

# A career as a specialist paediatric pharmacist

Interested in working  
with children?

Paediatric pharmacy  
presents a whole set of  
unique challenges;  
you'll need to be able to  
handle a lot more than  
just bad behaviour!

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**T**he role of the paediatric  
pharmacist in delivering  
pharmaceutical care to  
children and young people is  
increasing in significance.

Paediatric pharmacy encompasses all  
the clinical specialties present in adult  
medicine and paediatric pharmacists  
must therefore have a working  
knowledge of all these areas. They must  
also have a sound knowledge of the  
concepts of drug use and medicines  
management across a whole range of  
ages — from birth and in neonatal  
intensive care units, through to  
adolescence and the transition to adult  
medicine.

## Extra care and attention

**A**lthough health professionals may be  
familiar with the mantra “children are  
not little adults and cannot be treated as  
such”, it is often overlooked. Children's  
bodies handle medicines differently from  
those of adults and wide variations  
occur between different age groups.  
Therefore, care and attention needs to  
be paid when making prescribing  
decisions for children, which must take  
into account their stage of development.  
Lack of evidence on the use of medicines  
in children leads to uncertainty in dosing.  
Even at the most appropriate dose, the  
use of medicines in children can lead to  
differences in effectiveness and adverse  
effects compared with use in adults.

More than any other patient group,  
drug treatment in children needs to be  
adjusted to response. Monitoring and  
adjustment of therapy requires a detailed  
knowledge of variations in  
pharmacokinetics and

pharmacodynamics as well as other factors  
that influence efficacy, such as administration,  
formulation and absorption. However, there are  
no special systems in place to help parents  
manage their children's medication effectively,  
which is a particularly important issue in  
chronic medical conditions such as epilepsy. In  
many cases, these families may receive less  
information than others since patient  
information leaflets (PILs) are often not relevant  
to paediatric conditions. Pharmacists are in a  
unique position to provide this expertise in an  
acute and chronic setting in both primary and  
secondary care.





## hospital

parents and that the information will in the future be available in suitable formats for different age groups.

### Medicines at school

Schoolage children may have to take medicines during the school day. This can cause problems, especially if the school does not have a robust policy on the storage, handling and administration of medicines. These problems can often be overcome by using the pharmacist's knowledge in drug selection and dosing to allow for either once- or twice-daily drug administration.

Teachers may need support in managing medicines in schools. Pharmacists have an opportunity to be involved in the development of medicines policies in schools and to provide training for teachers to enable them to support pupils with long-term medical conditions who need to take medicines in school. Development of pupil-focused education initiatives around health and drugs is also a possibility.

### Licensing issues

On paediatric wards, at least 25 per cent of medicines prescribed are used outside their product licence.<sup>1-3</sup> This is often considered central to many of the issues in paediatric medicines management and is unavoidable because most new drugs that go through the licensing process have only been investigated for adults. This lack of evidence in safety and efficacy raises specific issues for clinical governance and presents a particular challenge to paediatric pharmacists. Children should not be denied effective treatment simply because of the licence status of a drug for a particular age group. Pharmacists are in a unique position to evaluate the evidence, risks and consequences of drug use and inform other health care professionals appropriately.

In September 2004, the European Commission accepted a proposal entitled "Better medicines for children" which was designed to encourage more research to be carried out on medicinal products for use in children.<sup>4</sup> It is hoped that this will

### Patient information

The national move towards using manufacturers' patient packs may provide problems for pharmacists working with children. Legally, PILs must be provided even if the medicine is being used in an off-label manner, eg, because of the age of the patient. However, PILs often contain information that is not relevant or may be alarming to patients, and the paediatric pharmacist has a pivotal role in ensuring that the parent or carer's confidence is maintained.

Adequate information should be made available so that the parent, carer or, where appropriate, the young person can make an informed decision regarding their medicines. Additional information should be given if possible and generic leaflets are available for parents and adolescents explaining the use of unlicensed and off-label medicines. The feasibility of producing nationally available information leaflets for using such medicines in children is under discussion. It is hoped that this process will engage the views of children and

become European law in late 2006, leading to more licensed products for children.

Problems brought about by the lack of paediatric licensed medicines include crushing tablets to form suspensions, using vials containing 100 times overdose amounts for neonates, suspensions containing enough alcohol to harm an infant seriously and a general lack of evidence for dosing. Formulation and administration can directly affect treatment efficacy. Once again, pharmacists are uniquely qualified to advise and influence treatment, and risk management assessments of all new drugs, formulations and preparations should form part of this role.

Risk assessment should include a review of the appropriateness of the formulation and the potential for error in normal use. Systems to minimise the potential for error should be designed. Information sources, eg, formularies such as Medicines for Children and especially the recently launched BNF for children are important to paediatric pharmacists in providing informed advice for the recommendation and dispensing of medicines which are either unlicensed or being used off-label.

### Problems after leaving hospital

The sometimes complex nature of medicines used by children described above can cause problems when children are discharged from hospital and can pose significant risks (eg, medicines may be unlicensed and difficult to source, information regarding appropriate doses may be difficult to obtain from standard sources or special formulations may be required). Parents often report difficulty in obtaining repeat supplies of unlicensed medicines. However, GPs, community pharmacists and other health care professionals are expected to manage a child's treatment and provide continuing supplies.

Many of these issues arise because of poor discharge planning and communication or lack of appropriate information. The potential role of the pharmacist in improving paediatric medicines management at this point is obvious. Developing a local, standardised

approach across all sectors of health care may be one way of addressing the issues. The National Pharmacy Association has recommended the introduction of a medicines management support programme, specifically designed to support families with complex medicines management needs. Developed through joint working across primary, secondary and tertiary care, this approach could help improve patient care and minimise risks for children who need to take such medicines.

### Postgraduate education

At the moment, there are no nationally recognised training schemes or mandatory postgraduate qualifications for pharmacists wishing to work in this field. Experience is normally gained on a day-to-day basis with the support of more experienced paediatric pharmacists, by attending conferences and from study days and journal reading. Paediatric pharmacy expertise may be limited locally due to lack of specific education and training. This lack of underpinning support often puts pharmacists off becoming involved in paediatrics since it is viewed as a complex area of practice. A wider, structured networking of paediatric expertise may help with the provision of training and enable sharing of knowledge and experience and the development of a consistent approach to specific paediatric issues.

In 2002, the Faculty of Neonatal and Paediatric Pharmacy was launched in association with the College of Pharmacy Practice. This faculty provides professional support for pharmacists in the UK interested in or working in the field of paediatrics. Their aim is to provide a career pathway for practitioners, with competence assessed and acknowledged by experts in the field of neonatal and paediatric pharmacy. The faculty is working closely with both NHS Education for Scotland and the Centre for Pharmacy Postgraduate Education to produce distance learning packages to aid the knowledge and skill requirements set by the faculty.

A number of schools of pharmacy offer modules in paediatrics with their postgraduate courses. However, few of

these modules, if any, are aimed at or attract pharmacists from primary care.

There are currently no postgraduate courses available for more experienced paediatric pharmacists, although the School of Pharmacy, London, recently piloted an advanced paediatric module that was targeted at such pharmacists. Six pharmacists successfully completed this course in 2005 and it is hoped that this course will continue to be run over the coming years.

### Conclusion

Paediatrics is a unique and rewarding area of pharmacy practice. However, there are challenges in overcoming the significant gaps in paediatric pharmaceutical care that exist. It is expected that continued research into this area will result in the gathering of more solid safety and efficacy data and lead to an increase in the manufacture of medicines specifically tailored to children. This will allow pharmacists to practise more confidently in this specialty.

#### References

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