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Taking action to improve health for all

Calculating Staffing Needs in the Italian National Health Service

DM 24/01/2023, issued by the Ministry of Health and the Ministry of Economy and Finance, according to the State-Regions Agreement Rep. 267/2022 of 21/12/2022

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*Nurse – Staffing needs, standards and organizational models of HWF Unit
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In Italy…

The last significant HWF planning standard was introduced in 1988 with the model proposed by the Minister Donat Cattin, which contributed to the development of systematic approaches to estimating workforce needs

Evolving health needs, an ageing population, resource limitations, and the pandemic have underscored the importance of updating HWF planning

In response, the Italian Ministry of Health (MoH) tasked AGENAS to set up a working group to develop a methodology to calculate staffing needs for the National Health Service (NHS), aiming to standardise the planning criteria for HWF to meet care needs and ensure the delivery of high-quality care.

Roadmap

Article 1, c. 269 lit. c) from the L. 30 December 2021 n . 234

From the year 2022 the 5% increase in the regional healthcare fund is subject to the adoption of a methodology for determination of the requirement of staff of entities of the SSN

01 Art. 11 of the law decree n.35/2019
04/2019

02 Set up an Agenas internal working group
04/2021

03 Creation of a new working group (MEF, MoH, Public and Private Health, University)
02/2022

04 Sharing and sending the Methodology to the MEF and MoH
06/2022

05 Approval of the methodology in the State-Regions Conference
12/2022

06 Publication decree
24/01/2023

07 Start of new pilot with 10 regions (data 2022)
02/2023

08 Setup of small working groups and application migration on internal Agenas server
03/2024

09 Start of MEF flow of hours worked (year 2023)
05/2024

Testing and application of the Methodology with each Region

HOSPITAL CARE

TERRITORIAL HOME CARE

DATA INPUT: a database was set up to correlate the data in the flows

HSP11-11bis-12
registry of public hospital establishments
HSP13
accredited private hospitals

Table C
registry of disciplines/wards unit in each hospital

DRG SDO
diagnosis-related group
Hospital Discharge Records
as an activity measure

Outpatient services
art 50 L 326/2003
Hospital Outpatient Care Data
as an activity measure

Regional data
Worked hours aggregating by operational unit and professionals/speciality in relation to the organization designed by DM 70/2015

Number of births

Number of beds in intensive care unit

Number of operating room sessions

Role in the EMUR-emergency network

HWF involved and areas

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MEDICAL STAFF

All the specializations

HEALTHCARE PROFESSIONALS

- Nurses (including Pediatric Nurses)
- Midwives
- Biomedical laboratory health technician
- Medical radiology health technician
- Social and Health Workers

- Other Services
- Emergency and Urgency Area
- Operating Room
- Intensive care
- Maternal Infant care

In-patient Operating Units

- Medical Area
- Surgical Area
- Critical Area
- Post Acute Area
- Mental Health Area

MEDICAL STAFF: Inpatient Operating Units

Personnel Allocation Analysis

Personal Need Analysis

1 Calculation of Department ACTIVITIES	2 OUTPATIENT ACTIVITY	3 Calculation NEED	4 *Check minimums*
Request of **hours worked by doctors for each discipline**. Association of the hours to the respective **operating units** present in the SDO flow with the relative DRG weights. FTE calculation (hospital care hours worked / **1.560** annual hours for doctors).	Calculation of hours dedicated to hospital activity: reduction of the **hours worked** for discipline applying a percentage attributable to the **outpatient activity** carried out.	Calculation of the range of accettability (**minimun and maximum** values) on the basis of the level of production (DRGs). Application of the minimum and maximum weights according to the DRG weights produced per discipline. Realignment of equipment within the range.	Comparison between the medical staff allocation defined by the Region and medical staff needs calculated by the methodology. Re-allocation of FTE for the provision of outpatient services.

