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**Conference Paper**

# **Production Shared Health in Surgery: Innovate to Improve the Quality of Therapy Paths**

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**Abstract:** The project uses the reality of the Department of Surgery of the AOU "G. Martino" in Messina, to plan and implement a new departmental organization, starting from the already matured experiences of hospital care for structured intensive care. The system is based on therapeutic needs and welfare of the citizen user with dedicated areas, according to real needs, with the help of multidisciplinary teams, overcoming the inpatient wards of UU.OO.CC., enhancement of professional capacity meritocratic and passing the management pyramid, resulting in smoothing of conflict and competition for the allocation of chief function. The sharing of the hospitality, the diagnostic and therapeutic guarantees, in addition to classic economies of scale, performance care that increase quality customer satisfaction, because the citizens being treated, have certain references and unique, adequate, coordinated, integrated, continuing the phases of the nursing staff. The perception of consistency, fairness, equality, personalization in the reception, in the comfort and enjoyment of the services and assistance. In addition, together with the use of evidence based medicine, that allows to provide reliable and therapies based on scientific evidence, it intends to introduce a new humanistic approach in the exercise therapy with the help of the Narrative Medicine that contextualizes and integrates clinical data and Scientific evidence with all the information concerning the individual's perception of the disease state and the meaning attributed to it. Narrative Based Medicine enables the active participation of the citizen in the process of taking care of care, emphasizes the uniqueness of the personality of the citizen user, recognizes its history of suffering and promotes straight primary determination.

**Keywords:** Public Health, Health Management, Nursing Intensity, Narrative Medicine, Evidence Based Medicine

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## **1. Introduction**

When in a production system, in a given time interval, there is a volume increase of the standard production, the economies of scale are realized, for the distribution of the fixed costs, on a greater number of units produced.

According to the schemes used by Henry Ford, the economies of scale are realized when there was a decline in average unit costs of output, by developing specialization, manufacturing automation and optimizing the use of fixed capital invested.

Fordian intuition is the most common, intuitive and powerful formula of the health institutions: by resorting to

poor productive activity in the range of services and to a saturation of the existing capacity, it is possible to satisfy homogeneous health requirements, respecting the high expectations Users.

However, for a company public hospital and, in particular, for the AOU "G. Martino" of Messina, combining the objectives of efficiency, with the satisfaction of heterogeneous health demands by the local population, making full conflict with the quality of the service, since, economically, this condition today, is linked to the persistence of logical production of health "to handicraft character", more 'than

industrial, with the consequent growth of fixed costs, linked to the need to diversify the production lines.

In a corporate economic environment, in which the most productive cost factor is, precisely, the cost of health personnel, the phenomenon has earned the nickname of "strategic trap of" service management.

To escape the mentioned "trap", making use of an economic approach to rationalize resources in Health has raised the question of whether, and to what extent, on the specific content of hospital healthcare, must impose the traditional organizational and management solutions, inspired by artisanal-corporatist logic, that must be logical organizational and management introduced, typical of other processes, such as those developed in the industrial sectors.

The solution was materialized when the medicine has been able to develop and implement "best practice", but standardized, compatible with the ill individual enhancement that, therefore, remains at the heart of the production process itself: the case of Evidence Based Medicine (EBM).

In the wake EBM track, abandoned the old way of acting craft, the WHO has therefore developed a new ability to produce health, based on standardized services, thanks to a new way of producing health paths, with the use of the characteristic principles Fordism, which is one of the fundamental pillars of the economy of the twentieth century.

In this theater they are grafted new opportunities, to achieve "economies of scope" and system performance by leveraging and 'proper use of human resources, useful both on macro-economic scale (amalgamations of companies), both micro-economic (amalgamations of operating units).

Moreover, thanks to the added value of knowledge acquired over time (learning economy), you can reach high specialization and quality objectives, through qualitative and professional growth of the human capital available.

In addition, the relevant costs of health care spending, impose, even for healthcare companies, the use of modern logic, suggested by economic and managerial sciences, to achieve dynamic reorganizations, on the advanced service centers model, already in place in other sectors.

Finally, the internationalization of health, linked to the European single market, in compliance with the assurance of fairness of the care provided, impose, to hospitals, to face a healthy competition in the single market in health services, which can only be supported with the development of quality, the modernization of the sector and the overcoming of regressive austerity strategy.

In the European scenario, therefore, it confirms and reinforces the need to identify and / or realize the hospitals of excellence, capable of providing health courses, tailored to the demands and needs of the population, networked, with increasing homogenization quality of the services provided, zeroing in territorial disparities, and the pursuit of goals, enshrined in the Constitution of law, equal, to the health of citizens.

