in ensuring our nation's economic success in the 21st century. At the heart of both of these challenges lies skills – for the competitiveness of our businesses and the employability of our people"[54].

Background

"…competence describes knowledge and skills. Performance describes what a doctor does within actual practice. In these terms a doctor can be competent but not necessarily – or always – perform well, but a doctor who is incompetent can never perform well." [55]

4.1 One issue that the group identified as being key to delivering the education and learning R&D agenda was the definition of a knowledge, attitudes (and values) and skills map for pharmacy. This map should set out and define the set(s) of knowledge, attitudes (and values) and skills needed to achieve specific competencies required by the pharmacy workforce. The knowledge, attitudes and skills map should also reflect the different levels of autonomy enjoyed by those working within pharmacy.

Definition of such a map will:

- Allow identification of minimum levels of competency to inform aspects of professional regulation including registration and re-validation (must know)
- Allow definition of higher level and specialist practice (could know/nice to know)
- Support and inform future curriculum design
- Inform implementation of the skills escalator approach to career development
- Support development of appropriate teaching and assessment methods
- Inform closer integration of education and learning across pharmacy
- Inform development and implementation of inter-professional learning

This map will clearly need to take into account the NHS policy (Agenda for Change, National Occupational Standards etc.) but will need to encompass the individual attributes of a professional and reflect the relationship of trust with the patient. It must include attitudes, values and must support the

development of self-awareness, conscience and integrity as these are essential aspects of professional and self-regulation.

Skills development – a labour market perspective

4.2 It is clear from the wider consideration of education and health policy that the pharmacy workforce is, like the rest of the workforce, increasingly expected to develop and deploy higher level skills across all staff groups than ever before[54]. Whether at professional, technical or support worker levels all staff are facing increasing clinical and technical skill requirements in order to meet the expectations of patients and the public. Changes in technology, service delivery and organisation and labour markets and the changing demographic profile of the population are all increasing demands on the workforce.

Furthermore provision of holistic and integrated high quality services that place patients at the centre of health care delivery require increased levels of team and partnership working (within pharmacy and between pharmacy and other staff groups). This requires the development of management and communication skills and focuses attention on personal attributes such as leadership and initiative. Employers are looking for staff that are flexible, adaptable and able to cope with uncertainty and change. The public increasingly expects that professional practice will be accountable and reflective. To meet these expectations will require development of personal attributes and skills including commitment to personal development and lifelong learning.

Development of generic and vocational skills and personal attributes is now the norm rather than the exception across the range of employers and employment sectors spanned by the pharmacy workforce. Whether employed by (or in contract with) the NHS, a small/medium enterprise or a large corporate employer pharmacy staff will be required to develop and use a range of clinical, technical and managerial skills in whatever role they perform and whatever range of tasks they undertake throughout their careers.

Skills: Definitions and Conceptual Issues

4.3 It is clearly beyond the scope of this report to set out how such a map might be developed – this would be for the Society and it's Council to determine and agree. However, from the perspective of the emerging education R&D agenda, it will be important to ensure that the definition of skills used is appropriately constructed. This should encompass the broad range of types (and levels) of skills, and the underpinning knowledge and understanding, that make up the jobs across the complex range of functions performed by the pharmacy workforce.

The following paragraphs provide background information and definitions that might be helpful in constructing the map, which provide a helpful frame of reference for the future work. It is now widely accepted that skills can not be performed without a good level of underpinning knowledge and understanding.

Defining the place of a job or a person within a skills framework requires the definition of two dimensions of work namely the complexity of the tasks and the discretion required to operate safely and effectively.

Complexity: varies according to the techniques, dexterity, simplicity or complexity of the procedures and the range of tasks involved. It also depends on the knowledge needed about the workings and capabilities of equipment, the product, processes and how different stages fit together.

Discretion: refers to the element of choice and potential to exercise judgement. All jobs operate within "prescribed" sets of rules, regulation custom and practice, which limit discretion in varying degrees. All jobs consist of a mix of choice/judgement and prescription and the degree of skill depends on the balance – the greater the choice/judgement required to carry out a particular function, the higher the skill is ranked in the overall skill hierarchy.

From: Skills Task Force Research Paper[56]

4.4 A further dimension of skill which is relevant and should be considered when placing a job in a skills framework is the extent to which performance involves thinking, reasoning and the use of knowledge or relies instead upon hand/eye co-ordination and physical attributes i.e. cognitive versus manual skills. It is however increasingly recognised that most jobs and this is probably true of pharmacy, require a combination of both these skill sets. Perhaps a more useful set of definitions which distinguishes more precisely jobs within a pharmacy framework utilises three skill dimensions: generic, vocational and personal attributes (and values) with the relative positioning of jobs within the framework being determined by the degrees of autonomy enjoyed by the job holder.

Generic skills: are those skills that can be used across a wide range of different occupations – communication, problem solving, team working and ability to improve personal learning and performance. These are reflected in the Core Skills set identified in the NHS Plan. They also include reasoning skills, scheduling work and diagnosing work problems, work process management skills, visualising output, working backwards for planning purposes and sequencing operations. Demand for these skills is fuelled by increased emphasis on satisfying customers and the growing complexity and autonomy of many jobs.

Vocational skills: are occupational or technical skills needed to work within an occupation or occupational group. Some vocational skills are transferable across some occupations. A common trend is for people to have a primary occupational skill, such as pharmacy, which is enhanced through the development of dual or multi-skilling in another related occupational area, such as prescribing – this lies at the heart of the NHS HR policy on flexible careers.

Personal attributes: are more difficult to define and many have argued are not skills at all. They relate to the characteristics that most employers say they are looking for when recruiting. They are frequently defined in terms of motivation, judgement, leadership and initiative. Some can be taught while others are more immutable although not to the extent that they cannot be improved through some form of learning. Personal attributes encapsulate the desire of employers for employees who are flexible, adaptable, and able to cope with uncertainty and change.

From: Skills Task Force Research Paper[56]

Education Learning and Skills Development

4.5 It is important that skills are developed in a balanced manner. To have an effective workforce pharmacy needs individuals who are adaptable and able to apply and build on their skills in a range of contexts to meet the changing needs of the labour market. Whilst the basic skills development takes place in general education and therefore lays outside the scope of this report the principles of balance can be applied to professional and technical development and are therefore relevant here.

4.6 Skills can be acquired through a number of different ways or routes, with different approaches e.g. full time education, work-based training and self-directed learning all playing their parts for different staff groups and within staff groups at different stages in their development. Within healthcare the need for supervised clinical practice as part of formal and work-based learning is recognised and reflected in the growing requirements for clinical placements as an integral part of formal education[57] [58].

Furthermore there is a growing recognition that the period of training post formal qualification in professional education is crucial[59] [60], this has to include formal training and mentoring as well as workplace experience. Similarly

clinical specialisation and development of higher level practice requires a balanced and co-ordinated approach to the delivery of training.

The STEP scheme[61]

The Structured Training and Experience for Pharmacists (STEP) scheme is one of two rotational programmes designed for hospital pharmacists which are highlighted in the Department of Health document Improving working lives for the pharmacy team[62]. The report puts forward examples of best practice and aims to create a well-motivated and highly qualified pharmacy team. The STEP programme based in the South East of London is linked to offering recruits the opportunity to study postgraduate qualifications to enhance their climb up the career ladder. The pay back for the trusts is that they have been able to use the scheme to create the pharmacists they need to fill vacancies at a time when recruitment has never been more difficult.

The programme is open not only to newly qualified pharmacists but also to those who have more experience. Pharmacists who have been in practice for a while are slotted into the STEP programme at the most appropriate level, either joining at year two or three. STEP pharmacists are employed from the outset for the three-year programme by one of four participating hospital trusts. When they move on to their placements in the second and third year, an honorary contract is taken out with the placement trust. The first year is spent with the employing trust completing a foundation rotation. This includes preparative services, patient services and medicines information, as well as a daily ward round. STEP pharmacists will also spend time studying for a Certificate in Pharmacy Practice.

All STEP pharmacists have to meet a range of clinical competencies to ensure that they all reach the same standards at each of the four trusts. The next six months are spent on a clinical elective at the same trust and the pharmacists could find themselves attached to a clinical team in general medicine, cardiology or diabetes. This first elective is patient-centred and has a strong clinical input. The following 18 months of the programme are devoted to three different six-month placements. This can be taken at any of the four main employing trusts, at another two district general hospitals within the area, two mental health trusts or one of the PCTs. The pharmacists have some element of choice in their placement and there is potential for flexibility over length of stay

The STEP programme

- Three-year programme open to both junior and more experienced pharmacists
- Offers career development across 15 different trusts, including six PCTs and two mental health trusts
- Pharmacist is employed by one of four trusts for three years regardless of where elective placements are based
- First year foundation rotation in standard hospital pharmacy at employing trust
- Six-month clinical and patient-centred elective at employing trust
- Three six-month placements at any trust within the district
- Placements fill pharmacy vacancies where appropriate

- Pharmacists complete Certificate in Pharmacy Practice
- Budget to cover cost of employing STEP programme director met by local workforce development confederation

4.7 How the various development routes are combined and integrated to produce a workforce with the appropriate range of skill sets at appropriate levels within the map requires an integrated approach to education and learning within the sector. As the Group observed, this is not the case currently in pharmacy where training even for pharmacists is fragmented and uncoordinated nationally as part of the overall regulatory framework, however there are examples where organisations are trying out innovative and development frameworks.

There are a number of competency frameworks available for pharmacists working in specific areas. One example is the College of Pharmacy Practice's (CPP) competency framework for members and associates of the Faculty of Prescribing and Medicines Management and General Paediatric Competencies for the Faculty of Neonatal and Paediatric Pharmacy, in addition to its Practice Portfolio (see below). The National Prescribing Centre has competencies for those working in Primary Care and for Supplementary Prescribers. The Royal Pharmaceutical Society of Great Britain is currently developing a framework of competencies required by the future pharmacy workforce[63].

College of Pharmacy Practice Portfolio

The Continuing Professional Development Portfolio is a tool provided by the College of Pharmacy Practice to improve and plan professional development. The Portfolio encourages pharmacists to consider and identify their present level of practice and demonstrates how to recognise change and to plan for the future. Using the Portfolio will develop the concept of lifelong learning and, more importantly, of using that learning for continuous professional development. Scientific and technological changes will be recorded as they take place. It will show changes in the profession of pharmacy, methods of working and in health care provision.

