

Assessing clinical pharmacy expertise

In this article, **Rob Shulman** and **Anne Lovejoy** provide a perspective of what expertise is and how experts store knowledge, and describe how pharmacy has begun to address expertise within the context of a competency framework

The NHS plan¹ sets out the changes that are to be made within the health service in the next 10 years. It indicates that the role of consultant nurses and consultant therapists will be developed. It is postulated that health practitioners who succeed to these posts will act as experts and leaders in their chosen area of expertise and use their position as consultants to help shape future health services so bring even greater benefits to patients.

Singularly absent from the NHS plan, or the published literature, is any examination of expertise in clinical pharmacy. In order to address this here, we will provide a perspective of what expertise is and how one characterises the growth from novice to expert. Issues examined will include how an expert stores knowledge and how pharmacy has begun to address expertise within the context of a competency framework. Because of the scarcity of a pharmaceutical literature base in this area, we will draw on the experience of other professions, including medicine, nursing and education. This is part of an important debate because, within a context of lifelong learning and continuing professional development, clinical pharmacists at all levels of experience will benefit from a framework to reflect upon where they currently stand, what they should aim for and what is required of them to get there.

In the past decade, clinical pharmacy has established a role of providing pharmaceutical care² directed at individual patients. The provision of a clinical pharmacy service can vary from a basic ward-based service to a more integrated function as part of a multidisciplinary team to optimise drug therapy as part of the total management package. The term "consultant pharmacist" will become widely introduced in the near future and is already mentioned in the NHS Modernisation Agency's critical care programme.³ It is this end of the practice scale we will explore and particularly address what is required to describe this role as expert practice. A strategy has recently been proposed to address how pharmacists may attain consultant status on the basis of practitioner development.⁴ The authors' recommendations have been widely

accepted within the profession and specialists have been invited to set criteria to identify what constitutes consultant pharmacist practice in their field.

Journey to expertise

Dreyfus and Dreyfus offer a model of skill acquisition⁵ which provides a useful base to start.

They describe the "novice", who rigidly adheres to rules and has no discretionary judgement. They have little situated perception, ie, that which is not derived from formal learning.

The second level is an "advanced beginner", who will follow guidelines when prior experience leads him or her to recognise the situation. Advanced beginners lack the experience to prioritise and integrate problems and situations effectively. Their situated perception is still limited.

The third level is "competent". Those who are competent can cope with more complicated scenarios and their actions are partially viewed in terms of longer-term goals. They deliberately plan aspects of their work and carry out standardised and routine procedures competently.

Level four is described as "proficient". Here, situations are integrated holistically and priorities can be teased out. Those who are proficient perceive the appropriateness of deviations from usual practice and have the necessary reflexivity for decision-making.

Finally, the "expert" no longer relies on rules or guidelines for support. Experts have an intuitive grasp of situations based on deep understanding of the literature and experience. Analytic approaches are used only in novel or problematic situations. Experts also have a vision of what is possible.

This linear transition from novice to expert emphasises intuition rather than reasoning as the major characteristic of expertise. Comparisons of expert and novice physicians in deductive reasoning in clinical diagnosis, revealed little difference between the two groups,⁶ except that experts made their decisions quicker. This suggests that experts have knowledge better organised and ready for use.

Minsky's "frame system" described a data structure by which information is stored in one's mind via a network of nodes and relationships.⁷ Over the years an expert will recognise a disease frame and will note when a case does not quite fit existing frames and create a new one, encoding the differences and refining the knowledge. Schmidt (quoted by Eraut⁸) noted that the memory of expert doctors was greater than medical students,



Expertise in clinical pharmacy is not examined in the NHS plan

suggesting they have a more sophisticated memory structure, consistent with the frame system. He went on to develop a theory of acquirement of expertise based on a distinct type of knowledge structure. This theory was consistent with experience that expertise is not held in all areas but is specific, and one can be expert in one area but a novice in another.

Schön⁸ rejected the technical rationality approach and proposed a reflective, intuitive capacity of an expert to reconceptualise a problem. He emphasised that complex situations at work require a creative approach, involving intuition and continuing reflection. This has been widely developed and applied to nursing practice by Benner *et al.*^{9,10} Expert fallibility is increasingly recognised, partly by the media but also by the evidence-based medicine movement, which argues that the expert's view is considerably less valuable than published randomised studies.