## 2. Project

In order to overcome the current organizational and management problems, related to the logic multi-departmental obsolete, the Department of Surgery AOU "G. Martino" of Messina, intends to design, plan and implement the departmental reorganization, structured to intensive care, starting from the lessons of experience of modern hospital care.

The system is based on therapeutic and care needs of the people, with dedicated areas, depending on the actual needs, the use of multidisciplinary teams, the elimination of wards of the UU.OO.CC. departments, enhancement of professional skills meritocratic and the overcoming of the management pyramid, resulting in cancellation of the conflict for the allocation of chief function.

The BUSINESS sharing, the diagnostic and therapeutic process guarantees, in addition to traditional economies of scale, welfare performance and qualitatively increase the customer satisfaction, because the citizens being treated, have certain references and unambiguous, appropriate information, coordinated, integrated, continuous, of the personal journey phases of care.

The perception of consistency, fairness, equality, in welcoming customization, in the comfort and enjoyment of the services and assistance.

In addition, together with the use of evidence based medicine, which allows to provide reliable and therapies based on scientific evidence, it intends to introduce a new humanistic approach in the exercise therapy, with the help of the Narrative Medicine, which contextualizes and integrates clinical data and the scientific evidence with all the information concerning the individual's perception of the disease state and the meaning attributed to it.

## 3. Narrative Based Medicine

It enables the active participation of the citizen taking care of the care process, emphasizes the uniqueness of the User Citizen personality, recognizes its history of suffering and promotes self-determination primary law.

"When doctors or students have the opportunity to write their clinical experiences outside of the classic case report format, they discover that the choice of language and images used to describe the patient are indicative of their answers to that patient" (KM Hunter et al. "The study of literature in medical education." Academic Medicine 1995).

According to the EBM treatment decisions criteria, planned on the basis of reliable scientific evidence, should be materialized only after a thorough and objective assessment of symptoms and physical signs, and the semeiotics logical interpretation, it must focus on the specifics of the history and values subjective individual user Citizen.

Therefore it becomes essential the integration of diagnostic and therapeutic criteria with clinical experience personal and subjective judgment according to the formula:



Figure 1. Caption: Step of the diagnostic and therapeutic strategy.

The organizational reshaping structurally provides a gradation of intensity and therapeutic care a pyramid, to create an organizational model departmental according to the principle of integrated clinical networks (model "HUB &

SPOKE": hub and spokes).



Figure 2. Caption: Pyramid model of intensive care.

## SHARING SURGICAL HEALT CARE



Figure 3. Caption: the patient is the focus of medical care. Sharing of professional resources for effective therapeutic strategies.

### 4. Analysis Critical 'and Background

Crucial to implement significant improvements to the "health system", is to analyze the organization of care work, which takes into account the professional and organizational culture of multidisciplinary team, addressed to the quality of results, efficiency, as well as to the amount and, above all, oriented to change and customer satisfaction.

The approach has to determine and characterize the improvement, "culture of care" requires a solid foundation that can be exemplified, borrowing the "4P" Reason (Reason - Human error: models and management - BMJ, 2000; 320: 768-770):

1. principles,
2. policies,

3. procedures,
4. practices

The "4P", in synergy, supported by innovative technological and cultural elements, can ensure the safety, efficacy, cost reduction, quality, satisfaction both for citizens and for the health operators.

### 5. Critical Factors

Assistance benefits are influenced by:

- external environment, (size regulations, socio-cultural, institutional)
- Management organization and management
- work environment (conflict)
- Operators and staff motivation

- Typology of welfare activities
- User Features

## 6. Optimization

- Elevate the "minimum standard of care" by improving "clinical care pathways", synergistically to "Managed Care System"
- reduce unnecessary health care costs with incentives;
- check hospital admissions and hospital stays;
- stimulating therapy outpatient surgery;
- ensuring excellent performance for intensive management of high cost.

Improving the clinical care path:

- Choice and methodological approach sharing
- Establishment of working groups
- Specification of inclusion or exclusion criteria
- Identification of appropriate professional practices and related indicators
- Analysis of the current process
- Route mapping and map description of the episodes
- Drafting of the revised care pathway
- Experimental application of the modified path
- Drawing up the matrix of responsibilities, activities, times and places
- application and evaluation of the outcomes of the course

and economic evaluation

- Generalization of the care pathway
- public communication of the results of the project and systematization of knowledge acquired
- systematic review of the application path
- Extension to other problems
- Appropriate use of technological tools for the continuous monitoring of hospitalized Citizens (control and information device)
- Training of health workers
- Guide lines with periodic reviews
- Definition of care content integrated in an organic context of roles and functions
- Removal of obstacles to professionals

## 7. Existing Photography

This section is meant to represent the 'current organization of Surgery DAI, Oncology and Pathology of' AOU "G. Martino", its layout, business volumes and direct costs for single Operating Unit of the DAI, the 'index Attraction, case mix and the employment index of the beds.

