Decentralisation and investment, how the Italian response to citizens‘ health needs is changing

G. F. Gori (IRPET), L. Grazzini (Unifi), P. Lattarulo (IRPET),
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“Health needs and resources: allocation and measurement issues”
10 novembre 2023

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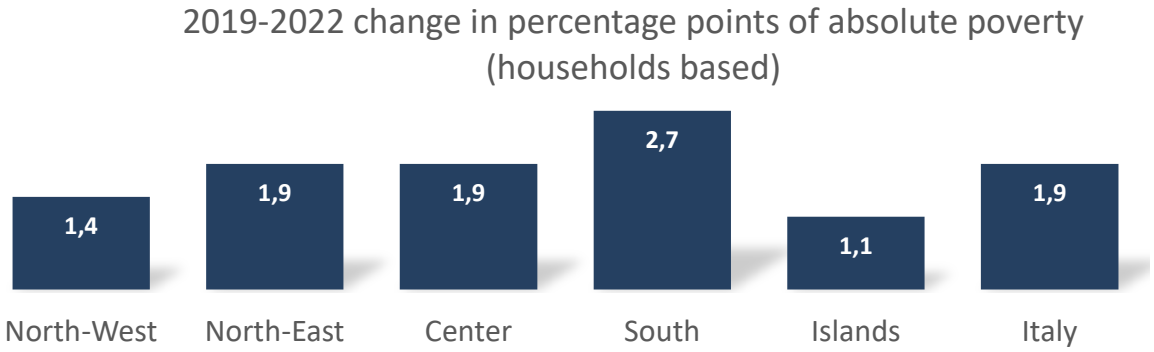
Back to the Covid – 19 pandemic: what did we learn from that experience?

1. Emergence of the **latent demand for safeguard**, and the recognition of a new focus on public service;
2. Evidence of the excessive **impoverishment** of the healthcare system inherited from the past financial constraints, and need for a more resilient, patient-centered and sustainable healthcare system;
3. Growing and unbearable **territorial disparities** (especially for Regions under the Recovery plan), such that Regions faced the pandemic with different levels of capabilities. Covid-19 led to an increase in territorial disparities, which are still widening, despite the most affected areas being in the north of the Country



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Healthcare as a “common good" or "global public good" become the new guiding principle

The **Pandemic** highlighted that the level of health of a population has effects out of the local borders =>

- Negative externalities caused by disease are worldwide
- Positive and negative externalities due to the health policies adopted by a single territory have repercussions on others

Regardless of their level of wealth, all territories have interest in ensuring that epidemic containment policies are efficient everywhere, in order to reduce negative external effects as much as possible. Improving the effectiveness of policies in less performing territories:

- increases the welfare of residents of those territories (direct effect);
- increases the welfare of the entire population (indirect effect).

1. RRP, M6 community services and digitalization

RRP and regional disparities, the financial balancing after the investiments

The Recovery Resilience Plan (RRP) consists of resources and reforms

Main goals:

- Strengthen prevention and community health services;
- Modernize and digitalize the healthcare system;
- Guarantee equal access to care and territorial rebalancing between North-South.

Mission 6 is divided into two components M6C1 and M6C2:

- **M6C1** -> Community-based care and telemedicine (7 billion euros),
- **M6C2** -> Innovation, research and digitalisation of healthcare (8.5 billion euros).

RESOURCES (15bn+3)

Mission/sub-mission

M6 C.1 *Case di comunità/Ospedali di comunità/Centrali operative integrate* / Integrated home care/Telemedicine

M6 C.2 Reinforcement technological information and forecasting systems / Strengthening research / Human capital

REFORMS

The main reform specifically concerns territorial assistance: on the one hand, through the promotion of a new organizational model for the primary care network (identification of structural, technological and organizational standards in all regions) and, on the other hand, a new institutional structure for prevention in the health, environmental and climate fields.

A second reform (M6C2) concerns scientific hospitalization and treatment institutes (IRCCS), thus strengthening and structuring scientific research in the healthcare sector.

From *Case della salute* to *Case di Comunità*

The starting conditions for the implementation of the RRP Mission 6 are not identical even with respect to territorial services.

- Emilia-Romagna, Toscana, Veneto, Marche already activated *Case della Salute*;
- Some Regions already achieved targets above the RRP goals;
- Campania, Puglia, Lombardia, Trentino, Valle d'Aosta and Friuli never included *Case della Salute* in their territorial governance before the RRP.

	Target regionale, numero di Case della comunità	Case della salute dichiarate attive (anno 2020)	Differenza
Piemonte	82	71	11
Valle d'Aosta	2	0	2
Lombardia	187	0	187
PA Bolzano	10	0	10
PA Trento	10	0	10
Veneto	91	77	14
Friuli-Venezia Giulia	23	0	23
Liguria	30	4	26
Emilia-Romagna	84	124	-40
Toscana	70	76	-6
Umbria	17	8	9
Marche	29	21	8
Lazio	107	22	85
Abruzzo	40	n.d.	n.d.
Molise	9	6	3
Campania	169	0	169
Puglia	120	0	120
Basilicata	17	1	16
Calabria	57	13	44
Sicilia	146	55	91
Sardegna	50	15	35
Totale	**1.350**	**493**	**857**

Fonte: decreto del Ministro della Salute del 20 gennaio 2022; Camera dei Deputati, Servizio studi Affari sociali (2021), "Case della salute ed Ospedali di comunità: i presidi delle cure intermedie. Mappatura sul territorio e normativa nazionale e regionale", Documentazione e ricerche, n. 144, 1° marzo.

