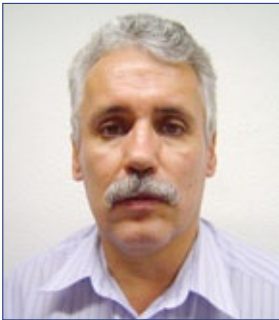# Physical and Technological Resources Management in Health

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ABSTRACT

Refit is the so-called management for Physical and Technological Resources in Health. Refit management is concerned about Health infrastructure and medical equipment resources, inventories and diagnosis of technological parks, maintenance (preventive, corrective and predictive), outsourcing, training and professional training, planning, control and monitoring, software as a tool. Refit management is also responsible for creating and maintaining indicators, thinking of future technological developments, incorporating human resources (architects, civil, electric, electronic and mechanic engineers, general practitioners, biomedical doctors, technologists and technicians), drawing up contracts, documentation and norms, listed as its activities and duties. The basic ingredients for being a manager include: capability (know how), attitude (know what to be) and knowledge (know about). Moreover, the manager should have the knowledge and experience of the health network (from basic to large hospitals), the hierarchical network, the policy and paperwork process, micro and macro situations and situations of interdependency of local realities as far as each case is different. Being a manager implies being an aggregator of the professionals involved in the process, knowing the norms and laws (Law 8.666, Differential Public Procurement Regime - RDC 50 etc), planning as a whole, being able to take decisions, managing

physical, financial and human resources, efficiently and effectively, and being committed to the National Brazilian Health Service (SUS). What does society expects from this new social actor? Ability to plan optimization of the increasingly scarce resources, to articulate with the involved spheres; a Refit manager should have long term vision (concerning the available technology) and strategic vision, have managerial and operational ability, be a good mediator, be objective regarding the actions, exercise leadership and professional ethics regarding SUS, delegate, possess critical capacity for new investments and retain existing ones, have managerial capacity, be dynamic regarding the SUS policy as a social actor, to apply the knowledge and lessons learned in each of the regions of such a large country with different practices and costumes as Brazil.

Key words: Physical and Technology Resources in Health, REFIT Manager, Future technological mergers in Health.

1. THE REFIT MANAGER IS BORN

Over the centuries, several were the scholars who had tried to understand the rationale of the operational process of the institutions. In the process, new "ways of thinking and understanding" that supported the different streams (or schools) that comprise the Administration Theories were shaped.

In short, for companies to survive, they must have the ability to change internally by creating new or different constituent parts by adapting themselves to the new requirements imposed to them.

The demands placed on contemporary companies towards the adjustment to contingencies, whether internal or external, to match their constituent parts to the intrinsic needs of the production processes, facilitates the organization of each of these parts according to the guiding principles of each School mentioned before.

Such configuration implies the need for an organizational model that allows for the coexistence of a more rigid structure to cope with the hierarchical system of authority, dedicated to technical and logistical supporting activities, with a more flexible and participatory structure regarding welfare activities.

On the other hand, health care organizations can be classified into a professional organization model (MINTZBERG apud AZEVEDO, 1993:40), to which professional nature authority is given and where power comes from knowledge (in this case medical knowledge) and professional specialization. This model requires a complex and specialized work process whose result is difficult to measure. In summary, health care organizations are one of the most complex organizations of contemporary societies (WILSON apud BRAGA NETO, 1991:50).

Despite such findings, health care management is a recent issue: "... it has become recent, in the area

of health, greater concern with administrative issues." (MOTTA, 1990:1). These concerns have gained importance from the recommendations made by the 30th World Health Assembly, held in 1977, and from the discussions at the International Conference on Primary Health Care, in the Declaration of Alma Ata, in 1978. Both events set the overall goal of achieving health equity in the year 2000, considering, however, that the obstacles to its accomplishment lie in the scarcity of available resources, mainly in the so-called countries of the Third World.

When it comes to optimizing resources in a professional body, emphasis is given to the assistance provided for administrative areas and logistical support. Given the operational high cost of these bodies, it becomes critical that such areas receive good managerial performance.

In the midst of the discussions to develop management tools and strategic actions that allow for the proposed objectives, some questions arise as to the efficiency and effectiveness of the physical network management of health services. Considering the available resources, the physical and technological stand out, comprising the building, its facilities and equipment.

It was found, at the time of the discussion about resource optimization that both the network maintenance and the mechanisms used to adapt and expand the existing physical network take place haphazardly. At the same time, we acknowledge that the incorporation of technology, inherent to the transformation and expansion of the physical network process in the health sector, has also occurred unsystematically - a fact that probably contributes to unnecessarily raise the cost already high in the sector.