The main objective is to highlight the main problems in the DAI in question, which motivated the creation of this PW.

### CURRENT ORGANIZATION



**Figure 4.** Caption: The organization chart of the General Surgery Department, Oncology and Pathology, provides 7 UU.OO.CC and 4 UU.OO.SS Dip..

Excessive fragmentation organizational inevitably it produces strong criticality in terms of rational use of human resources, also in consideration of the fact that, especially nursing staff, is used according to a logic not departmental.

In addition, particular attention should be given to the presence of n. 7 Directors of UOC and 4 directors of UOS Dip.,

Which inevitably complicate an effective and efficient management of DAI, given the difficulty of a shared program, at least in quick times, causing great inconvenience in solving management problems.

ALLOCATION OF UU. OO RELEVANT TO DEPARTMENT

The Department of "General Surgery, Oncology and Pathology" AOU "G. Martino ", is allocated in three different halls all 'inside the enterprise perimeter.

The UU.OO.CC of General Surgery, Gastrointestinal Surgery General to address General Surgery in Oncology, Urology and UU.OO.SS.Dip. Endocrine Surgery, Geriatric Surgery, Anorectal Surgery, Treatments not resectional in hepato-biliary-pancreatic surgery, they are allocated at the Pad. F and distributed over 4 floors.

The UU.OO.CC. Hematology and Medical Oncology

Hospice with the pad. H.

The UOC Pathology at the pad. D

*General Plan of 'AOU "G. Martino"*

*Sleeps Department General Surgery, Oncology and Pathology*

The new hospital network of the Sicily Region, published in Sicilian Official Gazette on 23 January 2015, provides a total of 96 beds for UU.OO. related to General Surgery DAI, Oncology and Pathology, thus distributed:

**Table 1.** operating costs for the year 2014.

UU.OO	PL
UOC GENERAL SURGERY FOR GASTROINTESTINAL IND	30
UOC GENERAL SURGERY TO IND. ONCOLOGY	30
UOC HAEMATOLOGY	10
UOC MEDICAL ONCOLOGY WITH HOSPICE	14
UOC Urology	12
	96

*Organic supplied*

Name	Director	Total medical No.	REFERRED University	coordinators	Nr. Nurses
UOC PATHOLOGY	1	9	9	0	0
UOC GENERAL SURGERY FOR GASTROINTESTINAL IND	1	16	11	1	14
UOC GENERAL SURGERY TO IND. ONCOLOGY	1	22	17	1	29
UOC HAEMATOLOGY	1	5	2	1	12
UOC MEDICAL ONCOLOGY WITH HOSPICE	1	21	15	2	24
UOC Urology	1	7	3	1	14
UOS DIP. Anorectal surgery	1	3	4		4
UOS DIP. Endoscopic surgery		4	1		4
UOS DIP. geriatric surgery	1	5	5		4
UOS DIP. Endocrine Surgery	1	5	5	1	3
UOS DIP. Treatments not resectional in hepato-biliary-pancreatic surgery	1	1	2		0
TOTAL	10	98	74	7	108

*About DEPARTMENT General Surgery activities, Oncology and Pathology*

In order to better understand the volumes handled by the Dai subject of this work, below we are presented for each UU.OO for such ticket, the cost and the value of production for the year 2014.

Particular emphasis is given to personnel costs and accounted for credit or debit balance. The method used is that of "direct costing".

**Table 2.** Caption: Cost/operating Unit Review of the Department Case Mix.

UU.OO	direct costs	Production value	Balance
UOC Pathology	€ 1058201 (Of which for personnel € 790,045)	€ 1811901	€ 753,699
UOSD Endocrine Surgery	€ 755446 (Of which for personnel € 543,726)	€ 860164	€ 104718
UOSD Geriatric Surgery	€ 1104983 (Of which for personnel € 568,562)	€ 1699447	€ 594.464
UOC General Surgery to Address Cancer	€ 5954808 (Of which € for staff. 2761159)	€ 7473789	€ 1518981
UOC General Surgery for Gastrointestinal Address	€ 2251546 (Of which € for staff. 1596737)	€ 2167750	€ - 83796
UOSD Anorectal Surgery	€ 441042 (Of which for personnel € 374,634)	€ 316176	€ - 124,865
UOSD treatments in non-resective surgery Hepato-Pancreatic-Bilio	€ 158,124.25 (Of which for personnel € 100,960)	€ 364458	€ 206333
UOSD Endoscopic Surgery	€ 610273 (Of which for personnel € 556,914)	€ 769953	€ 159680
UOC Hematology	€ 1895769 (Of which € for staff. 1197268)	€ 3427237	€ 1531468
UOC Urology	€ 2194521	€ 2160263	€ -34,257

UU.OO	direct costs	Production value	Balance
	(Of which € for staff. 1393382)		
UOC Oncology with Hospice	€ 3,758,708	€ 2616251	€ - 1,142,457
	(Of which € for staff. 2589620)		
TOTAL FROM	€ 20183421	€ 23667389	€ 3483968
	(Of which € for staff. 12473007)		

Table 3. Index occupation bed.