Empirical evidence: Wide variability in effects between territories and Health Houses

Case della Salute → Impact on healthcare indicators

Nobilio, Berti, Moro (2020). Valutazione di impatto delle case della salute su indicatori di cura 2009-2019. Dossier 269. Regione Emilia Romagna.

- Metodology:
  - Multilevel analysis + difference in differences analysis on a panel dataset of the Emilia-Romagna Health Care System;
- Variables:
  - Response:
    - Outcome indicators (Emergency Department visits, hospitalizations for conditions sensitive to outpatient treatment, episodes of home care).
  - Indipendent:
    - Explanatory: patient exposition to CdS;
    - (Level 1) Individual patient characteristics;
    - (Level 2) territorial characteristics;
    - Other controls: transition year, post-CdS period, GP in CdS.

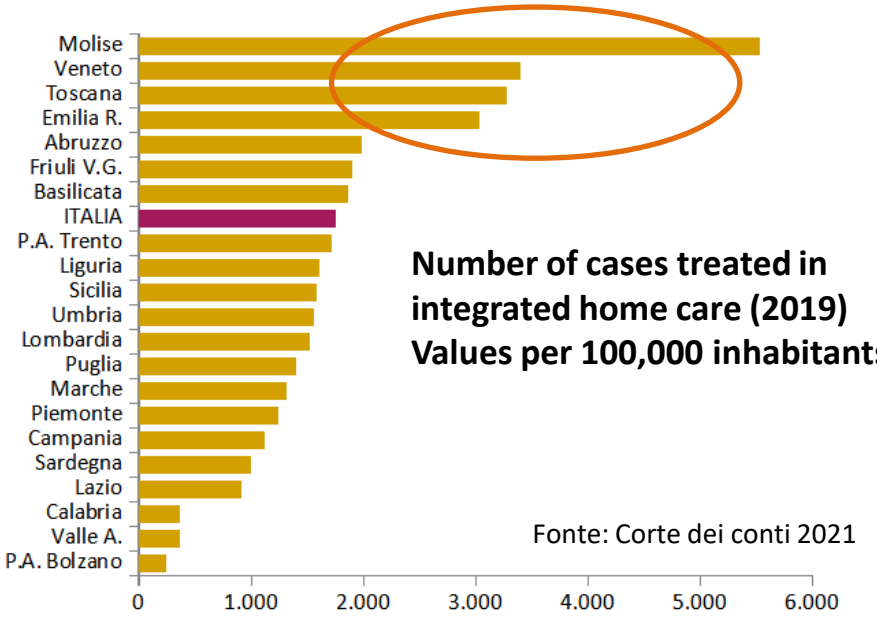
- **Results:**
  - **Significant and constant reduction in Emergency Department visits** (-16.1%);
    - -25.7% if the patient is followed by a GP with an outpatient clinic in the Casa della Salute;
  - **Reduction in hospitalization** for conditions sensitive to outpatient treatment (-2.4%);
  - **Increase in episodes of integrated home care** (+9.5%);
  - Wide variability in effects between territories and Case della Salute:
    - Organizational models;
    - Territorial characteristics.

Territorial healthcare. The system of territorial continuity of care and socio-health integration

Territorial healthcare services:

- Regional clinics, Case di Comunità, Ospedali di Comunità;
- Non-self-sufficient services: Assisted healthcare residences (mostly private), rehabilitation facilities, home care;
- GP and paediatricians, continuity of care and emergency doctors, local nurses.

The number of **cases treated in integrated home care** doubled in the last 10 years, but concentrated in a few regions.
The RRP goal is to take charge of home care **10% of the Italian population over 65 at home by 2026**, i.e. at least 800 thousand more people. Today the Italian average is 5%.



Number of cases treated in integrated home care (2019)
Values per 100,000 inhabitants

Fonte: Corte dei conti 2021

Covid-19 actions:

- 9,600 expected activations of community nurses, of which 11.6% actually implemented
- Special continuity of care units (USCA) -> effective activation approximately 50%

First warning of the difficulties of addressing this task (because of lack of health care personnel), beyond the available resources