Expert practitioners should understand why it is they think as they do and why others think as they do. They must demonstrate the capacity for understanding their own or others mental processes. The use of insight allows the practitioners to generalise and to incorporate new ideas, behaviours and attitudes into their practice.

In addition to the use of insight, expert practitioners must acknowledge and, perhaps, revel in the high levels of uncertainty that abound in their practice.¹¹ People are complex and the maintenance of health or the diminution of illness has to be carried out via a

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holistic approach, which accepts unpredictability and uncertainty. Cars can be produced but not mended via a production line because each repair is unique. In the same way health care cannot be delivered via a “well-oiled machine” but by a complex system which recognises high degrees of uncertainty and risk. Experts acknowledge that care cannot always be delivered via the use of protocols or guidelines and there are times when using such methods will do more harm than good.

How does all this apply to clinical pharmacy? Some of the daily tasks undertaken by a clinical pharmacist are routine and do not require much deliberation. However when an unexpected event occurs, this triggers what Schön describes as “reflection-on-action”,⁸ which requires more time and thought to work through. The ability to cope with ill-defined problems, rather than everyday ones, may be the essence of expertise. This could include strategic thinking — the ability to conceptualise a problem from several perspectives. Furthermore team working and consultation enables expertise to be shared and challenged and may enhance creativity.

One must be wary of generalisations but many pharmacists will relate to the Dreyfus and Dreyfus model, with the novice equating to the preregistration trainee and the basic grade pharmacist. The advanced beginner may be an experienced basic grade pharmacist. The competent may be applicable to the C grade and the proficient a D grade pharmacist. Some E grade pharmacists and above may reach expert level. However, we should recall that a new D grade in a specialty may have little knowledge of that specialty but does have a proficient general knowledge that may be applicable to the specialty. The specialist knowledge will be built up with time.

Specialist versus general knowledge

A debate is ongoing in clinical pharmacy as to whether a specialty will benefit more from an expert generalist pharmacist or from an expert in the specialty who is only a competent generalist. In intensive care, the medical staff are well versed with many of the intensive care-type drugs but rely on the pharmacist for out of the ordinary medicines, eg, haematology drugs. As the pharmacist builds up expertise in intensive care to the point that he or she can influence decision-making with critical care drugs, this may come at the expense of general knowledge, where the knowledge deficit lies within the speciality. Our view is that specialists should actively maintain and develop their generalist knowledge through CPD.

The expert clinical pharmacist

Following the medical model, it appears that an expert is involved in three key areas: clinical duties, research and education. Experience from the progress made in nursing suggests that a key additional aspect is “leadership”. This involves having the political and influencing skill and presence to affect a given situation. One could argue persuasively that

pharmacy has not embraced this particular feature to the extent that it should, resulting in pharmacy often being sidelined in new developments. Embedded within leadership is a confidence that an expert often exudes, providing a value-laden exterior which inspires confidence.

Assessing expertise

Attempts have been made to assess various levels of clinical pharmacy practice, including expertise in pharmacy¹² via a competency framework.¹³ This is a useful progression. However, this work could be criticised for failing to clarify adequately what knowledge base they are testing and for not differentiating skills and processes from competencies. Their long list of individual competencies¹² does not necessarily equate to an expert pharmacist. As the framework is developed, care must be taken to avoid what Handy¹⁴ describes as the “Macnamara fallacy”. Here what cannot be perceived, explained or measured is deemed either unimportant or non-existent:

“The first step is to measure whatever can be easily measured. This is OK as far as it goes. The second step is to disregard that which can’t easily be measured or to give it an arbitrary quantitative value. This is artificial and misleading. The third step is to presume that what can’t be measured easily really isn’t important. This is blindness. The fourth step is to say that what can’t easily be measured really doesn’t exist. This is suicide.”

