World Hospitals and Health Services
The Official Journal of the International Hospital Federation

Editorial

Management
Hospital demand variations: suggested instruments for hospital managers

Measuring availability, affordability and management of essential medicines in public hospitals of Burkina Faso

Special feature: Procurement
International overview of hospital procurement

Centralized distribution: reducing ownership costs by streamlining hospital logistics

The challenges of collaborative procurement in the healthcare sector

e-procurement in hospitals

The value of group purchasing organizations in the United States

Pooling procurement in the Belgian hospital sector

Please tick your box and pass this on:
☐ CEO
☐ Medical director
☐ Nursing director
☐ Head of radiology
☐ Head of physiotherapy
☐ Senior pharmacist
☐ Head of IS/IT
☐ Laboratory director
☐ Head of purchasing
☐ Facility manager
Under the Directives of

H. H. Sheikh Mohammed Bin Rashid Al Maktoum
Vice President and Prime Minister of the United Arab Emirates and Ruler of Dubai

Under the Patronage of

H. H. Sheikh Hamdan Bin Rashid Al Maktoum
Deputy Ruler of Dubai, Minister of Finance
President of Dubai Health Authority

It's All About Hospitals!

DUBAI
IHF 2011
37th World Hospital Congress

"Healthcare in a Changing World: Overcoming the Challenges"

Organised by
INDEX Conferences & Exhibitions Organisation Est.
P.O. Box: 136296, Dubai, UAE | Ibn Sina Bldg, b7 | Block B
Office 203 | Dubai Healthcare City
Tel: +971 4 362 4717 | Fax: +971 4 362 4718 | E-mail: ihfdubai@index.ae

8 - 10 November 2011

ATLANTIS
The Palm, Dubai

World class exhibits await all visitors

CALL FOR ABSTRACTS
DEADLINE FEBRUARY 2011

Early Registration Rates Now!
Contact us at:
www.ihfdubai.ae
ihfdubai@index.ae
Contents volume 47 number 1

03 Editorial Eric de Roodenbeke

Management
04 Hospital demand variations: suggested instruments for hospital managers Zoe Boutsioli
08 Measuring availability, affordability and management of essential medicines in public hospitals of Burkina Faso Homado Saouadogo

Special feature: Procurement
12 International overview of hospital procurement Maud Ferrier, David Lariviere, Claire Laurent and Eric Roque
15 Centralized distribution: reducing ownership costs by streamlining hospital logistics Chantal S Laurin
18 The challenges of collaborative procurement in the healthcare sector Gabriella Margherita Racca
21 e-procurement in hospitals Julio Villalobos Hidalgo, Joan Orrit and D Juan Pablo Villalobos
24 The value of group purchasing organizations in the United States Curtis Rooney
27 Pooling procurement in the Belgian hospital sector Guy Herbert

Reference
31 Language abstracts
34 IHF corporate partners
37 Governing Council list
39 Dates for your diary
While this editorial is going to print, Japan is facing the worst natural disaster in its history. We want to express our sympathy to all the people who have suffered and still have to cope with the consequences of this terrible situation. Since the fifties, the Japan Hospital Association has been a pillar of our organization and in such circumstances, it is normal that the IHF Secretariat calls on other IHF members to offer support in one form or another.

We would like to thank all those who have responded immediately at the request of our colleagues from Japan. Such support expresses the solidarity that exists among us, as we know that we may all have to face harsh situations. It also highlights the importance of international organizations such as IHF that create a venue for healthcare decision-makers to meet. Knowing each other makes it easier to put in place a solidarity chain. We have had the need for it in Japan, and we will certainly have similar needs in the future. Mother Nature will continue to provide us with her beauty, but also reminds us that we are just guests whom she can treat harshly when she decides to do so.

In a situation like the one in Japan, all those who require care have to face an additional difficulty due to the conditions in which they have to live. Health workers have to face an additional workload resulting from the conditions and the casualties from disaster. First and foremost, the courage of the Japanese health workers has permitted coping with this massive destruction which has left so many people homeless. They have been on the front line, however, it makes a difference for them to know that the rest of the world is behind them. IHF is not an emergency organization and has mobilized and encouraged its members to make donations, and to provide in coordination with rescue organizations the critical medical consumables. The Japanese disaster has shown that if resilient health facilities are critical to be able to respond immediately to post disaster difficulties, there is urgent need for more than the goodwill of the people. Health workers need medical consumables to deliver care.

In this edition of the World Hospitals and Health Services, we will be presenting the importance of purchasing strategies for the healthcare sector. One of the goals of group purchasing is to increase standardization. Of course, by doing so, it is expected to have large volume allowing better commercial deals. But what may be more important is the standardization of healthcare, making it easier to cope with an unexpected upscaling of activities or a need to relocate part of the activities. This example illustrates well that purchasing is not just about mastering the supply chain and getting best possible prices, but it is also a strategic issue for service delivery.

IHF believes that purchasing is strategic. For this reason, it has decided to put in place a strong partnership with the newly created International Association of Group Purchasing (ASSIAPS) as well as to welcome large health care purchasers to become IHF associate members and to have them create a dedicated chapter. IHF would also like to take this opportunity and thank Ile-de-France Hospital Buyers’ Network (Resah-idf) for its leadership and role in organizing the Purchasing Chapter. Resah-idf groups the majority of the public healthcare institutions in the Ile-de-France area. To learn more about the organization, please visit http://www.resah-idf.com/. Resah-idf was also an active organizer and participant in the 2nd International Symposium on Hospital Procurement which took place last September in Paris (http://www.acheteurs-hospitaliers.com/index.asp). This symposium allowed the 400 participants present at the event to discuss the challenges and prospects of change to procurement within the international healthcare sector. Within the Purchasing Chapter, IHF will not get involved in the technical aspects related to purchasing (ASSIAPS is already doing this), but it will focus on the policy implications of active purchasing strategies. As a platform for cross fertilization, IHF is best placed to develop a new dynamic of dialogue between large purchasers from around the world and large global providers. This may be accelerating the adoption of innovative approaches providing better value for money.

An international overview of hospital procurement in over 10 countries indicates that there is a trend in favour of group purchasing. There is, however, still a long way to go as the legal environment for procurement, and the differences in the setting of hospitals does not yet allow full harmonization.

Before getting to harmonization, there is a strong need to rely on effective collaboration. First, this collaboration must be internal to allow all stakeholders within a facility to share the same...
goals and realize them together with the appropriate inputs.

Dialogue also needs to take place across borders to influence the providers so that they shape their offer to respond to the evolving demand.

This effort to harmonize and to foster collaboration does not come without a cost. The example of the US GPOs which are more than a hundred year old demonstrates their role to contain cost escalation, but also the permanent need to show that the transaction costs are overridden by the purchasing benefits. While a major health reform has been launched in the US for improving access to care, the GPOs will see their role strengthen to avoid that an increase in demand for care will be fully translated in health spending.

The Province of Quebec in Canada gives a good example of the importance of strategic purchasing to curb cost trends in a public system providing free care to all. Whether in public or private sector and regardless of funding mechanisms, purchasing is now fully considered an avenue for efficiency improvement.

In addition to implementing strategic purchasing, the e-procurement can allow the hospitals to move a step further. The recent developments have shown how well designed e-procurement can reduce significantly transaction costs while allowing better benchmarking of offering in a wider scale.

Group purchasing is often understood as seeking large volumes to get good prices. The example of Belgian hospitals gives an excellent insight on the concept of the total cost of ownership. This concept is the one guiding all effective purchasing and this is the reason why dialogue is so important.

These various articles on purchasing from both sides of the Atlantic Ocean and from the largest health care market represent a milestone to further invite IHF members to express their interest in this area. With the fast growing development of health care sector in the emerging world, the procurement is going to evolve with healthcare providers becoming more and more international. The complexity of services offered to hospitals is also a challenge that purchasing organizations have to face.

Mirroring these articles on purchasing, I would you also like to draw your attention to two additional articles in this edition. They both suggest that purchasing is to be related with the full master of the supply chain in relation with the forecasting of activities.

In low income countries, mastering the supply chain remains the first priority. Although group purchasing has allowed reduced prices of essential drugs, it is not enough as the average availability of essential drugs remains under 80%. In Burkina Faso, for example, when drugs are sold to the population, they represent an important source of revenue, and this may be a challenge for accessibility by the poor and trigger potential perverse mechanisms. On the other hand, having a good forecast of hospital care demand is not easy, as variation in demand either leads to excessive capital investment for avoiding out stocks or to periodic stock failures as described in the case of Burkina Faso. The work developed in Greece to improve the forecasting of activities can allow better mobilization of all inputs and a better mastering of the supply chain.
Hospital demand variations: suggested instruments for hospital managers

ABSTRACT: Hospitals worldwide face variations in demand for inpatient care. The accurate forecasting of future demand assists hospitals in programming short-term needs such as staff and supplies, and long-term needs such as beds and buildings. The existence of appropriate methodological instruments applied by hospital managers could help them smooth down upcoming patient flows. This work presents two such instruments: first, a univariate autoregressive moving average method, and second, a multivariate model. By applying these to the Greek National Health System, we have found significant demand variations. The univariate method provides more accurate forecasting of future unexpected demand.

Hospitals worldwide face considerable demand variations (Smet, 2007; Baker et al., 2004; Hughes & McGuire, 2003; Boutsioli, 2009). Some of these variations are unexpected. The accurate forecasting of future demand assists hospitals in programming short-term needs, such as staff and supplies, and long-term needs such as beds and buildings. The existence of appropriate methodological instruments applied by hospital managers could help them smooth down upcoming patient flows. In the literature, two approaches have been mostly used to forecast future hospital demand and particularly the unexpected part of demand. The first approach is a univariate autoregressive moving average (ARMA) model. ARMA is a regression model, where the explanatory variables are lags of the dependent variable. The model is made of two parts. The first part is the autoregressive part, i.e. hospital daily admissions depend on previous daily admissions; the second part is the moving average part (MA), i.e. an average of all past errors made in predicting hospital admissions. Hospital emergency admissions are used as the dependent variable to estimate unexpected demand. According to this model, the unexpected demand is based on a residual estimate of forecasted daily emergency demand. Thus, the level of unexpected demand faced by a hospital is defined as the difference between realized and forecasted emergency demand, gained from the ARMA forecasting model (Hughes & McGuire, 2003; Boutsioli, 2010). The second method refers to a multivariate model that unexpected hospital demand is a function of a number of explanatory variables. The most commonly used variables include the day of the week, i.e. the weekend, the “duty” status of the hospital, the summer and the official holiday effects (Hussain et al., 2005; Baker et al., 2004; Fullerton & Crawford, 1999; Upshur et al., 2005).

Hospital demand variations in the Athenian hospital context

The Greek public hospitals belong to a National Health System (NHS). We collected daily data of patient emergency admissions from eight Athenian public hospitals from 2001 to 2005. First, we applied the ARMA method to emergency hospital admissions data to estimate daily measures of unexpected demand. In the test for stationarity of daily emergency admissions, it was found that the null hypothesis of unit root was rejected at the 1% level of significance, implying that the series are stationary at that level. Based on the criteria proposed by Akaike and Schwarz, we selected the best ARMA model specification. The lower the values of the Akaike-Schwartz criterion, the most appropriate the ARMA model. Each hospital’s estimation process provides an estimate of the residual (_t), which is the unpredicted part of emergency daily admissions. These residuals had a zero mean, and their standard deviation was constant. To estimate the average daily variations of unexpected demand, we used two ways: a) all the residuals forecasts, both positive and negative, and b) only the positive values of forecast errors. These are positive when actual (emergency admissions) are more than the fitted, while they are negative when the actual are less than the fitted. In case (a), if we sum up the residuals they should be equal to zero, according to the theory. To overcome this, we have taken the absolute values of the negative forecast errors. In case (b), we call this “excess demand” for unexpected admissions. Table 1 reports measures of the standard deviations of unpredicted emergency admissions per hospital per year. The unpredicted part of emergency admissions was not the same for each hospital, and it also varied over the years. The results reported in P+N column of Table 1 treat variations of daily emergency admissions as equal around its mean. However, of importance for the hospital manager are the cases that...
Management

Emergency admissions are greater than forecasted because they are then forced to turn away patients or treat them with lower than expected quality, i.e. put them in beds in the corridors of the hospital. Column P of Table 1 presents data on the variability of emergency admissions, when the actual emergency admissions were above those predicted by the model. In other words, it excludes the negative values of the error term. Taking only the positive values of forecast errors gives a lower extent of variations of excess demand for hospital admissions. Thus, differences existed among hospitals and over the period, with the former being much larger than those over the five-year period.

Second, a multivariate time series model was also used in order to estimate unexpected demand. This reinforced the measurement of unexpected demand. Within the framework of the multivariate model, daily emergency hospital admissions was the dependent variable, and the weekend effect, the summer holiday effect, the official holiday effect, and the hospital “on duty” effect were the four explanatory variables used, all measuring different impacts. The results failed to reject the null hypothesis; that is, the first three variables had a negative impact, and the last variable had a positive impact on emergency admissions. Based on the econometric results, daily hospital emergency variations were well explained by the four explanatory variables. In particular, the adjusted R² was 80% or higher for all hospitals, except one that has an adjusted R² of 66%. The error series of the multivariate model were used to estimate variations in unexpected demand per hospital and per year. The results are given in Table 2. The results of Table 2 show the same patterns with the univariate model specification of unexpected emergency admissions: large variations among hospitals but small variations over the five-year period for each hospital.

