CLINICAL ENGINEERING IMPACTS IN PRIMARY HEALTHCARE

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INTRODUCTION

Primary healthcare should be considered as the “access point” of users in health systems. Structured by support and reference units for primary care – Units of primary care (UBS), Dental Specialties Centers (CEO), Polyclinics, Immediate Care and Diagnosis Support Units (UPA) - are composed of different technological densities and function as a filter capable of organizing the flow of services in health networks, from the simplest to the most complex.

CONTEXT PROBLEM

The increase in technological complexity and epidemiological profile, involving primary health care creates specialized services needs in Clinical Engineering. This paper presents the impacts generated by this model in the management domains. In the analyzed processes, problems were identified as:

- Inadequate infrastructure for the proper functioning of equipment,
- Inadequate use of medical equipment for lack of knowledge of the technology and / or recycling,
- Acquisition of equipment that promotes the renovation of the technology park and continues to meet the health demand,
- Logistic difficulties in the service and control of the units distributed regionally.

METHODOLOGY

In order to apply technological solutions that qualitatively impact primary care, IEB-UFSC has sought to consolidate its Medical Technology Management (GTMH) model. This GTMH model was presented at the Second Forum of Medical Devices for Florianópolis Municipal Health Department¹. Over these years, the impacts generated in the management domains: infrastructure, human resources and technology, are measured by associating the main activities of Clinical Engineering with the technological process in primary health care.

RESULTS

The network of primary healthcare in Florianópolis, is composed of 63 health units distributed in 05 regions. In order to attend these health units equally and effectively, it was applied a call system method associated with a weekly route planning tool and a Medical Equipment Management Information System. In the weekly route planning, there were considered the geographic and traffic condition to the health unit, besides criteria such as: equipment complexity and its impact on health service, demand for care in the health unit and regions of social risk. The use of these planning techniques allows 90% of the units to be attended weekly, with the exception of health units with low call demand, in which they visited within the current month.

Regarding the management domain, over 10 years of management methodology has been implemented in partnership with SMS/PMF. In this period (2007-2016), according to Figure 3, 60% of clinical engineering activities involving technology, 30% with human resources and 10% with infrastructure.

As an example, Figure 4 presents some case studies indicating problems and the main actions performed in clinical engineering to reduce failures and improper use of equipment.

- Growth and / or renovation of the technology park
- Effectiveness of the use of medical equipment;
- Professional qualification;
- Adequacy to ordinances and regulations in force;
- Adequacy of technology with health demand;
- Availability of equipment;
- Cost-benefit seeking a better use of public resources.

- Quality of the technological process in health;
- Benefit to the patient from a quality health service;
- Accreditation processes and / or extension of service of the unit in health;
- Support for decision-making in health management policies;
- National and / or international awards as recognition of quality in the health service.

CONCLUSION

Clinical Engineering can be an agent of transformation in primary care providing quality, safety and reliability in the technological process in health. In addition to these activities, new tools are being applied with HTA, HFE and Metrology concepts, further enhancing the impact of Clinical Engineering, allowing the development of a ubiquitous health platform.

REFERENCES


Figure 1 - Context Network Primary Health in Florianópolis

Figure 2 - Model of Medical and Odontological Management considering the domains of infrastructure, technology and human resources.

Figure 3 - Percentage of Service Order by indicators of management domains in the Period from 2007 to 2016.

Figure 4 - Case studies indicating problems and the main actions performed in clinical engineering.

Figure 5 - Clinical engineering impacts.