The portfolio enables pharmacists to:

- identify their skills and knowledge;
- gain the maximum benefit from their formal training and education;
- recognise and value workplace training;
- record and plan their professional development;
- express professional aspirations;
- develop analytical and evaluative practice skills;
- prepare for College Membership by Practice.

4.8 One example of an integrated training scheme for pharmacy is the Scottish Vocational Training Scheme, which supports pharmacists by offering a planned practice experience programme in parallel with formal academic training. The scheme is intended to ensure that the skills required by the health service staff to deliver services to patients are available in sufficient

quantities. The scheme has been implemented initially in secondary care and plans for implementation within primary care are now being taken forward. There are four stages to the Scottish Vocational Training Scheme and each stage has an evaluation point that is externally assessed. Following collaboration between the Association of Scottish Chief Pharmacists and the College of Pharmacy Practice, the stages of the vocational scheme are linked to various levels of College membership.

Stage 1: This is the pre-registration year.

Stage 2: This stage is targeted at pharmacists joining the service and aims to provide the competencies, skills and experience necessary to undertake basic duties. Successful completion of stage 2 entitles a pharmacist to attain Membership of the College.

Stage 3: This stage aims to train specialist pharmacists, either in clinical work or in other specialities such as quality assurance or aseptic services. Successful completion if this stage entitles a pharmacist to attain Advanced Membership of the College.

Stage 4: This stage recognises achievement within the profession in leading and developing the individual pharmacist, their colleagues and chosen practice area.

Skills and Competence in Pharmacy

4.8 The development of an integrated knowledge, attitudes and skills map covering the entire pharmacy workforce was identified as a priority area to support an R&D agenda. Without such a map any attempts to develop educational outcomes with which to evaluate teaching, learning and assessment methods or to test the efficacy and effectiveness of governance approaches will prove difficult.

There will be a very real danger that the emerging R&D agenda will be fragmented and perhaps contradictory if not co-ordinated and set against a fully integrated knowledge, attitudes and skills map that covers all staff groups and specialisations within the pharmacy workforce. Beyond the current R&D agenda setting exercise the need for such a knowledge, attitudes and skills map will be pivotal in the wider human resources context to support the "skills escalator" approach (see Chapter 6) to career and workforce development and the implementation of lifelong learning, CPD and revalidation.

Current debates within the profession about support worker regulation and skill-mix would be more satisfactorily conducted and the issues resolved more readily if set alongside a clear and agreed knowledge, attitudes and skills map that spans the pharmacy workforce. Such a map would also assist the profession in thinking about the evolving hybrid roles emerging in for example medicines management and how these emerging roles might be regulated in the future.

Recommendation 1

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.

CHAPTER 5 – LIFELONG LEARNING

Lifelong learning is -

"the continuous development of the skills, knowledge and understanding that are essential for employability and fulfilment"[43].

"primarily about growth and opportunity, about making sure staff are supported to acquire new skills and realise their potential to help change things for the better"[39].

Policy Background

Lifelong Learning – a broad policy context

5.1 At the core of the concept of lifelong learning is a belief in the value of learning at all stages of life, in many different situations and using a wide spectrum of learning 'events' to meet a variety of internally and externally motivated needs. Published in 1998 the White Paper, 'The Learning Age'[43] emphasised the importance of learning for its own sake and for its contribution to active citizenship within local and wider communities, as well as recognising it as a foundation for developing a *"well-educated, well-equipped and adaptable labour force*". Lifelong learning is thus seen as being central to a new culture of learning and aspiration which will underpin national competitiveness and personal prosperity, encourage creativity and innovation and help build a more cohesive society.

The concept of lifelong learning is thus a common theme across government policy that has been developed specifically to support modernisation of the NHS[34].

5.2 'Lifelong learning' is a contested term that is often used in an imprecise way. It can be used to mean all learning that takes place from cradle to grave and includes both formal and informal learning. Conversely it is used to mean all learning except one or a combination of the following: schooling, higher education, youth work or workplace training.

The National Institute for Adult Continuing Education (NIACE) suggests that lifelong learning:

- recognises that learning happens in a variety of formal and informal settings.
- takes account of both intentional and incidental learning experiences.
- requires an education system which connects the different levels of provision together into a coherent whole.
- requires flexible progression routes through both the different levels of provision (primary, secondary, further, higher, etc) and across the formal and informal settings, including workplace led learning.

- has accreditation and certification mechanisms which take into account all settings and the transition to employment.
- is relevant to all groups of people, including those previously excluded from taking up learning opportunities due to social, economic, geographical or political restraints.
- requires motivation of individuals to learn and the capacity to do so which means that all sections of society need learning opportunities that are relevant to cultural and community contexts.
- requires education providers to offer learning opportunities which address issues of timing, access, environment and teaching methods appropriate to the needs of different groups and individuals.

In this report we have adopted this broad definition to inform our discussions.

5.3 In the context of NHS policy lifelong learning aims to develop and equip staff with the skills they need to:

- support changes and improvements in patient care
- take advantage of wider career opportunities
- realise their potential

In the framework set out in 'Working together Learning together'[39] lifelong learning is seen as being fundamental to the delivery of the NHS Plan as *"lifelong learning is inextricably linked with the wider agenda for building, rewarding and supporting the NHS workforce in the future".* More recently it has been incorporated as a major theme running through the NHS human resources policy[34], indeed the second pillar of that policy - *Providing a Model Career* - is based around lifelong learning and development and the provision of opportunities for advancement and progression. Provision and access to learning opportunities is a pivotal feature of the 'skills escalator' approach to career development, which will be discussed in the next chapter concerning Access, Flexibility and Transferability.

5.4 The Core Values of the NHS are summarised in Chapter 3 of this report and set the framework for the development of the following set of core knowledge and skills, which lie at the heart of lifelong learning in the NHS.

Core Knowledge and Skills[39]

All staff should:

- Fully understand and respect the rights and feelings of patients and their families, seeking out and addressing their needs.
- Communicate effectively with patients, their families and carers and with colleagues.
- Value information about, and for, patients, as a privileged resource, sharing and using this appropriately, according to the discretion and consent allowed by the patient and by means of the most effective technology.
- Understand and demonstrate how the NHS, and their local organisation, works.
- Work effectively in teams, appreciating the roles of other staff and agencies involved in the care of patients.
- Demonstrate a commitment to keeping their skills and competence up to date – including the use of new approaches to learning and using information; and supporting the learning and development of others.
- Recognise and demonstrate their responsibilities for maintaining health and safety for patients and colleagues in all care settings.

5.5 Figure 2 sets out the key steps in supporting the lifelong learning needed to deliver wider organisational core skills and values in the NHS.

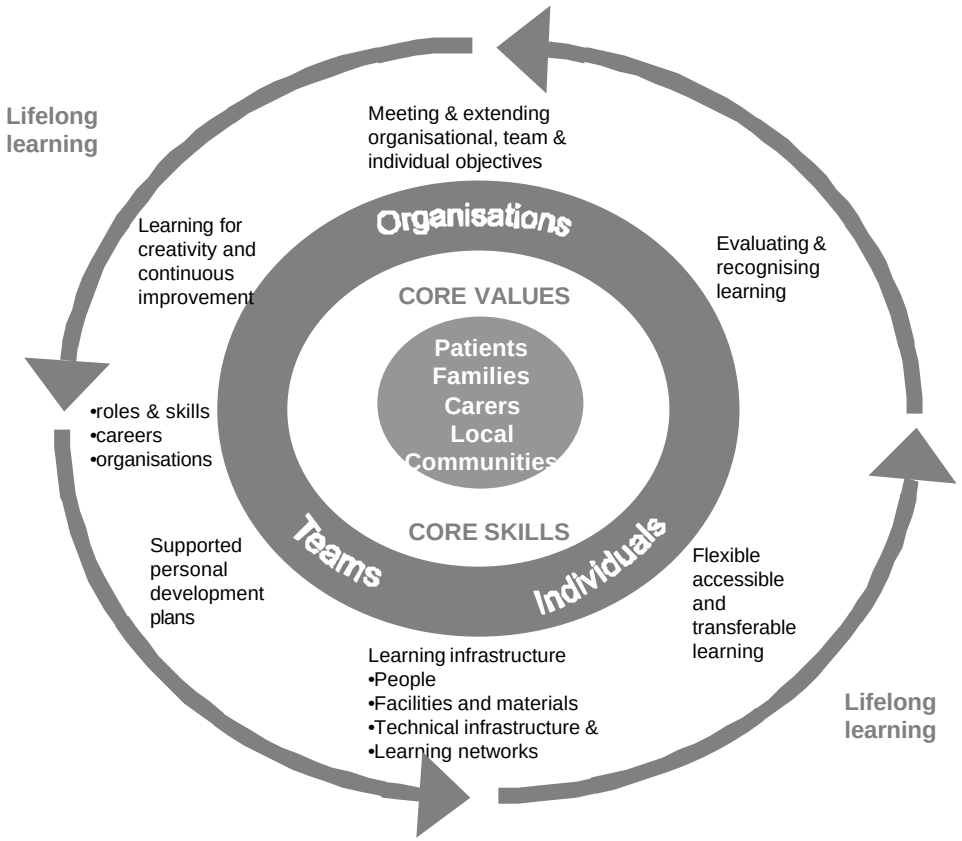

Fig. 2 - Lifelong Learning in the NHS[39]

5.6 Learning and development for health care staff includes basic induction, adult literacy and numeracy skills, vocational training (including pre and post registration, continuing personal and professional development) and management and leadership development. All education, training and development approaches are considered including private study, workplace learning, e-learning and formal academic courses.

Principles of lifelong learning in the NHS[39]:

NHS staff are entitled to work in an environment which equips them with the skills to perform their current jobs to the best of their ability, developing their roles and career potential, working individually and in teams in more creative and fulfilling ways;

Access to education, training and development should be as open and flexible as possible – with no discrimination in terms of age, gender, ethnicity, availability to part-time/full-time staff, geographical location;

Learning should be valued, recognised, recorded and accredited wherever possible;

Wherever practical, learning should be shared by different staff groups and professions;

Planning and evaluation of lifelong learning should be central to organisational development and service improvement, backed up by robust information about skills gaps and needs;

The infrastructure to support learning should be as close to the individual's workplace as possible, drawing on new educational and communications technology and designed to be accessible in terms of time and location.

