

# ***SOCIAL INFORMATION MANAGEMENT IN HEALTH CENTERS: THE ITIL MODEL***

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## **Abstract**

Information management about patients and employees is an important task in health centers. In this paper we expose, first, some competences required for the health workers, for example, doctors and nurses. Second, we show different indicators that are useful to measure social information, referred to employees and clients, in a health center. Finally, we describe the Information Technology Infrastructure Library (ITIL) model considering its advantages for users and organizations. ITIL is the link between the center, employees and users, and this is the reason because it is used successfully to manage social information in health centers.

**Keywords:** *Social Information, Indicators, Information Technology Infrastructure Library (ITIL), Health Centers.*

## **1 INTRODUCTION: THE EVALUATION OF HEALTH COMPETENCES**

Information is one of the fundamental elements of a company. It integrates the management system that provides knowledge of data as a result of actions and comparisons in the learning and communication processes, as well as the decision making. If we consider that the information comes from the social part of the company (employees and users), we discover the existence of a social information system used as an internal communication tool and a source of information about the management process and control of the decisions (Gómez-Mejía, Balkin and Cardy, 2001).

Specifically, the human resources information system has to: facilitate the dialogue and the communication, be a source of motivation, have a unique data base, get the organizacional integration, be useful to discover potencial competences in the staff in order to be flexible (García Echevarría, 1993). This system has to be adapted to the general objectives and has to become mainly in a data base that let manage adequately the human resources.

It is well known that information is required in any health center to manage the medical services, the nurse services, the technology, some economical affairs and the tasks and activities to be developed by the employees (Mira, 2000).

On the other hand, in any company, what can not be measured, can not be controlled. Then, it can not be the origin of any decision. It is difficult to measure, control and understand the human resources practices, organizative processes, costs and benefits. If also the managers do not ask for this analysis because it is not positive for the company and they have not been trained in this line, it is explained why the human resources department has not showed its added value in a formal way (Sánchez-Rude, 2000). Traditionally, the health system has not

required any evaluation and control system based in behaviours, values and practices of the people (Expósito, 1998).

The main goal of a health system is to attend people who need health services by using in a right way the available physical and human resources. Corporate social responsibility does not depend only on the employees who attend users, but in the administration, suppliers, training centers, etc. (Leonard and Hilgert, 2004).

It is important to identify accurate measures to get the maximum output by defining and controlling all the processes. A good planning of resources and capacities is required in any health system. For this, we have to define the competences required for the health personnel, and establish a list of measures. Then, the employee can have more control of its own work and the quality of the service. He or she is able to understand the objectives to achieve and they can know the abilities corresponding to another related job or improve the current competences (Canós, Valdés and Zaragoza, 2002). Health employees have to have, for example, the next competences: attendance competences (for instance, get information from the patient by analyzing the clinic history, how to make a physical exploration or know diseases), research and teaching competences, interaction with the environment, work in teams or ethical competences. Obviously, these competences have to be measured to manage the workers' development and behaviours.

The responsible of the evaluation can be internal or external to the company. Anyway, it is required a good communication with the evaluated people. The expert have to: discover the important aspects to the employee about his or her job, consider the subjective nature of the opinions, do not use a bad vocabulary, respect the people to be evaluated, study the best behaviours to get the efficiency, suggest improvement actions and provide feedback (Salcedo, 1998).

## **2 INFORMATION SYSTEMS FOR THE HEALTH CENTERS MANAGEMENT**

Without any doubt, the main function of an information system is to support the health centers' managers to make decisions. There are some tools for this, for example, the balanced scorecard (see Canós, Mauri and Martínez, 2005). Information in health centers is a critical resource because of:

- Dependence on information and systems that provide information.
- Cost of the current investment in information technologies

In health centers, the amount of information about patients and employees is very big. All these data have to be transformed in useful information. This is because it is necessary a good information system in any health center. An information system is the set of processes to manage information in a company. For this, we have to collect data, analyze and store them, and provide to the managers in the right place and time (Lussier, 2003). Health computing is useful to get, analyze, store and recover data about health practices. Technology contributes to reduce the effects of uncertainty in the decision making (Canós, Mauri y Martínez, 2005).

Information systems are an essential tool in current health organizations. From strategic level to the operative one, information systems support the complete health process. Previously, information systems only were used in the administrative department to list patients, order the waiting lists or manage the stock. Today, they are used also in the clinic area and we can

found applications to manage medical pictures or PACS (Picture Archive Communication System), or applications that 'talk' with electromedical machines.

Some indicators to manage the work of human resources are, for instance, the suggestions, the improvement measures (time, quality of the service, health processes, etc.) or the ones about health teams (doctors, nurses, etc.) efficiency and the coordination level.