UU.OO	CASE MIX
UOSD Endocrine Surgery	1.04
UOSD Geriatric Surgery	1.49
UOC General Surgery to Address Cancer	1.55
UOC General Surgery for Gastrointestinal Address	1.14
UOSD Anorectal Surgery	1.49
UOSD treatments in non-resective surgery Hepato-Pancreatic-Bilio	1.52
UOC Hematology	2.03
UOC Urology	0.89
UOC Oncology with Hospice	1.24
CASE MIX BY MEDIUM	1.37

Table 4. Attractiveness Index % of capacity of the Department Unit of attracting patients from other regions

UU.OO	RO
UOSD Endocrine Surgery	40.55%
UOSD Geriatric Surgery	121.21%
UOC General Surgery to Address Cancer	82.72%
UOC General Surgery for Gastrointestinal Address	57.26%
UOSD Anorectal Surgery	33.01%
UOSD treatments in non-resective surgery Hepato-Pancreatic-Bilio	55.75%
UOC Hematology	112.71%
UOC Urology	80.11%
UOC Oncology with Hospice	102.25%
RO MEDIUM BY	76.17%

UU.OO	Attraction Index	
	A stream	flow C
UOC Pathology		5.28%
UOSD Endocrine Surgery	4.04%	3.62%
UOSD Geriatric Surgery	0.90%	2.37%
UOC General Surgery to Address Cancer	3.16%	2.47%
UOC General Surgery for Gastrointestinal Address	2.56%	1.78%
UOSD Anorectal Surgery	4.62%	6.90%
UOSD treatments in non-resective surgery Hepato-Pancreatic-Bilio	1.72%	
UOC Hematology	4.66%	3.96%
UOC Urology	2.95%	3.70%
UOC Oncology	3.46%	4.53%
UOSD Endoscopic Surgery		6.52%
Attraction MEDIUM BY Index	3.12%	4.11%

## 8. Critical 'Reality' Departmental

The beds, assigned to the OU, are occupied and used, on the basis of the various existing waiting lists, for each of the facilities. The employment index of the places read is inconsistent and has unevenness for all the realities of hospital stay; In fact, periodically, they have OU with all seats occupied and others with vacancies. In addition, the case mix OU is not homogeneous.

There are six nursing coordinators, seven of UOOO directors.

The medical and nursing staff, assigned to the OU, it is not integrated with other realities and specialized diagnostic and therapeutic pathways are not always unique.

Currently, users are assigned and admitted to the same environments, rooms with two, or four beds, in the light of available beds and is not, in any way, given the pathology and the clinical severity of the same. In fact, often, Sick "critical", even with cancer diseases, Sick emergency-urgency, waiting, or undergoing surgery, dependents and with continuous monitoring, are allocated next to Users with less complicated pathologies as well as day dear.

We are convinced that, for efficient health care organization, it is essential to integrate and unify all small and independent health production unit, to increase skills, therapeutic quality responses, adequate and unambiguous.

### Weak elements

- Constant increase in expenditure
- Decrease in economic resources

- Decrease in beds
- increasing average age of users Citizens
- Increase in chronic degenerative diseases "long term care"
- Fragile family structure
- Fragmentation Management Specialists
- Decreased structured Specialists
- cumbersome structural
- problematic logistics
- nursing deficit
- Lack professionals OSA
- Technology and diagnostics with fragmented localization and is not used optimally
- They support inefficient and insufficient
- Inadequate and often conflicting teamwork
- waiting lists
- depersonalization
- Comfort Hotel deficit
- Customer satisfaction insufficient

#### *Elements of the new model force*

- Centrality of user Citizen
- Humanization and personalization of
- Reducing inappropriate hospital admissions
- Reducing hospital days
- use improvement Human Resources
- Best appropriateness, timeliness and treatment planning
- Uniqueness therapeutic protocols
- Optimizing use technology and diagnostic tools
- teamwork implementation
- Reducing costs and time specialist advice
- Enhancement assistance and nursing support
- Improved perception of citizens users of the quality and quantity of care
- Standard safety improvement according to the Joint Commission International criteria
- Procedure objective standardized admission and evidence-based
- Assignments "privileges" - skills to Doctors

## 9. The Project: OVERAL Goal Intensity 'Complex and' the CURE

To establish and measure the level of therapeutic intensity, there are different models, already applied in hospital actually, who consider dimensional complexity parameters, on the basis of which, it is possible to classify the care needs of Citizens users.

