

INTRODUCTION

Since 1993, purchases and contracting of public services in Brazil underwent a comprehensive reform to meet the requirements of Law No. 8,666 [1]. Another serious problem encountered by the public administration is the innumerable appeals and filed objections that cause huge delays or even the frustration of procurement processes causing huge losses to the public safes.

More specifically, in the health area due to a growing demand for new technologies in medical exams and treatments, it was created in hospitals a great technology dependence that brought an exceptional quality improvement, but resulted in administrative/technical processes unknown in the clinical environment.

This study will present a restructuring of the technology incorporation methodology in the health area, where it is highlighted that the procurement process quality is fundamental for the adequate technology incorporation. The study is complemented by a comparative cost evaluation of Medical Equipment (ME) practiced in procurement processes of two health institutions in the region.

METHODS

The HTM methodology applied in health institutions, generated studies and practical evaluations of the Medical Technology (MT) life cycle [3]. This methodology is based on the Technological Process Management model, seeking the balance of efforts in the three basic pillars:

"Technology, Infrastructure and Human Resources", providing quality to the process, contributing with greater reliability, safety and effectiveness, with compatible costs, through the performance of multidisciplinary teams ensuring trustworthy and informed decisions.

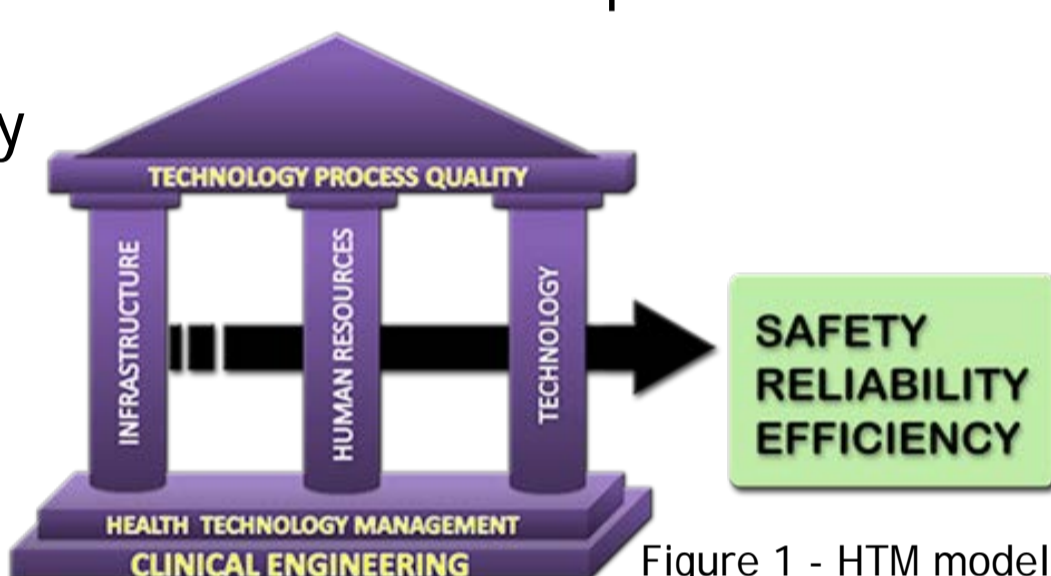


Figure 1 - HTM model



Figure 2 - method model

For the HTM methodology improvement, studies and researches were carried out in the projects where the methodology has been applied. Thus, new procedures were developed (Technical Procedure-TP), which covers all the steps to be performed so that the procurement process occurs with quality, meet the requirements of current standards and mainly achieve the objective of the bidder.

In these procedures, the acquisition process is initiated by studying the unit

real clinical demand and the environment where the equipment will be installed, followed by a market research to assess the economic feasibility and the project, complementing with the availability verification of qualified professionals or to be able to use the technology appropriately.

Finalizing the Technology incorporation process the final report is presented for the HCF Direction with the incorporation result of said technology in the hospital environment.

RESULTS

With the use of this methodology, excellence results are obtained, recognized by the speed, agility and effectiveness in the acquisitions, as well as the partner institutions satisfaction, reduces several problems in the ME acquisition process and subsequent to it, such as:

- filed objections by direction or error in the public notice;
- installation problems due to TS failure;
- not meet the HCF clinical needs;
- lack of training, supplies and maintenance;
- non-accreditation of service and unavailability of qualified professional;
- reduced warranty due to installation delays.

To demonstrate some of the methodology presented benefits, a financial comparison of equivalent ME purchases made in the year 2015 (Quality, complexity and origin), carried out in the same procurement mode in two Health Care Facilities of Santa Catarina/ Brazil. The Institution A with application of the methodology.

Then, a cost evaluation was performed by complexity of the acquired technology, where we analyzed the two extremes of Table 1.