In a general way, we can add other indicators, as the quality of the reports, cost of personnel, absenteeism from work, number of training programs, historical evolution of the number of patients, productivity, number of mistakes per medical report, improvement of health competences, satisfaction of clients, satisfaction of employees, waiting list in the first visit, waiting list for surgery, resources used in emergency room, cleaning of the facilities, coordination in multidisciplinary teams, current staff and previsions, budget per departments, suggestions and complaints made by users, etc. Obviously, these are not the unique indicators we can use to measure how a organization works. Anyway, we have to select the indicators that best fit the information requirements of a health center.

All these indicators can be computerized in order to make the measure process more efficient and quick.

An example in which all the population is involved is the eEurope initiative, to promote the health on line, extend the use of intelligent cards or computerize clinic histories.

Nowadays, there are limitations to the computing of health processes, as the lack of reliability and data protect. Confidential services are required (professional secret), access control, electronic sign, etc. For this purpose, we can use proxy systems, firewall, public key infrastructures (PKI) or privilege management (PMI), virtual private nets (VPN), intruders detection systems (IDS), intelligent cards (JavaCards) or security in webs (Jarauta, 2003).

### **3 THE INFORMATION TECHNOLOGY INFRASTRUCTURE LIBRARY (ITIL) MODEL**

Health organizations depend strongly on technology specially in clinic and management processes. In this context, it is required a model to organize processes to provide the best quality in services of information according to cost and benefits goals. Information Technology Infrastructure Library (ITIL) is a processes-based model useful for health centers.

In order to support the process of services management it has been developed the Information Technology Infrastructure Library (ITIL) for the Commerce Ministry of UK (OCG) in the nineties and it has been proved successfully in several organizations. ITIL provides a detailed description of some good practices of information technology by using a wide list containing roles, tasks, procedures and responsibilities of the information departments. Currently, the norm BS15000 is used to audit the ITIL processes. Other models are based in ITIL: HP ISTM (Hewlett Packard), TI Model Process (IBM) or MOF (Microsoft).

ITIL provides a common framework for all the activities of the information technology departments. This model involves the health center employees and users. The tasks of the technology departments are about infrastructure management, service management or security management.

The elements of ITIL are: service support, service supply, security management, infrastructures of IT management, applications management, implementation of services planning and future of the business. We can see the relation between them in Figure 1.

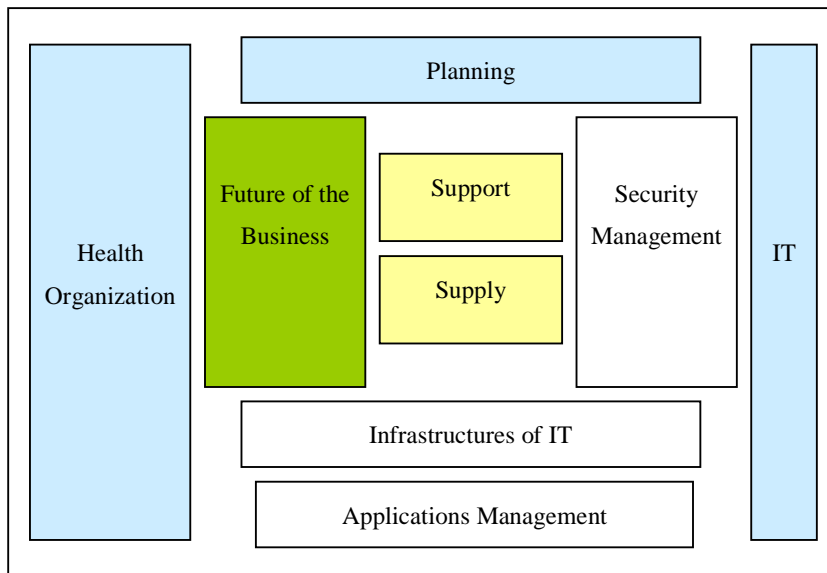


Figure 1. Processes of the ITIL model.

ITIL present many advantages. For users, we can list the next:

- Help in the providing of services to the user.
- Adjustment between level and quality of the service. This improves the relation between the IT department and the user.
- Common language for describing services.
- Improvement of quality and cost of the service.
- Improvement of the communication between the computing department and the customer attendance department.

For the health organization, some advantages are:

- More open structure of the IT department.
- The actions of the IT department are oriented to achieve corporative goals.
- Flexibility in changes.
- Better identifying of the areas that can be externalized.
- Standardization of information procedures.
- Better communication between departments and also with external organizations.

In the implementation of ITIL we have to take account of the change in the culture of the organization, the time and the effort required. Responsibles have to avoid that the processes' structure becomes the main objective of the company, because the increase of bureaucracy limitations. Moreover, it is important to fix measures according to the organization; goals so high can make an unsuccess project. A reduction of the total cost (by according new resource assignments) and the improvement of the quality are expected. Of course, all the staff has to be implied.

### 3.1 The service desk in an ITIL model

The areas in which we can develop the best practices to provide IT services in order to achieve the corporative goals are: service desk, incidences, problem management (levels), configuration, changes and version management (see Figure 2).