5.7 To be effective, lifelong learning requires a strong relationship between individuals and their immediate world of work which is built on shared values and goals. Successful implementation thus depends on appropriate induction, appraisal systems, personal development plans (PDPs), and a learning culture that will support development of this relationship. It is therefore acknowledged that, in order to deliver lifelong learning, all NHS organisations (including those contracted to the NHS) need to develop and foster a learning culture.

To be an effective learning organisation it was recognised that the NHS needed to build an infrastructure that is designed to support lifelong learning[64]. The way in which NHS organisations lead, manage, invest in, evaluate and provide access to education and training is crucial to successful and sustainable developments in this area. Both the Improving Working Lives Standard and the Investors in People initiatives require evidence of provision for organisational, team and individual lifelong learning opportunities.

5.8 The characteristics of an effective learning organisation include: a coherent well resourced learning strategy; a system of appraisal and personal development planning for all staff; demonstration of strong links between education, training and development; career progression and reward for all staff and regular evaluation and monitoring of learning activity. In order to deliver this, NHS organisations will need to work closely through Workforce Development Confederations (WDCs) (the Human Resources Division in Wales and NES in Scotland) and strategic health authorities, with higher

education and further education providers, Learning Skills Councils (Education and Learning Wales, ELWa, Scottish Further Education Funding Council, SFEFC) and a new body the NHS University (NHSU).

5.9 To support development of learning organisations in the NHS the government is establishing a 'university for the NHS' – NHSU which will make learning a right for everyone who works in and for the NHS. It will help to secure radical improvements to healthcare in this country by delivering learning for everyone. It will play a lead role in implementing policies for lifelong learning, the operation of a skills escalator and the development of improvement science in healthcare delivery. The NHSU is guided by a number of principles[65]:

- access
- relevance
- choice
- support for learners and for learning
- equity
- multi-professional working
- partnership
- quality

NHSU will provide learning opportunities for everyone working in and with the NHS, from those without any qualifications at all to those who already have postgraduate degrees and professional qualifications. The NHSU will act as a provider, broker and commissioner of learning services and the types of programmes on offer will range from small units through to university level diplomas and degrees.

Competence and fitness to practise: continuing professional development, appraisal and revalidation

"continued competence rests on a combination of education, continuous development, confidence and experience"[19]

5.10 Following publication of the 'Learning from Bristol' report[19] lifelong learning in general and continuing professional development (CPD) in particular are recognised as providing mechanisms for helping to prevent the emergence of poor professional practice. Linked with processes of appraisal and revalidation, CPD is part of the emerging frameworks for identifying and dealing with poorly performing healthcare professionals and thus lies at the core of the NHS and the Regulatory Bodies' responses to the 'Learning from Bristol' report[19].

In this particular context CPD:

- is a collaboration between the individual, education institutions, employers and those who set and enforce standards of professional competence and
- refers to activities undertaken by a qualified and trained professional to maintain their skills during the course of a working life.

This is separate from, and different to, developing competence at higher level professional and specialist practice where education and training is about

developing new skills, knowledge and expertise[66]. Coherent and co-ordinated post-registration training linked explicitly to defined (minimum) competencies is being developed in medicine as part of wider HR policy in the NHS[59 60 67] and alongside development, by the General Medical Council (GMC), of the undergraduate/preregistration training and registration requirements[68].

5.11 It is widely recognised that a commitment to CPD cannot on its own guarantee continued professional competence. Without regular appraisal neither the NHS nor other employers have a means of monitoring an individual's professional performance and assisting with professional development in a systematic way.

The need for formal appraisals emerged initially in 1998 as part of the introduction across the NHS of clinical governance[29] and was developed further in 1999 as part of the early proposals for preventing, identifying and dealing with poor performance amongst doctors[69]. In this context the aims of appraisal are:

- to set out personal and professional development needs, career paths and goals
- to agree plans for them to be met, review the doctor's performance regularly
- to consider the doctor's contribution to the quality and improvement of local healthcare services
- to optimise the use of skills and resources in achieving the delivery of high quality care
- to offer an opportunity for doctors to discuss and seek support for their participation in activities
- to identify the need for adequate resources to enable service objectives to be met.

5.12 More latterly, and following recommendations made in the 'Learning from Bristol' report[19], many health professions are considering arrangements for revalidation as a mechanism for ensuring that competence is demonstrated throughout a health professional's career.

Revalidation is concerned with ensuring that the appropriate levels of skill necessary for continued competence have been and are maintained. In general terms, it is a mechanism whereby healthcare professionals are required regularly to demonstrate that they remain fit to practise. It involves submission of evidence to external assessors of continued competence.

In the case of the system proposed for doctors, it is linked to registration, in that if they cannot demonstrate evidence of continued competence, their registration and thus their right to practise as doctors may be called into question and ultimately may be withdrawn[70]. Other healthcare regulatory bodies such as the General Dental Council (GDC)[71] and the Health Professions Council (HPC)[72] are considering similar approaches.

Relevance to Pharmacy

Maintaining existing competence

5.13 The RPSGB has, as part of its Code of Ethics[16], always expected pharmacists to keep up to date with changes in pharmacy practice, the law relating to pharmacy and the knowledge and technology applicable to pharmacy, and to maintain competence and effectiveness as a practitioner. It recommends that pharmacists fulfil this responsibility by adopting the concept of continuing professional development (CPD) including regular participation in continuing education (CE) and other activities, e.g., professional audit. The Code of Ethics also requires pharmacists to ensure that when tasks are delegated staff are appropriately trained.

In 2002 a voluntary continuing professional development (CPD) scheme, based on the Society's CPD pilot which took place in 2001/2 was introduced. The intention is, however, to move to a mandatory system when the appropriate legislation is in place. The current voluntary scheme involves pharmacists maintaining a CPD portfolio[17] which demonstrates that they have completed the CPD cycle (needs assessment, planning, implementation and evaluation) according to the activities and responsibilities of their particular jobs. These CPD portfolios can then be requested by the Society for evaluation and may in the future form an integral part of a revalidation process in pharmacy

5.14 Within the NHS, many pharmacy technicians are now recording their CPD to meet NHS requirements. The Association of Pharmacy Technicians UK (APTUK) current code of practice[73] also recommends that all members of the Association keep their knowledge and skills up to date. This is not mandatory or linked to regulation/revalidation but this is likely to change as the systems to support this are implemented.

Developing new skills and competencies

5.15 Recent government documents and strategies[4 8 10] define new and emerging areas of practice for pharmacists that reflect the growing recognition of pharmacists as clinical professionals who will take increased responsibility for patients and their care. Many of the developments set out in these documents will require the development of existing competencies and the acquisition of new skills. This not only intensifies the requirement to maintain up to date knowledge but also raises the question of how new skills will be acquired and new competencies developed and maintained. This presents challenges for employers at national, regional and local level through Workforce Development Confederations (WDCs) and Primary Care Organisations (PCOs) to structure support for education and training. It is also exercising challenges for higher education institutions that fulfil learning needs for an increasingly mobile and dispersed pharmacy and pharmacy technician workforce.

5.16 The growing recognition of pharmacists as clinical professionals with expertise in medicines and medicines management is generating new roles and opportunities for pharmacists in hospitals and primary care. Pharmacists are playing a prominent role in adapting to new NHS structures in securing education and training opportunities funded by WDCs and PCOs as well as

using traditional higher education institutions and other education providers. The RPSGB role in implementing mandatory CPD will be important to fostering development of a learning culture as a means to maintain professional competence. In addition to responsibility for CPD the question of curriculum review at pre and post registration level is raised to ensure that pharmacy practice roles are sufficiently supported. For specialist practice, education and training standards also need to be addressed.

5.17 The College of Pharmacy Practice (CPP) has begun to establish Faculties of pharmacists specialising in specific areas, the purpose of which are to develop competency frameworks for these specialist areas of practice. The Faculties will then require members to demonstrate their existing competency or provide educational opportunities and support for Faculty members to acquire the necessary competency. In order to retain Faculty membership, members will have to demonstrate continued competency to practice in the specialist area. Currently two Faculties exist: Prescribing and Medicines Management and Paediatric and Neonatal Pharmacy.

Supplementary Prescribing

One example of pharmacists needing to develop new knowledge and skills is supplementary prescribing. Supplementary Prescribing is a voluntary prescribing partnership between an independent prescriber and a supplementary prescriber, to implement an agreed patient-specific clinical management plan with the patient's agreement.

Supplementary prescribing education has just been introduced for registered pharmacists based on an indicative curriculum developed by the RPSGB[74]. This indicative curriculum describes what pharmacists should be able to do as a supplementary prescriber and lists the underpinning knowledge and skills. The supplementary prescribing training programme involves 25 days or equivalent, with a substantial proportion of face-to-face contact time over a period of three to six months and is accredited by the RPSGB. In addition to the training programme pharmacists will also have to undertake 12 or more 'learning in practice' days to further develop the appropriate levels of competence.

There are issues relating to the long term education for supplementary prescribing such as is it appropriate for newly qualified pharmacists or pharmacy students to be taught prescribing skills in addition to their basic clinical skills, or is it a skill that needs a minimum level of practice experience.

5.18 Recognition of a skill base that supports pharmacists adopting wider clinical roles[75], evidenced by the growth of practice pharmacists in primary care, is likely to see an increase in demand for pharmacists performing an advisory, mentoring and tutor role within pharmacy as well as with other health professionals responsible for aspects of medicines management. Preparation and clarity about the nature of inter-professional working roles will help maximise the benefits of pharmacist knowledge and skills within health care teams. Universities and education providers may be developing post-qualification awards for technicians that meet their own needs rather than those of technicians or services in some instances.

Issues considered by the Group

Lifelong Learning in Pharmacy

"Learning to learn must be done in a real context: the best way to acquire strategies of learning is in the process of learning. But if what is learned is to be transferred to other contexts, then it must be taught in such a way as to encourage transfer"[76].

"Factual information must be kept to the essential minimum that students need at this stage of medical education"[68].

5.19 It was recognised that embedding a learning culture and environment in pharmacy across all employment settings not just the NHS will require the development of 'learning to learn' skills for both pharmacists and pharmacy technicians. In order to deliver the emerging areas of practice, to develop the new competencies to the required level, and to meet the expectations and requirements of professional self regulation, the development of such skills amongst the pharmacy workforce, was seen as crucial to the future of the profession.