The current health system in Brazil was developed relatively recently. It settled a changing process in the 70s, accelerated in the 80s and gained institutional status at the end of this decade. Result of an internal process of strong social and political density, also influenced by several external models, particularly by those in force in welfare states, our system was established by the Federal Constitution of October 5th, 1998, governed by laws 8.080 and 8.142, both from 1990. It is known as Unified Health System (SUS) precisely because its shaping corresponded to the unification of several existing subsystems, by overcoming the institutional fragmentation that prevailed both at federal level (social security and health, public health and etc) as well as at different government levels (federal, state and municipal) and also by separating the state sector from the private.

In setting principles such as universality, equity and comprehensive care, according to the organizational guidelines of decentralization and participation of society, SUS broke up with the previous system, founded new institutional, managerial and assistance basis to provide for the actions and health services in the country, then regarded as universal rights of citizenship and responsibility of the State. Besides that, the health system was designed and institutionalized in the opposite direction of a trend that, at international level, at that moment, pointed to a revaluation of the market, as an alternative to the classic welfare model, seen as unfeasible due to the fiscal crisis and the State legitimacy.

As the world discussed the structural adjustment of the economy, the decline of the State apparatus and public cost containment, here, the social rights were enhanced and the state responsibility was broadened with its provisions.

The new institutional framework of the Health sector was first designed in 1986, at the VII National Health Conference, held in Brasília. The conference decisively contributed to build consensus on the critical diagnosis of the current health system and on the agenda for changes. This agenda became known as the Agenda for Brazilian Sanitary Reform. Health was consecrated as a universal right and as a duty of the State under the theme Health: a right for everybody, the State's duty. The Federal Constitution of October 5th, 1998 provides in its Section II, the precepts that would regulate the sector policy for the following years. These precepts can be summarized in a few basic points: individual and collective needs. They are regarded as being in the public interest and their interpretation, a State's duty; the integral medical-sanitary assistance gains universal status and is meant to ensure everyone access to its services; such services should be prioritized according to technical parameters and their management decentralized. Mainly the government resources from the Union, states, and municipalities should fund the system. The services of business nature purchased are to be complementary and subordinated to the more general strategies of the sectoral policy. The government actions will be subjected to official collegiate bodies, the Health Councils, with equal representation between users and service providers. They will be devoted to political and administrative decentralization and to social participation.

In the legal sense, the right for everybody is expressed by means of ensuring universal and equal access to services, that is, within the precepts of equity and

universality. The State's duty is expressed in a solidarity pact of society as a whole and is based on a funding model which establishes that the responsibility for funding SUS should comprise the three levels of the government; each level should ensure regular supply of resources to its respective Health Fund, as provided in the Article 194 of the Federal Constitution, in which Health integrates Social Security, together with Social Welfare and Assistance.

Funding is a major obstacle to SUS public performance, because resources are insufficient, the sources are unstable and the division of responsibilities for its provisions unclear. The Public Budget Information System (Siops) was implemented by the Joint Ordinance n. 1.163/00. It is a planning, management and social control tool of the Unified Health System whose target is the improvement of management and evaluation of the public expenditure on health, the strengthening of social control, the measurement of the participation of states and municipalities in funding Health, and the monitoring of the Constitutional Amendment n. 29/2000. This Joint Ordinance was replaced on March 16th, 2004 by the Inter- ministerial Ordinance n. 446.

It is important to highlight that federal transfers far behind the needs of the local systems induce to adjustments in the Health agenda by means of organizational innovations related to cost containment, use of own resources, prospective budget, budget ceiling, management contracts and to the flexibility of public management.

The SUS network from the XXI century relies on 5. 881 hospital units, 36. 512 basic units and 5. 218 SADT units (Support Service for Diagnosis and Therapy or Assistance Service for Diagnosis and Therapy) representing 47.611 health facilities. However, of this amount, 4.351 (9.1%) are located in the North region; 15.322 (32.1%) in the Northeast; 15.458 (31.2%) in the Southeast 8.963 (18.8%) in the South; and 3.517 (7.4%) in the Midwest (AMS -Multidisciplinary Medical Insurance, /IBGE-Brazilian Institute of Geography and Statisitcs/DATASUS-SUS Computer Department).

Although the figures reveal a slowdown in the growth of new hospital units, this fact does not mean that there will be less investment in the health sector. On the contrary, the edited tables and graphs show that, a new investment model in the SUS Hospital Network has just started; a model focused on the transformation of existing hospital units, so that they can incorporate new technologies. In such context, the key word is reorganizing.