A more thorough examination of what the clinical pharmacist knowledge base is, would be beneficial. As Wenger¹⁵ perceptively puts it “. . . knowledge is a tricky word”. Knowledge is not just local systems of competence but also the orientation of these in a wider context. It can be defined as competence in a field that is valued by others. It also involves relating a truth to truths in other areas. Perhaps knowing is also actively contributing this information and participating in social communities.¹⁵ It can be split into several forms¹⁶ including propositional knowledge, such as principles that are based on research, maxims which are of a practical nature and norms referring to the values that pharmacists incorporate and employ. Furthermore, case reports are specific, well-documented descriptions of events; prototypes exemplify theoretical principles; precedents capture and communicate the principles of practice or maxims; and parables convey the norms of values.

Junior pharmacists and preregistration trainees working in NHS organisations are assessed via published competency frameworks. The assessment is usually carried out by more senior or accomplished pharmacists. Senior pharmacists can be assessed by “expert” pharmacists but who assesses the “expert”? At present, no such processes exists for pharmacists working within the NHS. However the NHS consultants clinical excellence award scheme¹⁷ could be viewed as an assessment of expertise. Medical consultants

are already viewed as experts in their fields; the process of distinction awards asks consultants to describe excellence in their expert practice. These descriptions are then judged by their peers to determine which individuals are worthy of an award. Consultants are asked to present evidence of their involvement by reflectively relating what they do in terms of:

- Delivering and developing a high quality service
- Research
- Teaching
- Policy making
- Embracing evidence-based medicine

The next important stage in the development of pharmacy thinking is to map out in a structured manner what is the knowledge base of this profession. Are we experts in medicines or more experts in the medicine management process? Clarification and refinement can feed into the competency framework in order to develop a more meaningful understanding of pharmacy expertise. The value of this is not for some obscure academic pursuit, but is now of critical practical relevance in light of the job evaluation scheme in the “Agenda for change” process currently under way in the NHS. Here the skills, knowledge and responsibilities of different NHS workers are assessed and compared with a view to rewarding staff with equal pay for equal value.¹⁸ In job evaluation, clinical pharmacists have to articulate persuasively the value of our skills, knowledge and expertise.

Traits of an expert in clinical pharmacy

Borrowing from the nursing literature, one may more clearly identify many of the traits of an expert that are transferable to pharmacy. The United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) 1994 statement of advanced practice¹⁹ focuses on “adjusting the boundaries for the development of future practice, pioneering and developing new roles responsive to changing needs, and with advancing clinical practice, research and education to enrich practice as a whole”. This has been refined to include the advanced skills and knowledge base, augmented by strong leadership, combined with educator and research functions.²⁰ Others have added key competencies such as critical thinking and analytical skills, clinical judgement and decision making, management, communication, problem solving, collaboration and service development.²¹

An expert in clinical pharmacy is one who has authority and autonomy in their practice. They clearly are not only experts in their own minds but also regarded as such by others. They reflect on critical incidents, ie, those events that may have profound implications for practice. This reflection may occur at the time or at a later point and is crucial for monitoring and learning from experience. They should have strong interpersonal relationships within their organisation and nationally, thus

helping with leadership issues. In terms of their personal attributes they need extensive knowledge both of the literature and from experience. They will be able to prioritise competing demands on their time.

Concluding remarks

Historically in the UK, clinical pharmacy has been a mid-career stepping stone to senior management. Following the emergence of the consultant nurse, where the case was made to nurture clinical expertise and provide a rewarding career path for those who wish to stay clinically focused, there is now an opportunity for dedicated clinical pharmacists to develop expertise and to be recognised and rewarded without having to move into management.

Job evaluation¹⁸ provides a forum where expertise, relative value and contribution are assessed. The focus will inevitably turn to explore expertise in more detail. An attempt has been made here to draw from diverse literature sources to characterise the progression from novice to expert. An explanation has been offered on how experts store knowledge in an organised accessible form. The traits of experts have also been outlined. It is hoped that pharmaceutical literature will emerge that will apply many of the general principles discussed here to clinical pharmacy specifically and to pharmacy in general. Development of a more sophisticated under-

standing of expertise will feed into the competency assessment, which in turn will provide a comparable framework for expertise to flourish in clinical pharmacy.

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