10 Critical issues for hospital pharmacy

We asked 10 leaders in hospital pharmacy across Europe to consider the most critical issues from near history in their field of expertise. The result? A stimulating, informative and sometimes surprising overview of how our profession has developed in so many areas over recent years. We are indeed privileged to look through the eyes of these distinguished colleagues into the present issues and future prospects, from a truly European perspective.

1. Development from product-orientated pharmacy towards patient-orientated pharmacy
Dr. Joaquin Bonal de Falgas

Pharmacy practice was oriented for many years to the compounding of drugs. From the mid-1900s, with the expansion of the pharmaceutical industry, the pharmacist was restricted to dispensing activities and ensuring the quality of drugs supplied to patients. Early in the 1970s, the clinical pharmacy concept began to change the emphasis to patient-oriented pharmacy. Following the US, in 1979 a group of less than 40 European hospital pharmacists created the European Society of Clinical Pharmacists (ESCP), which today has a membership of almost 1000. Development of greater involvement in patient service and integration of pharmacy as a health care profession today also involves community pharmacists, through the new concept of Pharmaceutical Care promoted in 1990 by Hepler and Strand, and defined as follows:

“Pharmaceutical care involves the process through which a pharmacist cooperates with a patient and other professionals in designing, implementing, and monitoring a therapeutic plan that will produce specific therapeutic outcomes for the patient. This in turn involves three functions: (1) identifying potential and actual drug-related problems, (2) resolving actual drug-related problems, (3) preventing potential drug-related problems” [1]

In Europe in general, an increasing number of community pharmacists accept and apply Pharmaceutical Care in their daily practice. The extent of this varies in some countries it can be as little as below 5%. The Pharmaceutical Care Foundation in Spain has been striving since 1998 to expand such practice and, in my opinion, we have made great progress. But there is still a lot more to be done. The success of Pharmaceutical Care, as a new way to encourage the involvement of community pharmacists in direct patient care, will depend very much on the number that embrace it.

2. Clinical pharmacy development
Dr. Christine Clark

The projects described at annual EAHP congresses over the past 10 years indicate considerable developments in clinical pharmacy in many countries in Europe. A number of critical issues have emerged. One of the most important is payment of pharmacists for clinical pharmacy services. This is, of course, the ultimate recognition of a service and it often goes hand in hand with a demand for a routine service that is available to all. As many services developed in an ad hoc fashion, this can pose a challenge, raising the question of whether the pharmacist workforce is big enough to deliver the new services and forcing critical reappraisal of the work that pharmacists do.

A growing understanding that pharmacists needed to use their skills and knowledge in services concerned with direct patient care rather than with supply of medicines prompted many hospital pharmacies to separate the supply of medicines from clinical pharmacy services. The training of pharmacy technicians to take over dispensing and supply of medicines has made the “pharmacist-free dispensary” a reality for many. Moreover, pharmacy technicians can also carry out supply functions and routine clinical pharmacy support work at ward level.

In 2001, UK hospital pharmacy received a considerable boost with the publication of a report from the Audit Commission that told hospital managers to “put pharmacists closer to patients as this is where they add the greatest value” [2]. One of the approaches recommended was extensive use of IT and automation. Two particularly useful developments include automated dispensing systems, which have led to greater efficiency and increased patient safety, and electronic patient records and electronic prescribing. For clinical pharmacists in the UK, the opportunity to prescribe medicines is the most significant recent development. The rules governing supplementary prescribing require close collaboration with doctors. In many ways the scheme merely formalises current practice in progressive centres. Over the next 10 years, we will need to build on the foundations that have been laid to ensure that the medicines of tomorrow are used as safely and effectively as possible.
3. Development of hospital pharmacy towards integrated health systems
Professor Dr. Marion Schaefer

Over recent years specialization in science and health care has inevitably led to a separation of consecutive steps within the health care process. This raises new questions regarding innovative forms of cooperation especially at the interface between hospital and ambulatory care for patients with chronic diseases. Diseases most suitable for an integrated approach include among others, hypertension, coronary heart failure, COPD and diabetes—conditions usually associated with a frequent change between hospital and ambulatory care, increasing the difficulty in managing compliance problems, adverse drug reactions (ADRs) or interactions. Mutually accepted treatment guidelines between cooperating partners and quality assurance are a prerequisite to ensure successful care programmes. These have to be outcome controlled; suitable parameters defined and followed in order to evaluate whether patients indeed benefit from structured integrated care plans.