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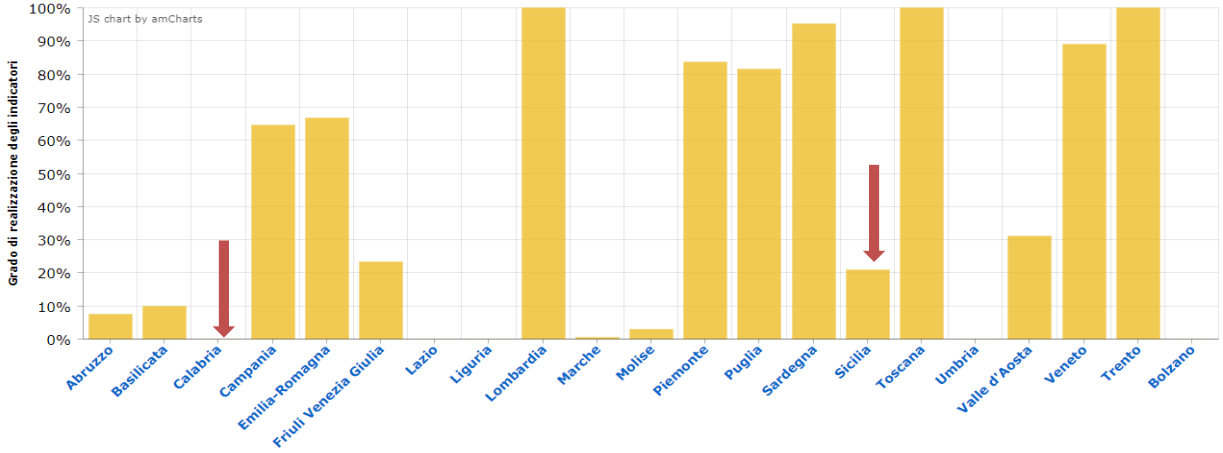
Electronic Health Records (EHR) – Implementation and use by the healthcare system

There was a strong acceleration in formal implementation throughout the national territory, but there are still large discrepancies in both use and implementation

«Aziende Sanitarie» usage monitoring indicator for all regions.
Health workers qualified for the EHR



The **autonomy of the SSRs at regional level** led to develop different softwares and digital solutions, not always compatible. For this reason, the **Coordination Table for the Interoperability of Information Systems** was established.
To date, the Table highlights:

- Lack of homogeneity in the services offered and in the documents that feed the EHR
- Different architectures (12 Regions (60%) adopted the «Central registry and distributed repository model»; **forced by Covid and RRP,** the 4 subsidiarity Regions (Abruzzo, Calabria, Campania and Sicily) adopted the FSE_INI model managed by the MEF; 4 not in subsidiarity Regions use the «Registry and Centralized repository»)

Telemedicine (e-visits), impact on the frequency of traditional visits and on patient health

Hessam Bavafa, Lorin M. Hitt, Christian Terwiesch (2018). The Impact of E-Visits on Visit Frequencies and Patient Health: Evidence from Primary Care. Management Science 64(12):5461-5480.

- Metodology:
  - Difference in Differences analysis + instrumental variable analysis (two stage procedure) applied to a panel dataset created for a large US healthcare system;
- Variables:
  - Response:
    - Frequency of monthly physical visits**,** monthly phone visits, health outcomes (blood glucose and cholesterol levels**)**.
  - Indipendent:
    - Explanatory: patient e-visits adoption
    - Controls: month, year, fixed effects (doctor characteristics, patient characteristics)

- **Results for USA**: **controversial effects**

- **The adoption of e-visits increases the frequency of clinical visits**;
- The adoption of e-visits by the GP leads to a **15% reduction in the monthly number of new patients**;
- The impact depends on the **characteristics of the healthcare system** :
  - At capacity and non-at-capacity systems (based on the number of patients per doctor);
  - Compensation scheme for GPs: capitation fee vs fee-for-service.

Will technological innovation assure lower costs of services and future financial sustainability?
At least must be accompanied by skills, competencies, cultural modernization

Telemedicine experiences in Italy are only at a very experimental level

- **369 esperiences**;
  - **Lombardia (66), Lazio (61), Veneto (52) are the most active regions** (by number of specific experiences and experiences impacting chronicity).
- Typology:
  - **43% televisit;**
  - 37% telemonitoring;
  - 35% medical teleconsultation.
- Main goal:
  - Emergency **COVID-19** (213);
  - Ensure access to remote/rural areas(134);
  - Patient Empowerment (129).
- Main Actors:
  - Medical specialists (342);
  - Health professions (217);
  - General Practitioners /PLS (66).

- Recipients:
  - Type of patients: chronic patients (41.18%), acute patients (23.72%), chronic patients undergoing post-acute stabilization (17.8%);
  - Age range: 65-74 years (25.5%), 18-64 years (24.84%), over75 (23.62%).
  - 93% active experiences;
  - **Only 11% of the Telemedicine services are institutionalized at regional level**
  - **In 33% of cases there is a report evaluating the clinical effectiveness;**
  - **In 78% of cases the financing is non-dedicated and non-regular; only few cases can rely on regular financing**

Ministry of Health – Mappatura esperienze di Telemedicina (2019-21)

There is still no visible impact of the implementation of telemedicine services compared to the objectives of DM-77 (Ars Tuscany 2023)

3. RRP, governance

Can the current governance of RRP meet the objectives?