We are useful to mention some of the methods adopted in reality international hospital:

- TISS METHOD (Therapeutic intervention Scoring): The TISS provides for the division of Citizens users into four groups (G1-G4), depending on the intensity diagnostic and therapeutic intervention. The rating is determined by the severity of the disease;
- TOSS METHOD (Time oriented score system): load index of nursing work (minutes / 24 h), which considers

only the programmed activities for two classes of users Citizens: T1 "critical", T2 "under observation";

- SWISS METHOD: Assistance is classified into:
  - - Direct,
  - - live,
  - - Hotel.

Indirect and hotel have standard schedule.

To direct the times are derived from statistical surveys and from the patient's type of addiction;

- PRN METHOD (Project research in nursing): is based on a service plan that provides for the attainment of the needs of the user Citizen, using 249 nursing actions grouped into seven groups of needs. At each performance it is given a time in minutes. The method was chosen as the starting point for the CLOC system.
- METHOD "CLOC" encoding welfare benefits and plan of care requirements and nursing workloads. Measuring the time required for carrying out the assistance activities, through the application of Standard Care Plans (PAS), designed for a group of homogeneous and statistically most frequent patients. To cover the needs of all patients, we resort, in addition to custom schedule, to Care Complementary Modules (MAC), the Activity Not Programmable (ANP) and to support activities Indirect (AI). The system provides the operational steps with 6 thematic areas in which nursing services are marked with a code arranged in alphabetical order:
  - AREA 1 basic needs,
  - AREA 2 therapeutic procedures,
  - AREA 3 observation, monitoring the patient's condition, collaborative diagnostic activities,
  - AREA 4 movements of the user and the nurse citizen who accompanies him inside and outside of the OU,
  - AREA 5 indirect support activities that ensure the environmental safety of the citizen,
  - AREA 6 right and duty of training

The use of scores for the evaluation of complex care and workloads, can be a valuable aid for the management of human resources and rationalization of hospital services. Is a multi-system is tested for measuring these quantities, using simultaneously several systems for the calculation of nursing workloads such as: Therapeutic Intervention Scoring System, Nine Equivalents of Nursing Manpower, Nursing Activity Score, Score Omega, Project Research in Nursing, method CLOC and complex care Index. An analysis of the data entered in a database, related to the results of the international literature, it was observed that, the index iteration of complex care and CLOC method, can provide significant information used in this context. The daily welfare complexity index of business unit proved unrelated to the daily times of CLOC. The same complex care index - user (the sum of the complexity of all the days of hospitalization) can be correlated omega discharge score. A system that takes advantage of the interaction of the complex care and Cloc Index seems to represent an efficient tool for nursing management.

LEVEL OF INSTABILITY ' / SEVERITY' CLINIC MEWS  
LEVEL OF COMPLEXITY 'ASSISTANCE IDA



## LEVEL OF INTENSITY 'CARE

Titolo	Anno	Nazione di creazione
<b>AMBRA</b> , Analisi Modelli Bisogni delle Risorse Assistenziali	01/11/2008	Italia
<b>ASGO</b> , Accertamento Stato Generale Paziente Ospedalizzato		Italia
<b>CLIO</b> , Carico di Lavoro Infermieristico in ambito Ospedaliero	01/05/1997	Italia
<b>CLOC</b>	01/01/1998	
<b>ICA</b> , Indice di Complessità Assistenziale	01/01/1999	Italia
<b>MAP</b> , Metodo Assistenziale Professionalizzante	01/01/2003	Italia
<b>Metodo John Hopkins</b>	01/01/1960	Baltimora
<b>Metodo New York</b>	01/01/1953	New York University
<b>Metodo Rhys Hearn</b>	01/01/1970	Australia
<b>Metodo Svizzero</b>	01/01/1975	Svizzera
<b>Metodo Vienne</b>	01/01/1978	Francia
<b>NAS</b> , Nursing Activities Scores	01/01/2003	Italia
<b>NEMS</b> , Nine Equivalents of nursing Manpower use Score	05/05/1997	Portogallo, Italia e Olanda
<b>OPC</b> , Patient Classification System	01/01/2000	Finlandia
<b>PINI</b> , Patient Intensity for Nursing Index	01/01/1988	Baltimora Università del Maryland
<b>Persiceto's Score</b>		Italiano
<b>Rafaela</b>	01/01/2000	Finlandia, Ospedale di Vaasa
<b>SIPI</b> , Sistema Informativo della Performance Infermieristica	01/03/2009	Italia
<b>TISS</b> , Therapeutic Intervention Scoring System	01/01/1974	Boston, Stati Uniti
<b>TOSS</b> , Time Oriented Score System	01/01/1991	Italia
<b>Tri-Co</b> , Triage di corridoio	01/01/2007	Italia
<b>ZEBRA SYSTEM</b>	01/01/1993	Svezia

Figure 5. Caption: Methods of measuring intensity of care and needs of nursing staff.