The Regions were requested to provide data on hours worked for the assistance of employees (permanent, fixed-term), non-university employees and non-employees with other forms of contract.

Inpatient Operating Units

The heathcare professionals needs are defined on the basis of the regional organization for hospital care (regional hospital care planning documents)

Definition of the **MINUMUM NUMBER OF HEALTH PROFESSIONALS** in order to guarantee the provision of care for each discipline.

For time-dependent hospital care (cardiology, neurology, orthopedics), the minimun number of professionals takes into account also the regional role of the hospital

Additional number for **DIRECTORS** of complex units and **DIVISIONAL GUARDS**.

Additional health professionals needs are defined on the basis of the **LEVEL OF PRODUCTION (DRGs)**.

A range of acceptability has been defined: over the range, the number of professionals could be considered too high, under the range, the number of professionals could be insufficient.

HEALTHCARE PROFESSIONALS
Nurses and Social Health Workers (OSS)
Inpatient Operating Units

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Personnel Allocation Analysis

Personal Need Analysis

1 Calculation of Department ACTIVITIES

Request **Hours worked** for personnel grouped by macro-assistance area (homogeneous area).

- *Association of the hours to the respective operating units present in the HSP flow considering a 90% occupancy rate.*

FTE calculation (hospital care hours worked / **1.450** annual hours).

2 Calculation of INPATIENT NEED

Calculation of the **minimum and maximum endowment range**

- *Application of the minimum and maximum minutes/ patients /day.*

3 Calculation of OUTPATIENT NEED

Calculation, by macro-area, of a percentage for **ambulatory activity**

- *Calculation of specific percentages relating the percentage of each discipline to the number of beds in the macro-area.*

4 *Calculation of TOTAL NEED*

Calculation of the total need by adding :

- *Inpatient need and outpatient need*
- Counting of **1 coordinator** for every 30 beds.

Minutes of daily assistance of the nursing staff for hospitalization activities

Homogeneous Area	MIN HUB	Median HUB	MAX HUB	MINSpoke	Median spoke	MAX spoke
MEDICAL	205	255	335	175	220	380
SURGICAL	175	190	260	175	190	220
CRITICAL	700		825	700		825
MENTAL HEALTH	240	290	360	255	300	365
POST-ACCUITIA	125	130	200	125	130	155
SUB-INTENSIVE	330		360	330		360

OSS daily assistance minutes for hospitalization activities

Homogeneous Area	MIN HUB	Median HUB	MAX HUB	MIN Spoke	Median spoke	MAX spoke
MEDICAL	75	90	105	60	65	90
SURGICAL	60	65	85	60	65	70
CRITICAL	90		175	90		175
MENTAL HEALTH	85	95	110	55	70	85
POST-ACCUITIA	85	95	150	70	75	105
SUB-INTENSIVE	80		90	80		90

minutes for nurses and OSS

** For surgical area and critical area, only the hours classified in these two areas have been considered, excluding the hours of disciplines which by DM 70 would fall within these areas but which are sent separately to other activities (BO, Intensive Area and PS).*