RRP Governance – Relationship between the Central State and the regions

- Regions are the implementing entities, and the Ministry is the titular entity.
- Institutional Development Contracts Model. Once the resources have been allocated and objectives shared, each Region stipulates an **Institutional Development Contract (CIS)** with the Government, an agreement representing the instrument which binds the parties to implement what has been agreed, accompanied by an **Operational Plan**, articulated into an **Action Plan** for each intervention line and detailed **Intervention Sheets** for each sub-objective (Legislative Decree 05.31.2021, art. 56). To date, all Regions have subscribed the CIS within the required time frame (30.3.2022).
- The digitalized process offers a guided structure, through information collection schemes, specifically prepared with the aim of giving transparency to each step and each single implementation (Ministry of Health, 2022).
- Different models of co-financing for Regions. An example is represented by Community Health Centers (Case di Comunità), to which 70% of the regional co-financing is allocated. In this area, also municipalities participate through direct investments. A peculiar co-financing takes place in Veneto, with the inclusion of private partners.
- Some projects recover existing programs, others are implemented from scratch.

The distribution of resources between regions (values in millions of euros)

Source: Elaborations on the Ministry of Health Decree of 20 January 2022 and the Ministry of Health

Regions	C1	%	C2	%	National Health Fund Share
Piemonte	202.885.200,93	6,33%	321.860.717,03	6,65%	7,37%
Valle d'Aosta	5.740.030,24	0,18%	9.295.682,05	0,19%	0,21%
Lombardia	462.831.828,03	14,44%	729.930.617,11	15,09%	16,78%
PA Bolzano	23.922.710,15	0,75%	38.252.364,17	0,79%	0,87%
PA Trento	24.880.930,57	0,78%	39.774.892,63	0,82%	0,91%
Veneto	225.959.673,76	7,05%	357.566.873,56	7,39%	8,20%
Friuli Venezia–Giulia	57.031.586,74	1,78%	90.967.480,39	1,88%	2,07%
Liguria	73.160.735,46	2,28%	116.729.975,48	2,41%	2,67%
Emilia–Romagna	208.013.651,99	6,49%	329.751.540,11	6,82%	7,55%
Toscana	173.670.931,46	5,42%	275.804.754,00	5,70%	6,31%
Umbria	41.040.854,80	1,28%	64.969.601,15	1,34%	1,49%
Marche	70.786.725,87	2,21%	112.286.976,99	2,32%	2,57%
Lazio	265.056.748,13	8,27%	415.874.371,89	8,60%	9,59%
Abruzzo	89.511.148,93	2,79%	127.003.526,28	2,62%	2,19%
Molise	20.920.543,55	0,65%	29.615.900,22	0,61%	0,51%
Campania	380.478.430,73	11,87%	535.294.544,13	11,06%	9,27%
Puglia	269.625.407,61	8,41%	381.182.398,90	7,88%	6,58%
Basilicata	38.223.161,13	1,19%	54.183.759,05	1,12%	0,93%
Calabria	128.787.991,27	4,02%	182.273.247,25	3,77%	3,14%
Sicilia	330.144.365,99	10,30%	466.429.097,34	9,64%	8,06%
Sardegna	111.844.930,73	3,49%	159.394.757,84	3,29%	2,73%
Total	3.204.517.588,00		4.838.443.077,58		

The distribution mainly reflects the criteria used to allocate the Regional Health Fund

Only some amounts are calculated on the basis of potential demand

It is respected the RRP constraint to allocate 40% of the resources to the South

This means that resources are not fully addressed to specific needs, neither linked to spending capacity, but mostly to the previous financial allocation

The number of project at work and the implementing Entity for Sub-Mission

Number of Projects (Identified by CUP) Implementing Subject	(Digitisation)	f hospital technology and digital park (large equipment)	Case della Comunità	Centrali operative territoriali (COT)	Ospedali di Comunità	Electronic Health Record and central data collection, processing and analysis	S (Enhancement of the SDK predictive model.)	Strengthe-ning and enhancing the biomedical research of the SSN	Sub-measure: additional grants in general medicine training	Sub-measure: training course in hospital infections	Safe and Sustaina-ble Hospital	Total
Agenzia nazionale per i servizi sanitari regionali - age.na.s				2								**2**
Ministero della salute							3	290				**293**
Presidenza del consiglio dei ministri						4						**4**
Province Autonome	30	49	19	13	5	0	0	0	1	0	2	**119**
Regioni	626	3052	1377	738	419	3	3	0	5	10	159	**6392**
Totale	656	3101	1396	753	424	7	6	290	6	10	161	**6810**