Although some studies indicate that a seamless care approach along complex and separated treatment lines is possible, logistic hurdles and competitive behaviour usually hamper broader implementation of integrated care concepts in general practice. It would help if hospital and community pharmacies define their fields of interest and cooperation within the larger integrated health system. Initiation of integrated care projects and joint educational programmes would improve communication across the hospital-community interface, clearly defining respective activities (such as medication documentation and measures to improve medicines management e.g. coping with ADRs and compliance problems). This is especially important when a patient is admitted to or released from hospital, to reduce the likelihood that the patient is re-admitted.

Standardized and computerized medical records are an essential part of software to ensure smooth communication between all partners of the care process. However, even very sophisticated integrated care programmes may need an additional individualized case management plan which gives a helping hand to those who are in need not only of the best possible therapy but also of social and family support.

4. Pharmaceutical oncology - the role of the hospital pharmacist
Dr. Irene Krämer

Oncology pharmacy was the nucleus for implementation of clinical pharmacy services in German hospital pharmacy departments as well as in other European countries and especially former Eastern Bloc countries. Oncology pharmacy embraces all fields of hospital pharmacy, such as drug manufacturing, patient oriented clinical pharmacy services, pharmaceutical logistics and management tasks such as implementation of transmural pharmacy and integrated health care services. Its role is broad ranging from prescription monitoring to cytotoxic drug preparation and patient counselling. Oncology pharmacists must have a broad knowledge of pharmaceutical technology, pharmacotherapy (e.g. antitumor and supportive therapy, infectious diseases, enteral/parenteral nutrition, use of analgesics), palliative care as well as social and pharmacoeconomic aspects.

Most probably the fascination of oncology pharmacy is due to its diversity, continuous development of novel therapies and the collaboration with clinical oncologists, who appreciate the role of oncology pharmacists within the interdisciplinary team. It is a never ending challenge for oncology pharmacists to keep abreast of the latest developments in oncology therapy and to inform effectively the other team members. Continuing education and sound education and training of young oncology pharmacists all over Europe is crucial. Oncology pharmacy, especially, helps to demonstrate pharmaceutical identity and pharmacetical competency. During the last decade hospital pharmacists developed cytotoxic drug preparation as a special form of aseptic drug preparation and established safety and quality standards. We were also intensively involved in the research of stability and incompatibility of cytotoxic drug solutions, which resulted in important and useful data for daily practice. Further stability and incompatibility studies of biopharmaceutical protein anticancer drugs are warranted in the near future. Tumour vaccination, stem cell transplantation and gene therapy raise numerous pharmaceutical and clinical questions, which will show oncology pharmacy the way ahead.
The past ten years have been a time of great change within the technical specialities the UK, particularly in the field of aseptic preparation and related quality assurance. Standards for aseptic preparation in hospital pharmacies operating under pharmacist supervision [3] were introduced in the mid-nineties. These standards have subsequently been implemented and developed via audit, whilst being reinforced by the Dept. of Health Controls Assurance requirements in the UK. The audit culture has been enthusiastically embraced and is in keeping with the concepts of continuous professional development and lifelong learning that are currently being introduced.

The workload in hospital aseptic units has increased dramatically over the past decade, particularly in relation to provision of cytotoxic products in ready to administer form. This has often limited the ability of pharmacies to respond to the requirement for preparation of other intravenous products for supply to wards. Pharmacies are now required to risk assess the preparation of intravenous products in clinical areas, with the aim of bringing the higher risk products within pharmacy control.

In April 2003, the UK government announced that £42 million was to be made available in England to modernise ‘traditional’ manufacturing within the NHS. Bids were received from licensed units and judged on their merit. This capital has now largely been allocated to invest in improving facilities and equipment for pharmacy production and associated quality control.

Work is well underway to provide a national, coordinated service – an exciting development for hospital pharmacy. It is anticipated that this service will be able to support non-licensed units by providing batches of ready to use clinically approved products (both sterile and non-sterile). Modern, well-equipped, responsive licensed manufacturing lead and support units, underpinned by a knowledgeable and efficient quality assurance service, should be a reality in the UK within the next few years.
8. Increasing appeal to the economic skills of the hospital pharmacist

Professor Dr. Frans F.H. Rutten and Professor Dr. Arnold G. Vulto

Most European hospitals have introduced some form of budgeting in the last decades, giving increased responsibility to the hospital pharmacist for cost effective production, delivery and allocation of pharmaceuticals to patients. Although this latter role is shared with medical specialists, the hospital pharmacist's input to pharmacotherapeutic treatment strategies has become more prominent. The incorporation of 'pharmacoeconomics' into hospital pharmacist training programs, has given many a basic knowledge of cost effectiveness analysis. Some have become active researchers in this area. In jurisdictions where a formal reimbursement approval system is lacking for hospital medicines, the responsibility of the hospital pharmacist is especially large. Often a centrally determined positive list exists for medicines prescribed in ambulatory care (with explicit criteria for reimbursement and multidisciplinary committees to implement them). As many new and very expensive (e.g. biotech) products are being introduced, a clash with hospital budget constraints is inevitable, leading management to turn to the hospital pharmacist to evaluate a product beyond its acquisition cost. As well as determining the best evidence on efficacy and (cost) effectiveness, he should be able to interpret the underlying study results and implement them for the hospital.