5.20 It was acknowledged that until relatively recently the emphasis of foundation education in pharmacy (for pharmacy technicians and pharmacists) had been placed on acquiring knowledge and technical skill – reflecting the needs of routine practice. Development of clinical skills and competencies had been restricted to post registration/specialist training. It was recognised however, that in order to reflect the recent policy driven agenda to develop core practice as a clinically rather than a technically based activity, this was no longer sustainable.

Whilst the revised curriculum[11] went some way towards addressing this, more progress would be needed in the future. A fundamental review of the curriculum, similar in scope to 'Tomorrow's Doctors'[68] undertaken by the General Medical Council (GMC) in 1993 (and revised in 2002), would be needed in order to accommodate the major shift in culture now required and to embed the necessary underpinning values and attitudes towards lifelong learning. It was, however, recognised that any changes to the undergraduate curriculum and infrastructure would need to be accompanied by changes in the nature and provision of pre- and post-registration education and training – with education providers, in partnership with the employers, playing a much more structured part in this.

5.21 Under the current arrangements for funding, organising and delivering pharmacists' basic education, it was recognised that only limited progress may be possible. Particular barriers were seen to be the limited access to clinical placements, reliance on teacher-practitioners (these are professional pharmacists who for part of their working week provide professional teaching, information and advice to students from a workplace perspective) particularly for practice teaching and involvement of senior practitioners in the provision of undergraduate teaching. It was recognised that a number of schools of pharmacy were developing inter-disciplinary and clinical programmes and experimenting with new ways of integrating science and practice teaching. These innovations could usefully be evaluated in the context of developing 'learning to learn' skills and a learning culture, with a view to informing a

review of the curriculum and the organisation and delivery of undergraduate pharmacy programmes.

Clinical Pharmacy Practice at the University of Manchester[77]

The new clinical pharmacy practice course at the University of Manchester is aligned more closely to the medical and nursing models where practice-based teaching during the undergraduate course operates in parallel to lectures in pathology and therapeutics. To deliver the course, three clinical tutors were appointed. Each tutor has a joint appointment with one of the three teaching trusts and the University of Manchester. The roles of the tutor differ from those of traditional hospital teacher practitioners for the following reasons:

- all teaching is provided at the hospital and not the university
- the tutors work as a team with the academic module leader to plan, develop and deliver the course
- the use of this model has enabled the university to provide tailored training for the teachers in teaching and assessment methods to ensure the standards and quality assurance are maintained and the same level of teaching is delivered in each hospital

The clinical pharmacy practice course has been integrated into both the third and fourth years of the undergraduate degree course, and is a formerly assessed component of the disease management modules of the MPharm degree. The course is compulsory for all students, irrespective of their future career choice and selection of modules in their final year. It covers core therapeutic areas and complements university-based didactic teaching.

The overall aim of the course is to provide students with practical experience in the basic principles of common disease processes and rational drug therapy and to develop students' communication skills further. Additional aims for the early part of the course are to promote an understanding of the role of pharmacists in secondary care and to provide an environment in which students are able to consider the variety of careers available in hospital pharmacy.

5.22 While it was felt that undertaking a review of pharmacy education and training went beyond the remit of the Group, it was agreed that any research commissioned should inform such a review and that a key first step would be to undertake work to establish the knowledge, attitudes and skills (KAS) map for pharmacy – see recommendation 1 Chapter 4. This would enable informed review of the content and timing of education and training in pharmacy.

Recommendation 2

The need to map existing pharmacy education and training onto the knowledge, attitudes and skills (KAS) map (Recommendation 1) should be considered, as such an exercise could usefully identify gaps and suggest how these could be addressed.

Continuing Professional Development

5.23 The Society's CPD pilots demonstrated that undertaking and recording CPD was feasible and acceptable to the pharmacists who volunteered to participate[78] and ongoing evaluation of the voluntary scheme will develop understanding in this respect. However, the impact of CPD on professional practice and patient care could also usefully be explored. Further work to explore attitudes towards and preferences for undertaking CPD amongst particular cohorts of pharmacists (sampled on the basis of age, areas and extent of practice etc.) would inform implementation of mandatory CPD.

As development of proposals for the registration of members of the wider pharmacy team progress, the need to understand attitudes towards and potential uptake of CPD amongst the wider team will be needed. The likely impact of mandatory CPD on the size and composition of the wider pharmacy team would be useful in informing development and implementation of this policy.

There is an assumption that CPD is a good thing and that it can be implemented across the profession. There is a need for evidence to demonstrate the benefit of CPD and range of CPD methods and opportunities that correlate with efficacious performance. The group felt that research was needed to assess the impact of CPD on performance and on patient care which gave rise to questions about how you can effectively monitor and assess CPD. It is clear that fitness to practice in pharmacy will continue to develop and that revalidation and all it entails will need to be addressed in the future.

Recommendation 3

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

5.23 The Group recognised that there are important issues relating to the governance of CPD which need further exploration. The Quality Assurance Agency (QAA) provides an integrated quality assurance service and operating framework for UK higher education. Governance arrangements for pharmacy education provided by higher education institutions operate within the QAA's framework. The Department of Health has further contracted the QAA to develop the framework to incorporate the practice setting[58]. Governance issues therefore intimately connect issues of academic standards with the quality of learning opportunities. It will be incumbent on existing education and training providers offering CPD support to demonstrate that effective quality assurance framework and processes are in place and being implemented. Evidence of educational governance may provide an accreditation role for RPSGB and/or higher education institutions and is an issue that needs to be resolved soon. Another approach or transitional arrangement that may be considered is the production of standards adapted from those governing higher education health profession programmes (see Handbook for Academic Review of Health Profession Programmes[79]) that could be used to inform provider and programme specification. Where education and training programmes offer the dual role of individual CPD and pharmacy practice skills, health service employers will need assurance that

programmes are of a high standard. In Scotland there are Staff Governance Standards which introduce the third component of governance combining with financial and clinical governance to complete the governance framework within which NHS Boards and Special Health Boards are required to operate. Each Board is expected to ensure that staff are appropriately trained for their roles[80].

Recommendation 4

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

Revalidation

5.24 It was recognised that ultimately the Society would need to consider whether and how to implement revalidation. Mandatory CPD offered a useful platform on which to build but would not in itself satisfy the growing need to demonstrate competence and continued fitness to practise. The research agenda therefore needs to begin to explore how this might be done in pharmacy. This would be of particular importance to the Society as the regulatory body.

While CPD was seen as an important activity, it was felt that thought was needed to understand how CPD and other revalidation processes worked together. As CPD is about individuals identifying and addressing their learning and development needs rather than attaining a universal standard, it cannot be used in its own right as a measure of 'fitness to practise' or as evidence for continued registration. Other mechanisms for ensuring continued professional competence, such as appraisal and external assessment, need to be considered. An important first step would be to set minimum standards of competence against which re-validation would be considered – development of the knowledge, attitudes and skills (KAS) map will be an important first step in this process (Recommendation 1).

5.25 Where the NHS employs pharmacists and pharmacy support staff, the appraisal process and Personal Development Plans will provide valuable information and could provide a structure for revalidation. The extent to which pharmacists employed in community pharmacy or working as independent contractors have access to an appraisal process and the applicability of those appraisals for collecting information to inform revalidation could usefully be explored.

Recommendation 5

Research to develop efficient, effective and appropriate mechanisms for collecting and assessing evidence of competence (at all levels of practice) should be considered. This should be a central theme in any future discussions about revalidation.

CHAPTER 6 – ACCESS, FLEXIBILITY AND TRANSFERABILITY

"Too many people are excluded from the benefits that learning can bring. Aspirations and staying on rates remain too low. The system fails a significant section of the community, often the most vulnerable. People with low skills and poor qualifications are locked in a cycle of disadvantage. We must also make education and training more relevant and accessible both to individuals and employers. And people need better advice and more flexible ways of learning"[50].

Policy Background

Widening participation

6.1 Learning is widely acknowledged as being central to developing and sustaining both social cohesion and economic success. As a result, increasing participation in learning forms a central theme in the government's wider education policy. It is, however, recognised that increasing participation is not only about increasing the numbers of people engaging in learning but also about ensuring that people from all social, economic and cultural backgrounds participate. This means increasing access and providing opportunities for success and progression to a much wider section of the population[43].

The National Qualifications framework sets out categories of qualifications and levels of attainment that are common across all subjects and disciplines (see Chapter 3 and/or Appendix 4/5 for details of the National Qualifications Framework). In 1996[81], just over 70 per cent of 19 year olds reached a Level 2 qualification; 48 per cent of 21 year olds reached Level 3; 42 per cent of the workforce had a Level 3 qualification and 24 per cent had Level 4 (for details of levels see the National Qualifications Framework on Page 30). Fifty-four per cent of young people from professional and managerial homes go on to higher education, with only 17 per cent of those from semi-skilled and unskilled family backgrounds doing so[43].

6.2 Both the further and higher education sectors are seen as playing crucial but different parts in achieving this wider policy commitment, with further education being seen to;

- address under-attainment during earlier stages of education which are acting as barriers to entering higher education and
- provide opportunities for those who have already achieved to continue to do so

Recent policies have achieved some success in increasing participation in further education. However, for the further education providers the challenge is to identify people who have not reached their full potential and to seek out groups with low participation[45]. 'Learning Works'[45] suggested that

collaboration at a local level and greater community involvement could lead to greater participation in further education, however it recognised that the funding structure was a barrier to widening participation. The proposals in 'Success for All'[51] for the national rollout of Education Maintenance Allowances (EMAs) will help support young people over 16 years of age to stay in learning.

6.3 A priority for the higher education providers is to reach out and include those who have traditionally been under-represented in higher education, including people with disabilities and young people from semi-skilled or unskilled family backgrounds and from poorer localities, but who have the potential to achieve Level 4 and above qualifications. It is however recognised that there is a need to identify the reasons that lead some young people not to consider higher education where under-attainment is not an issue. For example why some ethnic minority groups and people from the most deprived parts of the country are generally under-represented in certain disciplines or why Bangladeshi women and Afro-Caribbean men specifically remain under-represented in all disciplines[43].

The Dearing Committee[47] made a number of recommendations on under-represented groups in higher education. They include: targeting additional funding at universities and colleges with a commitment to widening participation and plans to improve access; joint further and higher education projects to address low expectations and low achievement and to promote progression to higher education; and incentives from funding bodies for the enrolment of students from particularly disadvantaged localities.