Given that hospital administrators and health planners are more interested in measuring the variability of the positive errors and in forecasting unexpected demand, we worked only with the positive forecast errors and compared the two methods in order to select the appropriate one. The methods of univariate and multivariate model specifications provide measures of unexpected daily emergency admissions. Hospital administrators and health planners would prefer the method with lower variability of (positive) forecast error. The methods of univariate and multivariate model specifications provide measures of unexpected daily emergency admissions. Hospital administrators and health planners would prefer the method with lower variability of (positive) forecast error. The results of the two methods are compared in Table 3. Each cell number is obtained as the difference between the corresponding tables of the multivariate (Table 2) and univariate (Table 1) estimation. Positive values imply that the multivariate method gives higher variability of unexpected daily admissions than the univariate method. From the 46 such observations, the univariate method outperformed the multivariate method in 40 observations, and it was inferior (negative differences) in only six cases. Even in these six cases, the

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Evangelismos</td>
<td>14.1</td>
<td>11.6</td>
<td>11.6</td>
<td>9.8</td>
<td>9.8</td>
<td>8.0</td>
<td>12.1</td>
<td>12.0</td>
<td>8.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Lako</td>
<td>10.7</td>
<td>8.4</td>
<td>8.4</td>
<td>9.8</td>
<td>9.8</td>
<td>8.0</td>
<td>12.1</td>
<td>12.0</td>
<td>8.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Pamaskarios</td>
<td>4.0</td>
<td>3.4</td>
<td>3.4</td>
<td>5.4</td>
<td>5.4</td>
<td>4.3</td>
<td>6.0</td>
<td>5.1</td>
<td>7.2</td>
<td>6.0</td>
</tr>
<tr>
<td>G. Genimatas</td>
<td>17.2</td>
<td>11.7</td>
<td>11.7</td>
<td>19.0</td>
<td>19.0</td>
<td>14.5</td>
<td>20.1</td>
<td>14.2</td>
<td>18.7</td>
<td>15.1</td>
</tr>
<tr>
<td>Ipokratero</td>
<td>13.4</td>
<td>9.6</td>
<td>9.6</td>
<td>12.5</td>
<td>12.5</td>
<td>10.6</td>
<td>11.2</td>
<td>9.0</td>
<td>10.9</td>
<td>10.9</td>
</tr>
<tr>
<td>Aghia Barbara</td>
<td>2.8</td>
<td>2.5</td>
<td>2.5</td>
<td>2.7</td>
<td>2.7</td>
<td>2.4</td>
<td>2.3</td>
<td>2.2</td>
<td>2.5</td>
<td>2.3</td>
</tr>
<tr>
<td>A Medical Fleming</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>9.0</td>
<td>9.0</td>
<td>6.7</td>
<td>9.6</td>
<td>7.1</td>
<td>7.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Sianaraggeios</td>
<td>6.2</td>
<td>4.5</td>
<td>4.5</td>
<td>6.8</td>
<td>6.8</td>
<td>5.2</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*: Positive + Negative forecast errors
**: Positive forecast errors

The methods of univariate and multivariate model specifications provide measures of unexpected daily emergency admissions. Hospital administrators and health planners would prefer the method with lower variability of (positive) forecast error.
The univariate model was preferred because it required the least information, i.e. only the past values of the variable to be estimated, and provided better estimates. The univariate method made the lower forecasting error in terms of the variability, the mean and maximum values of the positive forecast errors. The mean of the total (positive and negative) unpredicted demand was by definition equal to zero, but that of the positive forecast errors was not. It was important to compare the two methods in terms of the mean and maximum values of the positive errors. Table 4 reports the mean and the maximum values of the positive errors in predicting daily unexpected emergency demand per hospital. The data refer to the entire period under consideration (2001–2005) because as we have shown, differences per year for the same hospital are not very large. In all cases but one, the univariate method outperformed the multivariate method of estimating unexpected emergency admissions. Only in one hospital was the maximum value of the univariate estimation higher, by two admissions.

**Table 3: Comparison of Multivariate and Univariate Methods of Estimating Variations in Unexpected Daily Emergency Admissions (Differences in Standard Deviations)**

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Multivariate Mean</th>
<th>Univariate Mean</th>
<th>Mean Diff</th>
<th>Multivariate Maximum</th>
<th>Univariate Maximum</th>
<th>Max. Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Evangelismos</td>
<td>30.01</td>
<td>9.93</td>
<td>20.08</td>
<td>80.53</td>
<td>62.36</td>
<td>18.17</td>
</tr>
<tr>
<td>2 Laiko</td>
<td>17.94</td>
<td>6.86</td>
<td>11.08</td>
<td>55.76</td>
<td>55.16</td>
<td>0.6</td>
</tr>
<tr>
<td>3 Pamakaristos</td>
<td>6.57</td>
<td>3.59</td>
<td>2.98</td>
<td>36.79</td>
<td>38.43</td>
<td>1.64</td>
</tr>
<tr>
<td>4 G. Genimatas</td>
<td>23.83</td>
<td>14.49</td>
<td>9.34</td>
<td>90.23</td>
<td>85.13</td>
<td>5.1</td>
</tr>
<tr>
<td>5 Ippokrateio</td>
<td>17.94</td>
<td>8.03</td>
<td>9.91</td>
<td>79.31</td>
<td>75.56</td>
<td>3.75</td>
</tr>
<tr>
<td>6 Aghia Barbara</td>
<td>1.77</td>
<td>1.43</td>
<td>0.34</td>
<td>18.85</td>
<td>18.30</td>
<td>0.55</td>
</tr>
<tr>
<td>7 Amalia Fleming</td>
<td>9.27</td>
<td>6.29</td>
<td>2.98</td>
<td>49.92</td>
<td>42.61</td>
<td>7.31</td>
</tr>
<tr>
<td>8 Sismangolio</td>
<td>8.38</td>
<td>4.6</td>
<td>3.78</td>
<td>28.37</td>
<td>24.42</td>
<td>3.95</td>
</tr>
</tbody>
</table>

**Table 4: Comparison of Multivariate and Univariate Methods of Estimating Variations in Unexpected Daily Emergency Admissions (Mean and Maximum Values)**

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Multivariate Mean</th>
<th>Univariate Mean</th>
<th>Mean Diff</th>
<th>Multivariate Maximum</th>
<th>Univariate Maximum</th>
<th>Max. Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Evangelismos</td>
<td>30.01</td>
<td>9.93</td>
<td>20.08</td>
<td>80.53</td>
<td>62.36</td>
<td>18.17</td>
</tr>
<tr>
<td>2 Laiko</td>
<td>17.94</td>
<td>6.86</td>
<td>11.08</td>
<td>55.76</td>
<td>55.16</td>
<td>0.6</td>
</tr>
<tr>
<td>3 Pamakaristos</td>
<td>6.57</td>
<td>3.59</td>
<td>2.98</td>
<td>36.79</td>
<td>38.43</td>
<td>1.64</td>
</tr>
<tr>
<td>4 G. Genimatas</td>
<td>23.83</td>
<td>14.49</td>
<td>9.34</td>
<td>90.23</td>
<td>85.13</td>
<td>5.1</td>
</tr>
<tr>
<td>5 Ippokrateio</td>
<td>17.94</td>
<td>8.03</td>
<td>9.91</td>
<td>79.31</td>
<td>75.56</td>
<td>3.75</td>
</tr>
<tr>
<td>6 Aghia Barbara</td>
<td>1.77</td>
<td>1.43</td>
<td>0.34</td>
<td>18.85</td>
<td>18.30</td>
<td>0.55</td>
</tr>
<tr>
<td>7 Amalia Fleming</td>
<td>9.27</td>
<td>6.29</td>
<td>2.98</td>
<td>49.92</td>
<td>42.61</td>
<td>7.31</td>
</tr>
<tr>
<td>8 Sismangolio</td>
<td>8.38</td>
<td>4.6</td>
<td>3.78</td>
<td>28.37</td>
<td>24.42</td>
<td>3.95</td>
</tr>
</tbody>
</table>

In conclusion, this paper discusses two different ways to measure unexpected hospital demand: a univariate model and a multivariate model specification. The univariate model was preferred because it required the least information, i.e. only the past values of the variable to be estimated, and provided better estimates. The univariate method made the lower forecasting error in terms of the variability, the mean and maximum values of the positive forecast errors. However, the multivariate model is very important in the hands of policy-makers because if unexpected demand raises hospital costs, then the multivariate model can give some guidance to hospital administrators on how to reduce the variability of emergency admissions. However, two points should be made here. First, the two models do not have the same practicality of use by hospital managers and health planners. The multivariate model is more straightforward and it can be easily applied because the four explanatory variables are easily observable. For example, it is easy to forecast that during the summer holidays or the weekends, fewer admissions should be expected. On the other hand, hospital managers do not use an ARMA model to make forecasts, even though they should.

---

This paper is part of my PhD thesis in the University of Kent, UK. I thank very much for their support and guidance Professor Ann Netten, University of Kent, UK and Professor Alastair Gray, University of Oxford, UK.
Second, the better performance of the univariate model compared to the multivariate model is to a large extent due to variables omitted from the multivariate model. Unfortunately, important determinants of emergency admissions are not available on a daily basis, resulting in inferior forecasts by the multivariate model.

Dr Zoe Boutsioli holds a PhD in Social Policy and a MSc in International Health Policy. She has published a number of research papers on various peer-reviewed journals. Her research interests focus on hospital economics, policy and management.

References
Measuring availability, affordability and management of essential medicines in public hospitals of Burkina Faso

**ABSTRACT:** In Burkina Faso, improving healthcare services and the availability of pharmaceutical products constitute a growing concern for the population. This study objective was to evaluate the availability, prices, and sales revenue for a grouping of 50 basic medications in public hospitals from 29 September – 29 December 2009.

The method used to study the prices, availability, affordability and price components from Health Action International (HAI) and the World Health Organization (WHO) has been used to collect and analyze the data.

The results show that the average ratio between the pharmaceutical budget and that of the health centre is 16.18. The average rate of availability was 77.69%.

The purchasing price from the hospitals providers is approximately the same as the international reference prices (1.12). The public hospitals selling price to the public was double the buying price from their provider (2.20).

The total sales revenue from the first three trimesters of 2009 was 708,740,495 FCFA (€1,080,397). This revenue accounted for roughly 23.02% of the total costs for available pharmaceuticals during the period (3,078,938,053 FCFA/€4,693,503).

**Objective of the study**

To evaluate the availability, prices of a grouping of 50 essential medicines in public hospitals of Burkina Faso.
Management

medications and sales revenue of medications in public hospitals from September 29 to December 29, 2009.

Methods

Two teams of three people, each were formed to execute data gathering outings in twelve university (03) and regional (09) hospitals. Four axes were made to take into account the geographic situation of the hospitals. A data collection formula for the price and availability of essential medications was used. It was accompanied by a support and advice guide in pharmaceutical management. The work started off at the pharmacy, the financial administrative offices, the accounting office, and the general director of each establishment. The data collected was typed into a standardized electronic notebook created by Health Action International and validated by the World Health Organization (HAI/WHO) to measure prices, availability, and financial accessibility of medications. The data analysis was performed based on this electronic notebook. The ratios and average prices were calculated using the same electronic WHO/HAI tool used in the execution of this study measuring the prices and availability of medications in Burkina Faso.

Results

Hospital budgets

Two hospitals (CHU YO and CHR OUAIHGO/YU) had a ratio higher than 20%. The lowest ratio was CHR Banfora and the highest was CHU YO (Figure 1). The average ratio of CHU (22) was better than that of CHR (13) (figure 2).

Availability of medications

The average availability rate of the basic essential medications in the 11 hospitals was 76.70% (Table I). One hospital didn’t have its data at the time of data collection. The magnesium sulfate 500 mg/mL injectable solution used in emergency OB/GYN in the prevention of eclampsia was amongst the least available (Table II). The CHUs’ average pharmaceutical project budget (991,619,848 FCFA/1,511,616 Euros) was greater than that of the CHRs (121,744,262 FCFA/185,596 Euros). The availability of medications doesn’t correlate to the size of the pharmaceutical budgets (Table III).

Prices of medications

Of the 50 medications used for the study, the magnesium sulfate 500 mg/mL injectable solution used in emergency OB/GYN in the prevention of eclampsia was amongst the least available (Table II).

Table 1: Availability of medications in hospitals (n=50 medications being measured)

<table>
<thead>
<tr>
<th>Medication</th>
<th>Brand name availability</th>
<th>Generics/non-brand name availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amitriptyline 25 mg tablets</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Artemether + lumefantrine 20 + 120 mg tablets</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Artesunate + amodiaquine (child) 25 + 62.5 mg tablets</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Atenolol 50 mg tablets</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Carbamazepine 200 mg tablets</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Glibenclamide 5 mg tablets</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Omeprazole 20 mg tablets</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Simvastatine 20 mg tablets</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Magnesium sulfate 500mg/ml injectable solution</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

Table 2: List of products least available in the hospitals

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Pharmaceutical project budget</th>
<th>Total hospital budget</th>
<th>Availability of medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHU YO</td>
<td>1,529,585,063</td>
<td>5,683,040,177</td>
<td>52.0%</td>
</tr>
<tr>
<td>CHU P</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>CHU SS</td>
<td>453,654,633</td>
<td>3,314,257,442</td>
<td>76.0%</td>
</tr>
<tr>
<td>CHU BA</td>
<td>184,515,145</td>
<td>882,980,747</td>
<td>76.5%</td>
</tr>
<tr>
<td>CHU DB</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>CHU DYS</td>
<td>27,060,520</td>
<td>Not available</td>
<td>81.3%</td>
</tr>
<tr>
<td>CHU F</td>
<td>144,174,385</td>
<td>901,87,820</td>
<td>83.7%</td>
</tr>
<tr>
<td>CHU H</td>
<td>184,038,430</td>
<td>636,537,410</td>
<td>87.8%</td>
</tr>
<tr>
<td>CHU A</td>
<td>71,355,400</td>
<td>Not available</td>
<td>75.8%</td>
</tr>
<tr>
<td>CHU DUK</td>
<td>196,119,497</td>
<td>1,109,204,255</td>
<td>56.1%</td>
</tr>
<tr>
<td>CHU DOR</td>
<td>121,418,205</td>
<td>771,727,848</td>
<td>58.5%</td>
</tr>
<tr>
<td>CHU DOD</td>
<td>111,328,430</td>
<td>923,94,891</td>
<td>61.6%</td>
</tr>
<tr>
<td>National Average</td>
<td>279,898,600.4</td>
<td>1,729,713,707</td>
<td>76.7%</td>
</tr>
<tr>
<td>CHU Average</td>
<td>960,016,846</td>
<td>4,000,344,019</td>
<td>54.0%</td>
</tr>
<tr>
<td>CHU Average</td>
<td>121,744,262</td>
<td>1,986,592,707</td>
<td>87.17%</td>
</tr>
</tbody>
</table>

Table 3: Pharmaceutical product budget, total hospital budget, and availability of medications at the time of the study (in FCFA)
According to the WHO, a hospital’s pharmaceutical products budget must be between 20 and 40% of the hospital’s total budget. In this study, 41 medications were found at the bulk dealer and in the hospitals. The ratio of the average buying price from the bulk dealer is 1.12. However, the ratio of average selling price to the public is 2.20, producing a difference of 97%. The selling price to the public is double the total buying price from the distributor (Table M).

Sales revenue for medications

Total sales of medications during the three trimesters of 2009 in Burkina Faso hospitals during the data collection period were 708,740,405 FCFA (1,080,397 Euros). Sales revenue from CHU YO accounted for 31% of total sales, followed by CHU SS (21.94%). Amongst the CHR, Banfora’s sales revenue was the highest and Dedougou’s was lowest (Table V).

