

## Brief Communication

# Time and Motion Analysis for the Process of Public Procurement of Drugs in Mexico Hospital during 2009.

Análisis de tiempos y movimientos en el proceso de  
contratación administrativa de medicamentos, en el  
Hospital México durante el año 2009.

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## Abstract

**Background and aim:** Within the population attended by the Costarrican Social Security System (CCSS), there exists a minority group with unique needs of certain drugs due to their differential clinical condition. In this situation of importance, although only constituted by a minority of cases, the CCSS provides a system for acquiring “transit drugs” and those which are outside of the Official List of Medicines. The acquisition process involves a variety of Public Administrative Procurement procedures established by law, which affect the prescription of medication to the patient. This study aims to analyze the duration of the process of public procurement and bidding involved in the direct purchases of drugs not in the official list of medicines by the Hospital Mexico in 2009.

**Methods:** In this research we reviewed a 47.26% of the total population of public procurement records, corresponding to 112 of the 237 direct procurement and tendering records which are listed in 2009, according to the Historical Procurement of 2009.

**Results and conclusion:** It was determined that there is a high variability between different public procurement processes, and between different processes carried out in each of these posters. There is no uniformity in regard to the procurement processes, making it difficult to determine the factors that hinder them.

**Keywords:** Medicine, public procurement process, competitive bid procedure

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The Costarricense de Seguro Social (CCSS) was created on November 1st 1941, as a semi-autonomous institution protected by the law. In 1943, with a reform of the law, it became an autonomous institution, which since then, has become the entity responsible for the health and sanitary well-being of the costarricense population, by means of a universal comprehensive attention; being one of its mainstays the access, acquisition and distribution of drugs.<sup>1</sup>

Nevertheless, since 2004, defects in the drug inventory and distribution system have been demonstrated, and buying one drug could require thirty three different steps and also needs the access and/or approval of eighteen different bureaus inside CCSS, consuming many months during this process.<sup>2</sup> This has led, in many cases, to shortage of existence of products for as long as over one year.<sup>3</sup>

The model and concept of "Essential Drug List" were both developed by the World Health Organization (WHO) in the decade of the 1970's, with the purpose of favouring drug accessibility under the premise of a rational use in developing countries.<sup>4-7</sup> One of the basic strategies that support such policies, is the one of essential drugs. Essential drugs are defined as "*drugs that satisfy the priority health needs of the majority of the population*"; this term refers to those *drugs that are priority to attend morbidity of 97% of costarricense population*.<sup>5</sup>

The central level of the institution, through the Logistics Management and head offices attached to its structure, will be responsible of acquiring, as determined by Law 6914 (Special Drug Law) and its regulations, and also Law 7494 (Administrative Hiring Law) and its regulations, all those storable drugs that solve the principle causes of morbidity and mortality that affect the country's population, that by its consumption and significant acquisition volume generate scale economies.<sup>8</sup>

In addition to this model, CCSS counts with a complementary mechanism that allows the purchase of a drug that is not included in the Official List (called a no ODL drug), for those patients whose clinical characteristics catalogue them as "exceptional".<sup>6</sup> These drugs correspond to pathologies that affect the minority of the population (3%) but no less important and therefore contemplated under conditions of exceptionality.<sup>6</sup>

This "exceptional drug" is one that is acquired for a special clinical scientific condition developed by a patient, an unfavorable evolution of a given pathologic condition, or because there is no adequate response to the available

therapeutic options in the ODL amongst others, so that the exceptionality is recognized because the clinical condition exits the standard.<sup>6</sup>

The procedure of buying a no ODL drug initiates with the detection of the necessity by the treating physician, approval of the request by the Local Pharmacotherapy Committee and afterwards by the Central Pharmacotherapy Committee, estimate of the purchase at the hospital, verification of the budget, which concludes with the administrative decision to initiate it. Subsequently, the posters are made with the help of different professionals from the institution in its technical and financial part. After the posters are made, the possibility opens for challenge during the first third of the period, having this comptroller organ a ten day term to have a resolution. After the offers are presented, a revision period opens followed by awarding. After the final challenge decision is published or communicated, the possibility to appeal the administrative decision opens, for which the Comptrollership has a term of forty working days to resolve after the appeal has been admitted.<sup>9,10</sup> Being there appeals to the posters, the maximum time consumed by the participation of the Comptrollership is ten working days or half a month. In the case of appeals, we would sum 10 days to admit the appeal, plus the 40 days to resolve, which gives us a total of 53 days or approximately two and a half months, for a total of 3 months.<sup>9-11</sup>