The central role of Regions

Dati: Nostra elaborazione su Open Data italiadomani.gov.it

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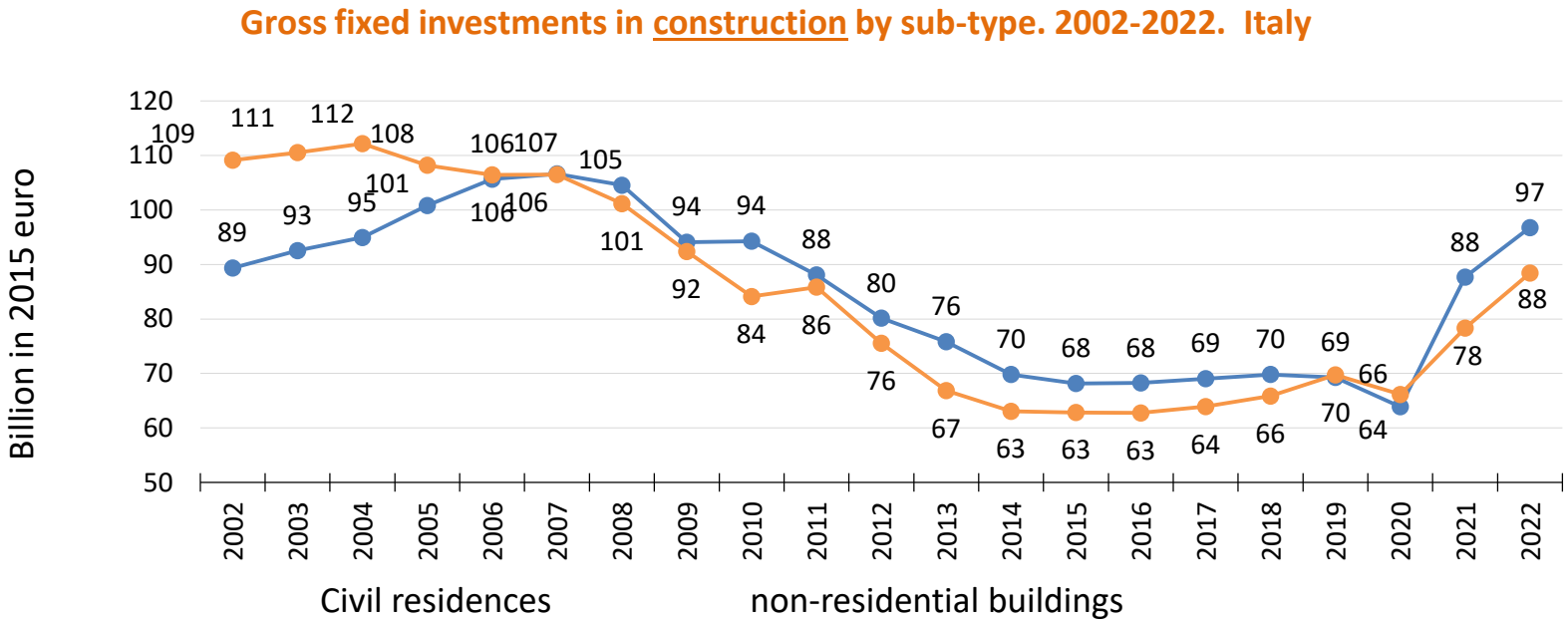
4. RRP, the economic background

Previous economic crisis and current critical issues in Pnrr implementation

After a very long period of impoverishment, the stimulus to the industrial system is very sudden, both in terms of investments in the private (superbonus) and public sectors (RRP)



The accumulation of public and private capital increases by +50% between 2020 and 2022, of which +11 in 2022 alone.

The decrease and growth are concentrated in the construction sector, both the housing market and public works.

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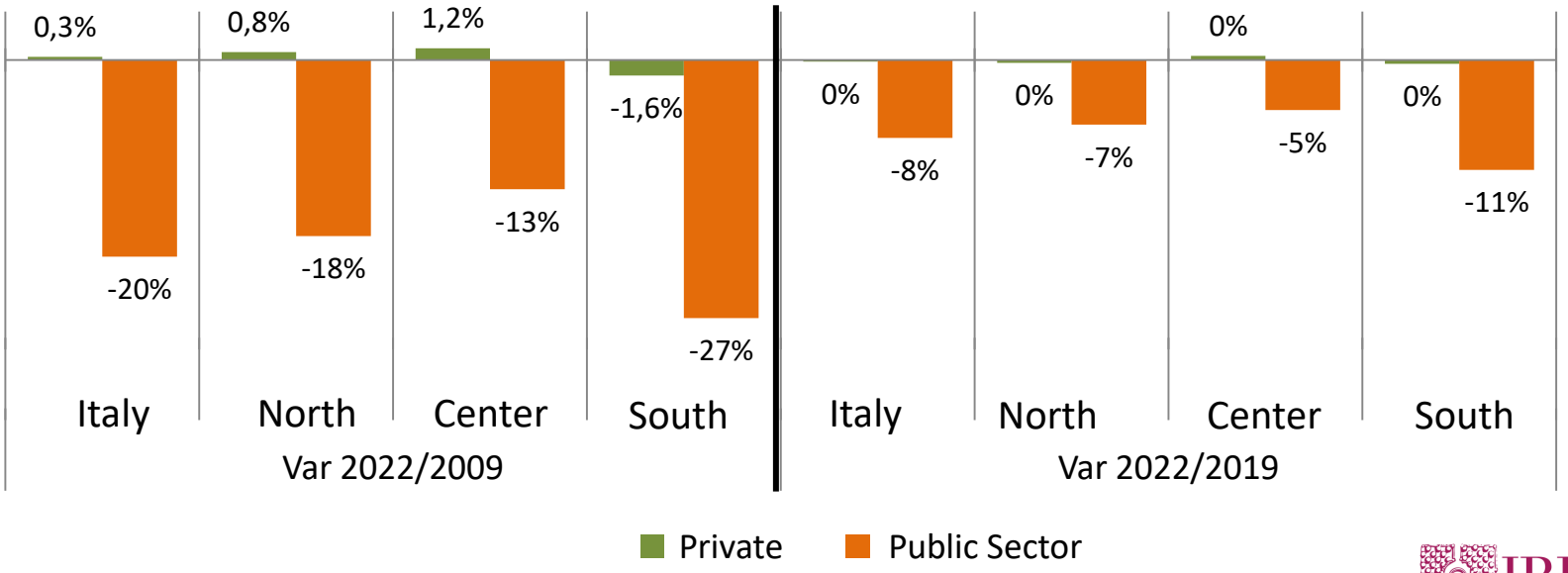
In the long run, the overall private sector employment is relatively stable, compared to both 2009 and 2019. In the public sector, (local and central administration, not considering heath system and education) the reduction in employment is significant, especially in the South, and continues in more recent years. This change takes on a "structural" dimension, and it is one major difficulty in implementing the Plan; it was due to financial constraint and lately accentuated by demographic trends.