#### Stakeholders

The production process of administration of therapeutic approaches, tailored to the expectations of the Citizens Register, is improved, both in terms of perceived quality, both for the more 'successful enhancement and job satisfaction of the company's human resources.

#### Organisational Model

The organizational model of the Department of Surgery provides, also, a reshaping of nursing services, in line with the current ministerial intentions, that implement the skills of nursing staff, now, now, a key figure of modern care models.

*Health care surgical production sharing shared health in surgery*

#### Personnel

- CASE MANAGER
- MANAGER RESPONSIBLE FOR MEDICAL CASE REPORT
- NURSE MANAGER
- NURSE COORDINATOR
- UUOO NURSING PATIENT
- MEDICAL TEAM MULTIDISCIPLINARY

#### CASE MANAGER

It 'a graduate in Nursing who are entrusted with the triage hall, information and useful times to ensure consistency, timeliness and continuity of the activities and personalized therapeutic path. Must optimize resources, energy and quality of the work environment.

Coordinates the processes, Aids the physician executive in charge of the clinical case, guarantees continuity of care (acceptance-discharge), it promotes compliance Citizen User and family, reconcile and plan the actions necessary until settlement of the User and family needs, using of available

resources; It ensures the proper delivery of the programmed services, including follow-up, interfaces with the welfare services in the area.

#### MANAGER RESPONSIBLE FOR MEDICAL CASE REPORT

The responsible medical director of the clinical case exercises for direction, controls the intensity appropriateness of care, checks the diagnostic and therapeutic process, implements the narrative medicine procedures, adopt the relevant actions useful to the proper course of treatment, issue instructions and directives and exercises checks, punctual, to 'implementation of the procedures, according to EBM protocols and guidelines, multidisciplinary briefing program for the definition of objectives and the sharing of PDTA (diagnostic and therapeutic plan, welfare and rehabilitation) adapted to the needs of the assisted and family.

#### NURSE MANAGER

And 'responsible for inpatient nursing OU. It manages human resources; implements the organizational mode, coordinates the interdisciplinary working groups and rehabilitation; It manages the processes of information, communication and technological innovation; controls and finalizes the activities of head nurses; It manages the economic and financial resources related to the operation, maintenance and decoration of hospital environments; is responsible for the quality, the improvement of services and continuing education of nurses; He is responsible for drugs and principals report; It organizes regular "clinical audit"

#### NURSE COORDINATOR

And 'responsible for the implementation, management, customization and quality control and shifts of nursing services, Support staff, the assigned level of care intensity;



monitor the implementation of the protocols and care guidelines; prepares reports on "sentinel events";

#### *UOVO NURSING PATIENT*

The Unit Nursing in hospital, in addition to the direct management of the beds / users in day care and outpatient, ensures the welfare nursing needs for high and medium complexity care admissions. The Nursing staff ensures clinical monitoring of vital parameters, ensures the administration, supervision and nursing support for the pharmacological and / or multiple therapies. Assists the medical directors in complex dressings, educates users on self-management of principals, prosthetics and ostomy. It provides for early ambulation Users postoperatively. Supervises, controls, participates, together with the OAS staff, with good hygiene practices of admitted users.

Nurses Unit 'Operative Nursing inpatient:

LEVEL 1 8 beds, nursing staff: 24

LEVEL 2 8 beds, nursing staff: 12

LEVEL 3/4 40 beds, 44 nursing staff

DAY CARE 10 beds, nursing staff 5

OSA staff

#### *MEDICAL TEAM MULTIDISCIPLINARY*

The growing super specialization of medical branches and the consequent fragmentation of the professional skills of medical directors, imposes the need to ensure the "gold standard" diagnostic and therapeutic, intervene, simultaneously, more specialists in collaborative arrangements and sharing of routes, the achievement of the optimal treatment results.

#### *ORGANIC MEDICAL OFFICERS*

We expected, for the planning and administration of surgical therapies, a "Standard Surgical Team" composed of seven Doctors executives with the following specializations:

- surgery 2
- Cardiology 1
- anesthesia 1
- Radiology 1
- Internal Medicine 1
- Oncology 1

To "Standard Team", based on the peculiarities and reached professional skills, are assigned, no more 'than 10 customers, that need of diagnostic and therapeutic, aimed at a certain type of surgical treatment, video-laparoscopic or open (emergency, brest, colon, hepato-biliary, endocrine, morphologic surgery etc.).