New rules for accountability and transparency in health care will require proof that medicines actually deliver their promised benefits, often on the basis of well-executed randomised controlled trials in selected patient populations. This new area of 'health outcomes research' sets new methodological challenges, but permits hospital pharmacists to take the lead. Combination of their medical and pharmacological expertise with electronic patient records, enable correction for the different biases that emerge when trying to measure costs and benefits in actual practice. Entry into the exciting area of medical technology assessment (MTA) and pharmacoeconomics gives a new dimension to the wide spectrum of skills of hospital pharmacists necessary to be able to deliver optimal pharmaceutical care.

9. The hospital pharmacist: genesis of a new role

Professor Dr. Christian Lovis

The European hospital pharmacist is facing his most important challenge of recent history. Moving from cookbook to information technology, between evolution and revolution, his role is at the crossroads of emerging needs and stakeholders. A wide range of innovative competencies have to be developed, new goals to be met. The business field of hospital pharmacists is widening, including:

- links with the pharmacy industry and its aim to add drugs to hospital lists;
- hospital administrations facing growing financial pressures;
- care providers requesting better decision support systems and dispensing tools;
- patient concerns about drugs and their use;
- information system requirements for better knowledge management and representation.
Hospital pharmacists may have to reconsider their place in direct care provider teams. In several countries, roles are increasingly specialized, e.g., antibiotic or transplant pharmacists. They play an important role in improving care processes, e.g., inpatient pharmaceutical counselling and medication review - competencies often shared with physicians and clinical pharmacologists. Economic pressure and time-standards on physicians will lead to a progressive shift of these tasks to the hospital pharmacist. Rising drug expenditures, number and complexity of drugs, awareness of preventable adverse events, or the need for structured documentation - these are many reasons to emphasize the role of pharmacy decision support. Care providers are experiencing difficulty with increased health care needs and have not been able to control drug expenditures. Pharmacists, trained to deliver pharmaceutical care, should be an integral part of the system. The recent developments in computerized physician order entry (CPOE) with embedded decision-support can lead to improved partnerships among patients, physicians and pharmacists, to deliver quality health care cost effectively [4]. Strong competencies will need to be developed to produce and maintain coherent knowledge (e.g., databases and decision-support), allowing CPOE to work. Using their respective knowledge base in a collaborative model, pharmacists and physicians could provide optimal drug therapy, benefiting both patients and the health care system.

10. Hospital pharmacy and leadership in medical care
Dr. Mathieu M. Tjoeng

Throughout the years a shift in attention has been realized in the way hospital pharmacists see their world. From earliest times ‘through the looking-glass’ we saw the drug, and far away the patient. Now society has driven us to focus on the patient and to derive benefit from the way we improve her health and safety. This change of focus and attitude has several implications. The pharmacy department was once a store room combined with production facilities and a laboratory. Now hospital pharmacy is a clinical service with specialists in pharmacotherapy, distribution practice and medication safety, supported by traditional pharmaceutical back office activities.

What about the men and women in the hospital pharmacy coat? They have their own orientation and specialization, their own integration in the hospital, in the intensive care unit, in neurology, in pediatrics, or they lead an IV additive service or a radiopharmaceutical department and they combine pharmaceutical and clinical tasks. Hospital pharmacy can have a very large impact in the clinic. The question is: how does one arrive and stay at that level? In my opinion, four basic requirements are critical:

1. The level of education and professional training of hospital pharmacists has to be at least equal to that of the medical specialist;
2. The hospital pharmacist has a direct and independent responsibility for patient care;
3. The hospital pharmacist is part of the hospital medical staff and participates in all critical hospital committees;
4. The director of pharmacy is a member of the management team of the hospital.

There is a drive towards innovation, in learning and education and exposition of the impact of the right use of drug therapy on society costs and welfare. It is now time to learn from our best European practices and to create a new leadership in implementing these in all our EAHP member countries. The future is ours!

References
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