Many higher education institutions have a tradition of outreach programmes for adults, which provide valuable opportunities for mature students to take courses, which do not lead to degrees, on a part-time basis. Some are designed to help adults without qualifications reach the necessary level to enrol for a degree, giving them a hand-up to higher education. Other courses lead to certificates or diplomas which are self-standing and enable people, who in most cases have not had the benefit of higher education, to gain from the experience of study at a higher education institution without the greater commitment of enrolling for a degree.

6.4 The Government's White paper 'The Future of Higher Education'[12] included a clear commitment to widen participation in higher education and to address this commitment the Government plans to establish an Office for Fair Access (OFFA). The 'Widening Participation in Higher Education'[82], document suggests that there are three principal barriers to access:

Attainment – raising standards of education and attainment is the best long-term route to widening participation in higher education.

Aspiration – improving levels of attainment needs to be matched with raising young people's aspirations.

Application – some universities need to do more to reach out to students and schools to encourage a broader range of applications.

6.5 Development of the National Qualifications Framework together with a Credit Accumulation and Transfer (CAT) system were seen as being of crucial importance in supporting the polices of widening access and broadening

participation. For details of the National Qualifications framework see Chapter 3.

CAT Schemes allow students to break away from the traditional model where a degree is acquired by studying for a set period at a single institution to a particular curriculum. Instead, credit points are awarded for individual modules and a final degree is achieved by accumulating sufficient credits. This transfers ownership to students, who can choose which modules to study and even mix full-time and part-time study over a convenient period. This system allows for greater flexibility with 'stopping-off points', separately accredited, during higher education so that people can build up blocks of qualifications over time and know what particular blocks of learning are worth.

Education and training in the NHS

"We want to open up opportunities for people who join NHS organisations at relatively low skill levels to progress their skills through investment in their training and development to professional levels and beyond, by moving up a skills escalator" [39].

6.6 Increasing access to education and training is seen as crucial to ensuring that the NHS has enough staff with the necessary skills to deliver 'The NHS Plan'[5]. The skills escalator (see figure 3 overleaf) provides a dynamic approach to supporting career potential and development – staff are encouraged through lifelong learning to renew and extend their skills and knowledge so that they can move up the escalator while roles and workload pass down where appropriate, giving greater job satisfaction and generating efficiency gains.

6.7 In order to support the skills escalator and as part of pay modernisation proposals the Department of Health is working to:

- introduce an NHS-wide job evaluation scheme[37] to ensure the knowledge and skills required for a job, alongside other factors, are properly reflected in the placing of jobs in pay bands;
- develop a knowledge and skills framework (KSF)[38] to set out more clearly the competencies required at different stages of career progression – for all staff;
- consider ways of linking pay progression at certain key points within each pay-band to the demonstration of the core knowledge and skills defined in the KSF.

Taken together the skills escalator and the KSF will provide a framework within which NHS staff can develop and which addresses policy relating to broadening access to and participation in learning.

Fig. 3 - The Skills Escalator[39]

The skills escalator approach	
Category	Means of career progression
Socially excluded individuals with difficulties in obtaining employment	Cleaning, catering, portering, clerical etc. Six month employment orientation programmes to develop basic understanding of the world of work.
The unemployed	Six month placements in 'starter' jobs, rotating into different areas of work, whilst undertaking structured training and development.
Jobs/roles requiring fewer skills and less experience Cleaning, catering, portering, clerical etc.	Skills modules to support progression through job rotation training and development programmes including NVQs and NHS Learning Accounts, appraisal and personal development planning.
Skilled roles Healthcare assistants, other support staff	Modules of training and development through NVQs or equivalent vocational qualifications.
Qualified professional roles Nurses, therapists, scientists and junior managers	First jobs/roles following formal pre-registration education or conversion courses. Appraisal and personal development planning to support career progression. Achievement of a range of skills acquired at staged intervals.
More advanced skills and roles Expert practitioners, middle managers, training and non-training medical roles/grades	Further progression, supported and demonstrated through learning and skills development as above. Flexible working and role development encouraged in line with service priorities and personal career choices.
'Consultant' roles Clinical and scientific professionals, senior managers	Flexible 'portfolio careers' for newly appointed, experienced and supervising roles, planned in partnership with employers informed by robust appraisal, career and personal development planning processes.

Relevance to Pharmacy

Access to pharmacy education

6.8 In line with wider policy and in response to growing competition for students, entry to the schools of pharmacy and to pharmacy technician training will need to be reviewed and the entry requirements potentially broadened. This will need to be done in ways that meet the academic requirements of the education providers, the vocational requirements of the employers and the expectations of the students.

The Department of Health has indicated that "*the RPSGB and University Schools of Pharmacy should examine what further steps can be taken to encourage and facilitate the entry of pharmacy technicians and other health care support staff with appropriate qualifications to MPharm programmes*" [7].

6.9 In the context of the skills escalator and the policy relating to flexible careers (underpinned by the KSF) there will also be a need to consider entry of other professional groups such as doctors and nurses to pharmacy and health care support staff to technician training. Already a number of medical schools offer fast-track courses (4 years instead of 5 years) to graduates of science and other healthcare disciplines. In one medical school (St Georges Hospital Medical School) a fast-track medical course is open to all graduates regardless of the area of their first degree.

6.10 There are currently 17 Schools of Pharmacy in the United Kingdom (England – 13, Scotland – 2, Wales – 1, Northern Ireland – 1). The number of students entering pharmacy degree courses has increased with 1302 graduating in 2001 compared to an intake of 2187 in 2002 (graduating 2006)[83]. Entry requirements for pharmacy are usually around 22 A-level points (based on the pre-2002 scoring system where an A at A level, including vocational A levels, was worth 10 points; a B 8 points; a C 6 points; a D 4 points and an E 2 points) with an A-level in Chemistry and two other subjects.

Students can be admitted to schools of pharmacy with qualifications other than A-levels or Highers. These include Irish School Leaving Certificate, National or Higher National Certificate/Diplomas, International Baccalaureate, Access qualifications and other degrees. Some students are also admitted with S/NVQ Level 3 and other technician qualifications depending on the School of Pharmacy.

Skills Escalator

"Given the many new roles for which pharmacists may be in demand, it will also be important to ensure that skill mix within pharmacy is appropriate. The Government believes that the time is right for a more focussed debate on the respective roles and responsibilities of pharmacists and their staff"[4].

"*We need to consider roles and responsibilities, training standards, regulation, the nature and extent of supervision, and development and progression of staff, including flexibility to pursue alternative career pathways within the NHS*"[7].

6.11 Publication in 2001 of the Department of Health's workforce discussion paper marked the first stage in a wider debate within pharmacy relating to skill mix and the development and deployment of the wider pharmacy team[7]. This paper takes forward an earlier commitment made in the NHS implementation plan for pharmacy, 'Pharmacy in the Future'[4] to explore issues of skill mix and roles within the pharmacy team to ensure that pharmacy, like the rest of the NHS, has '*more staff working differently*'. The Scottish programme for pharmacy[8] commits to reviewing skill mix in 2005.

6.12 It is clear that government policy indicates that this approach is necessary to deliver the implementation of 'Pharmacy in the Future'[4]. Services such as medicines management schemes, pharmacist prescribing, medication reviews under the National Service Framework for Older People and local pharmaceutical services (LPS) will inevitably require pharmacists to develop their practice beyond core dispensing whilst still retaining overall professional responsibility for the quality of it. The same is true in Scotland where pharmaceutical care model schemes require pharmacists to undertake new roles. This is already happening to a greater extent in hospital pharmacy but progress has been slower in community. Furthermore, developments in the hospital sector such as, electronic prescribing and automated dispensing, establishing reporting systems and reducing medication errors, will also present a challenging programme for hospital pharmacists requiring greater or different use of pharmacy technicians.

The demarcation of roles in pharmacy has been seen as a constraint to the development of pharmacy services and their ability to respond to patients' needs in the NHS. Pharmacy technicians have taken on new roles in hospitals such as checking schemes, Patient Own Drugs (PODs), ward based technicians, specialist clinics and managerial roles but this is variable across trusts[75]. In community pharmacy the legislative framework is more restrictive as the pharmacist has to be present and it is perceived that there is a greater reluctance to delegate roles, although some progress is being made with an increased use of checking technicians.

6.13 The Department of Health's 'Pharmacy Workforce in the NHS'[7] report proposes exploring a framework to establish a 'protocol medicine supply scheme' in community pharmacy, allowing pharmacy technicians to dispense medicines, under protocol, without the direct supervision of a pharmacist. In January 2002 the NHS Pharmacy Education and Development Committee agreed standards for a National Framework for checking dispensed items. Training courses are offered with assessment, and have been undertaken by hospital, primary care and community pharmacy based pharmacy technicians. Reassessment is required every two years (see box overleaf).

Accredited Checking Technicians

A number of courses are available to both hospital and community pharmacy technicians. One such course offered by Welsh Centre for Postgraduate Pharmaceutical Education (WCPPE) aims to transform the role of the dispensing technician. The new technicians, called ACTs (Accredited Checking Technicians) will take on a major role in the dispensary. Training involves a two-day group session on the theoretical, legal and ethical background to prescription checking. After this, the technicians build up a portfolio of evidence from their work which is assessed by WCPPE and there is a test pack of prescriptions with known errors to be completed. Other courses are available and several community pharmacy companies are employing checking technicians[84].

Issues considered by the Group

Providing flexibility and broadening participation

6.14 It was recognised that within pharmacy many of the building blocks for the 'skills escalator' approach to career development are already in place with opportunities available for individuals trained to S/NVQ Level 2 (assistants) to develop to S/NVQ Level 3 (pharmacy technician). There is however then a discontinuity between Further Education and Higher Education provision with no standard recognition of prior learning and qualifications currently available to widen access. It was recognised that progression for pharmacy technicians could follow a number of routes. Entry to MPharm programmes via either the S/NVQ Level 4 route or a professional foundation degree were two possibilities identified, there may be others and there is the possibility of accreditation for prior learning. However before considering this in more detail the demand for such opportunities needs to be evaluated.

Whilst recognising the need to free up pharmacists' time to deliver wider professional services, which underpins the Department of Health's policy around developing skill-mix in pharmacy, the capacity for employing more and better qualified staff in community pharmacy is as yet unclear[7]. Furthermore, the extent to which staff currently holding Level 2 and 3 qualifications want to progress to professional qualifications in pharmacy remains unknown.