Referring to 60 beds available for surgical therapies (the other 36 are for oncological-hematological therapies), in the Department of Surgery dell'AOU "G Martino", needing six Standard Surgical Team, a total of 42 specialists:

• SURGEONS	12
• CARDIOLOGISTS	6
• ANAESTHETISTS	6
• RADIOLOGISTS	6
• INTERNIST	6
• ONCOLOGIST	6

#### *STAFF NURSES*

To determine the number of nurses needed to ensure continuity of care quality, they used two methods, synthetic and analytical, which, by the results in the literature on organizational models and inspection, ensure good responsiveness to the need for human resources to be used:

- **SYNTHETIC METHOD** (Top Down / political approach): the total amount of hours worked (articulated for professional qualifications), is divided by the final products obtained (users). This approach defines the needs, for large areas, using indicators such as IP (nurses) X PL (beds);

- **ANALYTICAL METHOD** (Bottom UP / technical approach):

it quantifies the score of performance required to meet certain needs (Complexity Index of Welfare) and the time needed; the sum of the measured times determines the load of work needed.

Nurses necessary, to ensure the efficiency and quality standards, to be distributed according to the needs of intensity (level), there are 23 units / turn: PL

- LEVEL 1 PL 5 IU 5
- LEVEL 2 PL 10 IU 5
- LEVEL 3 PL 20 IU 7
- LEVEL 4 PL 20 IU 5
- DAY CARE PL 5 IU 1

#### *RULES 'OF CALCULATION REQUIREMENTS NURSE*

To calculate the amount of human resources to devote to nursing services, consider the following parameters:

- Beds
- average occupancy
- Case mix index
- hours per shift
- days year
- Average hours of work
- Minutes / service / user / day
- staff Total units

It 'also important to emphasize that, from an article published in 2004 on AHRQ Research magazine, it shows that we must not limit itself to considering only the costs of adequate care, because "inadequate nursing presence leads, inevitably, adverse events (infections pneumococcal, trophic ulcers, urinary tract infections, wound infections, falls, errors in the administration of drugs) that considerably increase the costs of hospitalization."

#### *RISKS*

The undeniable advantages, now universally verified, offered by the intensity model of care, may result, at least initially, the organizational and management problems, you can avoid using effective methodological tools, such as FMEA (Failure Mode and Effects Analysis), which is analysis of risk or product, which evaluates the quality, identifying and considering the risk factors.

Among the statistically significant risk include:

- Effect "street / go" (sudden change of doctors and nurses)
- errors increase (user identification, counseling, therapy traceability)
- Difficulty in communications (deliveries)
- Dilution of responsibilities

- Absence of reference points
- Loss of continuity of care
- Conflict interprofessional
- Lack of role clarity between professionals
- organizational difficulties
- Loss centrality of customer / user than the organizational system

Factors that interfere with the performance of care and affect the quality of care are:

- The external environment, (Customers, size regulations, socio-cultural, institutional, etc.).
- The management and the organizational and management aspects
- The working environment
- Operators and staff
- The type of care activities

Two Scandinavian researchers, Silen and Lipponen, have synthesized the categories to plan the sharing of responsibility for recognizing hazards and work organization:

- **SHARED RESPONSIBILITY IN TEAMS** (Responsibility in recognition of the risks):

*Three sub-categories:*

- FAMILIAR TEAMS**, that creates stability in the team, through the sharing of skills and advanced planning of activities;
- CONTROLLING SAFETY**, It allows control of security with continuous monitoring, timely correction of errors and prevention of even potential risks;
- FORMAL DOCUMENTATION OF ERROR**, Is the reporting of adverse events
- ORGANIZED TEAM WORK** (Labor Organization) four subcategories:
  - SCHEDULING** or work scheduling with order and schedule of activities and active dissemination of knowledge
  - COMPETENCY**, Enhancement of personal and professional skills in a context of accountability of their professional growth
  - MANAGEMENT** which provides for the assignment of experienced staff for each team, ensuring a high level of education and motivation
  - PHISICAL ENVIRONMENT** or physical environment, considering the size and accessibility of the premises and proper use and provided the equipment management

*specific objectives, INDICATORS RESULT EVIDENCE*

The assistance intensity of care improves and maximizes the benefits of the diagnostic and therapeutic approaches, with the same resources employed. It puts in place welfare quality standards, thanks to the multidisciplinary nature of busy professionals, who, with specific skills, make effective and efficient health paths, ensuring the centrality of the User. At the same time they are measured the professional skills of nursing staff. Improves the employment index of the places bed and sizing of the nursing team on the basis, not the number of beds, but the severity of the conditions of the Users. It allows you to define and streamline the lines of welfare activities and develop an adequate logistics to optimize the

flow of disbursements of assistance and care, without obstacles or complications, with reduction of waste.

