THE MANAGEMENT OF THE FIXED MEANS FROM THE PUBLIC SANITARY SECTOR OF BIHOR COUNTY

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Keywords: public health sector, fixed assets, management Abstract: The management of the sanitary units aimes at the optimisation of usage of all the components that a certain sanitary unit disposes of. The activity of a hospital demands the existence of certain instruments or working tools, which are an integral part of the production apparatus and of the patrimony and are known as fixed assets, means, capitals and immobilizations (1). Recently, in Bihor county, the development of the fixed means which belong to a sanitary units has had a spectacular evolution (from the point of view of utilities, administration, finances). Nowadays, a modern building has fixed means that allow it to adapt and respond permanently to the changing conditions, having as a result the efficient usage of energetic resources, the improvement of comfort conditions and the higher security of those who occupy it (2).

Cuvinte cheie: sector sanitar public, mijloace fixe, management **Rezumat:** Managementul unităților sanitare vizeaza toate componentele de care dispune această unitate sanitară avand ca solutie optimizarea utilizarii. Desfășurarea activității unui spital reclama existenta unor instrumente sau unelte de munca, parte integrata a aparatului de producție si a patrimoniului cunoscute sub denumirea de active fixe, mijloace, capitaluri si imobilizări (1). În ultimii ani, la nivelul județului Bihor, dezvoltarea mijloacelor fixe, din cadrul unităților sanitare, a avut o evolutie spectaculoasa din mai multe puncte de vedere (utilitati, administrativ, financiar). Astazi o cladire moderna este dotata cu mijloace fixe care să îi permită să se adapteze si să raspundă în mod permanent la schimbarea conditiilor având ca rezultat utilizarea eficienta a resurselor energetice, îmbunatatirea conditiilor de confort si cresterea gradului de securitate a celor ce o ocupa (2).

INTRODUCTION

The achievement of an efficient management of the fixed means has an important role in the improvement of the supply and the access to health services, but particularly in the organization and functioning of sanitary units with beds.

The nature of the properties of a certain sanitary unit is represented by the specific medical activity that is conducted in relation with the structural complexity of such a unit (3).

In order to fulfil its functions, the sanitary unit needs resources, or financial funds, whose mobilization, distribution and usage causes certain bearings that are expressed in money and which represent the essence of public finances (4,5).

The structure and the financial politics of the sanitary unit reflect the composition of its capitals. The development of a hospital's activity demands the existence of some instruments, or some working tools, which are an integral part of the production apparatus and of the patrimony and are known as fixed assets, means, capitals and immobilizations. The proportion of the fixed assets influences the general profitableness, since they involve expenses for amortization, maintenance and rents.

THE AIM OF THE STUDY

As in the case of other aspects related to the activities in a sanitary unit, the adequacy of the fixed means should be revised periodically. Our study is meant to provide assistance in this process, as well as in the process of making decisions while the sanitary unit extends or reduces, as a response to the changing circumstances.

MATERIAL AND METHOD

This paper is an observational, retrospective and descriptive study. We have focused our attention upon five hospitals in Bihor county.

The investigation meant at gathering information, which stands at the basis of this paper, was of the longitudinal and the retrospective type.

RESULTS AND DISCUSSIONS

The choice of some fixed means, which would fulfil the needs of a sanitary unit, involve a series of factors that appear when these are used at optimal standards, for instance: choosing the location for the building, communications, utilities, climate and topography, etc. In hospitals, the management of the fixed means presents a series of particularities, given the specific medical activity of the medical staff.

The fixed means in a hospital, as described in this paper, are the following:

- premises and buildings
- equipments and IT devices
- furniture beds
- high performance medical apparatuses

Premises. Buildings

A sanitary unit should be placed in an area where its

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access to resources is optimal and which facilitates the easy access of the users of medical services.(6)

The first requirement for any medical service is that of being both available and accessible for the ones who need it. It is obvious that, if a medical unit cannot provide the medical services, or if these are not available or easily accessible, the quality of the medical care is limited.

Accessibility refers to the possibility to take care of users in a proper place, at the right time, in relation with their needs. It involves the absence of geographic, economic, financial, social, cultural, organizational, or linguistic barriers and restrictions (3).