In turn, Dimas (2003) states that the costs for operation and maintenance of the existing Network have become increasingly challenging. In contemporary societies, the conditions for the merger of technologies in health and, more specifically, medical and hospital care have broadened man's capacity to intervene in the phenomena of life to reduce human pain, and to provide a significant increase in quality of life expectancy. There will be, however, the unavoidable increases in the economic costs such investments entail.

In the process of incorporating technologies, the Unified Health System experiences a duality regarding investment priorities, as, on the one hand, it would be necessary to incorporate new and modern machines within tertiary healthcare. These machines have been emerging faster and faster, such as the ones in the Neonatal Intensive Care Units. On the other hand, new prevention and health promotion technologies have been sought to deal with the so-called diseases of poverty via primary healthcare, as for example, the Family Health Strategy.

In parallel, scientific and technological advances make effective solutions available to an increasing number of diseases, mainly, for those who can afford their treatment. Therefore, the pressure on financing the sector increases without the implementation of cost-effectiveness studies to define choices and priorities over investment resource allocation, and consequently, over the adoption of new healthcare technologies.

Undoubtedly, the technology incorporation process of medical assistance happens at an accelerated, irreversible and relentless pace. Such process is marked by four "structuring" dimensions, which stamp on the process greater degree of complexity.

- the incorporation of biomedical machinery and equipment does not replace the existing labor force.
- the incorporation of technologies to provide support to diagnosis is cumulative – new technology does not disregard the old;
- the incorporation of health technologies presupposes ongoing training/vocational training of operators;
- the incorporation of health technologies implies extra care with the technological park "health", with a view to reliability;

If we consider the contribution of new and complex technologies in recent decades, expressed by

the increase of high cost and high complexity services - such as Intensive Care Units - and the significant dissemination of intermediate complexity services (image services, graphic and optical methods), we will find large quantitative and qualitative gaps. They are related to qualified technical work labor to operate and maintain such services: Nursing Technicians, Bio Diagnostics Technicians, X-Ray Technicians, Biomedical Equipment Maintenance, among others. They all need to be incorporated to the SUS workforce.

According to the document issued by the Ministry of Health, in recent years, what can be seen is poor utilization and waste of resources, duplication of efforts and difficulty in defining targets for social action. This situation is worsened and characterized by poor choices regarding criteria for allocation of resources resulting from amendments and external resources. There is also excessive political influence on these decisions.

On the other hand, sustainability and effective results are left out in favor of physical results, without proper evaluation of the impact of a certain action on public health.

As a result, "we have a public health system that, despite having improved in recent years, shows a performance far below of what is needed for economic development and for the composition of social justice" (MINISTRY OF HEALTH, 2005).

If we try to understand the meaning of the growth of such health facilities, in the last three decades, driven by Investment Projects occurred at the time, and focused on a given region – and on a given health territory – it is possible to observe the composition and current organization process of SUS Health Units Network.

The mission of pursuing objectives relying on resources smaller than the needs, in order to cope with dynamic situations, even if subjected to constant change, also means that things can be uncertain at a lesser or greater degree.

Planning in such context becomes a daily necessity, but this process should be permanent, to guarantee the directions of the actions involved. To adjust the course and face unforeseen circumstances, it is necessary to walk towards the goals to be achieved. Planning means thinking ahead, during and after acting. It involves thought (reasoning) and therefore we can understand that planning is calculation (rational) that precedes (before) and presides (during and after) the action. It is a systematic calculation that articulates the immediate situation and the future, supported by theories and methods.

The actor who plans cannot take ownership of situational complexities. Therefore, both the specialists' proposals (and the technical – scientific point of view) as well as the different views or the politicians' points of view that grasp reality to carry out their projects or reaffirm their commitments should be taken into account.

It is understood that strategy is basically a way to build feasibility to an elaborated planning to pursue certain goals.

It is proposed that planning be developed as a participatory process to enable the incorporation of the views of several social sectors, including the population. In the process, various social actors explain their demands, proposals and solution strategies, within a negotiation perspective of the several interests involved. This participation enriches the planning process by creating co-responsibility between the actors and the accomplishment of the action plan, by providing it with more legitimacy and political feasibility. Therefore, the conceptualization of the social actor is very important. That is, for the plan to "succeed" it has to be made clear who the actor who plans is and what other actors are also involved in the situation.

