

# The first European conference on automation and innovation

How automation will shape the future of hospital pharmacy in Europe was discussed at a recent meeting. Christine Clark reports on the potential benefits, such as a reduction in dispensing errors and pharmacists performing a more clinical role

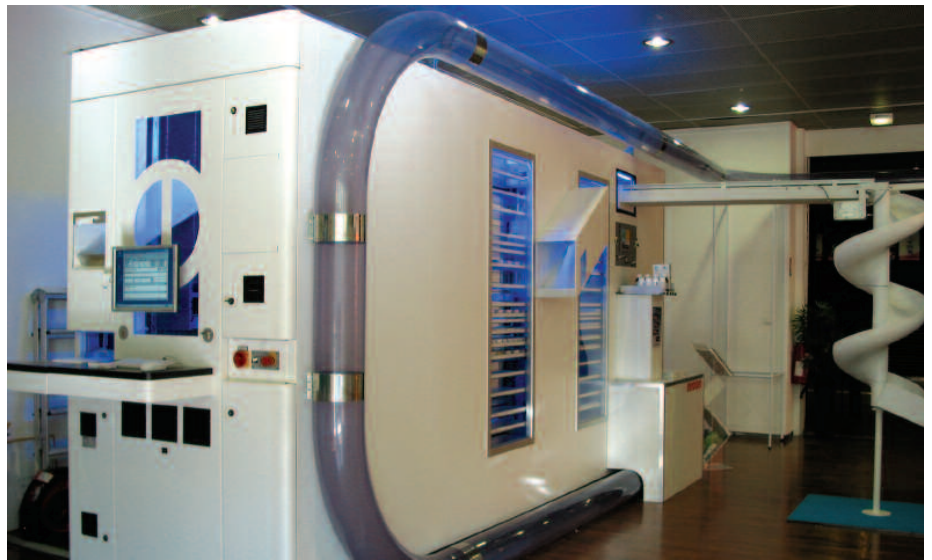
**A**utomation will shape the future of hospital pharmacy according to Jacqueline Surugue, president of the European Association of Hospital Pharmacists (EAHP). Increasing demands from patients and the focus on disease management and prevention mean that pharmacists are increasingly required in the front office rather than the back office, and the only way to cope is by using automation, she continued.

A survey of 634 European hospitals conducted by EAHP in 2000 showed that computerised dispensing of unit doses was available in 2.4 per cent of hospitals, computerised stock picking in 1.5 per cent, robots in 0.1 per cent and integrated computerised systems in 3.6 per cent. Outside Europe, dispensing robots were installed in 7.8 per cent of hospitals. In the future, automation in hospital pharmacy is likely to follow the pattern established in the car industry — where the US, Germany, Japan and Italy are leading the way, said Dr Surugue.

There are now more than 50 hospitals in the UK with automated dispensing systems and a further 30 are planning to implement automated systems in the near future, said Derek Swanson, deputy director of pharmacy, Royal Liverpool and Broadgreen University Hospitals NHS Trust. Automation is not the driver for changes in hospital pharmacy but it has complemented them and pharmacy needs to seize the opportunity that automation offers in order to give hospitals the services that they need, he continued.

Pharmacists in the UK now have largely clinical roles, concerned with tasks such as medication history reviews, provision of prescribing advice and medicines management. In many cases they are also involved in prescribing. Pharmacy technicians are used extensively and in some hospitals are

The first European congress on pharmacy innovation was held on 17–18 September at the Congress Centre in Perpignan, France. **Christine Clark** is a freelance journalist.



"Max" is a channel – type robot that can output 1,200 packs per minute

involved in medicines information services. Other staff, such as purchasing officers and trained dispensers, help to ensure that the back office functions run smoothly.

The overall effect of these developments has been to make better use of the time and expertise available. This has led to improvements in the quality of care as many problems are prevented instead of having to be fixed after the event.

The drivers for automation include increased use of original packs, increasing dispensing load (more than 1,000 items per day in Mr Swanson's hospital) and the need for improved use of space. In his experience, automation using both the Swisslog Pack-Picker and the Rowa Speedcase has led to improvements in morale and recruitment and has been a catalyst for other positive changes.

