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 automated ‘Pro-log’ filling system was working simultaneously), the robot significantly increased the distribution speed in comparison with the manual picking (303 boxes/hour).

Conclusions This 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.

Conclusions We found statistical differences among the pharmacoeconomic data for the first half of 2011. Data were extracted from the Hospital Information Systems.

Results 14,996 patients were hospitalised in CGH and 15,520 patients in SGH with a mean number of nursing days 3.99 vs. 3.55 respectively.

The total cost of drugs was €6,705,297 vs. €4,933,028 (P < 0.05) respectively.

The drugs cost for the inpatients was €5,034,701 vs. €3,965,127 (P < 0.05) and the mean cost per prescription was €619.10 (P < 0.05).

For the uninsured outpatients the drugs bill was €217,923 vs. €254,694 (3,506 prescriptions vs. 2,016 P < 0.05), and the mean cost per prescription was €62.16 vs. €67.23.

The drugs cost for the insured outpatients was €1,452,668 vs. €1,595,203 (1,595 prescriptions vs. 1,152, P < 0.05), and the mean cost per prescription was €909.42 vs. €619.10 (P < 0.05).

The percentage cost for the main categories of drugs were: cytostatics 7.54% vs. 4.55%, cardiovascular 5.57% vs. 3.98% and erythropoietins 11.45% vs. 3.11% (P < 0.05).

The same level of human resources was assumed. Costs were expressed as additional costs per number of DUs dispensed under the same protocol.

The resources currently available and the benefits of the two systems. DU costs 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 DUs dispensed under each system.

Results 16,213,352 DUs 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.

Conclusions The integrated robotics system (system A) appears to be a safer, more versatile and more efficient system providing more information than system B, which provides greater accessibility for nursing. The cost analysis is slightly favourable system A.

No conflict of interest.
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>Advantages and disadvantages of the two systems</th>
<th>System A</th>
<th>System B</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAFETY</td>
<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></td>
<td>Complete record, including batch, administration by scanner</td>
<td>Record drug administration with bar code without batch</td>
</tr>
<tr>
<td></td>
<td>Closed system</td>
<td>Partially open systems, error risks</td>
</tr>
<tr>
<td>EFFICIENCY</td>
<td>Entire integrated system including outpatients and elderly residences</td>
<td>Immediate availability of nursery doses needed to the patient</td>
</tr>
<tr>
<td></td>
<td>Full return of unmanaged DUs</td>
<td>Full expiry date control is difficult</td>
</tr>
<tr>
<td>QUALITY</td>
<td>Allows automatic checking of expiry dates</td>
<td>Complete record of all movements of both drugs and users</td>
</tr>
<tr>
<td></td>
<td>High cost</td>
<td>High cost</td>
</tr>
<tr>
<td></td>
<td>Complete record of all movements of both drugs and users</td>
<td>Partial recording of users, batches, drugs in drug use chain</td>
</tr>
<tr>
<td>Additional cost per DU (euros)</td>
<td>0.19</td>
<td>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
doi:10.1136/ejhpharm-2013-000276.248

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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 Economique des Produits de Santé and the manufacturers, depending on the category (drugs, biosimilars or original biopharmaceuticals). The average discounts ranged from 11% to 73%. Binocirit, 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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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