The results are expressed in the above table:

**Conclusions** Individualization of dosage represents both an optimization of resources and increased patient safety. Repackaging improves difficult-to-measure volume management, avoiding handling in unsuitable conditions by the patient.

No conflict of interest.

<table>
<thead>
<tr>
<th>Drug/Pathology</th>
<th>No. of patients treated</th>
<th>No. different dosages</th>
<th>Syringes made</th>
<th>Syringes consumed</th>
<th>Cost of full dosage form</th>
<th>Cost of individualization</th>
<th>Saving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adalimumab/Rheumatoid Arthritis</td>
<td>3</td>
<td>2</td>
<td>70</td>
<td>35</td>
<td>€33,971.00</td>
<td>€17,519.31</td>
<td>€16,451.69</td>
</tr>
<tr>
<td>Anakinra/ Juvenile Idiopathic Arthritis</td>
<td>6</td>
<td>9</td>
<td>2274</td>
<td>809</td>
<td>€58,680.57</td>
<td>€34,804.94</td>
<td>€23,875.63</td>
</tr>
<tr>
<td>Pegfilgrastim/ Congenital Neutropenia</td>
<td>1</td>
<td>1</td>
<td>148</td>
<td>74</td>
<td>€92,352.00</td>
<td>€4,7263.84</td>
<td>€5,088.18</td>
</tr>
</tbody>
</table>

**Background** Paediatric clinical research represents a challenge and faces particular pharmaceutical constraints.

**Materials and Methods** Cross-sectional survey of 12 pharmacy departments from France and 12 from Canada with an online 50-question survey (June–September 2012). The median [minimum–maximum] was calculated for each country and compared using the Mann-Whitney or Fisher’s exact test. Respondents were asked to rank, in order of importance from 1–10 (1 being the most important), factors that discourage paediatric clinical research.

**Results** There was a similar number of ongoing paediatric clinical trials in France and Canada (58 [10–81] vs. 20 [4–178], p = 0.205). A lower number of pharmacists per hospital was observed in France (17 [11.5–35] vs. 45 [18.9–76.8], p = 0.009), but a similar number of pharmacists were assigned to clinical trials (1.5 [1–3] vs. 1.9 [0.2–17.4], p = 0.921). Institutional protocols represented the majority of paediatric clinical trials in France (61% [14–100] vs. 25% [0–100]). Similar services were offered, but the majority of French respondents offered help with institutional protocol development (91% vs. 50%, p = 0.063). The majority of respondents reported that the payment provided by the investigators was insufficient to cover pharmaceutical support costs and that formulations were not easily obtained from manufacturers. Respondents from both countries ranked more highly the same factors that discourage paediatric clinical research, such as absence of financial interest from the pharmaceutical industry (median rank 2 [1–6] vs. 4 [1–10]), prohibitive cost versus profit ratio (2 [1–3] vs. 3 [2–9]), small patient cohorts per hospital (2 [1–7] vs. 4.5 [1–10] and the non-availability of appropriate drug formulations (3 [1–9] vs. 5 [1–10]).

**Conclusions** Similar constraints were identified in France and Canada. Further studies are required to identify relevant incentives to better support pharmacists’ role in paediatric clinical research.

No conflict of interest.

**Background** It is widely recognised that Total Parenteral Nutrition (TPN) is essential for the patient’s survival and not just for simple assistance. Therefore, it’s important that sufficient attention is devoted to assessing the patient’s nutritional status. The department of Pharmacy has always been involved in the management of TPN to support the clinical and therapeutic needs of the patient.

**Purpose** To facilitate the physician’s delicate task of prescribing a balanced nutritional formula, identifying some standard formulas/ recipes for parenteral nutrition bags.

**Materials and Methods** These standard prescriptions have been developed with a nutritionist and the Surgery team and they cover both peripherally administered (low osmolality) and centrally administered (high osmolality) solutions. Depending on the patient’s clinical needs, we have standardised prescriptions with different volumes (2000 or 2500 ml). In addition to the patient’s personal data and anthropometric information, these prescriptions already include all the necessary elements for a balanced diet, including calorie requirements, key macronutrients, proteins, water and micronutrients.

**Results** This review has provided standardised guidance and support to the medical staff in writing the prescriptions for TPN, also giving a range of choices in the initial nutritional approach to the patients. Standardized prescriptions offer a better balance of electrolyte content than those of ready-to-use commercial formulations. This approach has improved familiarity with TPN throughout the hospital, by implementing the use of customised bags not only in critical care departments, leading to better cost management.

**Conclusions** The purpose of nutritional support is not only to avoid malnutrition and its complications, but also to change the pathogenic mechanisms of diseases. For a proper use of artificial nutrition it is necessary to have an in-depth knowledge of the problems of malnutrition. For this reason, it is essential to have a multi-disciplinary approach in which the pharmacist connects different functions.

No conflict of interest.
Other hospital pharmacy topics

duration of consultation was 21 minutes. The most frequent topics of consultation: potential drug interactions 36%, correct use of
Drugs 19%, drug side effects 6.5%, weight loss 6.5%. Pharmacist interventions included the recommendation ‘how to use it’ 57.4%,
replacement and/or discontinuation of drugs 6.4%, diet and lifestyle change 14.9%. The number of patients who visited the consultation
centre repeatedly according to the recommendations, was 17 (68%) in 2011 and 13 (59%) in 2012.

Conclusions Patient-oriented care in pharmacy consultation centre enables us to prevent the patients from using the drugs incor-
crrectly. Analysis of the data showed a variety of interventions by the hospital pharmacists, who helped patients with their problems by
several repeated consultations.