The medical assistance in our county is provided by the following sanitary units with beds:

Table no. 1. Sanitary units with beds in Bihor county, in 2004 and 2007

	Sanitary units with beds	2004	2007
I. Clinic	The Clinic County Hospital	Х	Х
hospitals:	Oradea		
	The Clinic Children Hospital	Х	Х
	Oradea		
	The Clinic Hospital for	Х	Х
	Obsterics and Gynecology		
	Oradea		
	The Clinic Hospital for	Х	*
	Infectious Diseases Oradea		
	The Clinic Hospital for	Х	Х
	Neurology și Psychiatry		
	The Clinic Hospital for	Х	Х
	Pulmonary Diseases Oradea		
	The Clinic Hospital for	Х	Х
	Recuperation Băile Felix		
II. Municipality	The Municipality Hospital "Ep.	Х	Х
and city	N. Popovici" Beiuş		
hospitals:	The Municipality Hospital "Dr.	Х	Х
	Pop Mircea" Marghita		
	The Municipality Hospital	Х	Х
	Salonta		
	The City Hospital Aleşd	Х	Х
III. Speciality	The Hospital of Psychiatry and	Х	Х
hospitals:	Safety Measures Ștei		
	The Hospital of Psychiatry	Х	Х
	Nucet		
IV.Health	The Health Center Ștei	Х	
Centers:	The Health Center Bratca	Х	Х
	The Health Center Valea lui	Х	Х
	Mihai		
	The Health Center Popești	-	-
	The Health Center Săcuieni	-	-

*The Clinic Hospital for Infectious Diseases Oradea has been included in the structure of the CHO in 2006

Given the complex character of the management of fixed means of a building, our study has evaluated the situation in 5 hospitals, the choice being made in terms of their location and the medical services they offered:

- The Clinic County Hospital Oradea
- The Municipality Hospital "Ep. N. Popovici" Beiuş
- The Municipality Hospital "Dr. Pop Mircea" Marghita
- The Municipality Hospital Salonta
- The City Hospital Aleşd

The detailed study of the five hospitals results from their mono or multi pavilion character. Figure 1 presents the premises of each hospital in particular:

Each sanitary unit provides specialised medical assistance for the population in Oradea municipality and the surrounding localities, respectively: Beiuş, Marghita, Salonta şi Aleşd, and the population from nearby villages, providing assistance for many cases occurring in the county. Each unit is placed on a main road within the city, thus it can be easily accessed by people and by the ambulance service.

Figure no. 1. The surface of terrain, in square metres, of the Hospitals



Oradea Beius Marghita Salonta Alesd

The buildings/the sanitary units under scrutiny are more than 20 years old, their surface being presented in figure 2:





We can see that the County Hospital Oradea presents the most important difference between the built and the complete surface, which is due to the fact that the building of the hospital has 8 levels. **Utilities**

In the last twenty years, the functioning of buildings has had a spectacular evolution from many points of view (that of the utilities, the administrative and the financial one).

Nowadays a modern building has an infrastructure that allows it to adapt and permanently respond to the changing conditions, which results in an efficient usage of the energy resources, the improvement of comfort conditions and the increased security of its occupants (4).

The hospitals we have focused upon have been improved from the thermic point of view, after they have registered important heat loss. Thus, the walls, the roofs and the floors have been repaired, and the windows and the doors have been replaced. The heating devices have also been replaced, or they have been cleaned using chemical substances; devices for registering the costs have been attached, together with thermostatic devices; the pipes have been isolated. In table II we present some utilities that the evaluated hospitals benefit from.

Equipments and IT devices

A computer is made up of hardware and software components.

The configuration of each calculating system has an inferior limit, or the basic configuration, which is defined by a minimum of necessary elements, that make the system operational, and a superior limit, created by adding new components to the basic configuration - as many as the central unit can accept.

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Table no. 2. Utilities at the level of the hospitals in Bihor county

HOSPITAL	Oradea	Beiuş	Marghita	Salonta	Alesd
Electric energy without restrictions	yes	yes	yes	yes	yes
Natural gas source	no	no	yes	yes	no
Suitable water resources	yes	yes	yes	yes	yes

Table no. 3. Computers available in some hospitals in Bihor county, in 2003

HOSPITALS	New	medium	old	Servers	Matrics	InkJet	Laser	LAN	Internet
2003	(less than 1 year)	(1-3 ani)	(>3 years)						
									CATV /
Oradea	6	6	66	2	24	11	2	Partial	Network
Marghita	1	1	4	1	1	1	1	NO	Dial-up
Aleşd	1	6	0	0	4	0	1	NO	Dial-up
Beius	1	3	1	0	1	3	0	NO	Dial-up
Salonta	1	0	4	0	3	2	0	NO	Dial-up

Table no. 4. Computers available in the hospitals in Bihor county in 2007

HOSPITALS 2007	New (less than 1 year)	average (1-3 years)	old (>3 years)	servers	Matrics	Ink Jet	laser	LAN	Internet	% of the staff that uses computers
Oradea	22	96	80	2	18	47	36	YES	YES	27
Marghita	4	14	5	2	4	4	2	YES	DA	11
Aleşd	2	8	3	0	4	3	1	Partially	CATV/Network	7
Beius	4	12	7	2	3	5	2	YES	YES	10
Salonta	4	8	5	1	4	3	3	YES	YES	8

With the help of the computer, the medical statistic information coming and from the hospital itself are gathered and organised.