It is evident that drug acquisitions individually and in large proportions, saturate the corresponding acquisitions unit, producing delays in the drug purchase procedures and the rest of the needs of the hospital, and so, the drug can not be dispensed by the time it is prescribed, putting at risk the health of the patients and deteriorating the image of the hospital's pharmacy in front of the public complaints that are made about the particular.<sup>4</sup>

Therefore, the study that is presented pretends to determine the time required for each of the procedures of the administrative hiring of the direct purchase of no ODL drugs in Mexico Hospital during the year 2009, evaluating the duration of the operations performed during the administrative process of purchase, in this manner becoming a base so that in the future a drug acquisition programming can be implemented, allowing Mexico Hospital to stay supplied, diminishing the possibility of drug unavailability or long waiting purchase periods, contributing in this way to the health system and most of the patients.

**Table Nº 1** Duration in days of the processes of direct purchase of no ODL drugs and transit drugs in Mexico Hospital during 2009

|  | Average<br>(Days) | Standard<br>Deviation |
|--|-------------------|-----------------------|
| Time of forecast from verification to planning   | 28,41             | 11,04                 |
| Time from planning to financial administrative direction                                 | 15,49             | 11,50                 |
| Time from financial administrative direction to publication of the posters               | 19,46             | 12,81                 |
| Time from publication of the posters to the administrative analysis                      | 17,87             | 13,81                 |
| Time from administrative analysis to the technical recommendation                        | 14,52             | 19,70                 |
| Time from the technical recommendation to reception at<br>aquisitions subarea            | 2,25              | 4,05                  |
| Time from reception at acquisitions subarea to financial departement                     | 13,54             | 12,26                 |
| Time from financial departement to awarding  | 6,04              | 7,29                  |
| Time from awarding to reception in the financial administrative direction                | 6,62              | 6,19                  |
| Time from reception at financial administrative direction to the withdrawal notification | 23,54             | 21,89                 |
| Time from withdrawal notification to withdrawal of the procurement entry voucher         | 7,99              | 17,47                 |
| <b>TOTAL</b>   | <b>155,73</b>     |                       |

## Methods

A quantitative investigation was performed, based on observable and quantifiable aspects. It was carried out in the Pharmacy Department of Mexico Hospital, more specifically the Purchase and Internal Control Unit. Belonging to the CCSS in la Uruca, San Jose.

In this investigation a 47.26% of the total population of purchase files were revised, corresponding to 112 of the 237 direct and tender purchases that appear registered in 2009, according to the 2009 Purchase Registry.

For this purpose, the files of each one of the purchases were used and previously solicited to the Acquisitions Subarea Office in Mexico Hospital (after previous selection from the drug purchase database of 2009 from the Purchase Office), of the Pharmacy Department.

The files were requested through three lists authorized by the pharmacy's subdirector. To make the lists, the data base was researched for those drug purchases made in 2009 that reported the contest number, because this is a requisite for the request. To determine which purchases should be analyzed an inclusion criteria (direct and public tender purchase from january to december 2009) was applied; and as an exclusion criteria acute, without bidders or unsuccessful purchases.

The previously especificed was done through the review of each one of the purchase files during the stablished period, and the time in each part of the process was cuantified. For the time cuantification, the entry and discharge dates were used, the difference between these two dates allows the determination of the duration in days of each step of the purchase process, the total process was defined in months.

For the calculation of the times of each step the Excel tool was utilized. The average and the stardard deviation were also calculated using this tool.

**Table Nº 2** Approximate duration time of the different processes of the purchase procedure established in the acquisitions subarea