Public and private employees by geographical area. % change 2022/2009 and 2022/2019



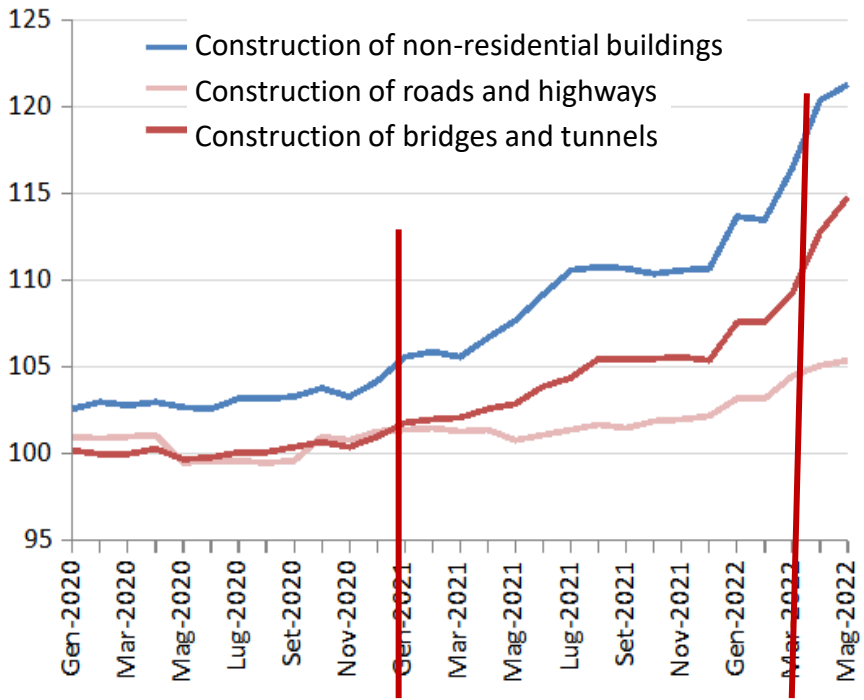
Possible critical issues in public works: increase in material and energy prices

In 2022, the most important concern about the start of investments is the inflationary dynamics experienced in both the energy and the construction materials markets.

Although the phenomenon intensified after March 2022 with the outbreak of the Ukrainian crisis, it had already been in place since at least January 2021, as a consequence of the strains on the economic system (companies and the public sector) that was severely tested by the crisis years.

Contracting authorities: Suspension of tenders
Companies: Deserted tenders and disputes (price renegotiations)

Italy. Construction producer price indexes (base 2015=100)



Between +12,4% and +14,4%

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5. RRP, progress and timing of implementation:

Persisting territorial divergences also in the implementation of the RRF

The state of implementation

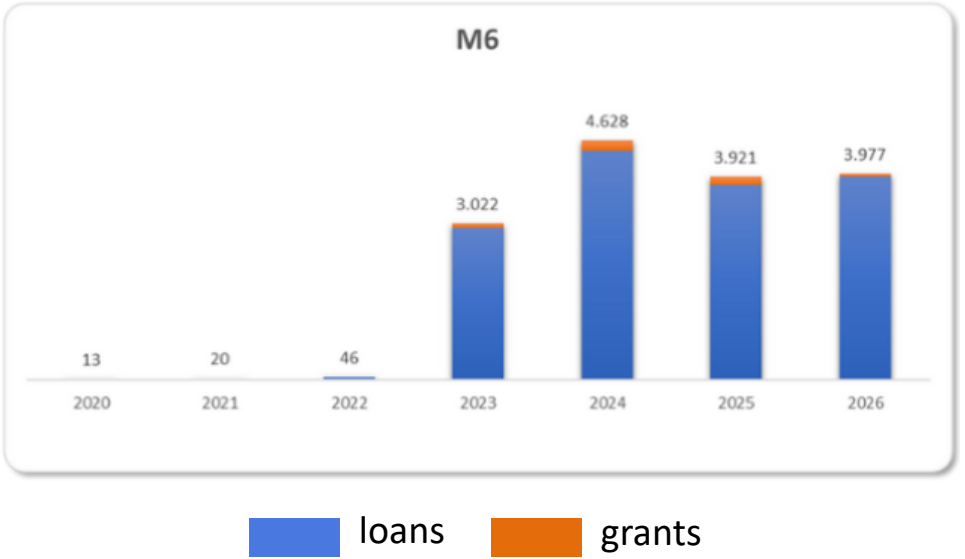
• **M6C1** component, called Territorial Assistance and Telemedicine, aims at strengthening and redirecting the SSN towards a model focused on territories and social and health care networks;