Discussion

According to the WHO, a hospital’s pharmaceutical management policy is important to the hospital, the more the medications are available. A study performed in 2008 indicated that the absence of financial autonomy in pharmacies played into the quality of management and availability of medications. The absence of frank action by the General Directors to put in place a hospital pharmacy policy also contributes to the lack of availability of medications. Also the absence of a central pharmacy for all hospitals is a handicap against greater medication availability in hospitals. Finally, the absence of a health insurance system does not favour the working of a basic patient care system and plays into the quality of medication management.

The study for measuring medicine prices, availability, affordability and prices of medications in Burkina Faso at 2009 indicated that the existing low household buying power was also a negative factor against the creation of a good hospital pharmacy policy. The recourse to social service and non-payment of bills following un-prepaid urgent care can be seen as proof of this (Saouadogo, 2011).

Conclusion

This study allowed for the following of four principle indicators of quality pharmaceutical management in the hospital setting. These indicators are measures of the ratio of the budget for pharmaceutical products over the total hospital budget, of the availability rate of a grouping of 50 essential medications, of the price ratio between the public selling price and the buying price from the supplier, and of the financial value of the sales revenue of the hospitals. The results show that the pharmaceutical management in the hospital setting still needs additional reinforcement. Also, the difference between the buying price CIF Ouagadougou from the suppliers and the public selling price at hospitals is 97%. As a result, the sales revenue has been weaker but the patients are paying double the supply price. Finally, many factors affect the composition of the price of medications and decrease household accessibility despite the introduction of the common exterior tariff (TEC) by the West-African Monetary and Economic Union (UEMOA). This is why, solid, rigorously followed, and evaluated hospital pharmacy policy is necessary in the region.

Recommendations

To improve the following legislation frameworks:

- Decree No. 2008-267/PRES/PMMEF concerning the accounting and financial Public State Establishments (PSE) of Burkina Faso.
- Decree No. 2004-191/PRES/PMMEF concerning the general status of PSE; Decree No. 2006-356/PRES/PM/MS/MESSRS concerning the particular status of CHU; and Decree No. 2006-356/PRES/PM/MS/

**Table 4:** COMPARISON OF THE AVERAGE PUBLIC SELLING PRICES (PSP) AND THE BUYING PRICE FROM THE BULK VENDOR OF GENERIC MEDICATIONS FOUND IN HOSPITALS (N=41) MEDICATIONS OF THE 50 BEING STUDIED

<table>
<thead>
<tr>
<th>Hospitals</th>
<th>Sales revenue from medications sold in the first three trimesters of 2009</th>
<th>Percent % difference between hospitals' PSP and the initial cost from the bulk vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHU YO</td>
<td>718,239,446 FCFA</td>
<td>100</td>
</tr>
<tr>
<td>CHU SS</td>
<td>553,499,210 FCFA</td>
<td>79.96</td>
</tr>
<tr>
<td>BANFORA</td>
<td>51,787,230 FCFA</td>
<td>7.14</td>
</tr>
<tr>
<td>GOUAOU</td>
<td>38,815,644 FCFA</td>
<td>5.48</td>
</tr>
<tr>
<td>DORI</td>
<td>49,454,432 FCFA</td>
<td>5.74</td>
</tr>
<tr>
<td>GAOUA</td>
<td>58,602,915 FCFA</td>
<td>7.14</td>
</tr>
<tr>
<td>DAYA</td>
<td>51,323,925 FCFA</td>
<td>7.97</td>
</tr>
<tr>
<td>OUGADougOU</td>
<td>49,384,423 FCFA</td>
<td>8.95</td>
</tr>
<tr>
<td>Total</td>
<td>708,740,405 FCFA</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 5:** VISUALIZATION OF THE SALES REVENUE OF MEDICATIONS DURING THE FIRST THREE TRIMESTERS OF 2009 IN PUBLIC HOSPITALS
MESSRS/MFB concerning the particular status of CHR.

Decree No. 2006-460/PRES/PM/MFPRE/MS/MFB concerning the organization of specific jobs from the Minister of Health which define the attributes of a Pharmacist.

To use the following legislation for promoting hospital pharmacy development:

- **Decree No. 2008-328/PRES/PM/MEF** concerning the organization and functioning of the rules for revenue and rules of state and other public organization advancement.
- **Decree No. 2003-372/PRES/PM/MS** concerning the conditions and modalities of the creation, management, and reduction of State run public establishments.
- **Decree No. 2009-104/PRES/PM/MS** concerning the organization of the Ministry of Health.
- **Decree No. 2009-108/PRES/PM/MATD/MS/MEF/MFPRE** concerning the transfer of competencies and resources from the State to the communes in the field of health.
- **Decree No. 2008-104/PRES/PM/MFPRE/MSS/MFB** concerning the organization of the specific jobs under the Ministry of Health and defining the attributes of a Pharmacist.
- **Decree No. 2000-008/PRES/PM/MS** from 26/01/00 concerning the organization of the Hospital Pharmacy.

To have specific essential medicine list in each hospital.

To collect and analyze pharmaceutical data in each hospital every quarter.

To improve pharmaceutical governance, management and policy in each hospital.

---

**Dr Hamado Saouadogo, Pharm D, MPH** and "Strategies against emerging and infectious diseases". He has many certificates. He is working with the ministry of health in Burkina Faso. He is also international consultant. He worked with the USA Peace Corps in Burkina Faso as Health Technical coordinator and trainer.

---

**References**

- Decree No. 2006-328/PRES/PM/MEF concerning the financial and accountable program of Public State Establishments (PSE) in Burkina Faso.
- Decree No. 2008-328/PRES/PM/MEF concerning the general regulation of public works and delegations of public service in Burkina Faso.
- Decree No. 2006-328/PRES/PM/MEF/MFPRE concerning the particular status of CHR.
- Decree No. 2008-328/PRES/PM/MEF/MFPRE concerning the organization of specific jobs under the Ministry of Health and defining the attributes of a Pharmacist.
- Decree No. 2000-008/PRES/PM/MS concerning the organization of the Hospital Pharmacy.

---

**Decree No. 2008-328/PRES/PM/MEF** concerning the financial and accountable program of Public State Establishments (PSE) in Burkina Faso.

**Decree No. 2006-104/PRES/PM/MFPRE/MS/MFB** concerning the particular status of CHR.

**Decree No. 2008-328/PRES/PM/MEF/MFPRE** concerning the organization of specific jobs under the Ministry of Health and defining the attributes of a Pharmacist.

**Decree No. 2000-008/PRES/PM/MS** from 26/01/00 concerning the organization of the Hospital Pharmacy.
International overview of hospital procurement

MAUD FERRIER, DAVID LARIVIERE, CLAIRE LAURENT AND ERIC ROQUE

STUDENT HOSPITAL DIRECTORS

EHESP SCHOOL OF PUBLIC HEALTH, FRANCE

ABSTRACT: This article was written by four French hospital director students at the Ecole des Hautes Etudes en Santé Publique (EHESP – School of Public Health) from a study conducted jointly with students at the Grenoble School of Management to present an international overview of hospital procurement methods in ten countries. An analysis of these methods showed that there was a general trend towards group purchasing, with some common aims in terms of costs and performance and some differences in legislation (competition), size of the public sector and centralization or decentralization.

In hospitals, procurement practices can reduce costs and improve performance, releasing funds for investing in hospital care for the future.

A study was carried out by French hospital director students at the Ecole des Hautes Etudes en Santé Publique (EHESP – School of Public Health) and students at the Grenoble School of Management to present an international overview of hospital procurement methods in ten countries (France, Italy, Belgium, Germany, United Kingdom, the Netherlands, Sweden, Quebec, the United States and Brazil). An analysis of these methods showed that there was a general trend towards group purchasing, with some common aims in terms of costs and performance and some differences in legislation (competition), size of the public sector and centralization or decentralization.

This article classifies the forms of group purchasing in the countries studied and describes their advantages and disadvantages for procurement practices and performance.

Classification of group purchasing

The group purchasing forms were classified according to two criteria. The first concerned the involvement of hospitals in the creation and operation of the group purchasing organization (whether it was an independent organization supplying hospitals or an organization set up by the hospitals it supplied). The second criterion was the function of the group purchasing organization (purchasing, supplier accreditation and consultancy). The classification shows the group purchasing forms used in the various countries.

Independent legal entities purchasing on behalf of hospitals

These mainly purchase goods and sell them on to the hospitals. They negotiate contracts with suppliers and make purchases on behalf of the hospitals, taking advantage of volume pricing made possible by grouping purchases.

In France, the Union des Groupements d’Achats Publics (UGAP – Union of Public Procurement Groups) acts for the whole of the public sector, enabling state-owned hospitals to purchase supplies without requesting competitive quotations.

In France, the Union des Groupements d’Achats Publics (UGAP) – Union of Public Procurement Groups acts for the whole of the public sector, enabling state-owned hospitals to purchase supplies without requesting competitive quotations.

In the Netherlands, the NIC (Nederlands Inkoop Centrum) is a large, highly skilled consultancy body. It acts mainly for the public sector and has more than 150 consultants responsible for finding solutions to procurement problems in a wide range of fields.
experience and methods. In the United Kingdom, Commer-

These are legally and strategically independent entities providing

Purchasing organizations providing consultancy and support

functions

These are legally and strategically independent entities providing

consultancy for hospitals and encouraging the sharing of

experience and methods. In the United Kingdom, Commercial

Support Units are responsible locally for the NHS procurement

policy, pooling the members purchasing skills.

Organizations created by hospitals with a common policy

Some hospitals have created joint ventures to optimise

procurement. The statutes of the organizations depend on the

founder members and may take the following forms.

Groups of hospitals making purchases on behalf of members

through an organization that may or may not have its own legal

status.

The hospitals determine their own requirements, the group

purchasing organisation manages the procurement procedure and

products are delivered directly to the hospitals. There is no legal

obligation for the hospitals to use the group purchasing

organisation.

This is used in Germany (purchasing cooperatives), in Belgium

(IRIS-Achat) and in France (purchasing GIEs).

Supplier accreditation organisations

The aim of this method is to source products in a way similar to

GPOs, the difference being that the organization does not have a

particular legal status. The organization negotiates group prices

and the hospital members then undertake the procurement

procedures themselves.

In Brazil, the Pró-Saúde online marketplace trades

medicaments, equipment and medical equipment by Internet on

behalf of 24 establishments. An agreement is signed between Pró-

Saúde ABASH (the facilitator) and the supplier who then becomes

accredited for the marketplace. The hospital selects its suppliers

and makes its purchases, which enables it to retain control

throughout the order process.

Organisations with a common policy providing consultancy for

providers

These organisations have a pool of consultants and share

practices, experience and procurement methods.

In the French public, not for profit health sector, organisations

such as the RESHA-IDF Groupement d’Intérêt Public (GIE – Public

Interest Group) (121 members), the UNI-HA Groupement de

Coopération Sanitaire (GCS – health cooperation Group) (54

members) and the Consortium Achat Groupement d’Intérêt

Économique (20 members) support collective procurement

procedures by providing technical advice and make it possible to

Table 1: Types of organizations and their functions

<table>
<thead>
<tr>
<th>Type of organization</th>
<th>Function</th>
<th>Consultancy and common purchasing policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent organization providing services to hospitals</td>
<td>Purchasing</td>
<td>Supplier accreditation</td>
</tr>
<tr>
<td>- France: UGAP</td>
<td>- France: CACE, CAHPP, Hélpevia</td>
<td>- United Kingdom: CSU</td>
</tr>
<tr>
<td>- United Kingdom: NHS Supply Chain</td>
<td>- USA: GPO</td>
<td></td>
</tr>
<tr>
<td>- Italy: CONISG</td>
<td>- Netherlands: NC</td>
<td></td>
</tr>
<tr>
<td>- Brazil: Grupo das Compras Hospitalares</td>
<td>- Sweden: Ltu</td>
<td></td>
</tr>
<tr>
<td>Group purchasing for several hospitals with a common purchasing policy</td>
<td>Purchasing</td>
<td>Supplier accreditation</td>
</tr>
<tr>
<td>- Germany: purchasing cooperatives</td>
<td>- USA: HRI</td>
<td>- France: IBA-HA, RESHA-IDF Purchasing consortium</td>
</tr>
<tr>
<td>- Belgium: IRIS-Achat</td>
<td>- Brazil: Pró-Saúde online marketplace</td>
<td>- Cross-border cooperation agreement</td>
</tr>
<tr>
<td>- Québec: group purchasing cooperatives</td>
<td>- CACIC, CAHPP, Helpévia</td>
<td></td>
</tr>
</tbody>
</table>

Key figures on the GPOs

- The number of GPOs has increased from 40 in 1974 to 900.
- GPO contracts account for 70% of hospital purchases, i.e. 150 billion dollars.
- About 96% of hospitals belong to at least one GPO.
- 6 GPOs are responsible for purchasing around 90% of all contracts: Novation, Premier, HealthTrust, MedAssets, Broadlane Group and Amerinet.

In France, independent organisations – CAHPP, Hélpevia and CACIC – provide supplier accreditations mainly for private hospitals. These try to capture a share of state-owned hospital purchasing by grouping, drawing up requests for quotation and processing quotations, in accordance with the Government Contract Code, although currently little used.

Purchasing organizations providing consultancy and support functions

These are legally and strategically independent entities providing consultancy for hospitals and encouraging the sharing of experience and methods. In the United Kingdom, Commercial

Purchasing organisations providing supplier accreditation

These legally independent organisations group the purchase volumes of their members and negotiate prices. However, the hospitals themselves make the purchases under the conditions defined in their contracts.

In the United States, Group Purchasing Organizations (GPOs) cover most hospital requirements: pharmaceuticals, surgical instruments, capital equipment and office supplies. They provide a range of services: benchmarking, marketing, training programmes and insurance. The hospitals have great freedom – they can make purchases outside the contracts, join other GPOs at any time – and are able to take part in the decisions made by the GPO (product selection). However, certain obligations may be imposed on members (minimum purchases). Most GPOs are financed by the volume related administrative fees paid by the suppliers, which are usually 2 to 3% of sales (the hospitals do not have to pay any management fees).

In France, independent organisations – CAHPP, Hélpevia and CACIC – provide supplier accreditations mainly for private hospitals. These try to capture a share of state-owned hospital purchasing by grouping, drawing up requests for quotation and processing quotations, in accordance with the Government Contract Code, although currently little used.