| Process  | Duration in days |
|--|------------------|
| Opening initiation (offer reception)                               | 5 to 35          |
| Administrative analysis  | 6                |
| <i>Elaboration of the comparative table and requisite analysis</i> | 1                |
| <i>Requisite rectification</i>                                     | 2                |
| <i>Price study</i>   | 2                |
| <i>Sending recomendtion to the corresponding department</i>        | 1                |
| Awarding preparation   | 8                |
| <i>Reception and revision of technical recommendation</i>          | 1                |
| <i>Elaboration of certified application note</i>                   | 2                |
| <i>Elaboration of awarding note</i>                                | 1                |
| <i>Budget availability consult</i>                                 | 1                |
| <i>Administrative hiring legal review</i>                          | 1                |
| <i>Shipping to financial administrative direction for awarding</i> | 1                |
| <i>Awarded company Notification</i>                                | 1                |
| Revocation resource  | 7                |
| <i>Resource presentation</i>                                       | 2                |
| <i>Resource attention</i>  | 5                |
| Purchase order*  | 5 to 35          |
| <i>purchase order elaboration</i>                                  | 1                |
| <i>Purchase order revision</i>                                     | 1                |
| <i>Budget reservation confirmation</i>                             | 1                |
| <i>Purchase order signature</i>                                    | 1                |
| <i>Notification of purchase order to supplier</i>                  | 1                |
| <i>Fulfillment garanty deposit</i>                                 | 10               |
| <i>Purchase order withdraw by supplier</i>                         | 1                |

\*established in the posters

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## Results

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To the development of the investigation, a sample of 112 purchase files were revised, of those files, 37 were excluded of the study because they were acute purchases, 3 because they were declared unsuccessful or without bidders, and 3 because they were purchased through article 117. These, for a net sample of 69 files. No public tender file was analyzed.

According to data shown in table 1, the average of total duration in the process of administrative hiring for the purchase of no ODL drugs and transit in 2009 was of 155.73 days, this value represents the time it takes for the drug to get to the building of Mexico Hospital from the moment the purchase is authorized. The data obtained also showed that the time needed to resolve rectifications in the process of direct purchase in Mexico Hospital during 2009 was an average of 9,81 days (SD 12,32 days).

It was observed, that the longer duration corresponds to processes made before the publication of the posters; and also once it is awarded, in the processes made in the procurement.

Table 2 details the different processes that include the purchess procedure according to the established by the aquisitions subarea and the approximate time it takes in its achievement, it is important to point out the great variation in the two principal procedures that goes from 5 to 35 days.

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## Conclusion

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The average total duration of the administrative hiring process for the purchase of no ODL drugs and transit in 2009, was of 155.73 days. If the hospital does not count with a reserve of the drug, this data also represents the average time that a patient has to wait to obtain the treatment once the Pharmacotherapy Committee has approved the purchase of the drug. The importance of this data lies in being able to program the purchase of these drugs to satisfy the demands of the patients, or to search for appropriate mechanisms to speed up the process so the patient has the treatment as soon as possible.

There are factors for which there is a higher level of control, as in the offer presentation on behalf of the distributors and interested farmaceutical laboratories. This time has to be established according to the ranks stipulated by law, although there are variations between the different posters, the stipulated in the drugs specifications must be fulfilled. This prevents major delays in the process (average observed of  $17.87 \pm 13.81$  days).

Once the offers are delivered, these have to go through administrative analysis, from which, the head offices of the Pharmacy Department deliver the technic recommendation in the aquisitions subarea. These processes, posterior to the delivery of the offers, suffer high temporal variability due to diverse factors that can affect them and are not the objectives of this study.

After being received in the aquisitions subarea it goes to the financial department, and the awarding is made, being it received afterwards in administration, the principal source of delay in these areas are the errors in the development of the awarding.

Shown in the results, are similar and even higher standard deviations than the average value of days of one of the processes considered in the purchase of a drug. These high variations are due in some cases to the extra time requested by the companies to deliver the drugs in a determined time after the one initially established and to the presentation of rectifications on behalf of the bidders, among others.

The review of the purchase files of the different contests, determined that in the majority of the cases, after publishing the posters, the times are fulfilled according to the established by law, although these times are hindered by the rectification process and the revocation resource that can be presented once the contest is awarded.

The enterprises that participate in the contest have two days to make the rectifications, nevertheless, the process can stretch because more than one rectification has to be resolved for the same contest. And so, the resolution of the rectifications delays the awarding and constitutes a factor that extends the time of the purchase, but is not constant in every contest.

Among the principal limitations found, was determining the population size to initiate the development of the investigation. The first thing is that there is no complete registry of the drug purchase made in 2009, both the record of purchases and the data base are incomplete, and because of this an exact number of purchases could not be determined, causing problems to establish the total population of files to review.

Taking into account the results obtained in this investigation, it is relevant to perform an analysis of the purchase of no ODL drugs and transit in the other hospitals of the institution, with the finality of improving the process and speeding the purchase of these type of drugs.

**Translated by:** Dr. Diana Ulate Ovares