It is also essential to consider that each actor sees and acts on reality from different perceptions. Thus, it is necessary to develop a central action (not centralized, but unifying) able to build global coherence among partial actions from several social actors. A social actor is defined as a collection of people or, in the extreme, someone who acting on a determined situation is able to transform it. Therefore, it is important that the actor possesses an intervention project, control or ability to mobilize resources needed for the plan and a minimally stable organization to run it.

In 2006, against the background of Health and the SUS system, a social actor was born and named Refit (Physical and Technological Resources in Health) manager, graduated as specialists in Physical and Technological Resources under guardianship of Oswaldo Cruz Foundation – FIOCRUZ – in conjunction with the National School of Public Health Sergio Arouca (Arouca-ENSP), with the participation of professionals from the areas of Architecture, Engineering and Clinical Engineering, coming from the State and Municipal Secretariats of Ceará, Pernambuco, Mato Grosso do Sul, Distrito Federal, Minas Gerais, Rio Grande do Sul

and Rio de Janeiro itself, meeting monthly, with the difficult challenge of implementing the Unified Health System Refit Management. Initially, the proposal was to call these professionals Tutors, in 2006, after graduating. As replicators of knowledge to others, initially totaling 600 (six hundred), these professionals have not been distributed in the country so far.

The challenge posed by reality is to adapt the technological incorporation to the structure of health needs, as there is not in the world, let alone in a country as Brazil, enough financial resources able to support the logic of diagnostics and supplementary tests, based on a high-cost health technology that can quickly become obsolete. It is necessary to redefine the role of Healthcare Establishments – EAS in the organization of care, by enhancing outpatient and home-based care, the articulation of the variable demand for an organized supply of services and the use of epidemiological and social knowledge to implement health practices.

The use of epidemiological knowledge, information technology, permanent and qualified monitoring of clients/patients may be signs of a new model of care focused on quality of life. In this model, health policies will aim at the promotion of health, prevention of diseases, the recovery of those who get sick and the maximum rehabilitation of those who may have limited functional capacity. In addition, adopting such model may represent a low cost solution and, mainly, the answer to provide better resolutions.

The recognition of comprehensiveness as a principle or guideline, which can cover biological, psychological and social dimensions of the health/disease process by promoting protection, recovery and rehabilitation, with a view to the integrality of human beings, should be disseminated as a new health culture in professional education.

Comprehensive care tries to see the client/patient pairing as a whole. The health team (in which the technical professional is part of) should solve health conditions in their totality.

Ethical issues that should permeate human labor in any activity assume a peculiar connotation in the health professionals' permanent practice. It is crucial that these professionals include, primarily, in their actions, science, technology and ethics in the service of life. Ethics in the service of life is concerned with commitment to human life in all conditions, regardless of the stage of life cycle, the genre or what social class the client/patient belongs to.

The conceptualization of health as an end in itself, while a condition of citizenship, addresses to certain specific features towards the work of its professionals. Diversification in the scope of the activities of health professionals today, together with their unsegmented practices, as long as it involves care models addressed to quality of life, demands from these workers a broad view of health.

The modern sense of health quality includes the humanization of assistance, the respect for patient/client's autonomy, as well as his/her rights as a service consumer, the satisfaction of needs and individual expectations, technology in its broader sense and the appreciation of the autonomy of the people involved in health management issues.

In the area of the building structures and hospital facilities, the situation is the same. It can be seen that there is a lack of professionals in management and maintenance of the physical infrastructure in health, once the life of a building, especially in the hospital area, is straightly related to the quality and regularity of appropriate maintenance, with effective routine actions, preventive and corrective procedures.

It is also possible to see that the irregularities in maintenance contracts, their technical monitoring concerning quality, is due to the inexistence in many hospital units of maintenance management experts (clinical engineers, maintenance engineers, biomedical engineers, technicians and etc.). The organizations are restricted to the practices of bureaucratic monitoring of contracts carried out by professionals, who, in several cases, lack technical knowledge in this specific area.

In 2012, Rio+20 called for the position of governments, businessmen and social movements to discuss themes such as development sustainability, including the sustainability of health systems, due to the possible deterioration of the traditional health social protection systems, as the world trend is focused on prioritizing health universal policies. SUS, based on the conception of health social determination, possesses all the necessary credentials of a sustainable system. The hopes are that in the following years, SUS good international fame is founded on the principle that health is present in our everyday lives (BAHIA, 2011).

Health needs more resources. However, these resources should be linked compulsorily to very clear and transparent management contracts, so that they can effectively broaden the universality of the right to health (CÔRTES, 2011).