- To date, CISs have been subscribed and the territorial healthcare reform has been enacted (DM 77);
- Regional resources allocation;
- Now we are at the procurement phase before the implementation of the construction of infrastructures and purchase of good and services.

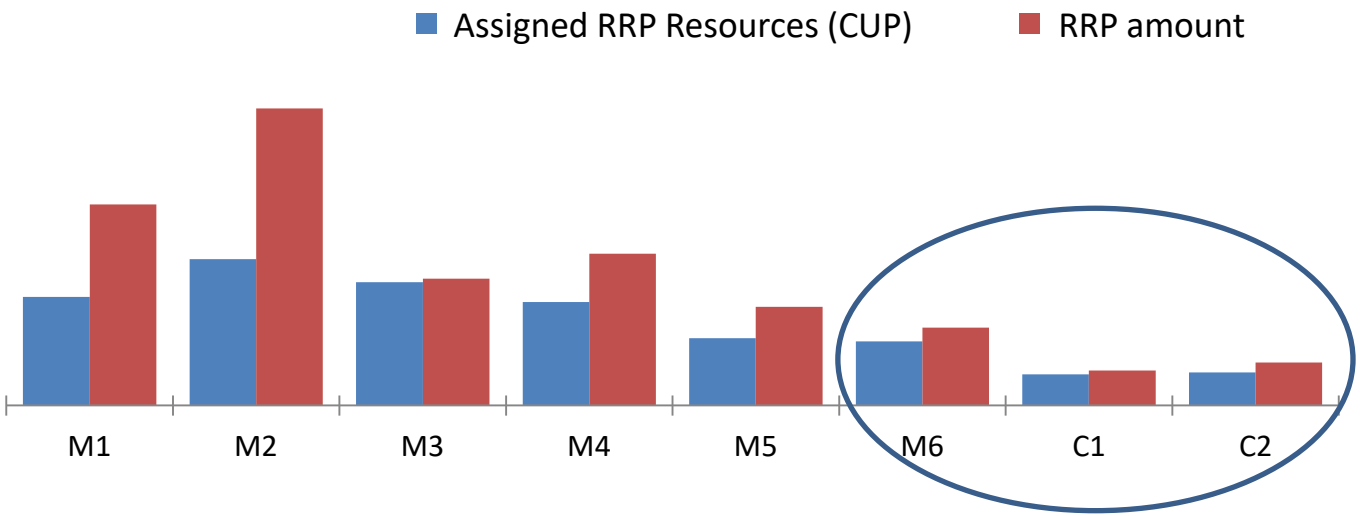
• **M6C2** has a predominantly national scope and its goal is the digitalization of the healthcare system, with special attention to the development of the Electronic Health Record. CONSIP tenders have already been closed for the procurement of machinery, the development of information systems and the safety of hospitals.

Programming of M6 funds

(millions euros)



RRP progress, 1step : from resources to projects (resources for which the intervention is defined, i.e. in possession of the CUP)



	%
M1	54
M2	49
M3	97
M4	68
M5	68
M6	83
C1	89
C2	77
Total %	**64**

Data Source: our elaborations on Regis

64% of the all RRP funds were allocated in defined projects (identified by a CUP). Specifically, for the M6 mission. the percentage rises to 83%

