**Conclusions**

The reorganisation contributed to safer and more efficient distribution of drugs. No more incorrect picking of medicines occurred thanks to the high reliability of the robot. Remaining errors could still be reduced by improving the conveyor software. With one single person operating the robot, 2 full-time equivalents were saved, leading to an estimated return on investment in 4.5 years. For medicines remaining outside the robot (i.e. controlled drugs, cold chain drugs or those with an unusual size, shape or weight), a scanning system will be introduced and evaluated by the same protocol.

No conflict of interest.

**Results**

1. Manual dispensing error rate was 0.93% (n = 5805 ordered lines; wrong drug: 0.36%, missing drug/quantity: 0.31%, additional quantity: 0.26%). By decreasing this error rate to 0.27% (n = 5840; only conveyor errors leading to missing drug/quantity and additional quantity), the automation avoided more than 4500 errors each year.

2. With the distribution of 880 boxes of drugs/hour (reduced to 630 when the automatic 'Pro-log' filling system was working simultaneously), the robot significantly increased the distribution speed in comparison with the manual picking (363 boxes/hour).

**Materials and Methods**

The study examined the pharmacoeconomic profiles of the two hospitals. To compare the pharmacoeconomic profiles of the two hospitals, the following were considered:

- **Costs:** The cost per prescription was €713,203 (1,595 prescriptions vs. 1,152, P < 0.05), and the mean cost per inpatient per nursing day was €77.67 vs. €67.23.

- **Errors:** In SGH, HIV+ patients are served (27.47% of uninsured and 47.35% of insured outpatients) and this is reflected in the increased cost of the outpatients while the error rate of wrong drug/quantity and additional quantity was 0.41% vs. 0.24% respectively.

- **Workload Efficiency:** The distribution speed in comparison with the manual picking was 5840; only conveyor errors leading to missing drug/quantity and additional quantity were considered.

No conflict of interest.

**Purpose**

To analyse two storage and dispensing automation systems in order to make a decision to improve the safety, efficiency and quality of medicines use in our hospital.

**Materials and Methods**

Review of two systems: A) fully integrated robotic automation (fully enclosed storage modules that automatically generate individual dosage units (DU) grouped into rings per patient), and B) system with different components (semi-automatic storage and cart-filling system, plus storage tanks filling, automatic dispensing systems (DAS) in inpatient units, plus outpatient medicines automation and repacking). We analysed the resources currently available and the benefits of the two systems. DU's consumed in 2011 were examined and classified by pharmaceutical form, volume, storage conditions and whether they can be dispensed to outpatients or not. High volume solutions and enteral nutrition were excluded. The costs used in the analysis are the sum of the quotes received from suppliers, excluding maintenance costs. The same level of human resources was assumed. Costs were expressed as additional costs per number of DU's dispensed under each system.

**Results**

16,213,352 DU's were dispensed in 2011 in connexion with 2971 drugs (40% could be dispensed to outpatients). Advantages and disadvantages of the two systems are listed in the Table.
limitation of the study is that the costs of maintenance and the human resources reengineering required need to be further explored.

Abstract DSL-004 Table 1

<table>
<thead>
<tr>
<th>System A</th>
<th>System B</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAFETY</td>
<td></td>
</tr>
<tr>
<td>All DUs can be unequivocally identified with batch expiry date</td>
<td>Partial identification with batch barcode and expiry date</td>
</tr>
<tr>
<td>Complete record, including batch, administration by scanner</td>
<td>Record drug administration with barcode without batch</td>
</tr>
<tr>
<td>Closed system</td>
<td>Partially open systems, error risks</td>
</tr>
<tr>
<td>EFFICIENCY</td>
<td></td>
</tr>
<tr>
<td>Entire integrated system including outpatients and elderly residences</td>
<td>Immediate availability of nursery doses needed to the patient</td>
</tr>
<tr>
<td>Full return of unmanaged DUs</td>
<td></td>
</tr>
<tr>
<td>Allows automatic checking of expiry dates</td>
<td>Full expiry date control is difficult</td>
</tr>
<tr>
<td>QUALITY</td>
<td></td>
</tr>
<tr>
<td>Complete record of all movements of both drugs and users</td>
<td>High cost</td>
</tr>
<tr>
<td>Partial recording of users, batches, drugs in drug use chain</td>
<td>High cost</td>
</tr>
<tr>
<td>Additional cost per DU (euros)</td>
<td>0.19 0.20</td>
</tr>
</tbody>
</table>

No conflict of interest.

DSL-006

**COMPARATIVE STUDY OF THE COST OF ERYTHROPOIETIC FACTORS, ORIGINAL MEDICINES AND BIOSIMILARS IN FRENCH CARE FACILITIES**

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1D Karouby, 1C Vallet, 1F Bocquet, 1P Paubel, 1GROUPE HOSPITALIER PARIS SAINT JOSEPH, Pharmacy, Paris, France; 2Agence Générale des Produits de Santé, Pharmacy, Paris, France; 3Université Paris-Descartes, Pharmacy, Paris, France

**Background** The patent expiries of leading biological products and the development of biosimilars create opportunities for cost savings. No studies have been carried out in the French hospital market.

**Purpose** To perform a cost saving modelling analysis and investigate the potential factors that could affect the price of drugs.

**Materials and Methods** We carried out a comparative study in French healthcare facilities, representing about 65% of national hospital beds, of the price of erythropoietic factors. The data were collected on procurement procedures operative as of 1 January 2012.

**Results** 25 care facilities agreed to participate in the study. The overall sales turnover reached €15 M. Biosimilars represent less than 1% market share. All the establishments granted a discount of between 5% and 69% on the prices fixed by negotiation between the Comité Économique des Produits de Santé and the manufacturers, depending on the category (drugs, biosimilars or original biopharmaceuticals). The average discounts ranged from 11% to 75%. Binocrit, the main biosimilar represented was 25.6% less expensive than its original medicine Eprex. Based on French hospital financing, we show a 24.7% cost saving if a high interchangeability rate is adopted. Some participants could save up to 50% of their budget.

We identified and analysed three criteria known to have a far-reaching effect on the drugs price. We observe no or little effect of the type of procurement procedure and specified quantity of medicine. The starting date of the contract is the primary criterion when purchasing drugs. The impact of these criteria varied depending on the drug in question and no general conclusions about medicines could be drawn.

**Conclusions** The market for biosimilars is growing at a faster rate than the global prescription-drug market. Many top-selling biologics are due to lose patent protection over the next few years. The great potential for cost savings apparent in our study could be investigated in other countries.

No conflict of interest.

DSL-007

**DOES PHARMACY CONTRIBUTE TO DELAYS IN HOSPITAL DISCHARGE?**

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V Marvin, S Kuo, D Linnard. Chelsea and Westminster Hospital, Pharmacy Dept, London, UK

**Background** Efficient management of patient flow including timely discharge from hospitals is vital. Patients in UK hospitals are commonly given individually labelled medicines to take home (TTOs). It is perceived by the multidisciplinary team at our hospital that waiting for these medicines is a significant rate-limiting step in the discharge process.

**Purpose** We examined the timeframes around TTO prescribing, dispensing and patient discharge in order to identify delays and any negative impact of the pharmacy processes involved.

**Materials and Methods** All TTO prescriptions entered into the pharmacy electronic log on one day in May 2012 were examined...