The information that needs to be communicated is the following (1):

- general and hospitalised mobility;
- demographic data;
- cost indicators and other indicators for the payment of the services that have been performed;
- health programs.

In the following tables we present several characteristics of computers found in the hospitals we have mentioned:

Figure no. 3. The situation of computers in some hospitals from Bihor county in 2003



Given the fact that the County Hospital Oradea is also a clinic, one can find here the largest proportion of equipments and IT devices; this hospital benefits from an Informatics service, where a specialized staff is employed.

Regarding the evolution related to the total number of computers, the most spectacular progress can be associated with the County Hospital Oradea, situation that can be explained by the fact that Oradea is a university centre and consequently the hospital is larger than all the others in Bihor county.





new, less than 1 year average 1-3 years old over 3 years

Figure no. 5. The evolution of the number of computers available in the hospitals of Bihor county in 2003-2007



	Or	adea H	osp.	Be	eius Ho	osp.	Mar	ghita H	losp.	Sal	onta H	osp.	Al	esd Ho	sp.
Sections	N	o. of be	ds	N	, 0. of b	eds	Ν	o. of be	ds	N	o. of be	ds	N	o. of be	ds
	1998	2004	2007	1998	2004	2007	1998	2004	2007	1998	2004	2007	1998	2004	2007
Internal medicine	211	125	133	60	35	35	54	55	55	55	38	18	30	25	24
Balneal-	15	10	10	-	-	-	25	20	20	-	-	-	-	-	-
Physiotherapy															
Cardiology	100	90	90	-	-	10	-	-	-	-	-	10	-	-	-
Endocrinology	20	18	15	-	-	-	-	-	-	-	-	-	-	-	-
Gastroenterology	42	50	40	-	-	-	-	-	-	-	-	-	-	-	-
Hematology	25	25	25	-	-	-	-	-	-	-	-	-	-	-	-
Nefrology	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Diabetes si nutrition	30	72	15	-	-	-	-	-	-	-	-	-	-	-	-
disorders															
Reumatology	10	10	10	-	-	-	-	-	-	-	-	-	-	-	-
Dermatology and venereal diseases	100	45	30	-	-	-	-	-	-	20	15	15	-	-	-
General Surgery	205	176	118	60	35	35	40	40	40	30	29	29	25	12	12
Orthopedic surgery	110	100	96	-	10	10	-	-	-	-	4	-	-	-	-
Neuro-surgery	47	40	40	-	-	-	-	-	-	-	-	-	-	-	-
Maxilo-facial	25	25	25	-	-	-	-	-	-	-	-	-	-	-	-
Thorax surgery	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-
Plastic surgery	25	25	25	-	-	-	-	-	-	-	-	-	-	-	-
Urology	60	55	55	-	-	-	-	-	-	-	-	-	-	-	-
ORL	40	25	25	15	10	10	25	10	15	10	4	-	-	-	-
Oftalmologie	53	50	35	20	10	10	15	10	10	15	-	8	-	-	-
ATI	52	47	45	15	15	15	15	15	15	5	5	5	-	-	-
Medical oncology	100	70	80	-	-	-	-	-	-	-	-	-	-	-	-
Infectious diseases	-	-	-	30	25	25	-	-	-	-	-	-	-	-	-
Pediatrics	-	-	-	50	30	30	40	25	25	30	15	15	25	10	15
New born section	-	-	-	15	15	15	20	15	15	15	7	7	5	2	-
Ginaecology	-	-	-	40	30	30	50	30	30	30	15	15	20	5	12
Neurology	-	-	-	-	10	10	10	-	-	-	-	10	10	-	6
Psychiatry	-	-	-	-	-	-	20	15	15	-	-	-	-	-	-
Chronics	-	-	-	-	-	-	-	-	-	35	-	-	-	-	-
Neurosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pneumology	-	-	-	-	-	-	-	20	20	-	-	-	-	-	90
Total sections	1280	1068	934	305	225	235	314	255	260	245	132	132	115	54	159

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Starting with 2005, these hospitals benefit from an efficient informatics system, which has ensured the participation of these units to the implementation of the DRG program. This system has undergone an impressive evolution during the last year, due to the enhanced interest of the hospital leaders and the medical staff for the technical progress and the access to information.