No conflict of interest.

PHARMACEUTICAL EXPENSES FOR WELFARE OUTPATIENTS AND POLITICAL REFUGEES IN A PAEDIATRIC ATHENS HOSPITAL, DURING 2011 AND FIRST HALF OF 2012

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Background In Greece the expense of public pharmaceuticals (medicines prescribed by hospitals and public insurance funds) in
2009 was 5.1 billion corresponding to 2.4% of GNP, while the cor-
responding average rate for OECD countries was 1.5%. In 2012 the
target is 2.8 billion. In addition, following the country’s enrolment
in the financial stability mechanism in 2010, the NHS (National Health System) was substantially enlarged because of the increased
demand for public health system services while simultaneously
there were cuts in NHS financing due to austerity measures.

Purpose To record and evaluate the pharmaceutical expenses due
to the outpatients covered by Social welfare and the political
refugees which all were served by the paediatric hospital pharmacy
during 2011 and the first half of 2012.

Materials and Methods Information was acquired from the hospital pharmacy computerised data system.

Results During 2011,1250 prescriptions covered by welfare insur-
ance were dispensed, of which 91% concerned children of Greek
citizenship, and 9% immigrant children with political refugee docu-
mentation (mainly from Nigeria, Iraq, Afghanistan, Ethiopia and
Syria).

The total cost was 113,525 euro. The first semester of 2012 830
prescriptions were dispensed costing 96,180 euro of which 86.5%
were for children of Greek citizenship and the other 13.5% was for
children with refugee status.

Conclusions

1. The pharmaceutical expenses concerning children covered
by the welfare system and refugee children are increasingly
rapidly (especially for refugee children)
2. Given the current crisis in Greece, we urgently have to
devise an effective policy to control the increasing pharma-
ceutical expenditure.

No conflict of interest.

PHARMACEUTICAL SERVICES IN HOSPITALS IN SERBIA

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Background The role of hospital pharmacists is changing world-
wide. Pharmacists are becoming more and more involved in the
treatment of patients and the provision of pharmaceutical care
(PC). Consequently, increased numbers of pharmacists in hospitals
are necessary and/or better organisation of traditional activities.

Purpose To identify the number and categories of pharmaceutical
services and time frame for such activities in order to improve
the organisation of pharmaceutical services in hospitals.

Materials and Methods The research was conducted in 21 hospi-
tal pharmacies out of 61. Data were collected through a question-
naire, which contained 51 pharmaceutical services classified into
12 categories. Services were defined by the Section for hospital phar-
macies in Serbia in accordance with the conclusions of the global
conference regarding the future of hospital pharmacy (Basil 2008).

Pharmacists were asked if they practise certain types of service, how often and how much time they consume for each service they
practise.

Results The average number of pharmacists in a hospital phar-
macy was two but varied between 1 and 6. A pharmacist provided
on average 30 services per day (15–42). On average during workdays
pharmacists devoted most of their time to: data processing (28%;
2.1 h), dispensing drugs (23%; 2 h), ordering (12%; 1 h) and supply
(10%; 45 min), while the share related to PC was only 8% or 35
minutes per day.

Conclusions The results of research showed that supply and stor-
age of medicines are the most frequent and time-consuming activi-
ties. Therefore, not enough time is left for patients and PC. Finally,
in order to improve pharmaceutical activities in Serbia it is neces-
sary to increase the number of pharmacists in hospitals, consolidate
procurement across the region and streamline data processing
services.

No conflict of interest.

PHARMACOECONOMIC EVALUATION OF FOLLICLE-
STIMULATING HORMONE (URINARY VS. RECOMBINANT)
IN CONTROLLED OVARIAN HYPERSTIMULATION

doi:10.1136/ejhpharm-2013-000276.439

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Background Controlled ovarian hyperstimulation (COH) is
mainly based on management of follicle-stimulating hormone
(FSH). FSH may be obtained from the urine of menopausal women
(u-FSH) or through recombinant biotechnology (r-FSH).

Purpose To conduct a pharmacoeconomic evaluation of different
FSH (u-FSH vs. r-FSH) in COH.

Materials and Methods We conducted a bibliographic review to
compare the efficacy of u-FSH and r-FSH in COH (Database:
PubMed, keywords: FSH and COH, randomised and controlled
clinical trials, from 2005 to 2011). The efficacy indicators were:
progression rate in pregnancy (pregnancy remained at 12 weeks) and
the number of mature oocytes obtained. We determined the cost per
unit of efficacy (using current Spanish drug prices in 2012) and the
incremental cost-efficacy ratio (ICER) with their sensitivity anal-
ysis. Setting: Assisted Reproduction unit in tertiary teaching hospital
that serves an average of 340 patients per year. Statistical analysis
powered by SPSS 15.0.

Results We analysed 10 clinical trials in women being treated with
COH. The pooled data of the progression of pregnancy was 26.2%
(FSH-r) vs. 22.3% (FSH-u) (difference = 3.9%; 95% CI = 1.2–5.9),
and the average number of mature oocytes was: 3.0 (FSH-r) vs. 7.1
(FSH-u) (difference = 1.9; 95% CI = 0.7 to 4.1). The cost per preg-
nancy for r-FSH was €2,832.3 (€1,628.2–€3,754.3) and €3,322.5
(€1,526.1–€2,884.7) for u-FSH, so that the ICER in the pregnancy
rate was 128.1 (85.1–147.4). The cost per number of mature oocytes