Purchasing organizations providing consultancy and support functions

These are legally and strategically independent entities providing consultancy for hospitals and encouraging the sharing of experience and methods. In the United Kingdom, Commercial

Support Units are responsible locally for the NHS procurement policy, pooling the members purchasing skills.
Group procurement methods improve performance and save money but they also have disadvantages

Group purchasing improves performance of organizations and save money

In Quebec, the group purchasing corporations have obtained a reduction in equipment maintenance costs of 35% to 80%. In Brazil, using the BIONEXO online marketplace, five state hospitals in Sao Paulo state that they save 20% on the group purchase of 30 medicaments.

Group purchasing improves quality by standardising products, equipments and medical practices. The exchange of information and experience via a working network stimulates innovation, harmonisation of practices and therapeutic treatment. In Brazil, group purchasing improves product security by preventing the purchase of counterfeit medicaments.

Group purchasing is said to strengthen purchase management while reducing the work load (simplifying procedures) and costs. Continuous contact with the suppliers promotes commitment and long-term collaboration (confidence = quality + savings).

This is the justification in particular for group purchasing in Germany and Sweden where hospital procurement evaluation models (quality, price), standards and codes of conduct (human rights, sustainable development) have been set up.

Group purchasing also improves the performance of organisations by using skilled buyers. The hospitals share skills, practices and methods and increase “know-how”.

Group purchasing is confronted with barriers which hospitals must take into account when drawing up their procurement policies

Group purchasing may skew the hospital market given the scope and significant financial risks (high market concentration, monopolies or oligopolies).

In the United States, the GPOs are sometimes accused of favouring suppliers who pay high administrative fees. Certain contractual practices of the GPOs (in particular single source contracts, bundled discounts) favour major suppliers, excluding products from more innovative SMEs.

There seems to be a lack of competence and specialist training in hospital procurement, despite the increase in purchasing training. Purchasing is still often a secondary function, carried out mechanically. In Quebec, there is a lack of skilled buyers (buyers are being recruited from abroad). In France, hospitals are starting to recruit purchasing directors and specialist buyers.

Doctors are usually opposed to the standardisation of purchasing, claiming that purchases must be made to suit specific local requirements.

The degree of group purchasing varies according to the political organisation. In Italy, group purchasing is often at infra-regional level. In Sweden, group purchasing is at local level, depending on political organisation. In these countries, group purchasing could be done at national level.

Group purchasing organisations can also collapse, for example the Dutch purchasing cooperative in Brabant, BKI – Brabant Koopt, which was created in 2008, went out of business in 2010.

References

1. Health expenditure accounts for 16% of GDP in the United States, 11.2% in France, 10.5% in Germany, 9.4% in Sweden and 8.7% in the United Kingdom (Source: OECD)
2. Study presented at the Second International Symposium on Hospital Procurement in September 2010
3. Conclusion of the Second International Public and Private Health Buyers Symposium, Issy-les-Moulineaux, 2010
4. Federação dos Serviços de Saúde Beneficentes do Estado de São Paulo

Conclusion

Group purchasing organizations are becoming more common, even though there is no dominant type and several different forms may exist within a country.

The new French plan focusing on hospital procurement performance will certainly provide the opportunity for drawing on the experience of other countries to improve national hospital procurement methods and continue to improve practices, perhaps by allowing the emergence of new players within the supply chain process.
Centralized distribution: reducing ownership costs by streamlining hospital logistics

CHANTAL S LAURIN
CHIEF EXECUTIVE OFFICER, SIGMA SANTE

ABSTRACT: All Quebecers have access to a public health system that enables them to receive high-quality healthcare, regardless of their individual ability to pay. With the aim of improving effectiveness and efficiency and achieving cost savings in managing public funds allotted to the healthcare network, SigmaSanté intends implementing a central distribution of medical supplies needed by healthcare facilities in Montréal and Laval, Quebec, as has been done in many other jurisdictions for numerous years.
products in a single shipment and pay one invoice per order. This gain in efficiency is important to healthcare centres, who can then devote resources to more strategic activities and better serve in house customers.

**The chosen model**
The sought distribution model was developed in consultation with purchasing and finance managers from various types of healthcare centres. They opted for the model used for drugs distribution, where SigmaSanté acts as an agent for healthcare centres, negotiating purchase terms and product prices. However, submitted prices must be what are called “distributor prices”, which exclude order receiving, processing and delivery costs to and from each healthcare centre. According to this model, manufacturers receive a single order from the distributor, to whom the entire order is delivered. Responsibilities are shared between various parties involved as follows:

- The distributor must also be able to offer personalized services meeting specific needs of certain healthcare centres as requested:
  - assembly of supplies in containers or carts;
  - transhipment of direct purchases to consolidate deliveries;
  - management of private procurement agreements.

**Simplified process**
By entrusting supply distribution to a single party rather than to a multitude of manufacturers and distributors currently involved in the model we are attempting to change, centralized distribution will make it possible to limit the number of middlemen in the distribution chain. Healthcare centres will continue to pay for distribution services, but will be able to manage this expenditure and specify required services since the distributor, through SigmaSanté, will be bound by contract with them.

**Gradual phasing in**
Implementation will be spread over three years, i.e. as existing agreements between SigmaSanté and supply manufacturers come up for renewal. The distributor will thus be able to adapt and invest gradually, according to needs of healthcare centres. Such a phasing in greatly reduces the financial risk of the distributor, which exclude order receiving, processing and delivery costs to and from each healthcare centre. According to this model, manufacturers receive a single order from the distributor, to whom the entire order is delivered. Responsibilities are shared between various parties involved as follows:

- The distributor must also be able to offer personalized services meeting specific needs of certain healthcare centres as requested:
  - assembly of supplies in containers or carts;
  - transhipment of direct purchases to consolidate deliveries;
  - management of private procurement agreements.

**Logistic savings first**
Above all, the main objective of centralized distribution is not reduction of distribution expenses, but increased awareness and control over these expenses, currently unknown as they are included in product prices. Targeted savings pertain to purchasing logistics costs, which are unavoidable, even though they differ from one healthcare centre to the other:
- reducing administrative costs resulting from high transaction volumes: erroneous orders, back orders, incomplete deliveries, high inventory levels, outdated goods, invoice discrepancies, invoicing volumes;
- promoting e-business development, allowing for accelerated transaction processing and ensuring information quality, by

![Figure 1: Roles and Responsibilities of the Involved Parties](image-url)
Procurement

months. We rely on the competitive factor, the term of the contract and the extraordinary opportunity afforded by implementation of such a service for a party specialized in the distribution sector, to obtain fair and equitable prices for all parties involved.

Obviously, creation of such a distribution model will offend current practices; this will cause fears to healthcare centres, industry manufacturers and distributors. At the time of establishment of centralized drug distribution, several key success factors made it possible to counter these obstacles and ensure success of the project:

- a drug management committee made up of determined and concerned pharmacists;
- leadership of the committee’s chairman;
- team spirit of institutional pharmacists vis-à-vis industry pressures;
- well-defined practice sector;
- one spokesperson per healthcare centre.

In the case of medical supplies, the situation is somewhat different. Because of the large variety of products, many stakeholders with different areas of specialization are affected by the impact of the model, which makes team spirit and unanimity more difficult to attain. Thus, industry pressures have a larger impact, which has to be counterbalanced to allay fears and uncertainties.

In January 2011, SigmaSanté formally asked all institutional leaders to grant it a clear mandate to allow it to proceed with this project with proper authority. Positive responses will decide whether implementation of this model can be applied to the medical supply sector.

Chantal S Laurin is Chief Executive Officer of SigmaSanté, a joint procurement corporation that acts as broker for several Québec healthcare facilities, and whose annual transactions exceeds C$800 million. Mrs Laurin has previously held the position of Chief Executive Officer of Montréal International Airport, as well as various key positions with Hydro-Québec and Transport Canada.
The challenges of collaborative procurement in the healthcare sector

GABRIELLA MARGHERITA RACCA
FULL PROFESSOR OF ADMINISTRATIVE LAW, DEPARTMENT OF LAW FOR ECONOMICS, UNIVERSITY OF TURIN (ITALY)

ABSTRACT: The article points out the new challenges of collaborative procurement in the healthcare sector. The research focuses on the optimization of healthcare purchasing through the reduction of costs without any prejudice to the quality of healthcare performances, but also assuring rationalization and innovation. Moreover, the importance of collaborative procurement is particularly evident considering the ensuing valorization of the diverse professional skills and their use of strategic purchasing power in their relationships with economic operators.

Purchasing aggregation and the professionalization in the public procurement field have become two of the most important challenges for public purchasers and for procuring authorities in general and particularly in the healthcare sector. The importance of the public procurement is indeed evident to-date. It is worth mentioning that the procurement market can reach approximately 15% of EU’s GDP and account up to 20% of developing countries’ GDP. Such considerable percentage determines a strong purchasing power that can be driven towards innovation and the creation of value.

Nonetheless, an overall vision of public organization strategic power is still missing, probably as a widespread fragmentation of procuring entities is still present. This is often an obstacle to a complete and comprehensive vision of the possible strategies of public procuring policies. Thus, the promotion of every form of collaborative procurement so as to obtain instruments to steer the uses of such considerable resources is of the utmost importance. In general terms, every government, local authority and public organization, utility and agency at any level is endowed with contractual autonomy and can purchase according to international, European and national rules depending on the case, pursuing the goal of obtaining the best value for money. However, the demand of reducing public expenditure, even as a result of the economic crisis, as well as the goal of the European Union to increase competition in the public market can improve the value of any form of collaborative procurement and of professionalization, thus achieving a wider and more comprehensive vision of the different market conditions and characteristics.

Nevertheless, in order to create an internal market, the European legislator set common rules for the Member States referring to the principles and procedures of public contracts awarding. An effective internal market in the supply and services sectors has to be accomplished yet, in the healthcare sector too. Healthcare purchasing is surely a strategic sector in the area of public procurement. The reduction of resources seems to require the development of public procurement policies in order to maintain a high level of protection (as to the healthcare performances), taking into account the new costs associated to the evolution of medical science, too. In fact, collaborative procurement optimizes public purchasing, especially, but not only, thanks to the economy of scale it achieves.

Purchasing aggregation entails reduction of costs and consequently may facilitate the achievement of such goals becoming creator of value. These costs concern on the one hand the prices of goods and services – for each unit – and, on the other hand, the awarding phase of public procurement (including human resources savings, both in terms of time and money). The large volumes purchased determine a higher purchasing power by assuring the effectiveness of the public action and by acquiring healthcare products (drugs, equipments, medical devices) and services at better market conditions and at the best value for money. Furthermore, public bodies may enjoy the benefits arising from the reduction of costs and time related to autonomous award procedures (according to a rough calculation the cost of an autonomous award procedure can reach €20,000). Moreover, purchases aggregation entails the reduction of human resources involved in the award procedures thus allowing – with a view to improving the control of the performance phase – their assignment to the task of monitoring contracts performance and possible infringements.

Purchases aggregation is not only an instrument to reduce costs, as it can drive innovation, by promoting competition between economic operators. Indeed, collaborative procurement does not harm the development of competition, as it has been claimed, rather being an instrument that helps to improve its value.
ensuring a competitive quality level. Regulatory rules at European level have been introduced in 2004, so as to rationalize public procurement, providing a European definition of Central Purchasing Bodies*. In fact, it has been considered that those techniques can help increase competition and streamline public purchasing in view of the large volumes purchased by these organizations. Obviously, collaborative procurement affects the role played by the contracting authorities, as long as an aggregated awarded procedure differs greatly from an autonomous one. In other words, the purchaser is not a person acting individually anymore, since, to the contrary, he is part of a team of several people with different professional skills (technical, methodological, economic, legal, engineering etc.). Those skills are often out of reach for most contracting authorities within the healthcare sector and require the implementation of forms of aggregation*. 

In this context, an organization such as a central purchasing body can enhance those skills and implement some new purchasing techniques such as those defined by the 2004 European Directives (framework agreements*, electronic auctions, dynamic purchasing systems), with the aim of managing better the coordination of public demand, by referring to more complex award procedures.

Moreover, in the most evolved legal systems, central purchasing bodies conduct extensive studies in the relevant markets that the purchasers cannot carry out on their own. The knowledge of the market structure enables the outlining of suitable procurement procedures, in order to fill the gap of common standards to ensure the monitoring of the exact performances, to define more precisely the sum of lots included in the procuring procedures or to identify the best moment to launch a new award procedure or a framework agreement**. This seems to ensure the expansion and the strengthening of competition and it helps promote the entry of new firms (new economic operators) on the market (also SMEs). With regard to this latter aspect, we may recall that the “Small Business Act Europe” improves the activity of SMEs in accordance with the principle “Think Small First”*. This does not mean that the award procedures should remain below the European threshold, but, on the contrary, it entails the creation of award procedures with lots that are territorially and quantitatively adapted to the system of the providers, by identifying the territorial level that is optimal for the aggregation and by ensuring the participation of more innovative SMEs, even from abroad**.

The optimal level for collaborative procurement in the healthcare sector is normally identified by the kind of goods and services needed. Therefore it may be at a local, regional, national level and, under a more innovative perspective, at a European level. Indeed, geographic regroupings can be identified aiming at federating hospitals that operate on the same territory, as well as regroupings set by nature of the organization (because of the homogeneous characteristics they present). This does not exclude forms of centralization based on the creation of networks in which each organization can specialize itself in order to purchase certain categories of specific goods and services, even on behalf of others (one for drugs, the others for consumable medical devices).

The implementation of policies of collaborative procurement can not only contribute to the increase of the purchasing power of public bodies, but also to the improvement of the quality of public expenditure. Indeed, if the European Union pursues the goal of the achievement of a internal market, it should be noticed that the public demand still results highly fragmented compared to the offer of companies, which seems to be more structured. For example, referring to the health products market sometimes and for certain categories of products only few suppliers (even on a worldwide level), who organized themselves by creating supply chains in order to meet the public demand, can be identified. Moreover, in a few years the computerization (and the data filing system) of these complex procedures will be complete. It will radically change the possibilities of comparing services and prices obtained, as well as the possibility to set benchmarks. To-date, for example, in Italy, the costs of medical devices are extremely different depending on the hospital, even in the same area. Thus, the Ministry of Health encouraged centralization of purchases by means of a government bill aimed at creating a database of medical devices, in order to control consumption and expenditure.

Purchases aggregation is not only an instrument to reduce costs, as it can drive innovation, by promoting competition between economic operators.
of products. Computerization seems to ensure transparency and controls on the quality of goods and services\(^{15}\). This control will not only be performed on the award procedure. Its scope will include the control of the quality of healthcare provided by doctors in relation to quality and the quantity of devices and treatments provided. In this context, the role of central purchasing bodies could really become strategic since the exchange of information – supported by electronic tools – seems to allow for a coordination to develop common contract terms which may, in turn, lead to a truly internal market in which the best hospital purchasing practices could be identified and innovative solutions could be developed\(^{16}\).