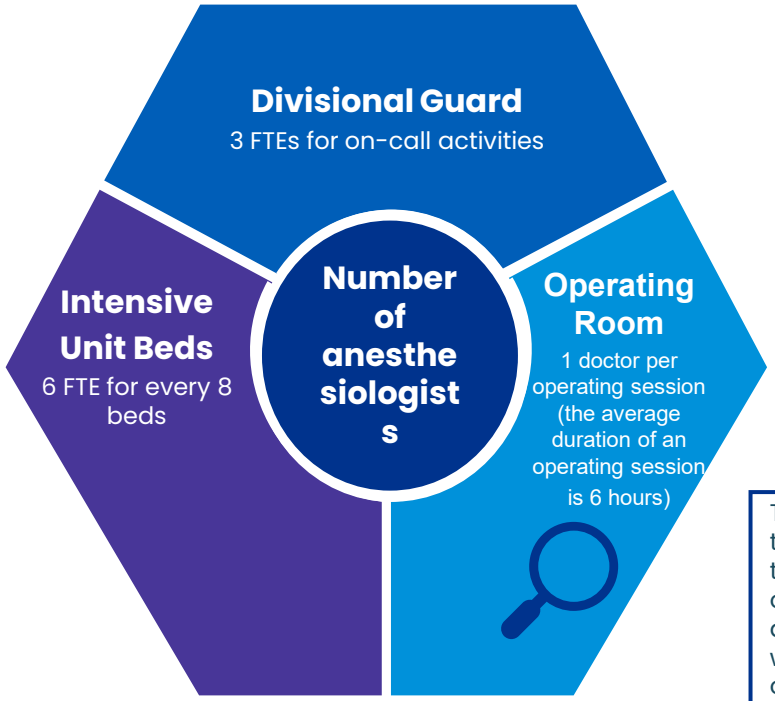
Maternal Infant Area

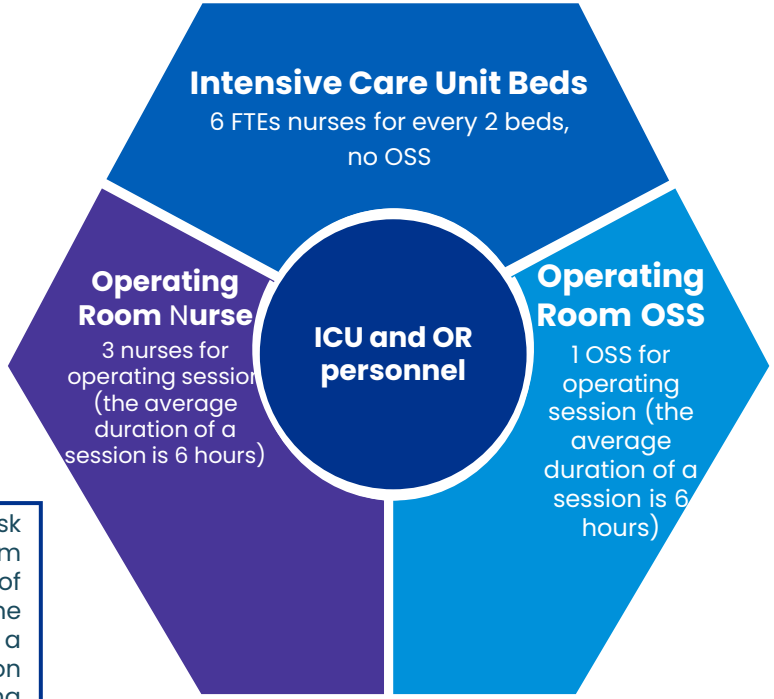
	N. of births		
FTE	500-1.500	1.501-2.000	>2.000
Pediatricians	6-13	13-18	15-30
Gynecologists	6-13	13-18	15-30
Nurses	12-36	18-46	40-80
OSS	6-12	12-18	18-30
Midwives	12-24	24-33	33-60

NB: Where the plant, despite having hours, had a number of parts <500, it was assimilated to Class I

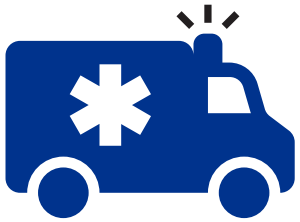
Based on the activity carried out by this professional figure, the methodology calculates the need of **midwives only** for the **Maternal and Infant Area** in relation to the number of births for each hospital.