Recommendation 6

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

6.15 The current entry requirements to pharmacy degree programmes focus in the main on qualifications in science at A level. Recognising that the nature of the entry requirements for medical degrees has broadened considerably in recent years[85] the extent to which science A levels are essential pre-requisites for entry to pharmacy degree programmes was questioned. It was however recognised that the foundation of the pharmacy degree is, and would

remain, focussed on medicines (their discovery, development, formulation and manufacture) and that as a result, a secure grounding in biological, physical and chemical sciences would continue to be important. However, the extent to which the foundation science taught in the NVQ courses provided this core knowledge should be explored and the options of transferable qualifications developed. The current requirements act as a real barrier to progression between technician and professional stages of career development in pharmacy and this should be explored.

6.16 Furthermore, the extent to which entry to pharmacy via other degrees was possible (*cf* the fast track graduate medical programmes) would need to be informed by an evaluation of how a secure grounding in the biological, physical and chemical sciences might be provided and the extent to which this is an entry requirement.

This again argues very strongly for the need for a knowledge, attitudes and skills map to be developed in pharmacy and for pilot studies to establish how core scientific knowledge can be provided if wider access to pharmacy degree programmes is to be provided.

Recommendation 7

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

Increasing Access

6.17 Whilst there is already a broad geographical spread of schools of pharmacy across the UK, which is likely to be developed further with the opening of new schools in the future, it is unknown whether provision of other levels of education and training are adequate to meet increased access or indeed current demand. Where part time learning is common and/or demand is low – for example for S/NVQ courses for pharmacy technicians and post-registration higher level training (including for example supplementary prescribing) and specialist training (including, for example, medicines information and veterinary pharmacy), geography is recognised as being a real barrier to access. There may be an opportunity for joint ventures with established distance learning education providers such as the Open University or links with Schools of Pharmacy to broaden access.

6.18 The 'Learning from Bristol' report[19] highlighted the necessity to maintain professional competence throughout working lives. In the light of this the Society will be considering ways in which continued competence can be maintained and assessed. A key group in this context will be those returning to clinical practice (following periods in non-clinical posts or on extended leave e.g. maternity or carer leave or travelling). Provision of "return to practice" courses and access to periods of supervised practice for those returning to practice will be an increasingly important area where current provision may not be adequate.

6.19 At present a formal return to practice course is offered at Sunderland University and SCPPE offer a three day return to practice course at Strathclyde University for pharmacists. Similar issues will arise amongst

pharmacy technicians as their roles and responsibilities expand and particularly once they become registered – the numbers requiring "return to practice" training and supervision will expand rapidly. Some NHS organisations provide training and development support for health care staff returning to practice.

6.20 The options for joint learning between pharmacists and pharmacy technicians, shared provision between Schools of Pharmacy and exploration of innovative learning methods including distance and web-based learning were identified as possible ways forward. However access to clinical supervision and mentoring will require careful consideration. Teaching and assessment methods are covered in more detail in Chapter 7.

6.21 In relation to post-registration development of higher level practice and specialisation, the extent to which a modular approach together with a recognised CAT system may provide a more flexible approach to learning than is currently possible through formal courses and qualifications, was considered worthy of further exploration. Other developments such as the University of Nottingham's Virtual School of Pharmacy and distance learning qualifications could also be developed.

Recommendation 8

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.

Recruitment and Selection

6.22 It was recognised that before fundamental changes are made to the nature and provision of education and learning in pharmacy, a greater understanding of the types of people entering (and leaving) the pharmacy workforce and their career motivations and preferences is required. Very little is currently known about the reasons why people enter pharmacy, what skills they already have and how they see their careers developing. As a result, it is difficult at this stage to estimate what impact changes to the nature of education and learning will have. Neither is it possible to estimate the likely impact of expansion in other healthcare groups on recruitment and retention in pharmacy, or to decide what impact changes in school curricula will have on the need for particular foundation education and learning in pharmacy.

It will be important to understand the underlying issues if innovative methods and approaches to education and learning in pharmacy are to be successful in training a workforce which is both fit for purpose and meets the needs and expectations of the people entering the profession.

Recommendation 9

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

CHAPTER 7 – APPROACHES TO TEACHING LEARNING AND ASSESSMENT

"Tell me, and I will forget.
Show me, and I may remember.
Involve me, and I will understand." [86]

Policy Background

Developments in Education

Vocational learning

7.1 Across the whole spectrum of education provision there has been an increasing focus on developing knowledge and skills that can be applied to real-world problems. This translates into a general concept of student-centred learning, using less didactic teaching methods and more practical relevant experience. In primary and secondary education this has resulted in the introduction of the national curriculum and increasing the vocational relevance of education and qualifications (General National Vocational Qualifications - GNVQs). These trends have had an impact on further and higher education with moves to introduce greater vocational elements to post 16 education with an emphasis on transferable skills and greater relevance to the social economy. A particular example is the introduction of National Vocational Qualifications (NVQs) which stress the teaching and learning of specific competencies in order to foster vocational effectiveness (see Chapter 3).

Experiential Learning

7.2 Professional learning has traditionally included elements of both experiential learning and didactic teaching to establish basic clinical skills and to provide the underpinning knowledge base. Experiential learning[87] draws on the cyclical pattern of all learning in which *"an immediate concrete experience which results in observation and reflection which in turn leads to assimilation into concepts and theories that lead to active experimentation and so on".*

Fig. 4 - Kolb's Theory of Experiential Learning[87]

7.3 This theory has been used widely in health professional education at all levels but particularly in relation to lifelong learning and continuing professional development[87]. Recommendations contained in the 'Learning from Bristol report'[19] have however highlighted the need to embed the culture and skills for lifelong learning as an integral part of basic professional education. The role of clinical placements as being integral to professional education and learning has been reflected in recent changes to the funding of education and training in the NHS[58] and to the assessment of quality of health courses[79]. Pharmacy however, is one of only two health care professional groups where undergraduate courses are funded by the higher education funding councils (HEFCE, SHEFC and WHEFC) rather than the NHS.

7.4 The intended learning outcomes from a placement may be highly specific, for example the development of practical skills and competencies that will be required for practice in professional or other employment; or they may be more general, for example the development of an understanding of the cultural or employment context of an academic discipline.

Principles of experiential learning[87]:

Experiential learning:

- recognises that people learn best from their own experiences and their own reviews
- subscribes to the notion that what people do is more important than what they know
- renders behaviours and attitudes visible and thereby can become acknowledged and then addressed
- is built on the premise that it is not enough to explain to people what to do, they must be shown how to actually do it and then how to improve it
- moves beyond knowledge and into skill by generating a learning experience - the more experience the greater the skill

- gets to grips with the most important aspect of training and that is to achieve change in behaviour and attitude
- understands that to be remembered over a long period of time the learning process should be enjoyable, motivating and rewarding

Assessment

7.5 Assessment of competence lies at the heart of the concept of fitness to practise and is therefore of central importance for the education and training of all healthcare workers. It is particularly important for those groups of staff who are autonomous and for whom registration (initial and continued) is required. Competence will be defined differently for different staff groups depending upon the degrees of autonomy and the judgment required to carry out the role and the levels of technical skill and knowledge required. Miller[88] has defined competence at four levels, each of which can be assessed using different methods and approaches.

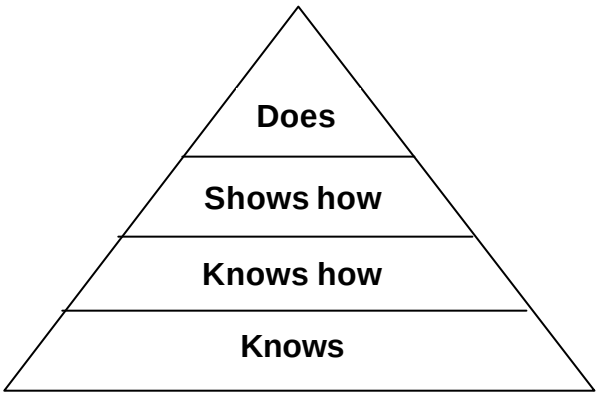

Fig. 5 - Miller's Triangle of clinical competence[88]

Miller's diagram of clinical competence indicates that while educational programmes need to assess whether a student knows what is required to carry out professional functions effectively, this knowledge is not sufficient to demonstrate clinical competence. Assessment of knows is achieved through the use of written examinations such as multiple-choice questions, computer-based patient management problems (PMPs), written simulations and essays. Demonstration of knows how uses similar procedures, which are context specific rather than simply factual in order to demonstrate that knowledge, can be analysed and translated appropriately. Because clinical competence involves specialised skills and the application of underlying knowledge, it is necessary to use performance-based forms of assessment to assess shows how.

7.6 Methods of performance-based assessment (shows how) used in the medical profession to assess clinical skills, include oral exams with standardised patients (SPs), and objective-structured clinical examination (OSCE) or multiple station exams. Because each method has its limitations, it is important to select one that is most appropriate to the dimension of competence that is being assessed. Research has shown that satisfactory performance of the clinical task on one problem does not necessarily provide a basis for accurate prediction of the ability to perform a similar task on a

different problem[89]. This phenomenon is called 'case specificity' or 'content specificity', and it impacts on reliability. On a strictly performance-based exam, many items are needed in order to tease out the candidate's underlying ability from case-specific features of performance.

7.7 Assessment of competence within the NVQ framework includes work-based performance assessment to demonstrate that someone does not just have the necessary skills, but also has the knowledge and understanding to apply the skills in a variety of different situations. It also includes factual tests to measure knowledge. Competence assessment demonstrates that the person does and knows.

7.8 However, where clinical jobs require high levels of judgment and autonomy as well as high level technical skills and in-depth knowledge and carry with them potentially high levels of risk for patients, competence is measured in other ways. This is especially true for basic healthcare education where demonstrating does is either not feasible or, from the patient's perspective, not desirable. Competence is thus assessed using methods that demonstrate knows, knows how and shows how. In basic medical, and increasingly nursing, education, performance in key clinical skills is assessed using Objective Structured Clinical Examinations (OSCEs) which measure a candidate's ability to show how to perform a particular clinical procedure. Alternative methods include the work-based observation as is used during S/NVQ and to some extent during the preregistration year.

Work within medicine and dentistry is currently exploring how to assess the performance of healthcare professionals while they are engaged in clinical work (does). A number of methods, such as direct observation of the clinical encounter using mini-CEX (clinical evaluation exercise) and direct observation of the performance of practical procedures are being studied to investigate their validity, reliability and feasibility. The Mini-CEX was designed to assess clinical skills, attitudes and behaviours of doctors that are essential in providing high quality care[90].