The development of standard contract models (with reference to different categories of purchase), and of uniform contract terms including reference to the execution phase of contracts and payments can promote the participation of a higher number of companies. By way of example, in Italy it was noted that the payment terms for health providers can reach almost 800 days. This situation surely discourages participation in public procurement. From this perspective it would be, in the European area, take the forms of procedures for the award of public works contracts, public supply contracts and public service contracts [2004] O.J. L134/114: “Contracting authorities which purchase works, supplies and/or services from or through a central purchasing body in the cases set out in Article 1(1) shall be deemed to have complied with this Directive as if the central purchasing body had actually performed the award procedure.”


References

1. Racca, G. M., (2008). Le modalità organizzative e le strutture contrattuali delle aziende organizzative di servizi sanitari, Milano: Franco Angeli (pp. 264-297), that is the outcome of the project which the Unit of the University of Turin (Head of research Prof. Gabriela M. Racca) racca.gabriella@uni-torino.it is developing as regards “Contractual autonomy of health authorities: scope limits, organisational structure and cost efficiency”, as part of the Research Program of Relevant National Interest (PRIN) on “health service organization in a comparative perspective: the Italian model of Health Agencies’ structure in comparison with other organisational models” together with the research units of the University of Pescara, University S.A.M. di Novara and University “G. d’Annunzio” of Chieti-Pescara; see also Racca G. M., (2010). Collaborative procurement and contract performance in the Italian healthcare sector: illustration of a common-problem in European procurement. Public Procurement Law Review. (pp. 119 ss).


6. European Parliament and the Council Directive 18/2004 of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts [2004] O.J. L134/114: “Contracting authorities which purchase works, supplies and/or services from or through a central purchasing body in the cases set out in Article 1(1) shall be deemed to have complied with this Directive as if the central purchasing body had actually performed the award procedure.”

7. See art. 11 (2) of European Parliament and the Council Directive 18/2004 of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts [2004] O.J. L134/114: “Contracting authorities which purchase works, supplies and/or services from or through a central purchasing body in the cases set out in Article 1(1) shall be deemed to have complied with this Directive as if the central purchasing body had actually performed the award procedure.”


10. See art. 11 (2) of European Parliament and the Council Directive 18/2004 of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts [2004] O.J. L134/114: “Contracting authorities which purchase works, supplies and/or services from or through a central purchasing body in the cases set out in Article 1(1) shall be deemed to have complied with this Directive as if the central purchasing body had actually performed the award procedure.”


e-procurement in hospitals

ABSTRACT: This article describes the history, current status, advantages of and opposition to the implementation of e-procurement in hospitals and examines the results of its implementation in a psychiatric hospital.

Portals, market places and electronic purchasing – some of the names by which we know e-procurement – came into being with the internet boom at the turn of the millennium. Today it is possible to identify the real potential of e-procurement compared to its imagined applications at a time when neither the widespread use of the internet nor the organisations wanting to implement it were sufficiently advanced.

Over the years, electronic commerce has become widespread, and there are now sectors that could not exist without the use of this technology. The health sector, due to its complexity, idiosyncrasies and perhaps its own inertia, took longer than other more enterprising sectors to incorporate information technology into its business. But we believe that due to the advances in internet usage as well as in e-procurement software – though both at different speeds – the health sector is now ready to efficiently incorporate this technology into its hospitals.

Purchasing in hospitals

Buying all the goods a hospital needs to provide its services in an efficient manner is a complex process. As outlined in the figure below, the process includes selecting the appropriate products to request from the suppliers, negotiating, storage, distribution, correct usage to meet patient needs and evaluation of the results, which should influence the selection of new products and subsequent purchases.

In Spain, total healthcare spending in 2008, according to the most recent consolidated data, was €82,064 million (M), 8.2% of GDP. Spending on goods and services, 25%, reached €20,516 M of which 70% was on medical and non-medical goods, €14,361 M. Considering pharmaceutical products, which should be included in hospital spending, the figure rose to €20,000 M. These are impressive figures and any improvement in the quality of what we buy, how we buy, from whom we buy and at what price we buy is fundamental to both financial results and hospital efficiency. Hospitals are complex organisations not only because of the particular processes that occur there and the low efficiency of these processes in most of them, but also the conditions in which they are produced:

- Hospitals are businesses, which in most cases provide services 24 hours a day, 365 days a year.
- They often have a high number of references in their catalogues, between 5,000 and 10,000 per hospital.
- They usually have a large number of suppliers.
- They have limited supplier selection and prioritisation criteria.
- Most of the time the staff in the purchasing department are expected to process the orders.
- They have little information on the market and suppliers.
- Purchasing plans are based on the annual volumes of previous policies.
- They have little IT support.
- They do not thoroughly track purchases.
- They often have multiple and generally poorly designed warehouses.
- They have high stock levels.
- Internal distribution is slow.
- They produce a large number of urgent requests.
- There is poor coordination with medical and paramedical staff concerning the selection of materials.
- There is great variability and little standardisation of materials.
- They often have little information on usage and costs.

In the EU-10 countries, 98% of hospitals have access to the internet and 78% to broadband. Some 75% of medium-sized hospitals use e-procurement services, but only 27% of them use this system for over 25% of their orders.

We believe that both internet usage and organisational advances in our hospitals permit the efficient use of e-procurement in these establishments. The current economic pressure on increasing efficiency provides a great opportunity for hospitals to start making their purchases electronically.

Benito Menni hospital – a successful case

Benito Menni Hospital is a psychiatric hospital belonging to the Congregation of the Sisters Hospitalers of the Sacred Heart of
Jesus, near Barcelona. It has 770 beds and 125 years of experience caring for patients. It is an exemplary health centre with a great concern for efficiency and quality that has won several awards for its clinical work, teachings and research.

In April 2008, the hospital decided to implement Bionexo’s purchasing platform in order to optimise the process of managing and purchasing the drugs, medical and non-medical supplies needed for its operation, as outlined in its strategic plan. After the six-week implementation of the platform, it began requesting quotes electronically and evaluating the suppliers who responded, according to the following scheme.

Since then, the hospital routinely uses Bionexo’s electronic platform. Outlined below are the results achieved during the period from June 2008 to April 2010.

**Results in improving purchasing management**

- Provides access to a wider supplier base.
- Allows an up-to-date, global overview of each product on the market.
- Ensures internal transparency when managing purchases.
- Reinforces the hospital’s innovative culture.
- Optimises value for money.
- Combines with the use of other innovative technologies such as bar codes.
- Results in improving purchasing management processes.
- Enables the management of purchases to be centralised as well as unifying and simplifying the processes, easing the logistics of purchasing.
- Purchasing management becomes part of the overall strategy.
- Improves productivity by alleviating paperwork that adds no value to the purchasing process.
- Improves purchasing traceability.
- Allows scalable and progressive implementation depending on the complexity of the products purchased.
- Facilitates more stable relationships with suppliers by establishing medium- to long-term contracts with them.
- Enables flexible product deliveries according to supply needs.
- Provides transparency of the economic reasons for product changes during discussions with medical staff.
- Improves inventory management.

**Economic results**

- Produces significant savings, 20%, and the ability to monitor them.
- Provides immediate and accurate information on the contribution of purchasing management to the hospital’s financial results.

**Opposition to e-procurement**

Like any new process introduced to an organisation, and our hospitals are no exception, there can be both internal and external resistance, which can be mitigated by managing the change properly.

Internal opposition can occur both in the actual purchasing processes.
department as well as among the health professionals who are involved in the selection of materials.

In the first instance, this comes from a natural resistance to any change and to the incorporation of new technology, which can be perceived as a threat to their jobs. In general, after a period of training, most people adapt and become the strongest advocates of the new system, as it frees them from repetitive, bureaucratic tasks and allows them to focus on more valuable assignments such as negotiating the purchasing process.

In the second instance, health professionals may see the changes as a loss of control to those in the purchasing department. The latter benefit from more information about the products and can therefore expand on their arguments, sometimes with little consideration for scientific evidence, and introduce cost as a definitive variable in the final selection. After a period in which medical staff are given further information, they often become, despite exceptions, among the strongest advocates of the new system, which allows them to use better products while making significant savings.

External opposition comes from the suppliers, because the increase in availability of knowledge at the hospital produces greater competitiveness, and a better prepared institution is harder to negotiate with. Adequately managing the change is important in the case of suppliers and should be based on presenting the technology as a profitable transition for all parties. Although the suppliers will face increased competition, they will also have more clients to whom they can offer their products, without any additional financial cost, and will no longer have to limit their sales to a specific time or place due to access to the internet. Moreover, as with the hospital, they can reduce transaction costs, alleviate paperwork and improve efficiency of their sales process. The uptake of e-procurement in other sectors renders invalid any arguments against the technology being too new, unsafe or unreliable.

The Benito Menni Hospital has successfully managed the transition as both professionals and suppliers now view the platform as a tool that enables them to improve their work efficiency, platform implementation is viewed very positively, as discussed in the attained results.

Looking ahead

We believe that the implementation of information technology and particularly online procurement is inevitable, as is occurring in other sectors providing services to citizens.

The advantages of implementation mean hospitals not only improve efficiency in the purchasing process, by improving quality and reducing costs, but also gain transparency, ongoing auditing, and increased knowledge, allowing health professionals to participate more fully and collectively in selecting the materials for purchase.

The initial opposition that can arise from suppliers will, we believe, lessen once the procedure becomes more widespread: their clients, the health institutions, increase in number and their operational costs diminish.

The decision to introduce e-procurement in hospitals is a strategic decision and should therefore be taken at management level in the institution, by involving senior management, in addition to members of the purchasing department, who should clearly understand the aims of implementation.

Dr Julio Villalobos Hidalgo Academic Director and Associate Professor of Health Science Studies at the Open University of Catalonia and Managing Partner of Bionexo Ibérica S.A. Doctor in Medicine and Industrial Engineering. Specialist in Intensive Care. Diploma in Hospital Management. General Manager of public and private hospitals. Advisor and consultant to national and international companies. Director of the journal for La Sociedad Española de Directivos de la Salud [The Spanish Society of Health Executives].

Dr Joan Orrit Clotet Managing Director of Benito Menni Mental Healthcare Institute, Sant Boi de Llobregat (Sisters Hospitals). Chairman of the Mental Health Council for the Unio Catalana d’Hospitals. Academic Contributor ESADE (Barcelona) in the areas of Accounting and Entrepreneurship. Doctor in Medicine. MBA from ESADE. PDG [General Manager Programme] from IESE. Masters in Public Health from the Universidad Autónoma de Barcelona.

Juan Pablo Villalobos Operations Director of Bionexo Ibérica S.A. Degree in Marketing and Administration. Has carried out numerous market research studies for a variety of companies, particularly in the fields of new technology, pharmaceuticals and the healthcare sector.

References

1 Villalobos J. E-procurement in health care institutions. Agatha - magazine. Social, healthcare and social services. Year 8, No 2, June 2008; 22-27
3 Villalobos J. Managing the transition as both professionals and suppliers now view the platform as a tool that enables them to improve their work efficiency, platform implementation is viewed very positively, as discussed in the attained results.

World Hospitals and Health Services Vol. 47 No. 1 23
The value of group purchasing organizations in the United States

ABSTRACT: This article examines the valuable role of group purchasing organizations (GPOs) in hospital purchasing in the United States. For over 100 years old GPOs have helped hospitals and other health care providers realize savings and create contracting efficiencies by aggregating purchasing volume to negotiate discounts with manufacturers, distributors and other vendors. The US has recently enacted a series of healthcare reforms to correct some of the historical concerns regarding cost, quality and access. GPOs are expected to continue to play a critical role in the business of hospital purchasing and may potential export that other countries may wish to examine.

The rising cost of healthcare goods and services in the United States is an issue with enormous consequences for policymakers and patients alike. For example, the US federal government spends approximately 25% of its annual budget on health care matters. This figure is only expected to grow in the future due to the increasing costs associated with medical technology and an aging population. These factors combined likely ensure that cost containment will become and remain a key policy objective for both public and private sector health care supply chains. This article will examine one aspect of this enormously important and complicated issue: the valuable role of group purchasing organizations (GPOs) in the hospital purchasing supply chain in the United States.

Background
In the US, GPOs have long helped hospitals (and other healthcare providers including nursing homes, ambulatory care facilities, etc.) realize savings and create contracting efficiencies by aggregating purchasing volume and using that leverage to negotiate discounts with manufacturers, distributors and other vendors. The US GPO industry is over 100 years old. The first GPO was created in 1910 by the Hospital Bureau of New York and consisted mostly of laundry and other shared services. The use of GPO contracts has grown and accounts for approximately 73% of non-labour purchases a hospital makes.

There are two basic types of healthcare GPOs. The first is comprised of an existing network of healthcare providers often called an “Integrated Delivery/Health Network,” which centralizes its purchasing activities into one place. The other type of GPO, which is more prevalent, is the “voluntary GPO,” whose members participate in the benefits of leverage contracting but often buy “off-contract” (i.e., negotiating with and buying directly from manufacturers or distributors). Buying “off contract” is especially common in connection with “physician preference items” such as implantable medical devices and specialty pharmacy drugs.

Voluntary GPOs do not guarantee specific purchase volumes to a manufacturer. The extent to which a given hospital buys “on-contract” (i.e., completes purchases under terms negotiated by its GPO) is called “compliance” or “participation.” The compliance or participation level of a GPO’s members is an important determinant of the GPO’s power in negotiating prices for its provider-members. The key reason hospitals join a GPO is that it will incur a lower total purchasing cost. The voluntary GPO model is so common that approximately 90 to 96% of all US hospitals belong to 1 or more GPOs in the US. In fact, hospitals use an average of 1.6-2.6 GPOs per facility to achieve their purchasing goals.

GPOs do not purchase supplies, member hospitals do, under the terms of GPO-negotiated contracts. To choose the most appropriate products, GPOs create value analysis teams of clinicians and experts from member institutions that evaluate or have “privileges” to see patients in that facility. The number of physicians in “private practice” is expected to continue to decline with declining reimbursement rates. US healthcare expenditures totaled over US$2.3 trillion (approximately 17% of GDP) in 2007. Medicare and Medicaid spending was US$749.8B in Fiscal Year (FY) (October) 2009 compared to US$333.9 billion in federal healthcare spending in FY 2002.

There are two basic types of healthcare GPOs. The first is comprised of an existing network of healthcare providers often called an “Integrated Delivery/Health Network,” which centralizes its purchasing activities into one place. The other type of GPO, which is more prevalent, is the “voluntary GPO,” whose members participate in the benefits of leverage contracting but often buy “off-contract” (i.e., negotiating with and buying directly from manufacturers or distributors). Buying “off contract” is especially common in connection with “physician preference items” such as implantable medical devices and specialty pharmacy drugs.