ME: Medical Scales

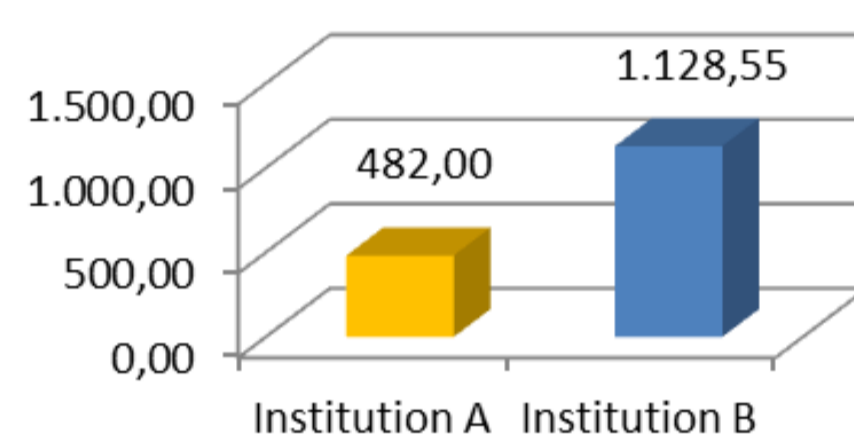


Chart 1 - Value comparison (R\$) of low complexity ME

For the highly complex equipment (Ultrasound Equipment) purchased by institution A, they had a cost of less than R\$ 53,000.00, representing savings of 45.3% in relation to equipment purchased by institution B, that is, the amount paid was approximately 2/3 of the same ME of institution B, shown in the next:

ME: UTS

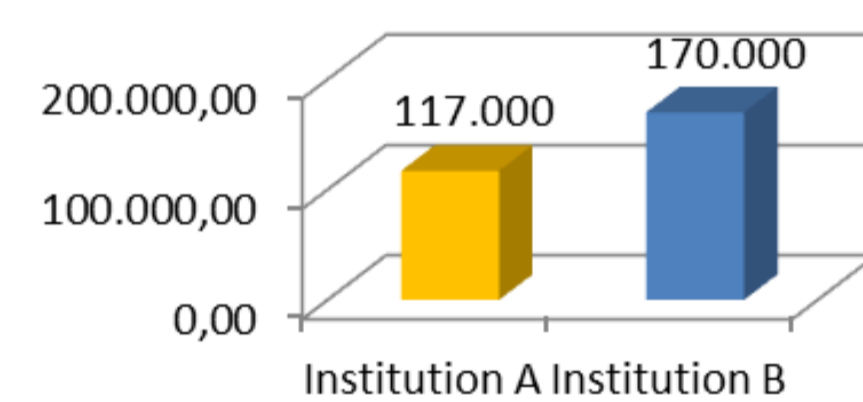


Chart 2 - Value comparison (R\$) of high complexity ME

Table 1: equipment acquired by the Institutions

Medical Equip.	Institution A	Institution B
Medical Scales.	482,00	1.128,55
Ophthalmic Equip.	4.300,00	7.150,00
Digital echo	134.000,00	385.400,00
X-Ray Scanner	141.700,00	197.380,00
Mobile Focus	4.750,00	18.496,00
ICU monitor	8.000,00	18.000,00
Ultrasound Equip.	117.000,00	170.000,00
Total value R\$	410.232,00	797.554,55

CONCLUSION

With the application of this methodology, as well as consulting with competent, qualified institutions and experienced in the activities of Clinical Engineering (CE) applied in the Health area, a very significant reduction in expenses with the ME acquisition is obtained, as can be seen in Table 1, since the institution that used the presented methodology disbursed almost half of the global value of the purchase of the company that did not use it.

The IEB-UFSC through the CE activities has developed a work of excellence with high added value, seeking through the application of the HTM methodology the suitability for use, as well as the optimization of cost/benefit of the processes involving MT.

Through CE structures and application of HTM methodologies the HCF can obtain the necessary technical support for the adequate technologies acquisition, as well as for the implementation of programs to manage its technology park, ensuring medical exams and treatments with safety, reliability and effectiveness.

REFERENCES

- [1] Lei 8.666 (1993) Lei de Licitações e Contratos, Brasil; [2] Beskow, W. B. (2001) Sistema de Informação GTMH. Dissertação IEB-UFSC; [3] Albornoz, L.J.C (2000) Ciclo de vida útil de equipamentos eletromédicos. Dissertação IEB-UFSC; [4] Resolução - RDC nº 50, (02/2002) Ministério da Saúde-Anvisa; [5] Resolução - RDC nº 15, (03/2012) Ministério da Saúde- Anvisa; [6] Fagundes, V; Zaniboni, R; Garcia, R. - Cost Estimate Methodology in procurement processes of ME. VII Latin American Congress on Biomedical Engineering CLAIB 2016, Bucaramanga, Santander, Colombia, October 26 th-28th, 2016. pp 177-180.

CONTACTS

author: Renato Zaniboni Institute: IEB-UFSC Street: Campus Universitário - Trindade City: Florianópolis/SC Country: Brazil Email: zaniboni@ieb.ufsc.br Phone: 55-48-3721-8686



SÃO PAULO - BRAZIL

II ICEHTMC

HOSPITAL SÍRIO-LIBANÊS ENFERMIA E PESQUISA

SEPTEMBER 20th-23rd, 2017

<http://www.icehtmc.com/>