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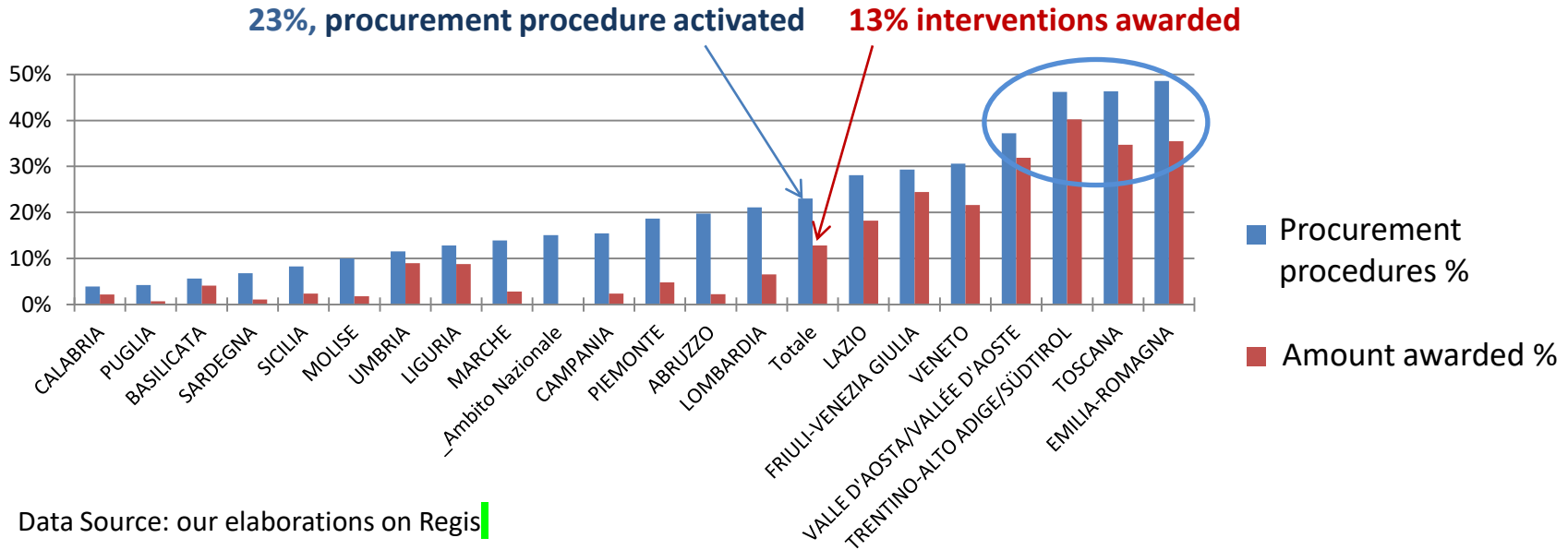
RRP progress, 2 step: from the identification of the projects to starting procurement procedures (CIG) and project awarded



Data Source: our elaborations on Regis

- The procurement procedure was assigned for 23% of the projects assigned to an implementing subject.
- 13% of the projects assigned have been awarded and will be able to proceed shortly.
- No resources are yet spent in M6, compared to the overall 14% RRP.
- **Progress is greater for benchmark Regions in the provision of healthcare services (Emilia Romagna, Tuscany, Veneto) and in those adopting an advanced centralized system of procurement in healthcare -> disparities between north and south in implementation**

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RRF is promoting a stronger system of Framework agreements and Centralized procedures

M6 Procurement Svstem - Invitalia

Invitalia is involved in the technical support to the Implementing Entities of the Institutional Health Development Contracts (16 Regions and autonomous Provinces and 101 regional health service institutions), managing the tender procedures for the procurement of **multilateral Framework Agreements for infrastructure interventions**.

Result: 76% of the Case di Comunità and 80% of the Ospedali di Comunità will be managed with the aggregation procedures of the Framework Agreement

M6 Procurement System - CONSIP

Public procurement in the healthcare sector is established for investments in the **modernization of the hospital technological and digital park** (M6C2-7): "Digital healthcare - Health information systems and citizen services", "Digital healthcare - Clinical and healthcare information systems"

All lots were definitively and effectively awarded and the relevant procurement contracts were signed.

III Relazione sullo stato di attuazione PNRR – maggio 2023

Regional framework agreements

The aggregation system of regional purchasing centers is an already structured process, albeit with different organizational methods (in house, external companies...)

Out of 55 billion framework agreements registered to date (health system and other missions), adhesions are 9%.

Framework Agreement Management Institutions

1	CONSIP SPA UNIP.
2	RFI - Spa
3	INVITALIA
25	SOCIETA REGIONALE PER LA SANITA SO.RE.SA. S.P.A. (Campania)

Source: Our elaborations on Regis

RRP critical issues in the Corte dei Conti last Report

Also if the picture of the critical issues is less complex than other measures, the report of the Corte dei Conti confirms some difficulties in achieving the targets, found in other measures:

- Lack of projects (in the specific field of COT)
- Lack of human resources (and delays in the integrated home care provision)
- Technological competences (and adoption of the national health record)

Source: Corte dei Conti on IV Relazione sullo stato di avanzamento del Pnrr 11/ 2023

What future for healthcare after the RRP?

After the health crisis, the NHS is called to face an important effort, in terms of structural reforms, planning, programming and implementation of interventions. Compared to these new priorities, the multilevel structure of health management has so far been ready to face the new emergency.

- Nonetheless, the process is not without **contradictions**, since the new demand for public health cannot only be satisfied through digitalization and modernization, but will require **additional resources, much higher than those included in the 2024 Budget Law. Obstacles reside not only in long term financial resources but also in workforce (doctors and nurses)**: expected -3632 doctors by 2025, due to retirements and demographic trend; Increase in specialization grants: 1765 (2019) →3675 (2022), but not every specialization was covered.
- Guaranteeing the **reduction of regional gaps is a crucial ingredient of RRP success, though the different implementation capacity of Regions is still persisting**.
- Strengthening the infrastructural endowment is not sufficient to improve territorial competitiveness. Actually, the strategy is accompanied by an implicit push to strengthen the **system of skills and institutional quality**. This is the condition on which the success of the RRP is played out, beyond financial resources .

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