Inter-professional, multidisciplinary education

"one of the most effective ways to foster an understanding about and respect for various professional roles and the value of multi-professional teams is to expose medical and nursing students, other healthcare professionals and managers to shared education and training"[19].

7.9 One of the key findings in the 'Learning from Bristol' report[19] identified a lack of respect between, and within, professional teams as a key barrier to developing an appropriate learning culture. It saw teamwork, as opposed to the traditional hierarchical "firm" structures, as providing the framework for the development of trust and respect, which would militate against the emergence of poor practice. It suggested that shared learning provided an important first step that should begin as early as possible and continue throughout all stages of professional life. A common first year for all professionals, which develops a broader understanding of health, healthcare and the NHS, was advocated.

7.10 Previous policy had already called for partnership and co-operation amongst staff and between professionals to ensure a seamless service of patient centred care. A 'new core curriculum' and 'new joint training across professions in communication skills and NHS principles and organisation'

were seen as providing NHS staff the skills and knowledge to respond effectively to the individual needs of patients[19]. More recently 'The HR Strategy'[34] sees multi-professional education and training as a way of promoting:

- teamwork
- partnership and collaboration between professions, between agencies and with patients
- skill mix and flexible working between professions
- opportunities to switch training pathways to expedite career progression
- new types of worker[34]

7.11 In 2002 the Department of Health[91] announced funding for four national leading edge sites piloting approaches to common learning, these are based at:

- Universities of Southampton and Portsmouth
- University of Newcastle
- University of Sheffield/Sheffield Hallam University
- King's College London

and are partnership projects between the Higher Education Institutions and the Workforce Development Confederations.

Information relating to the two pilot sites involving pharmacy education (Universities of Southampton and Portsmouth and King's College London) can be found at Appendix 6.

Relevance to Pharmacy

7.12 Chapter 2 (and appendix 2) sets out the history and chronology of developments in pharmacy which reflect in some measure the evolution of the role and skills base of pharmacists and the production of medicines, as well as changes in the structures and policies in higher education. More recently, however, the emergence of a set of clear policy led expectations of pharmacists' practice has set a new and more clinically focussed context within which education in pharmacy operates. Observable trends in the education, learning and development of other professional workforces will be increasingly applicable in pharmacy.

Issues impacting on Pharmacy Education

- Workforce shortages and problems with recruitment and retention
- Changes in disease patterns, healthcare interventions and service delivery
- Accelerating pace of scientific discovery and technological development and expansion in the volume of medical and scientific knowledge
- Pressure to shorten professional preparation at all levels with knowledge and skills needed at later career stages being acquired as and when they are needed[67] [68]
- A growing need to deliver care for chronic illness across organisational and professional boundaries
- A growing emphasis on understanding the social and psychological factors relevant to health and illness and on seeing the individual in their social context[67]
- More emphasis on preparation for lifelong learning, reflecting the need to update knowledge, skills and practice throughout a professional career[67]
- More inter-professional training including training in team working
- A move away from specifying *what* professional activity should be carried out and *how* it should be done, towards equipping the practitioner with a set of skills they can apply flexibly in different contexts, with the help of additional training, clinical supervision and clinical support tools as appropriate. The latter approach also supports role development and shifts in the demarcations between professions – while the former approach would tend to inhibit them. The outcome of this shift may be a new way of thinking about the health professions, based on a clear vision of the core purpose or expertise of each profession (e.g. for doctors – *diagnosis*; for pharmacists – *medicines*; for nurses – *care*) while the periphery may be developed in numerous directions, sometimes overlapping with the traditional roles and expertise of other professions
- A greater focus on educational outcomes and skills (as opposed to curriculum content and other educational inputs and processes)
- Recognition that the profession-specific competencies form only one skill set within the total competency framework for each profession. Profession-specific knowledge and skills cannot be put into practice without a range of generic skills required by all professions

7.13 Whilst in the past pharmacy may have been, to some extent, able to remain insulated from the wider trends in healthcare education, training and development, recent policy developments make this less sustainable for the future. The need to teach and assess using methods that are recognised by and credible with the public and other professions, as being appropriate for developing professional and clinical competence, is growing. Ensuring that the pharmacy-specific knowledge and skills continue to be developed and honed within a wider core competency framework will be essential to the continued development.

Issues discussed by the Group

Curriculum design

"A curriculum has at least four important elements: content; teaching and learning strategies: assessment processes and evaluation processes. … It is underpinned by a set of values and beliefs about what students should know and how they come to know it. … In contemporary medical education the curriculum should achieve "symbiosis" with the health services and communities in which the students will serve"[92].

7.14 It was recognised that extending the undergraduate pharmacy programme from three to four years (in 1997) had allowed the indicative syllabus[11] (and the QAA benchmark statement[93]) to reflect developments in science and technology and in healthcare practice and management. However, it was felt that, in the light of the findings from the Bristol Royal Inquiry[19] and subsequent policy developments in education and learning in the NHS, the documentation may need further revision to take into account development of core professional and NHS values and skills and the development of core clinical skills. This may need to be combined with a review of the preregistration training programme to allow better synergy of the two parts of the basic pharmacy training to emerge. A wider perspective may also be required to take into account overlaps with the S/NVQ training for the wider pharmacy workforce.

Whilst a significant proportion of pharmacy graduates join the register and practice pharmacy (in the NHS or provide services for the NHS), it was acknowledged that this is not necessarily the case for all graduates – some take up other careers in non-pharmacy sectors before and after registration. The need to ensure that the underpinning knowledge is effectively balanced between science and clinical practice across the four years in a way that appropriately supports development of future clinical practice but maintains the broad relevance of the degree qualification was therefore recognised. However given that the majority of the graduates do register and enter clinical practice and recognising that most of the basic clinical skills and professional attitudes need to be embedded into early careers, it was felt that the need to ensure that preparation for a career as a healthcare professional had to take precedence.

7.15 It was felt that the undergraduate programmes could meet the needs of both graduates wishing to enter a clinical career and those looking for a more generally relevant scientific qualification. Many of the core NHS and professional skills would be widely applicable (e.g. learning to learn, self-management, communication, IT) and attractive to employers in all sectors - a clear view of what skills were *exclusively* needed by employers of clinical graduates that were not required in other sectors needed to be identified and courses (and qualifications) designed accordingly. A 'one size fits all' approach may no longer be appropriate and greater flexibility may need to be considered in the future.

7.16 A fundamental review of the teaching and learning strategies and assessment methods, as well as content, to produce a curriculum framework for basic pharmacy training may help to clarify what was taught and learned where and

when. This needs to be linked to the definition of minimum competencies for entry to preregistration training and later, for registration. Such a review could be informed by and follow on from the work to establish the knowledge, attitudes and skills (KAS) map for pharmacy (see chapter 4).

The process of defining and organising content; teaching and learning strategies and the assessment and evaluation processes into a logical pattern i.e. a formal process of curriculum design is a recognised educational process which is underpinned by a growing body of medical education research[92]. A curriculum framework would help the individual schools to design their individual curriculum and may also support accreditation of basic pharmacy training in the future.

7.17 A curriculum framework could be considered at a national level and, at this level, should clearly set out the core that must be covered and assessed if a graduate is to enter preregistration training. The group recognised that curriculum design should be rational and that an academic body of knowledge is emerging in medical education which could be usefully considered in pharmacy.

7.18 In considering the design of a flexible undergraduate curriculum framework, a wider understanding of the purpose of post-registration training (what is post-basic) needs to be developed. The following questions would need to be addressed as part of an exercise to define a national curriculum framework for undergraduate programmes:

- What skills and attitudes need to be embedded as part of basic training (what is basic training?) and what underpinning knowledge is needed to support this?
- What skills need to be refined through experiential learning in the preregistration year and in subsequent training for higher level practice?
- What knowledge could safely be taught in a "*just in time*" way to support specialisation or as part of CPD?

The development of post-registration education and training (of higher level and specialist practice) is emerging as a key aspect of professional regulation that will be informed by the knowledge, attitudes and skills map (Chapter 4). There are clearly a number of schemes emerging upon which a regulatory framework could be built. There is however a real need to evaluate developments to identify best practice and to develop appropriate skills. There have been developments of a similar nature in the field of medical education with a number of medical schools establishing Medical Education Units to support teaching and research. In addition there is the Association for the Study of Medical Education (ASME) which provides a forum for debate and exchange of information in medical education and the BEME Collaboration, which is a group of individuals or institutions who are committed to the promotion of Best Evidence Medical Education through:

- the dissemination of information which allows medical teachers, institutions and all concerned with medical education to make decisions on the basis of the best evidence available

- the production of appropriate systematic reviews of medical education which reflect the best evidence available and meet the needs of the user, and
- the creation of a culture of best evidence medical education amongst individual teachers, institutions and national bodies.

Medical Education Unit - Leeds University

The main roles of the Medical Education Unit are to provide expertise across the whole area of teaching, learning and assessment to the Leeds Medical School, to undertake educational development and research on behalf of the School and to establish a national and international reputation in the area of medical education. The Medical Education Unit also delivers and manages areas of the medical undergraduate curriculum that cross clinical system boundaries. These include communication skills, community placements, ethics, clinical skills and Student Selected Components (SSCs). The review and monitoring of clinical placements also come under the remit of the Medical Education Unit.

Recommendation 10

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.

Teaching and learning strategies and methods

7.19 The need to address how to teach the underpinning knowledge and to develop core skills in ways that were relevant to practice, would be a key element in designing and implementing curricula that were flexible yet meet the basic accreditation requirements for progression to preregistration training and ultimately to entry to the register. Several elements were recognised as being important:

- The role of practitioners as teachers
- The contribution of clinical placements
- The place of supervised practice
- The nature of the delivery format e.g. lectures, small group teaching, tutorial, lab-based etc.
- The place of distance and e-learning

7.20 It was recognised that in many instances the choices may be limited by the resources available, but it was felt that a more rigorous outcomes based approach was warranted given the changing responsibilities that pharmacy was being expected to take in the delivery of healthcare. Whilst important lessons could be learned from looking at other clinical professions, evaluation

in pharmacy would be needed to establish outcomes and cost effectiveness. The need to fund evaluations was highlighted.