Number of beds

One of the most important fixed means is the bed, and the number of beds in hospitals, as well as their usage, represents an important indicator to be observed.

From this point of view, we have looked at the structure of sections in the hospitals we have focused upon, and at the number of beds within them, as well as their evolution in time (1998, 2004, 2007). The following graphics include the data we have obtained:

We can observe a decrease of almost one third in the total number of beds from all the hospitals we had in view. Although 10-15 years have passed since this politics has been implemented in the European Union (preceded by similar measures in Canada and the USA), many prominent figures activating within the health systems, theoreticians included, did not manage to find adequate answers to certain questions, which have been a consequence of such politics (2).

The decrease of the hospital beds number is synonymous with an investment in endowments at the territorial level, which demand specialised personnel, able to use them.

Equipments. Medical apliances

The recent progress that can be observed in the field of modern medicine is partly due to the implementation of the latest technologies (ultrasounds, electromagnetic radiations, optic fibres, the modulation of the electric current, etc., and especially the informatics systems, based on the two components - the hardware and the software applications) for the diagnosis and treatment of disorders.

Such progress made possible the early identification of several diseases and the application of more efficient treatment methods, with very good results in the context of the post-therapeutic condition of the patient.

Since nowadays the precision of the diagnosis and the efficiency of the treatment are based more and more upon medical apparatuses, the acquisition of the most efficient medical equipments has been considered a priority, alongside the collaboration of doctors with long experience and outstanding professional results, in order to ensure the quality of the medical act. The medical apparatuses that can be found in the hospital we have focused upon are presented in he following tables:

Oradea	Group denomination	1998	2001	2004	2007
Apparatuses for radiology	Classic radiography apparatuses	4	4	4	5
	Apparatuses for classic radioscopy	2	2	3	3
	Rx. Mobile Apparatuses	1	2	3	3
	Radiology apparatuses with digital acquisition	2	2	2	3
	Mamographs	0	1	1	1
	Computerised tomography	1	1	1	1
	Angiography	0	0	0	1
	Cobaltotherapy	1	1	1	1
Radioizotope Apparatuses	Scintigraphs	0	1	1	1
Ecography	Average class (5.000-50.000\$)	1	2	2	2
	Superior class (>50.000\$)	1	1	1	2
	Doppler	0	1	2	2
Medical therapy equipments	Ultrasound therapy	10	10	12	13
(medical recuperation)	Laser therapy	1	1	1	1
Medical lasers	Ophtalomology	0	1	2	2
Therapeutic aparatuses for dialysis and extracorporal	Dialysis Ap.	20	20	20	20
circulation	Water stations	0	0	0	0
Surgical apparatuses	Laparoscopy kits	0	1	1	2
	Surgical microscope	0	2	3	3
	Micro-surgical apparatuses	6	6	6	6
ATI Apparatuses	Aparatuses for anaestehsis	0	0	0	18
	Automatic ventilators	0	0	0	6
	Invasive monitorization parameters	10	17	20	21
Aparatuses for specialised functional exploration	ECG - 12 channels, evaluating data	2	2	2	2
	ECG for effort: cycloergometer / covor	1	1	1	2
	Ophtalmologic biomicroscope	2	4	6	6
	Audiometry	0	1	1	1
	ECG-3 channels	0	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0	3
Endoscopy apparatuses	Digestive Videoendoscopy estiexploratorie	0	0	0	2
	Inferior Digestive Videoendoscopy	0	0	0	1
	Flexible urology Endoscopy	0	0	0	1
	Rigid cytoscopy	0	0	0	1
	Artroscopy	0	0	0	1
	Exploratory laparoscopy	0	0	0	1
Test apparatuses	Automatic humid biochemy analyser	1	2	4	5
	Automatic dry biochemy analyser	0	1	1	1
	Hematology analyser 22 parametres	0	1	2	2
	Bacteriology analysers	0	1	2	2
	ELISA Lines	1	1	2	2
Other apparatuses/equipments	Autosanitaries	0	0	0	2
Surgical apparatuses ATI Apparatuses Aparatuses for specialised functional exploration Endoscopy apparatuses Test apparatuses Other apparatuses/equipments	Sterilization	2	2	2	4

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Table no. 7. Equipments and medical appliances owned by the Hospital in Beius