Voluntary GPOs do not guarantee specific purchase volumes to a manufacturer. The extent to which a given hospital buys “on-contract” (i.e., completes purchases under terms negotiated by its GPO) is called “compliance” or “participation.” The compliance or participation level of a GPO’s members is an important determinant of the GPO’s power in negotiating prices for its provider-members. The key reason hospitals join a GPO is that it will incur a lower total purchasing cost. The voluntary GPO model is so common that approximately 90 to 96% of all US hospitals belong to 1 or more GPOs in the US. In fact, hospitals use an average of 1.6-2.6 GPOs per facility to achieve their purchasing goals.

GPOs do not purchase supplies, member hospitals do, under the terms of GPO-negotiated contracts. To choose the most appropriate products, GPOs create value analysis teams of clinicians and experts from member institutions that evaluate,
analyze and make recommendations. Contracts with suppliers typically last 3-5 years (and may be terminated by either side, with notice). In addition, innovative products are typically allowed to be added to a contract at any time. GPOs charge vendors, rather than health care providers, an administrative fee, which is only earned after a hospital purchases the item under contract. While this arrangement is meant to primarily benefit hospitals it also creates contracting efficiencies for vendors that no longer have to negotiate the terms and conditions of individual agreements with thousands of hospitals from across a geographically vast nation.

The US GPO market

There are approximately 600 GPOs in the US. In 2008, 6 GPOs made up nearly 90% of the total GPO contract volume (US$106B in 2008). Recently there has been a slight increase in consolidations in the GPO market. For example, MedAssets Inc. successfully combined with The Broadline Group in 2010, while HealthTrust also completed its three-year planned acquisition of Consorta. This trend, however, does not suggest that the GPO market is overly concentrated. In fact, the US GPO market remains highly competitive and free from anti-trust concerns. The following are the largest GPOs and the corporation under which they are organized:

- Novation (a cooperative owned by VHA and UHC),
- Premier (Limited Liability Corporation owned by approximately 2000 shareholders and members),
- HealthTrust Purchasing Group (owned by Health Corporation of America),
- MedAssets Inc. (publicly traded stock corporation),
- Amerinet Inc. (privately held investor owned: Intermountain Healthcare and Administrative Resources, Inc.)

Not included above are federal and state public GPO programs managed by the US Department of Defense, the Department of Veterans Affairs and numerous state and local programmes.

It is worth noting that the estimated net revenue for the entire GPO industry is rather modest – approximately US$1.9 billion, compared to the US$200 billion medical device industry. In addition, this figure does reflect (i.e., subtract) those amounts that are commonly referred to as “share backs” which are a percentage of revenue returned to GPO owner and member hospitals. Share backs are often characterized as a being a type of dividend. They are valued because they represent a return on investment. It is not uncommon for hospital-owned GPOs to return more than half of all net revenue collected by the GPO.

Hospitals are required to report these earnings on reports to the federal government on an annual basis. The GPO industry has voluntarily taken additional measures to ensure greater transparency by creating the Healthcare Group Purchasing Industry Initiative (HGPII). HGPII includes all of the major GPOs, whose Chief Executive Officers attest to the correctness of an annual questionnaire regarding their firms’ business practices. For example, the most recent questionnaire stated that, on average, the weighted contract administrative fee ranged from 1.52% to 2.25% for all GPOs. This report and the answers to individual GPO questionnaires are available to the public at www.healthcaregpci.org.

As indicated above, the GPO industry is highly competitive. A recent report by the US General Accountability Office (GAO) stated that in addition to contracting with manufacturers, other GPO services include:

- custom contracting;
- clinical evaluation and standardization;
- technology assessment;
- electronic commerce;
- materials management consulting;
- benchmarking data;
- market research;
- clinical Medical Education;
- materials management outsourcing;
- patient safety;
- marketing products or services;
- revenue cycle management;
- insurance services, etc.

The future of group purchasing in the US

The US has recently embarked on a series of health care reforms that attempt to correct some of the historical problems concerning cost, quality and access. Although the politics surrounding health care reform continue to be litigated, the primary goal of the Affordable Care Act is to increase coverage and reform the health insurance market. Taken together, all of the changes included in that law, as well as other recently enacted measures, are just a first step toward setting the regulatory process on a path to:

- incenting prevention and primary care;
- aligning incentives in payment;
- increasing transparency;
- increasing efficiency and investment in Information Technology;
- rewarding value-based services.

The next phase of reform will inevitably be real cost-cutting, because the US government, as well as many governments around the world, are simply broke. With such a high percentage of the federal budget going toward health care, the government’s best hope is to align incentives, invest in prevention and primary care and hope the wave of baby boomers doesn’t completely swamp the nation’s future fiscal picture. GPOs provide a time-tested private sector method of proven cost containment. A recent study of over 200 hospital executives found that a majority of respondents plan to increase GPO usage as a primary method of dealing with cost increases. In fact, the study states that these executives expect GPO utilization to increase 20 percent by 2015. The reasoning is simple: GPOs save money and – as this study asserts – will continue to be a vital component of healthcare reform implementation. Although medical manufacturers have used the political process to attempt to weaken the GPO industry by proposals that suggest taxing GPOs and diluting the ability of GPOs to continue to work under the Medicare statute, they are not likely to be successful.

Conclusion

The supply chain will need to move swiftly to keep up with its health care provider customers. The “new normal” will likely be based on Medicare (government) rates. Private-sector cost containment efforts will be critical in helping hospitals and other health care providers adjust. To make economies of scale work in an environment featuring lower reimbursements, the health care provider

World Hospitals and Health Services Vol. 47 No. 1 25
supply chain will include further consolidations at every level. In addition, vendors will need to rethink how their products fit into the new processes being developed for disease management and care coordination. GPOs will need to marry their data services to real-time clinical and quality situations for their hospital customers. Wholesaler/distributors will need to harness their existing data to new clinical requirements as well. Survivors of consolidation will be bigger, more efficient, leaner, meaner and data-driven. GPOs are expected to continue to play a critical role in the business of hospital purchasing. In fact, the US GPO model may be an exciting export that other countries may wish to examine in the future.

Curtis Rooney is President of the Health Industry Group Purchasing Association (HIGPA), the leading organization that advocates on behalf of healthcare group purchasing organizations (GPOs) in Washington, DC. He is responsible for the association’s strategic efforts to advance the healthcare GPO industry.

Prior to becoming President of HIGPA, Mr. Rooney was the Senior Associate Director and Counsel, Federal Relations, for the American Hospital Association (AHA) from 1999 to 2006. He was responsible for a number of issues including disaster preparedness, Medicare payment issues, medical liability reform, mental health services, telemedicine and ERISA.

Mr. Rooney was an attorney with the law firm of Arent Fox Kintner Plotkin & Kahn, practicing in the Health Law Group in Washington, DC. He has also been Washington Counsel to the American Medical Association (AMA) in the Division of Legislative Counsel and Counsel to the Association of Private Pension and Welfare Plans (APPWP) (now the American Benefits Council).

Mr. Rooney has written and spoken extensively on politics, Medicare, telemedicine, ERISA and health care reform. He sits on a number of boards including the Healthcare Industry Supply Chain Institute. He is Chairman of the Children of Kibera Foundation which creates educational opportunities for underprivileged children in Nairobi’s (Kenya) largest slum. He received a Bachelor of Arts from The George Washington University and J.D. from The Catholic University, JD. He is married and has two children.

References


6. See Burns and Lee at p.204.

7. See Burns and Lee at p.204.

8. The “Medicare and Medicaid Patient Protection Act of 1987” created GPO “Safe Harbor” which requires:

   a) The GPO must have a written agreement with each hospital or healthcare provider, that provides for either of the following agreements:

      (a) The vendor from which the hospital or healthcare provider will purchase goods or services will pay a fee to the GPO on 3% or less of the purchase price of the goods or services provided by that vendor, and

      (b) In the event the fee paid to the GPO is not fixed at 3% or less of the purchase price of the goods or services, the agreement specifies the exact percentage or amount of the fee.

   b) The GPO must disclose in writing to the hospital or healthcare provider at least annually, the amount received from each vendor with respect to purchases made by or on behalf of the hospital or healthcare provider. See, 42 U.S.C. § 1320a-7b(a)(5)(C); 42 U.S.C. § 1395f-2(b) (2009).


11. Id at p. 4.
Pooling procurement in the Belgian hospital sector

GUY HEBERT
HEAD OF PURCHASES AND LOGISTICS – SAINT LUC UNIVERSITY CLINIC, BRUSSELS, CHAIRMAN OF THE MERCURY CENTRAL PROCUREMENT AGENCY

ABSTRACT: The Belgian hospital sector is following the example of a number of other European countries and for more than ten years now, has been striving to pool its medical supplies and equipment purchases in a bid to reduce costs.

The various experiments of which we are aware come under both opportunist purchases and initiatives which are designed to encourage local-regional contracts. These attempts have now all come to nothing or are struggling in the absence of a structured and professional approach.

In 2005, the Saint Luc University Clinic in Brussels decided to set up a high-performance purchasing department, the aim being to centre its initiatives around TCO or Total Cost of Ownership.

Following an analysis of the various experiments into pooling procurement in hospitals in Europe, the Saint Luc University Clinic decided on a central procurement agency model, in accordance with new legislation on public procurement.

This article seeks to highlight the prerequisites which are vital for a procurement pooling initiative, without underestimating the risks and limitations of implementing such a change in procurement practices.

The Mercure central procurement agency is now the largest interhospital purchasing structure in Belgium.
Alongside the TCO approach, a number of other levers were brought into play, the main ones being:

- the development of an ERP system;
- the Kanban system was adopted for supplying healthcare units and doing away with "pirated" stock;
- the number of suppliers was reduced;
- direct supply without intermediaries was introduced;
- partnerships were set up with key suppliers.

For the private hospital sector, 2006 was a key year: encouraged by the European Commission, Belgium transposed two new laws on public procurement into Belgian law (15 and 16/06/2006).

To date, relatively few executory decisions with regard to these laws have been published in the Belgian Official Journal – except those which require both the public

The NHSSC (National Health Service Supply Chain) provides hospitals with everything they need (except for medicines), including plaster bandages, dressings, food, surgical gloves, implants and even medical imaging, ultrasound and MRI equipment. This central buying office is integrated into eight logistics platforms spread across the UK. The NHSSC has a staff of 220 purchasers. It makes 110,000 deliveries per year and supplies 620,000 products.

Hospitals are not contractually obliged to order supplies through this central buying office! The organizational and political structures currently in place are major obstacles to change. Governments and professional purchasers still have to overcome their sentimental tendency to want to buy locally, and must seriously consider functional requirements in terms of efficiency and bringing costs down.

This rapid overview of the situation in Europe reveals a number of critical points:

- competition between hospitals gives rise to suspicion with regard to the utility of central buying offices;
- hospitals have to strive continuously to set themselves apart from their competitors as far as the medical services that they provide are concerned, but what is the situation with regard to their support functions?
- hospitals are sceptical about any long-term benefits of their joining a central buying office;
- purchasing departments, which are structured and competitive, see these central buying offices – and their tendency to standardise products as much as they can, together with the rigidity of the procedures which result from this – as hindrances which restrict their freedom to expand;
- the central buying offices which do not lend their support to innovative new products - since such products interfere with...
Procurement special feature

Hospitals which have set up high-performance purchasing departments will doubtless be more cautious in the future with regard to supplies and will restrict the involvement of central buying offices to the acquisition of basic products (generic sterile or non-sterile equipment) that are required to be standardised and bulk-purchased. These same purchasing departments will be required to enter into partnership contracts with suppliers of innovative products, therapies and services in order to provide the healthcare centres of which they are part with sustainable competitive advantages and effective means of setting them apart from rival hospitals.

Nowadays, the widespread application of public procurement legislation to the Belgian hospital sector has a tendency to encourage people to reflect on how they might create new purchasing synergies.

There are three options for this:

1. Joint procurement: two or several hospitals make purchases together;
2. Central buying offices: a hospital (contracting authority) makes purchases on behalf of other healthcare centres;
3. Central procurement agency: a hospital is tasked, by other hospitals, with managing procurement and special specifications, up to the selection of one or two suppliers.

Member hospitals will manage procurement individually. It was the third option which seemed the most attractive for Saint Luc University Clinic, and with the help of a firm of lawyers specialised in public procurement, we drew up an agreement bringing together eight hospital healthcare centres – some 5000 hospital beds, the critical mass we were looking for. The majority of these hospitals are in the private sector and are scattered throughout the Brussels, Charleroi and Liège regions.

The agreement is designed to regulate relationships between the members of the central procurement agency. The central procurement agency functions as a contracting authority which places procurement contracts or enters into framework agreements in the name of and on behalf of other contracting authorities, i.e., members of the central procurement agency.

In accordance with public procurement legislation, the central procurement agency’s main tasks include:

- Appointing a hospital to serve as contracting authority for the contract.
- Needs strategy.
- Defining selection criteria.
- canvassing the market.
- General structuring of comparative studies into subgroups:
  - Drawing up specific specifications.
  - Requirements as to advertisement for a contract.
  - Selecting suppliers.
  - Appointing leading negotiators (+ technicians) for each contract.
  - Final negotiations with suppliers.
  - Awarding of contracts.
- Managing any disputes during the standstill period.

For each contract, the central procurement agency’s
Procurement special feature

Responsibility ends when one or several contracting authorities have been notified of the contract. Consequently, the central procurement agency is mainly involved in:

- contracts for supplies (food supplies, office supplies, laboratory chemicals and reagents, hygiene articles, sundry IT equipment, etc.);
- contracts for sterile and non-sterile medical equipment (IV kits, dressings, syringes, etc.);
- service contracts (maintenance and insurance contracts, linen hire/maintenance contracts, consultancy contracts, etc.);

...within the scope determined by the medical pharmaceutical committees and standardisation committees of the respective hospitals.

More generally, contracts which come under the specific strategy of a hospital are excluded from the central procurement agency's responsibilities.

The chief benefit that the central procurement agency provides is to enable partners to remain in charge of a contract once it has been awarded (performance, payment, settling disputes, etc.). Furthermore, the way in which tasks are distributed means that decentralised entities and the central procurement agency have to work together and have an ongoing dialogue. The requirements of the various entities are now better catered for, including as far as various "sustainable" criteria are concerned (environmental, social and economic).

Pooling expertise from all the institutions that are part of the central procurement agency also means that all purchases can be more widely contextualized.