APPLET

In 2002, a consortium of the Schools of Pharmacy in Nottingham, Aston and De Montfort (APPLET – Advancing the Provision of Pharmacy Law and Ethics Teaching) gained government funding (Higher Education Council for England) to work with all the UK schools of pharmacy to identify good practice and novel approaches to the teaching of pharmacy law and ethics and, through this process, to secure an agreed curriculum and learning resources to assist lecturers and students[94].

PCCAL

In 1992, PCCAL (Pharmacy Consortium for Computer Aided Learning) was formed as a consortium of all schools of pharmacy in the UK that aimed to collaborate in order to develop a range of software suitable for teaching and learning in pharmacy. To date 45 CAL (Computer Aided Learning) packages have been developed, and some 3000 packages have been distributed to institutions around the world. The software is being used in disciplines such as pharmacy, pharmacology, medicine, biological sciences, nursing and health sciences[95].

7.21 The place of pilot projects and collaboratives (*cf.* medicines management and primary care collaboratives in the NHS) as a means of testing and disseminating best practice were considered. Whilst accreditation processes should ensure that minimum standards were implemented, this would not support the process of innovation and dissemination of best practice.

It was also noted that similar questions should be addressed in relation to both pre- and post-registration learning and development and CPD.

Assessment

7.22 It was recognised that for academic courses that lead to professional qualifications, registration (and continued registration) and entry to higher level practice and specialisation the purpose of assessment is:

- to define academic achievement and/or
- to assure minimal competence (at whatever level the training is designed to prepare for).

It was accepted that the method of assessment should ideally be chosen based on the need to demonstrate knows how, shows how and does and that ideally methods which demonstrate shows how e.g. OSCEs should be used to demonstrate competence in key clinical skills.

However, it was also recognised that OSCEs require a high level of resource, e.g. large numbers of examiners, patients or role players and equipment, but that they offer higher rates of reliability than the traditional short or long case presentations. They are used in medical education where key decisions on a

candidate's progress are being taken e.g. whether a doctor is fit to enter the GMC register. They are used primarily to measure clinical skills or professional judgement. Other methods can be used to predict competence on the basis of demonstrating 'knows' and 'knows how' rather than 'shows' and 'does'.

Issues of standard-setting (i.e. determining pass marks that correspond clearly to minimum standards of practice) and marking when using OSCEs requires careful consideration and the use of appropriate methods which avoid arbitrary pass marks and subjective judgements of performance. The pass/fail decision has to be consistent i.e. there has to be a high degree of certainty that the candidate would be the same side of the pass/fail line if they repeated the examination the next day.

7.23 Success in OSCEs relies not only on the accumulation of knowledge and the attainment of practical skills; it also reflects the extent to which experience and reflection has lead to a minimum level of fluency and proficiency. Students scoring highly on knowledge tests do not necessarily perform highly in OSCEs. Most medical schools set their OSCEs at minimal competence levels. The test is not designed to identify brilliance. The pass rate is set at a predetermined minimum safety level below which the candidate is felt to be "unsafe" to be working with patients.

OSCEs have been used and evaluated in pharmacy training[77 96 97], as have simulated patients[98], but further work would be needed if they were to be used more widely. This should be linked to the identification of the key competencies at *each* level of training if such assessment is to be cost-effective. Where other assessment methods are used, more research is needed to establish the ability of the method to reliably predict competence[92].

Recommendation 11

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

7.24 Particular concerns were raised about the assessment of competence during the preregistration year and at the point of entry to the register. It was felt that key knowledge, skills and attitudes needed be assessed in an objective, reliable and valid way throughout the year. The current preregistration framework and examination had made an important start but it was felt that more investment was now needed in developing this crucial year. While it could be said that 'knows' and 'knows how' were assessed objectively via the registration examination, 'shows how' and 'does' were the province of the preregistration tutor, who might not have the skills of objectivity to carry out the assessment effectively. The assessment of a small number of key skills (and attitudes) should also be assessed as part of the undergraduate examinations. The need to develop closer working between the schools and the preregistration tutors may help to develop skills and spread best practice in assessment methods.

It was recognised that this would have cost implications for employers providing preregistration training (and clinical placements), in terms of developing tutors' abilities to assess competence and undertake the

assessments. However, structured development was now essential if the competence of pharmacists entering the register was to be assured. There would also be a need to develop the methods and evaluate how they can be applied in a consistent and reliable way – parallels with the evaluation and validation methods used in the S/NVQ were drawn.

Research to test the feasibility of developing and implementing more appropriate assessment methods for key skills (and attitudes) needed to enter the register should be undertaken and fully costed. This work should logically follow from the work on knowledge, attitudes and skills map and as part of the development of the curriculum framework. Completion of this work was recognised as being important in supporting the case for the additional resources that would be needed to support a more rigorous assessment of competence in the preregistration training.

Recommendation 12

Following the development of the knowledge, attitudes and skills 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.

Inter-professional Learning

"Inter-professional education has been defined as occasions when two or more professions learn from and about each other to improve collaboration and the quality of care"[99].

7.25 It was recognised that in order to address the concerns identified in the 'Learning from Bristol' report[19], pharmacy education needed to consider how it could develop inter-professional (as opposed to multi-professional) learning and how this could be extended to include, where appropriate, common teaching programmes with pharmacy technicians. Evaluations of Interdisciplinary Learning Pilot sites (see Appendix 6) and other similar initiatives should be considered carefully alongside other initiatives such as foundation degrees and the results shared and debated within pharmacy. Further more detailed work may be needed once the initial results were available to identify which parts of the curriculum would be best taught in inter-professional groups and to evaluate the most appropriate teaching and assessment methods. It is also important that professional groups collaborate to assure common standards where different professional groups aspire to take on the same additional roles through separate courses and accreditation programmes, as is the case for pharmacists and nurses taking on supplementary prescribing.

Recommendation 13

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.

Teaching Infrastructure

7.26 It was recognised that whilst financial resources would be key to developing and implementing pharmacy curricula which are fit for purpose in terms of producing graduates and new pharmacists, the development of human resources would be equally important. It was noted that the academic workforce in the schools of pharmacy included a wide range of academic backgrounds within which the number of qualified pharmacists was diminishing in absolute numbers and as a proportion of the overall staff complement. At the time of the 2002 Pharmacy Workforce Census there were 801 pharmacists working in academia, from teacher practitioners to professors, with almost 65 per cent of those active in academia also working in a different sector of pharmacy practice[100]. Whilst to some extent this was being balanced out by the increased use of joint appointments the overall balance within the Schools of Pharmacy has changed dramatically.

To some extent it was felt that this trend was driven by the labour market where salaries played an important part but also where other factors like availability of part-time working could be decisive in determining career choices. However the Higher Education funding policies are playing an important part with experienced practitioners not being able to fulfil the academic requirements in relation to research track records needed for the Research Assessment Exercise (RAE). This problem has been further exacerbated by the salary differentials, to offer comparable salaries to junior NHS grades and community pharmacy managers, posts have had to be advertised at Senior Lecturer level because clinical academic scales were not widely used in pharmacy. A further solution has been to appoint academics into Senior Teaching Fellow posts to avoid the RAE requirements.

It was recognised that joint appointments could perhaps be more effectively utilised, this would have to be supported by more effective development of teaching and assessment skills. In order to support undergraduate research projects (which now needed to meet the requirements at M-level), supervisors would also need appropriate research training – how this could be developed amongst practitioners would need to be considered if more reliance is to be placed on joint appointments.

7.27 The Group were concerned that more work was needed to understand recruitment and retention of pharmacists working in higher education and to explore how non-clinical academic staff could integrate the teaching of underpinning knowledge more closely with the overall aims of the course as a preparation for professional practice. Curriculum development to involve clinical lectures as an integral part of all non-clinical modules may help to better integrate non-clinical academics into the teaching of the overall course and make more effective use of the clinical teaching staff. At Leeds Medical School an integrated system is used in which each unit has a clinical and non-clinical lead. This shows students how understanding the basic science allows them to treat patients more effectively and in the clinical years emphasises the importance of science for future medical therapeutic developments such as the human genome project.

Recommendation 14

There is a need to explore whether the pharmacy undergraduate curriculum would benefit from restructuring to integrate clinical, practice and science teaching and learning more effectively. Such restructuring may have implications for the academic workforce that would need to be considered.

CHAPTER 8 – DISCUSSION

8.1 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 undergraduate 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.

8.2 We hope that this report provides a stock take, and suggests gaps and key areas for future research. As a starting point, it identifies the need for the profession to be very clear about two fundamental issues:

- What knowledge, attitudes and skills are required for the future pharmacy workforce?
- How should education and training at all levels be marshalled to deliver those requirements?

As a result of comparing how national education and health polices 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, these not only made our job in relation to identifying and prioritising the R&D difficult but also present a real threat to the future of the profession – these are detailed in the Prologue to this 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 an integrated pharmacy education policy programme at the Society.

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

8.3 It is self-evident that any future research agenda for pharmacy education requires as its starting point a clear and agreed statement of the skills, knowledge and attitudes, 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 should be monitored, updated and maintained (Recommendation 1).

Delivering the Outcome: Fitness for Practise

Foundation Level

8.4 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.

8.5 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 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, such an exercise could usefully identify gaps and suggest how these could be addressed (Recommendation 2).

Continuing Professional Development (CPD)

8.6 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

8.7 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

8.8 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.

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).

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).

Flexibility and Transferability

8.9 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

8.10 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 it various settings. The knowledge, attitudes and skills (KAS) map (Recommendation 1) will inform this; a national curriculum framework would provide the detail that Schools 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).

8.11 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 suitable methods, 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

8.12 The preregistration period currently represents the vital transition from university based to practice-based learning. Assessment of competence at the end of this period is also inherently difficult, given the wide geographical spread of preregistration 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 preregistration 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 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

8.13 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

8.14 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).

8.15 Given the nature and pace of change in the NHS, the R&D Reference Group believes that it is timely to review the provision of education and training in pharmacy and hopes that this report takes some first steps towards this goal. The Royal Pharmaceutical Society of Great Britain has a key role in pharmacy education and training, both as the regulator and in relation to its professional leadership and development functions, and we hope that this document informs policy making in this area. While the majority of the recommendations are focussed on the Royal Pharmaceutical Society of Great Britain, achieving them will involve engaging other stakeholders in pharmacy education and training.

The Group has limited itself to fourteen key recommendations, many of which depend on the development of a knowledge, attitudes and skills map for pharmacy (Chapter 4, Recommendation 1). There is a danger that work in this area 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 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.

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