Intensive Care Area





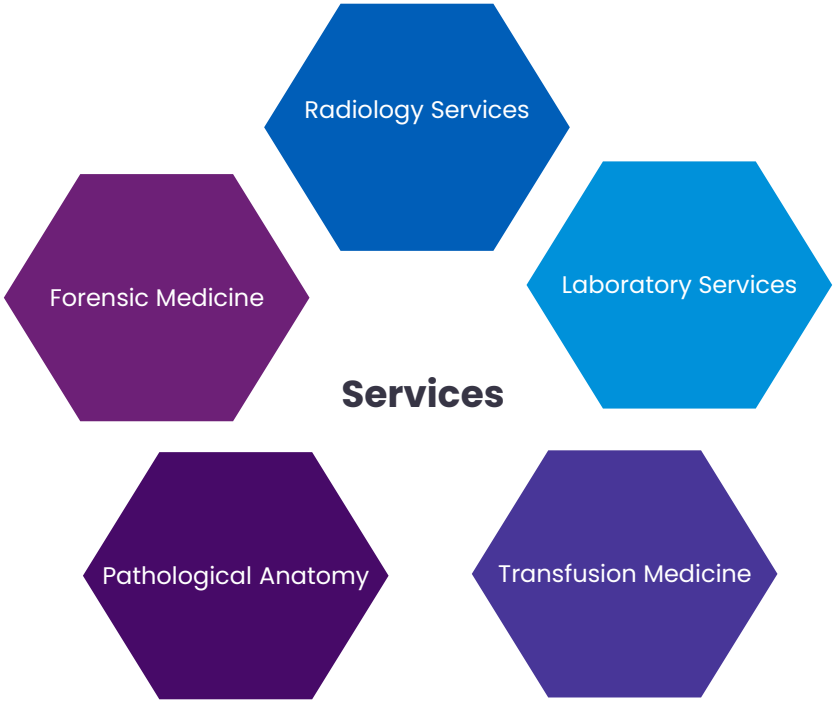
To check data we ask the Regions to confirm the number of operating rooms, the days of activity in a week and the duration of each operating session



Emergency and Urgency Area

Hospital typology				
FTE	**PPI**	**PS**	**DEA I**	**DEA II**
Doctors	3-6	6-14	12-24	24-40
Nurses	6-12	12-18	16-48	48-70
OSS	3-5	3-5	6-10	9-12

Other Services



For this services, the methodology calculates the minimum and maximum FTEs by assigning fixed ranges, in relation to the role of the hospital in the emergency network:

- Basic Hospital
- I Level Hospital
- II Level Hospital

Higher level hospitals admit more patients and have more services. Their needs of professionals will be higher.

FTEs for services (doctors and other – biologists, physicists, chemists)

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	Type of Service	Basic care Hospital	I level Hospital	II level Hospital
		N. FTEs (H24)	N. FTEs (H.24)	N. FTEs (H.24)
Assisted people		80.000 – 150.000	150.000-300.000	600.000 -1.200.000
Doctor	Radiology	2-7	4-18	16-55
Doctor and other professionals	Laboratory	0-6	4-20	18-38
Doctor and other professionals	Transfusional	0	1-6	3-16
Doctor and other professionals	Pat. Anatomy	0-3	0-8	3-14
Doctor	Forensic Medicine	0	1-2	1-3
Doctor	Health management direction	0	2	2

Nurses

Service	Basic care hospital	I level hospital	II level hospital
	FTEs (H24)	FTEs (H.24)	FTEs (H.24)
Assisted people	80.000 – 150.000	150.000-300.000	600.000 -1.200.000
Radiology	0-3	3-12	10-40
Laboratory	1-2	2-4	4-9
Transfusional	0	3-4	5-6
Anatomia Pat.	1	1	1-2
Forensic Med.	0	1	1-2