In the US was used the name as an acronym Hospital seven joint-consuming situations:

- H = Halting, Take stops the production, for example by breaking an apparatus or without use of an operating room;
- O = Overproduction, the example of many unnecessary preoperative examinations;
- S = Slips, Involuntary behavior errors;
- P = Processes not well structured, fragmented and not fluent;
- I = Inventory, Store more than necessary filled with accumulated waste;
- T = Transportation, Continuous handling of reports, patients and another without organized flows;
- A = ActionThe continuous movement of poorly coordinated between them operational. There is talk of Waste-movement, ie of waste movement;
- L = Lack of Involvement, The lack of involvement of operating, which are never heard in the meeting process improvement.

## 10. Methodology Planned

In the first testing phase, lasting 12 months, there are no structural interventions. The system will be adapted to the existing hospital. They will start training courses, specific to professionals, to deepen the concepts of "intensive care and teamwork."

E 'will be a "control room" of coordination, both to accompany the Users at the diagnostic evaluation and treatment, both assigned to the same team of professionals who will provide for appropriate care treatments. The courses will be recognized and also identifiable by color:

- |               |                        |
|---------------|------------------------|
| • AREA RED    | HIGH INTENSITY 'CARE   |
| • AREA ORANGE | MEDIUM INTENSITY 'CARE |
| • BLUE AREA   | LOW INTENSITY 'CARE    |
| • LILLE AREA  | DAY CARE               |

Moreover, the "control room" is awarded the "dashboard" of performance indicators ".

## 11. Conclusion

*Records from actions*

*Training*

The training projects provides monthly and periodic meetings on thematic areas relating to:

- implementation of organizational models for care (Intensive Care intensity, High Care, care Low, Week hospital, Discharge Room, Admission Unit)
- implementation of care models for meeting the costs and planning (primary nursing, nursing diagnosis and care planning second model NANDA - NIC-NOC)
- competency profiles for intensive care (distinctive profiles)
- profiles of advanced expertise in the management of processes and pathways (case manager - primary nurse)
- implementation tools for the detection of complex care

- implementation of multi-professional integration tools
- welfare organization: support to the work teams

The Health Department of the Company, under a mandate of the General Manager, promotes the conduct and development of the work, with the collaboration of the Directorate of Medical Presidium, the Nursing Service, the medical executives of Department of Surgery, Oncology and Pathology.

In developing the design phase, the specific objectives are:

- identification of different complexity classes of social care and intensity,
- correct identification of specific standards of care,
- identification and development of a predictive model for the proper management of the customer in urgent / election, in the context of the new model of care,
- Identification of the correct degree of responsibility and autonomy of all professional groups involved in the customer management,
- orientation and multidisciplinary approach to customer satisfaction.

#### PHASE 1

The month of October 2015 will start the design work, by setting up six working groups interprofessional that will have to deal with:

- a. patient areas;
- b. daytime areas, pre-admission and pre-discharge;
- c. operating rooms;
- d. criteria for admission and discharge of various levels: high care (intensivo-subintensivo), long surgery, surgery week, day care.
- e. new PDTA (diagnostic and therapeutic care pathways), an essential element of the model.
- f. creation of an IT platform, Shared on the company intranet, for comparison on the documentation (relevant literature, benchmarking data, experiences of other health organizations) and the material produced by the various working groups (documents, minutes).
- g. The membership of the working groups should be voluntary. At the invitation formulated by the Director of the Department, no numerical limit of participants for broader participation and sharing.

#### PHASE 2

After the first project phase, followed by a period of six months, aimed at the contextualization of the project in the company. Such activity should produce an application project plan, produced by the working groups.

The project and its implementation phase will be presented to various institutional bodies, even to catch any suggestions for improvement.

#### INNOVATIONS ESPECTED

The project, coordinated by the company's medical director, with the collaboration of the medical supervision of the Directorate and the Directorate of Health Professions, will be launched in October 2015 with the aim of developing an operational framework for:

- better answers to users;
- reduce the paths of those assisted optimizing time and improving safety;

- encourage more efficient and value-adding management human resources and professional skills.

Some indicators of efficiency and effectiveness of health care (average stay, the turnover indices, pre-intervention admissions, readmissions Goddess) and some welfare outcomes (pressure ulcers, patient falls, home resignation) will be reviewed and monitored on a monthly basis. They will be implemented evaluation procedures on work-related stress, and monthly tests, for the first six months and then every year, to check the progress, over the previous year, sentinel indicators such as:

- absences indices,
- requests transfers,
- occupational health visits
- professional satisfaction, with "focus group" targeted.

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