Sharing experiences and knowledge will mean that peripheral – but essential – parameters can therefore be better factored in when acquiring any supplies: storage constraints, costs associated with energy use, performance, recycling, end of life removal, etc.

Four main short-term aims:

- achieve a market volume close to €25 million,
- generate a further reduction in acquisition costs for the contracts involved of at least 10% (volume effect),
- open up to the benefits of dissociated logistics experiments,
- action the order pooling lever.

This interhospital central procurement agency, the largest in Belgium, is known as Mercure – Mercurius in Latin – or the God of trade, usually depicted holding a purse in one hand and a caduceus in the other.

By way of a conclusion, I shall summarise the keys to a successful hospital procurement pooling initiative:

- structured and professional purchasing departments need to be set up in all hospitals;
- central procurement agencies should be favoured in preference to central purchasing offices;
- procurement should be limited to purchases from simple product families;
- the scope should gradually be extended to include purchases that are relatively less strategic (services) and low-risk purchases (IV kits, dressings, etc.);
- the opportunities that a logistics platform can offer should be analysed (pooling of support services, central production unit, supplies, central sterilisation, etc.);
- strategic purchases (medical equipment) or high-risk purchases (IT applications, etc.) should not be pooled.

Guy Herbert Head of Purchases and Logistics – Saint Luc University Clinic, Brussels, Chairman of the Mercure Central Procurement Agency.
Résumés en Français

LE POINT SUR L’APPROVISIONNEMENT HOSPITALIER

Cet article a été rédigé par quatre étudiants français de gestion hospitalière de l’école des Hautes Etudes en Santé Publique (EHESP) d’après une étude menée conjointement par des étudiants de l’école de gestion de Grenoble dans le but d’explorer un aperçu des méthodes d’approvisionnement hospitalier dans dix pays. Une analyse de ces méthodes démontre une tendance générale aux achats communs en termes de coûts et de performance et certaines différences au niveau des législations (concurrence), taille du secteur public et centralisation ou décentralisation.

LES DÉFIS DE L’APPROVISIONNEMENT DANS LE SECTEUR DE LA SANTÉ

Cet article définit les nouveaux défis en matière d’approvisionnement groupé en matière de santé publique. L’étude est centrée sur l’optimisation des achats médicaux grâce à une réduction des coûts qui ne compromet pas la qualité des performances de santé, mais aussi grâce à la rationalisation et à l’innovation. Par ailleurs, l’importance de l’approvisionnement groupé est particulièrement évidente compte tenu de la valorisation qui en résulte au niveau des diverses compétences professionnelles et de leur utilisation en matière de pouvoir d’achat stratégique dans leurs relations avec les entreprises économiques.

INTÉRÊT DES CENTRALES D’ACHATS AUX ÉTATS-UNIS

Cet article examine l’utilité des centrales d’achats groupés (group purchasing organizations, GPO) pour l’approvisionnement hospitalier aux États-Unis. Depuis plus de 100 ans, les centrales d’achat aident les hôpitaux et autres services de santé à faire des économies et à rentabiliser les achats en regroupant les volumes d’achat pour négocier des réductions avec les fabricants, distributeurs et autres fournisseurs. Les États-Unis ont récemment introduit une série de réformes des services de santé pour remédier à certains problèmes passés de coût, de qualité et d’accessibilité. Le central de santé devrait continuer à jouer un rôle de premier plan en matière d’achats hospitaliers. Le modèle des GPO pourrait offrir un bon potentiel d’exportation qui peut intéresser d’autres pays.

LA DISTRIBUTION CENTRALISÉE PERMET DE RÉDUIRE LES COUTS D’ACHATS ET DE RATIONALISER LA LOGISTIQUE HOSPITALIÈRE

Tous les Québécois ont accès à des services de santé publique qui leur permettent de recevoir des soins de qualité que ce soit leurs possibilités de paiement. Dans le but de rentabiliser et de rationaliser, et d’économiser sur les coûts en gérant les fonds publics affectés aux services de santé, SigmaSante vise à mettre en place une distribution centralisée des fournitures médicales nécessaires aux établissements hospitaliers de Montréal et de Laval au Québec, comme cela se fait dans bien d’autres juridictions depuis de nombreuses années.

APPROVISIONNEMENT HOSPITALIER PAR INTERNET

Cet article explore l’histoire, la situation actuelle, les avantages et les objections relatives à la mise en place de l’approvisionnement par Internet dans les hôpitaux, et évalue les résultats de son application dans un hôpital psychiatrique.

APPROVISIONNEMENT RÉGROUPE DANS LE SECTEUR HOSPITALIER BELGE

Le secteur hospitalier belge est l’exemple d’un certain nombre d’autres pays d’Europe et s’efforce, depuis plus de dix ans, de regrouper ses achats de fournitures et d’équipement médicaux dans le but de réduire les coûts. Les diverses expériences dont nous avons connaissance sont soit des achats opportunistes, soit des initiatives conçues pour encourager les contrats locaux et régionaux. Ces initiatives sont actuellement vouées à l’échec ou ont du mal à se mettre en place en l’absence de toute approche structurée et professionnelle.

En 2005, la clinique universitaire de Saint Luc de Bruxelles a décidé de créer un service d’achat hautement rentable dans le but de centraliser ses initiatives autour du TCO ou Coût total de possession. S’appuyant sur une analyse des différentes expériences d’approvisionnement regroupé dans les hôpitaux européens, la clinique universitaire Saint Luc a opté pour un modèle de central de santé conformément aux nouvelles réglementations en matière d’approvisionnement public.

Cet article tente de mettre en lumière les conditions préliminaires indispensables à toute initiative de groupement des achats, sans sous-estimer les risques et les limitations de mise en œuvre de tels changements dans le private d’approvisionnement. L’agence Mercure d’approvisionnement centralisé est actuellement la plus grande structure d’achats inter hospitaliers de Belgique.

VARIABILITE DE LA DEMANDE HOSPITALIERE : INSTRUMENTS PROPOSES POUR LES GESTIONNAIRES HOSPITALIERS

Les hôpitaux du monde entier sont confrontés à des variations de la demande pour les patients hospitalisés. Une précision précise de la future demande aide les hôpitaux à programmer les besoins à court terme tels que le personnel et l’approvisionnement, et les besoins à long terme comme les lits et les bâtiments. L’existence d’outils méthodologiques appropriés aux mains de gestionnaires hospitaliers pourrait les aider à faire face plus facilement aux flux de patients. Cet article présente deux de ces instruments : d’abord, une méthode moyenne auto-régressive univariable, et ensuite, un modèle multivariable. Appliqués aux systèmes nationaux de santé de Grèce, ces instruments ont démontré des...
Resumen en Español

VISTA GENERAL DEL PROCEDIMIENTO DE COMPRAS DE LOS HOSPITALES A NIVEL INTERNACIONAL
Este artículo describe los antecedentes, la situación actual, las ventajas y la resistencia a la puesta en práctica del aprovisionamiento electrónico en los hospitales y estudia los resultados de su adopción en un hospital psiquiátrico.

DISTRIBUCIÓN CENTRALIZADA. REDUCCIÓN DE LOS GASTOS DEL CAPITAL SOCIAL MEDIANTE LA RACIONALIZACIÓN DE LOGÍSTICA DE LOS HOSPITALES
Todos los ciudadanos de Quebec tienen acceso a un sistema de salud pública que les permite recibir unos cuidados de salud de alta calidad, independientemente de su capacidad de pago personal. Con el fin de mejorar la eficiencia y eficacia y conseguir una reducción de los costos en la administración de los fondos públicos asignados al sistema de prestación de servicios de salud, SigmaSanté tiene el proyecto de poner en práctica la distribución central de los suministros médicos que necesitan los establecimientos sanitarios de Montreal y Laval, Quebec, como se
Asociación de compras en el sector hospitalario belga

El sector hospitalario belga está siguiendo el ejemplo de numerosos países europeos y lleva más de diez años esforzándose por constituir un fondo para la adquisición de equipamiento y suministros médicos con el fin de reducir costos. Los diversos experimentos que conocemos van desde las compras oportunistas hasta las iniciativas encaminadas a fomentar los contratos locales y regionales. Estos intentos han fracasado o bien avanzan con dificultad por falta de un modo de entarcarlos de una manera estructurada y profesional.

En 2006, la Clínica Universitaria Saint Luc de Bruselas decidió instaurar un departamento de alto rendimiento, con el objetivo de centrar sus iniciativas en el TCO, es decir el Total Cost of Ownership, o Coste Total de la Propiedad.

Tras un análisis de los distintos experimentos sobre la asociación de compras hospitalarias en Europa, la Clínica Hospitalaria Saint Luc decidió adoptar el ejemplo de los organismos centrales de compras, conforme a la nueva legislación de las adquisiciones públicas.

Este artículo tiene por objetivo poner de relieve los requisitos previos de importancia primordial para poner en marcha una asociación de compras sin menospreciar los riesgos y restricciones de instaurar esta reforma en las prácticas del aprovisionamiento.

Hoy en día, la empresa central de compras Mercure es el mayor organismo de compras entre hospitales de Bélgica.

Varaciones en la demanda hospitalaria: posibles instrumentos a disposición de la dirección hospitalaria

Hay una diferencia enorme en la demanda de los servicios de hospitalización entre los hospitales del mundo. Una previsión correcta de la demanda futura ayuda a los hospitales a programar sus necesidades a corto plazo en términos de personal y suministros médicos y a largo plazo en lo que respecta al número de camas e instalaciones. La existencia de instrumentos metodológicos adecuados y su aplicación por parte de la dirección hospitalaria, podría ayudar a ésta a aplanar dificultades por el flujo de pacientes en el futuro. Este artículo presenta dos instrumentos diferentes: en primer lugar, un método autoregresivo a una variable del promedio móvil y en segundo lugar, un modelo con múltiples variables. Al aplicar estos métodos al Sistema Nacional de Salud de Grecia se han encontrado unas variaciones muy considerables en la demanda. El método a una variable ofrece una previsión más correcta de la demanda imprevista en el futuro.

Evaluación de la disponibilidad, capacidad de pago y administración de fármacos esenciales en los hospitales públicos de Burkina Faso

Para la población de Burkina Faso la mejora de los servicios de salud y la disponibilidad de los productos farmacéuticos constituyen una preocupación cada vez mayor. El objetivo de este estudio consistió en evaluar la disponibilidad, los precios y los ingresos de ventas de un grupo de 50 fármacos esenciales en los hospitales públicos desde el 29 de septiembre hasta el 29 de diciembre de 2009. El método empleado para estudiar los precios, la disponibilidad, la capacidad de pago y el componente de precios de Health Action International (HAI) y la Organización Mundial de la Salud (OMS) se ha utilizado para recopilar y analizar los datos.

Los resultados muestran que la relación media entre el presupuesto farmacéutico y el centro de salud es 16.18. El índice medio de disponibilidad es del 77.69%. El precio de compra de los proveedores hospitalarios es aproximadamente el mismo que el precio internacional de referencia (1.12). El precio de venta del hospital público al paciente es el doble del precio de compra del proveedor (2.20).

El total de ingresos de las ventas para los tres primeros trimestres de 2009 es 708.740, 495 FCFA (1.080.397 Euros). Estos ingresos representan aproximadamente el 23.02% del coste total de los productos farmacéuticos disponibles durante el periodo (0.078938.053 Francos CFA/1.693.503 Euros).
Company profiles

ARAMARK

is a global leader in professional services, providing award-winning food services, management of facilities, assets, and clinical technology, and uniform/career apparel to health care institutions and other businesses. In FORTUNE magazine’s 2010 list of “World’s Most Admired Companies,” ARAMARK ranks number one in its industry, consistently ranking since 1998 as one of the top three most admired companies in its industry. ARAMARK seeks to responsibly address key issues by focusing on employee advocacy, environmental stewardship, health and wellness, and community involvement. Headquartered in Philadelphia, Pennsylvania (USA), ARAMARK’s 255,000 employees serve clients in 22 countries.
Visit www.aramark.com

Bionexo

is the centre of a community comprised of over 15,000 players of the hospital business. Through our web platform, we integrate hospitals throughout the supply chain sector, focusing on business development and relationships. Established in 2000, in just 10 years, Bionexo was structured in Brazil, becoming the largest marketplace reference to the hospital industry and contributing significantly to the professionalization of the purchasing sector and growth of the healthcare market.

The success of this innovative business model has led to Bionexo for Latin America and Europe, where also attained leadership in addition to export technology and implement a new concept in commercial transactions of organizations. Everything happened in a short time, just like businesses are made between the companies that integrate our platforms. This makes Bionexo the largest core of the hospital sector in Brazil. Pioneering and innovation, helping thousands of companies and hospitals.
www.bionexo.com.br

ESRI

is the world leader in GIS technology. On any given day, more than one million people around the world use ESRI geographic information system (GIS) software to improve the way their organizations conduct business. ESRI GIS solutions are becoming an integral component of health organizations in addition to nearly every other type of business and government service. By adding a geographic component to data and analysis, ESRI software promotes exploring, analyzing and visualizing massive amounts of information according to spatial relationships. Since most health and human service problems facing the world today exist in a location-based context, geography can play a major role in helping health professionals understand health dynamics and the spread of disease. Health surveillance systems are used to gather, integrate and analyze health data; interpret disease transmission and spread; and monitor the capabilities of health systems. GIS is the enabling technology to spatially relate much of the information, making it a powerful tool for identifying, tracking and responding to disease patterns and health service needs.

ESRI software is extensively used by health organizations throughout the world, including the US Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), 112 national health ministries, and over 500 hospitals.
www.esri.com/health
IHF corporate partners

HCA
London’s number 1 private hospital group

owns the Capital’s six leading private hospitals all based in central London and each with an international reputation for the highest standards of care. They are: The Wellington – the largest private hospital in Europe, The London Bridge Hospital, The Harley Street Clinic, The Portland Hospital for Women and Children, The Lister Hospital and The Princess Grace Hospital. HCA also has four outpatient and diagnostic centres – soon to be six – a blood and bone cancer treatment joint venture with the NHS at University College Hospital, The London Gamma Knife Centre, another joint venture with the NHS at St Bartholomew’s Hospital and Harley Street at Queen’s, a private patient cancer centre at the NHS Queen’s Hospital in Romford.