OSS

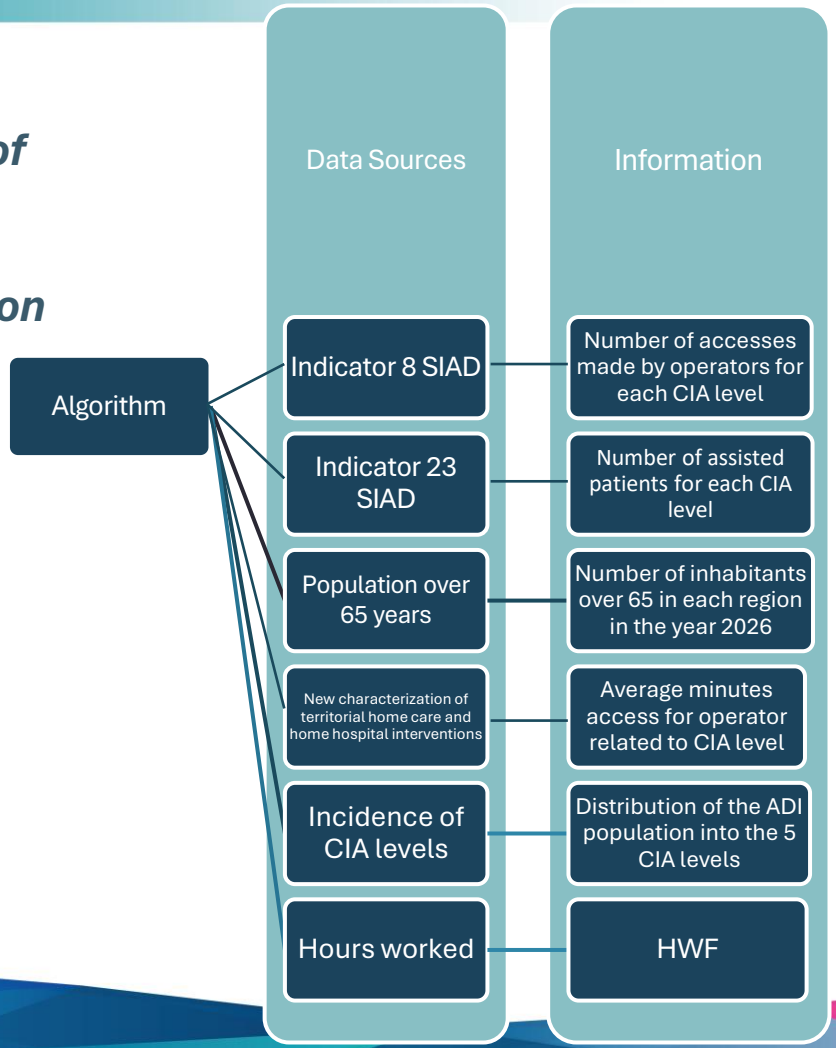
Service	Basic care hospital	I level hospital	II level hospital
	FTEs (H24)	FTEs (H.24)	FTEs (H.24)
Assisted people	80.000 – 150.000	150.000-300.000	600.000 -1.200.000
Radiology	1	1-2	2-5
Laboratory	1	1-2	2-3
Transfusional	0	1	1
Anatomia Pat.	1	1	1-2
Forensic Med.	0	1	2-3

The need for other professional figures

Technicians

Service	Basic care hospital	I level hospital	II level hospital
	FTEs (H24)	FTEs (H.24)	FTEs (H.24)
Radiology	4-18	10-36	36-110
Laboratory	6-20	10-50	45-130

The algorithm for determining the need of nurses and physiotherapists for home care was based on following data



CIA = Care Complexity Index
SIAD Flow = the information system for monitoring home care activities

The calculated need is then related to the national standard for each professional figure:

- 0,9 FTE nurses for 1000-over 65 years old inhabitants
- 0,2 FTE physiotherapists for 1000-over 65 years old inhabitants

KEY MESSAGE

Italy has an efficient methodology as a tool that provides the new staffing standard at the national level to forecast professional needs and support training and organisational planning, reducing the risk of shortages.

With the methodology at both national, regional and hospital level, it is possible to take a precise and accurate photo of the real needs.

Throughout the Country it is possible to define the minimum standard for ensuring quality, equity of services and safety of care.

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THANK YOU

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