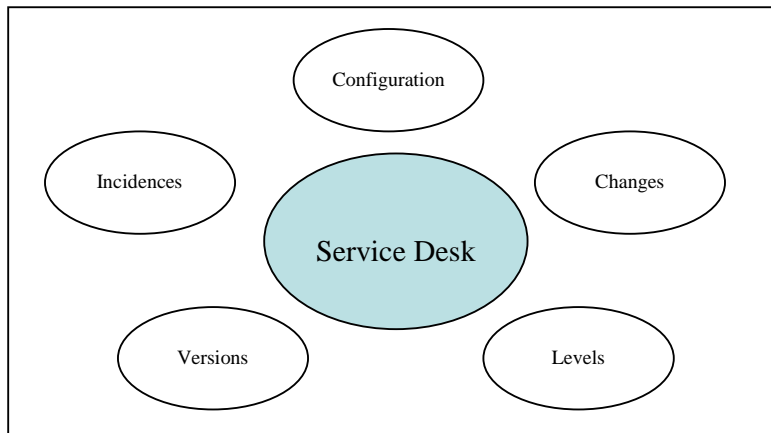


Figure 2. The Service Desk and other processes of the ITIL model.

The service desk is the origin of the contact between users and organizations. It becomes an ITIL process completed with other ones as changes, incidences, etc. It plays a fundamental role in the technology services in health centers. For the user, the service center permits to found the adequate resource for the attendance and support of the doubts to be raised. The service desk acts as a filter and establishes different flows or paths for the incidences until they are solved. Different tests or checklists can be used by the customer.

One of the main tasks of the service center is to guarantee the accesibility through the technology services supplier in the company. For this purpose, the phone or the mail are the most used tools. An automatic generation of messages can be added. The contents of the calls can be about technical infrastructure, questions about a concrete application, state of the services, and so on. Depending on the organization of the services center, all the calls can be treated or only that referred to technical problems.

There are different alternatives to design the structure of the service center. Some models are:

- Centralized service center: one point to contact to all the users.
- Different locations for the service center. It difficults the management but offers a closer perception of the support to the user.
- Virtual service center: intensive use of the information technologies.

And the main activities of a service desk are:

- Attendance of problems (complaints of the service).
- Coordination with external suppliers.
- Administration tasks.
- Control of the infrastructure.

The satisfaction of the user is one of the signs that show the well work of the service center. The following questions have to be answered to know the effectiveness of the system. These data can be obtained from the registers of the center, although it is recommended to make periodical tests to clients.

- Is the phone picked up quickly?
- How many minutes long the calls to reach the second level?
- Is the service restored in an acceptable time according to its parameters?
- Are users informed of changes?

Other indicators we can use are the incidences solved in the first level or the number of calls in a day or average time of resolution, for example.

The characteristics of a service center based in ITIL allow the implementation of strategies oriented to the clients in the services of the health organizations. The automation of the calls to the IT services provider increase the efficiency of the queries and their solution. Moreover, the process to manage incidences and problems is easier for the user. An adequate management of the service center by using correct indicators leads to an improvement in the service and a better alignment with corporative strategies in health organizations.

## References

- Canós L.; Mauri J. and Martínez A. 2005. 'La gestión de los servicios de TI en sanidad: un modelo basado en ITIL'. *Inforsalud, VIII Congreso nacional de informática de la salud*, Madrid.
- Canós L.; Valdés J. and Zaragoza P. 2002. 'Competency Management as a Fundamental Part of Knowledge Management'. *IX Congreso Internacional AEDEM*, París.
- Expósito J. 1998. 'Control y evaluación de los profesionales'. In Lázaro, P. and Marín, I. *Motivación saludable: los recursos humanos en el sector de la salud*. UIMP.
- García Echevarría S. 1993. *Sistemas de información sobre la gestión de los recursos humanos*. Instituto de dirección y organización de empresas.
- Lussier R.N. 2003. *Management Fundamentals*. Thomson South-Western.
- Gómez-Mejía L.R.; Balkin D. and Cardy R. 2001. *Managing Human Resources*. Prentice Hall Inc.
- Jarauta J. 2003. 'Soluciones tecnológicas para los sistemas de información de salud laboral'. *Informática y salud*, 40.
- Leonard E.C. and Hilgert R.L. 2004. *Supervisión. Concepts and practices of management*. Thomson South-Western.
- Mira, J.J. 2000. 'La gestión de la información en el entorno sanitario'. *Calidad Asistencial*, 14(4).
- Salcedo, J.A. (1998). 'Control y evaluación de recursos humanos'. In Lázaro, P. and Marín, I. *Motivación saludable: los recursos humanos en el sector de la salud*. UIMP.
- Sánchez-Rude C. 2000. 'La medición de las prácticas de recursos humanos'. *Capital Humano*, 134: 22-32.