Saving space is a major benefit of the use of robots, such as the Rowa automated dispensing systems that have been installed in his hospitals for a number of years, explained Michael Cross, director of pharmacy, Barts and the London NHS Trust. Other benefits include reductions in costs and risks, protec-

tion of staff from problems such as repetitive strain injury, contamination by cytotoxic agents and boredom. They also save staff time. Mr Cross pointed out that the true cost of staff is about 50 per cent higher than the nominal cost, once allowance is made for items such as employer's costs and training.

A number of developments are currently under way in UK hospitals. So-called "intelligent cabinets" are being trialled and there has been huge growth in the use of automated original-pack dispensing. Robots are now being developed that can handle filling of ward boxes, labelling of products, automated filling of syringes and recycling of part packs. Refrigerated modules are now available in many robots. Intravenous additives represent a major opportunity for the future — this is the "the big unautomated area" at present, he said.

Pharmacy managers should not be misled into thinking that a robot is too big for their requirements, warned Mr Cross. Some spare capacity is useful and will offer better value in the long run. In his hospitals all products are now put into the robot and this has resulted in better stock control and less time wasted looking for medicines.



Ann Winsper, chief technician, Wirral Hospitals NHS Trust



Jaqueline Surugue, president of the European Association of Hospital Pharmacists

Wards will become the pharmacy technician's first home in the future and the dispensary will have a skeleton staff, predicted Ann Winsper, chief technician, Wirral Hospitals NHS Trust. The Rowa Speedcase automated dispensing systems in the Wirral hospitals have enabled technicians to leave the dispensary to take on the management of all aspects of the supply of medicines. This, in turn, has allowed nurses to devote more time to nursing and pharmacists to concentrate on clinical services. The amount of reworking has fallen dramatically, she noted.

The whole experience has prompted repeated re-evaluation of the supply processes to eliminate problems such as re-ordering of items that have already been supplied. Assistant technical officers are now being trained to dispense medicines, as this is a task that they can handle once dispensing robots are in place.

When asked what advice she would offer to technicians in departments that were about to embark on automation projects, Miss Winsper recommended making contact with as many people as possible who had been involved in this type of project.

#### ***Hospital Pharmacist online***

*Hospital Pharmacist* is available online at [www.pjonline.com/hp/index.html](http://www.pjonline.com/hp/index.html). The website contains the current issue and an archive of back issues from January 2000 onwards. There are also links to the regular features in *Hospital Pharmacist* (eg, Life-long Learning, meeting reports, comments, careers, focus on technicians, etc).

The site also contains advice to contributors to *Hospital Pharmacist*, information about the annual *Hospital Pharmacist* conference, a link to *The Pharmaceutical Journal* careers page and information on subscribing to the journal.

A children's hospital in Dallas, Texas provided the inspiration for changes planned at Marseilles Hospital, France explained Jean-Pierre Reynier, chief pharmacist, Merseilles Hospital. A 10-year project to automate the pharmacy services completely has been undertaken in order to ensure that pharmacists are available to care for patients 24 hours per day. At each stage of automation, the medication error rate was recorded and a progressive reduction has been demonstrated.

When the project started in 1997 the medication error rate was 280 per million doses dispensed. The installation of dispensing robots for unit doses and later for intravenous doses, along with a move to put pharmacists on wards and the introduction of bar-coding for intravenous doses steadily brought the error rate down to 54 per million doses issued.

Starting next year, pharmacists in Marseilles plan to re-engineer the pharmacy services to four hospitals comprising approximately 4,000 beds. At present, medicines are distributed from a regional store by the pharmacy service, and nurses dispense medicines from the large stocks that are held on hospital wards. In the new system, wholesalers will deliver directly to the wards and medicines will be stored in "intelligent cupboards". A fully integrated system should be operational by 2010, he said.

An automated unit dose system has been in operation at a hospital in Toulouse for several years but it was poorly adapted to the needs of the hospital system, according to Jean Calop, professor of clinical pharmacy, University of Grenoble. A preferable system would be automated dispensing for all medicines, including sterile products, with secure, automated cabinets on wards. This would enable pharmacist to spend more time on wards providing advice and ensuring that patients were appropriately educated about their treatment.