The six HCA hospitals treat around 300,000 patients per year. They also specialise in the most complex medical procedures including cardiac care, liver transplantation, inter cranial surgery and complex cancer care. The HCA CancerCare network, for example, is the largest provider of cancer care in the UK outside the NHS. Uniquely, HCA has its own clinical trials unit based in Harley Street in central London. Medical teams in HCA are involved in research programmes aimed at finding new treatments in areas such as heart disease and cancer. In recent years HCA has invested around £250 million in capital expenditure including new diagnostic and treatment technology. As an example, HCA has recently installed at The Harley Street Clinic, the revolutionary CyberKnife robotic radiotherapy machine, which is able to target previously untreatable tumours. It is the first machine of its kind in the UK.

www.hcainternational.com

Johnson Controls

uses its 125 years of experience to help healthcare organizations create comfortable, safe and sustainable healing environments while providing measurable results. By utilizing our expertise in energy and sustainability, facilities, building and technology infrastructure, healthcare organizations can improve their financial results, the environment of care and their standing in the community. Johnson Controls provides design assist and construction management, funding solutions, network integration solutions for clinical and non-clinical systems, energy management and central utility plants, operations support and best practices, systems maintenance and facility management services. Johnson Controls helps healthcare organizations create comfortable, safe and sustainable healing environments while providing measurable results.

www.johnsoncontrols.com

Trane/Ingersoll Rand

a business of Ingersoll Rand – the world leader in creating and sustaining safe, comfortable and energy efficient environments – creates ideal environments of care for healthcare organizations all over the globe. Our products, services and solutions optimize the link between the physical environment to patient outcomes, staff satisfaction/productivity and the bottom line.

Trane/Ingersoll Rand solutions optimize healing environments with a broad portfolio of energy efficient heating, ventilating and air conditioning systems, building and contracting services, parts support and advanced controls for healthcare buildings. Our market-leading products also include electronic and biometric access control systems, time and attendance and personnel scheduling systems; mechanical locks and portable security, door closers and exit devices, steel doors and frames, architectural hardware and technologies and services for global healthcare markets.

www.Trane.com and www.ingersollrand.com
ROYAL PHILIPS ELECTRONICS OF THE NETHERLANDS (NYSE: PHG, AEX: PHI) is a diversified health and well-being company, focused on improving people's lives through timely innovations. As a world leader in healthcare, lifestyle and lighting, Philips integrates technologies and design into people-centric solutions, based on fundamental customer insights and the brand promise of "sense and simplicity". Headquartered in the Netherlands, Philips employs 119,000 employees in more than 60 countries worldwide. With sales of EUR 25.4 billion in 2010, the company is a market leader in cardiac care, acute care and home healthcare, energy efficient lighting solutions and new lighting applications, as well as lifestyle products for personal well-being and pleasure with strong leadership positions in flat TV, male shaving and grooming, portable entertainment and oral healthcare. News from Philips is located at www.philips.com/newscenter.

GE Healthcare's Performance Solutions business partners with hospitals and health systems across the globe to help improve their overall performance. The business provides knowledge solutions to reduce unnecessary waste - which comes in three forms (1) underutilization of resources (2) unintended clinical variation (3) and fragmented care delivery - and create safer more efficient patient care. Performance Solutions leverages GE's operational improvement tools and advisory capabilities with GE Healthcare's clinical and technological capabilities, providing a unique combination of advisory, technology and healthcare expertise. The business splits its global headquarters between Barrington, United States and Buc, France. Visit www.gehealthcare.com to learn more.
8th MCC Congress

MCC

Hospital World 2011

Strategic Options for the Hospital Market

September 22 and 23, 2011 in Berlin, Germany

- Emerging Markets:
  - Gulf Region (Saudi-Arabia, Dubai) • India • China • Russia • Brazil
- Management of Increasing Financial Pressure
  - Opportunities and Threats in a Highly Competitive Environment
- The Future Role of E-Health and IT for the Hospital Market
  - Integrated Solutions for Patients
- Hospital Benchmarking as Competitive Advantage
  - Strategies for a Successful Quality- and Riskmanagement
- Reengineering and Process-Optimizing as Tools to Improve Safety, Quality and Hygiene
- Globalization of Health Services
  - Successful Strategies of Internationalization
- Quality and Accreditation in Health Care

Moderation:

Ihre Experten:

Dr. Christoph Struzik
Board Member responsible for Patient-Related Business and Standards Care, KONAX AG, Germany

Stephen O'Brien
Chairman, Bart's and The London NHS Trust, UK

Prof. Dr. Dr. h.c. Fried DeDuhl, CEO, Healthcare Development Holding Co., Saudi Arabia

Dr. B. K. Rana, Chief Director, NABH, India

Dr. Abdulaziz Al Shammakh
CEO, Sultan Ibn Abdulaziz National City, Saudi Arabia

Dr. R. Francisco C. de Andrade
Vice President of the Advisory Board, Brazilian Association of Private Hospitals, Brazil

Sergij Anosirin
CEO, St. Petersburg Association of Clinics, Russia

Johnny Van der Straeten
CEO, Archeepep University Hospital, Belgium

European Hospital • kma

www.hospitalworld.info

Advance Notice

International Hospital Federation

Keep your Knowledge at the State of the Art! Register Now!

Dr. Thomas Backenbrock
Consultant, Associate Professor of Medicine, Mayo Clinic, USA

Dr. Gillian Long
Deputy Chief Executive, National Institute for Health and Clinical Excellence, UK

Prof. Dr. Thomas Hanel
CEO and Medical Director, University Hospital Aachen, Germany

Dr. Stabulski Durstovev
Managing Director, Johns Hopkins International, LLC, USA

Tony Mehnars
CEO, Cork University Hospital, Ireland

Filippo Montedonico
Director General, Generali de Santa France

Dr. med. Holmar Wauer
Hospital Business Director, Charité Berlin, Germany
THE EXECUTIVE COMMITTEE

President
Dr José Carlos de Souza Abraham
President
CONFEDERACAO NACIONAL DE SAUDE (CNS)
SRTVIS Quadra 70, Conjunto E
Edificio Palacio de Radio s.
Brasilia DF, CEP 70340-906
BRAZIL

President-Designate
Mr. Thomas C Dolan
CEO
AMERICAN COLLEGE OF HEALTHCARE EXECUTIVES
One North Franklin Street
Suite 7600
Chicago, Illinois 60601
UNITED STATES OF AMERICA

Immediate Past Presidents
Mr Ibrahim A Al Abdulla
Assistant Undersecretary for Health Insurance Affairs
MINISTRY OF HEALTH
State of Kuwait
PO Box 5, PK Code 13005
KUWAIT

Mr Gerard Vincent
Délégué Général
FEDERATION HOSPITALIERS DE FRANCE
1 Bis Rue Cabanis
75114 Paris
FRANCE

Treasurer
Dr Leke Pitian
Former Commissioner for Health – Lagos State
Horse Gap C, Road 2
Victoria Garden City, Lagos
NIGERIA

Dr Juan Carlos Linares
Director
CAMARA ARGENTINA DE EMPRESAS DE SALUD (CAES)
Tucuman 1668, 2 Piso
Buenos Aires C.P. 1050
ARGENTINA

Prof Helen Lapsley
Research Professor
CENTRE OF NATIONAL RESEARCH ON DISABILITY & REHABILITATION MEDICINE
University of Queensland
3 Kinston Avenue
Meeman, Sydney NSW 2038
AUSTRALIA

Prof Guy Durrant
Administrateur général
CLINQUES UNIVERSITAIRES SAINT-LUC
Avenue Hippocrate 10
B – 1200 Brussels
BELGIUM

Dr Geert Baes
Chief Executive
GERMAN HOSPITAL FEDERATION
Wegspruas 3
10623 Berlin
GERMANY

Dr Lawrence Lai
Senior Advisor
HONG KONG HOSPITAL AUTHORITY
Room 1003, Administration Block
Queen Mary Hospital
102 Pokfulam Road
HONG KONG (SAR)

Dr Mukti Reksoprodjo
International Relations
INDONESIAN HOSPITAL ASSOCIATION (IHA) – PERHIMPURAN RUMAH SANT SELURUH INDONESIA (PERSI)
c/o A.K.R. Rauwol Said Nas C-21 Kuningan Jakarta
Selatan 12940 INDONESIA

Dr Tsuneji Sawai
President
JAPAN HOSPITAL ASSOCIATION
13-3 Inbaicho, Chiyoda-ku, Tokyo
JAPAN

Dr Tai-Chun Yoo
President
KOREAN HOSPITAL ASSOCIATION
35-1, Mapo-Dong, Mapo-Gu, Seoul
KOREA

Prof Carlos Pereira Alves
Vice Chair
ASSOCIACAO PORTUGUESA PARA O DESENVOLVIMENTO HOSPITALAR
Portuguese Association for the Hospital Development
Av. Antonio Augusto de Aguiar, 32-4º
1050-016 Lisboa
PORTUGAL

Dr THIRD Lekalakala
Director – Hospital Management and Planning
DEPARTMENT OF HEALTH
Street Holmark Building
231 Prees Street
001 Pretoria
SOUTH AFRICA

Dr Delon Wu
President
TAIWAN HOSPITAL ASSOCIATION
25F, 25-1, Sec. 2, Jp. Jui E. Road
Danshui Township, Taipei County
TAMWAI

Mrs Alison Kantarama
President
UGANDA NATIONAL ASSOCIATION OF HOSPITAL ADMINISTRATORS (UHAH)
Mulago Hospital
PO Box 7051, Kampala
UGANDA

Mr Ahmed Salam Al-Madani
President
INDEX HOLDING
Dubai HealthCare City Block B, Offices 203 – 303
P.O.Box 13636, Dubai
UNITED ARAB EMIRATES

Sir Keith Pearson
Chairman
NHS CONFEDERATION
2b, Bressenden Place
London SW1E 5DD
UNITED KINGDOM

Dr Thabo Lekalakala
Director – Hospital Management and Planning
DEPARTMENT OF HEALTH
Street Holmark Building
231 Prees Street
001 Pretoria
SOUTH AFRICA

Dr Delon Wu
President
TAIWAN HOSPITAL ASSOCIATION
25F, 25-1, Sec. 2, Jp. Jui E. Road
Danshui Township, Taipei County
TAMWAI
2011 Events

**IHF**

**37th World Hospital Congress**
8-10 November 2011, Dubai, United Arab Emirates
Theme: “Healthcare in a Changing World: Overcoming the Challenges”
Email: Sheila@ihf-fih.org; jyothi.joseph@index.ae
Website: http://www.ihfdubai.ae

**MEMBERS**

**CANADA**

**2011 National Healthcare Leadership Conference**
June 6-7, 2011 at the Whistler Conference Centre in beautiful Whistler, British Columbia, Canada.
The theme will be “Rising to the Challenge: Resources, Realities and Relationships”.
For more information: http://www.healthcareleadershipconference.ca/

**FRANCE**

**Federation Hospitalière de France: Geront-expo / Handicap-expo**
May 17-19, 2011
For more information: http://www.gerontexpo.com/default.asp

**36ème Congrès de la FEHAP**
October 5, 6 and 7, 2011, la Cité des Congrès de Lyon, Lyon
For more information: http://congres.fehap.fr/

**HONG KONG**

**2011 Hong Kong Hospital Association Annual Convention**
7-8 June 2011, Hong Kong

**HUNGARY**

**The Hungarian Hospital Association XXIII Congress**
For more information: http://www.mkskongresszus.hu/altalanos_informacik

**SWITZERLAND**

**2011 National Healthcare Leadership Conference**
June 6-7, 2011 at the Whistler Conference Centre in beautiful Whistler, British Columbia, Canada.
The theme will be “Rising to the Challenge: Resources, Realities and Relationships”.
For more information: http://www.healthcareleadershipconference.ca/

**USA**

Beginning on March 21, approximately 4,500 healthcare leaders from more than 20 countries will gather in Chicago for four days of educational seminars, lectures, networking opportunities and other special events. During the meeting, seminar presenters will discuss emerging trends in the field of healthcare management, including topics such as patient safety and quality, environmental sustainability, innovative technologies, financial challenges, leadership strategies and more.

**Future Congress on Healthcare Leadership**
For more information on 2011 Congress, visit: ache.org/Congress
American Hospital Association: AHA Annual Membership Meeting Theme – Pursuing Excellence. One Vision, One Voice
April 10-13, 2011 Hilton Hotel, Washington DC.

COLLABORATIVE

SINGAPORE
Hospital Management Asia 2011 (HMA2011)
7 & 8 September 2011, Singapore
For more information: http://hospitalmanagementasia.com/

GERMANY
8th MCC Congress, Strategic Options for the Hospital Market, collaborative event with IHF
September 22-23, 2011, Berlin, Germany.
For more information: www.hospitalworld.info

2012

MEMBERS

USA
Congress on Healthcare Leadership
For more information: http://ache.org/Congress

2013

IHIF
38th World Hospital Congress
18-20 June, Oslo, Norway
Email: Sheila@ihf-fih.org
What Is the Corporate Partnership Program?
The present participation opportunity is being offered to major corporations who seek to join with IHF members to work to improve hospital performance around the world.

The World Hospital* partnership package provides year-long access to decision makers from around the world. Corporate partnership will provide an exclusive opportunity for relationship building and sharing ideas and experiences between corporate leaders and executives in the hospital sector. These discussions will ultimately issue in new ideas and expand knowledge in emerging markets.

Affiliation with this partnership program also gives a strong signal to the global community that the corporation is a major player in the hospital sector.

Benefits
The benefits of the program allow maximizing interaction with actual and potential clients through a “one-stop shop” approach. Its package of benefits distills more value and achieves better targeting than ordinary marketing and advertising.

The program is open to a limited number of corporations that are fully engaged in the global health sector and have a good reputation as providers.

To learn more about the Corporate Partnership Program and become a Corporate Partner, please contact:
World Hospital
13 Chemin du Levant,
Ferney Voltaire – 01210 France
Tel: +33 4 50 42 60 00
Fax +33 4 50 42 60 01
E-mail: corporate@ihf-fih.org
Web site: www.ihf-fih.org

*World Hospital is an entity belonging to the International Hospital Federation created for the sole purpose to serve the International Hospital Federation’s purposes and goals. World Hospital is accountable to the IHF and acts under its mandate and decisions.
It's All About Hospitals!

Dubai IHF 2011
37th World Hospital Congress

"Healthcare in a Changing World: Overcoming the Challenges"

Organised by
INDEX Conferences & Exhibitions Organisation Est.
P.O. Box: 13626, Dubai, UAE | Ibn Sina Bldg. # 27 | Block B
Office 203 | Dubai Healthcare City
Tel: +971 4 362 4717 | Fax: +971 4 362 4718 | E-mail: ihfdubai@index.ae

8 - 10 November 2011
ATLANTIS
The Palm, Dubai

World class exhibits await all visitors
CALL FOR ABSTRACTS DEADLINE FEBRUARY 2011

Early Registration Rates Now!
Contact us at:
www.ihfdubai.ae
ihfdubai@index.ae