Beiuş	Group denomination	1998	2001	2004	2007
Radiology apparatuses	Classic radiography apparatuses	1	2	3	4
	Classic radioscopy apparatuses	1	1	1	2
	Mobile Rx. Apparatuses	0	1	1	1
Ecography	Average class (5.000-50.000\$)	2	2	4	5
	Superiour class (>50.000\$)	0	1	1	1
Medical therapy apparatuses	Ultrasound therapy	1	1	2	2
Specialised functional exploration apparatuses	EEG	1	1	1	1
	ECG - 12 channels, evaluating data	0	1	1	1
	ECG-3 channels	2	4	4	6
Laboratory apparatuses	Automatic humid biochemy analyser	2	2	2	2
Other apparatuses/equipments	Autosanitary	0	0	0	2
	Sterilization	1	2	2	3

We can observe that most equipments have been bought after 2004, as a result of legislative modifications that have occurred at that time. performance apparatuses found in the Clinic County Hospital in Oradea, the territorial hospitals benefit from few high performance apparatuses. These are presented in the following tables:

Taking into account the classification used for the high

Marghita	Group denominaion	1998	2001	2004	2007
Radiology apparatuses	Classic radiography apparatuses	1	2	2	2
	Radiography apparatus	0	0	0	1
Ecography	Average class (5.000- 50.000\$)	0	1	1	1
Medical therapy apparatuses	Ultrasound therapy	2	2	4	4
(medical recuperation)	Laser therapy	1	1	1	1
ATI Apparatuses	Anaesthesy equipments	2	2	2	2
	Automatic ventilators	1	1	1	1
	Invasive monitorization vital parameters	3	5	5	5
Functional specialised exploratory equipments	EEG	0	1	1	1
	ECG - 12 channels, evaluating data	0	1	1	1
	ECG-3 channels	1	1	2	2
Endoscopy equipments	Digestive exploratory with direct virw				1
Laboratory apparatuses	Automatic humid biochemy analyser	0	1	1	1
	Hematology analyser 22 parameters	0	0	1	1
Other apparatuses/equipments	Sterilization	1	2	2	3

Table no. 8. Equipments and medical appliances found in Marghita Hospital

Table no. 9. Equipments and medical appliances owned by the hospital in Salonta

Salonta	Group	1998	2001	2004	2007
	denomination				
Radiology equipments	Classic radioscopy equipments	1	1	1	1
	Radiology apparatuses with digital acquisition	0	0	0	1
	Developing - printing films	0	0	0	1
	Graphic processing stations	0	0	1	0
	Cardiac electrophysiology appartuses	0	0	1	0
Ecography	Average class (5.000-50.000\$)	0	1	1	1
	Specialised	1	1	2	2
Medical recuperation therapetic apparatuses	Ultrasound therapy	0	0	1	2
ATI Equipments	Anaesthesy apparatuses	1	1	1	1
	Automatic ventilators	0	0	1	0
Laboratory apparatuses	Automatic humid biochemy analyser	1	1	1	1
	Hematology analyser 9 parameters	0	0	0	1
Other apparatuses	Sterilization	1	1	1	1

We can see that the territorial hospitals have few high performance appliances.

Looking at the way hospitals have gradually acquired high performance apparatuses, we can observe a direct proportional relation between apparatuses acquisition and the number of beds in a particular hospital.
 Table no. 10. Equipments and medical appliances owned by the Hospital in Aleşd

Aleşd	Group denomination	1998	2001	2004	2007
Radiology equipments	Classic radiography equipments	1	1	1	1
	Classic radioscopy equipments	0	0	0	1
Ecographs	Average class (5.000- 50.000\$)	1	1	2	3
ATI Equipments	Anaesthesy apparatuses	1	1	1	1
	Automatic ventilators	1	1	1	1
Specialised	EEG	1	1	1	1
functional exploration apparatuses	ECG-3 channels	1	1	2	2
Laboratory apparatuses	Hematology analyser 22 parameters	0	1	1	1
Other apparatuses/ equipments	Sterilization	1	1	1	1

Figure no. 6. Equipments and medical appliances owned by Bihor County Hospital in 2007



CONCLUSIONS

Achieving an efficient management of the fixed means has an important role in the improvement of supplying and increasing the accessibility to health services, and particularly in the organization and functioning of sanitary units with beds.

During the last years, the development of the fixed means has had a spectacular evolution, which can be regarded from many points of view (that of the utilities, or the administrative and the financial point of view). Nowadays, a modern building has fixed means that allow it to adapt and permanently respond to the changing conditions, having as a result the efficient usage of the energetic resources, the improvement of comfort conditions an the higher security of those who occupy it.

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