



Mission 6 - Healthcare

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Mission's main objectives:

To increase effectiveness, efficiency and resilience of the Italian healthcare system



Territorial prevention and assistance

Strengthen **prevention and territorial assistance** to ensure continuity of care, **multiprofessional and multidisciplinary approaches**, improving the **ability to integrate hospital services** and **local health services**, by enhancing the role of patient



Consolidate the role of the community

Consolidate the role of the community, through the identification of a facility, the so-called **"Community Health House"**, to enhance the integration between hospital and territory



Homecare

Enhance home care, especially for vulnerable people and chronic patients, through the development of **remote monitoring techniques**, for example **telemedicine and home automation**



Equity of access to healthcare services

Overcoming the **fragmentation** and the **structural gap between the various regional health systems** by **ensuring homogeneity in the provision of ELAs** and equity of access to care by the whole population



Health, environment and climate

Boosting the ability, the effectiveness, resilience and impartiality of the country in facing current and future health impacts, associated with **environmental and climate risks**, in a **"One-Health" vision**

Mission's financing snapshot:

M6 - Healthcare

	Resources (euro/mld)				
	Existing	New	Total	REACT-EU	TOTAL NGEU
	(a)	(b)	(c) = (a)+(b)	(d)	(e) = (c) + (d)
M6C1 Proximity networks, facilities and telemedicine for territorial healthcare assistance	-	7.50	7.50	0.40	7.90
M6C2 Innovation, research and digitalization of national healthcare service	5.28	5.23	10.51	1.31	11.82
TOTAL	5.28	12.37	18.01	1.71	19.72

Note: (b) includes existing resources under national FSC, to be devoted to specific measures.

1 M6C1 - Proximity networks, facilities and telemedicine for territorial healthcare assistance

1. Description of the component

Summary box

Policy area: Fostering economic and social cohesion in the EU and supporting green and digital transition

Objectives: The component aims to boost and align the Italian National Health Service with the communities needs for local care and assistance, also in light of the pandemic emergency, ultimately achieving higher levels of welfare for the citizens, regardless of where they live and their socio-economic conditions.

Reform: Proximity networks, facilities and telemedicine for territorial healthcare assistance: systemic and multilayer reform aimed at providing an effective equality in the access to medical services and overcome a sector-based approach to the concept of health, also considering environmental and climatic health determinants and their changes, in synergy with the economic and social development of the country.

Investment: Projects aim to enhance territorial healthcare assistance enhancing the role of the patient, integrating care services in a "one health" (holistic) approach focusing on strengthening local healthcare services: investments foreseen include the construction and modernization, both from a technological and an organizational side, of the Italian National Health Service (NHS). All investments are linked to the reform mentioned above.

Estimated costs:

EUR 7,500 million to be covered by RRF

M6C1- Proximity networks, facilities and telemedicine for territorial healthcare assistance

	Risorse (euro/mld)				
	Existing	New	Total	REACT-EU	TOTAL NGEU
	(a)	(b)	(c) = (a)+(b)	(d)	(e) = (c) + (d)
1. Proximity networks, facilities and telemedicine for territorial healthcare assistance	-	7.00	7.00	-	7.00
- <i>Community Health House to improve territorial health assistance</i>	-	4.00	4.00	-	4.00
- <i>Homecare as first point of assistance for citizens</i>	-	1.00	1.00	-	1.00
- <i>Strengthening of intermediate healthcare and its facilities</i>	-	2.00	2.00	-	2.00
2. Health, environment, and climate	-	0.50	0.50	0.40	0.90
- <i>Ecologic approach to Public health</i>	-	0.50	0.50	0.40	0.90
TOTAL	-	7.50	7.50	0.40	7.90

2. Main challenges and objectives

a) Main challenges

The Covid-19 pandemic has made clear the universal value of health and its true nature as fundamental public good. The **Italian National Health Service** (NHS) continues to be recognized throughout the world as one of the most efficient systems that, in guaranteeing health as a fundamental right, manages to achieve good results (higher life expectancy at birth and lower mortality values compared to OECD countries averages) and, at the same time, manages to limit health expenditure (3,649 US\$ per capita in 2019, versus 4,223 US\$ OECD countries average). These achievements are the result of a widely offered healthcare, especially through hospitals, high professional competence of health operators and valuable scientific and research outputs, provided by Scientific Hospitalization and Care Institutes “IRCCS” as well as by other NHS entities, such as, for example, University hospitals. During the pandemic emergency, universal health care systems have shown a better resilience capacity that has allowed countries to face the pandemic in a timely manner. The Italian have contributed to shape good practices, that have helped also other countries in facing the emergency.

Nonetheless, the Italian NHS has come to the test of Covid-19 showing elements of relative weakness compared to the main European partners, and the persistence of significant disparities between the Italian regions, which need to be addressed. The Covid-19 emergency has therefore strengthened the need to intervene and to renew some key elements of the Italian NHS, also in consideration of structural (i.e. demographic) and current (i.e. epidemiological) trends. In fact, considering the ongoing increase of the elderly population, the Italian NHS will face an increasing demand for health and more complex needs,

which require an effective response in terms of integrated services provided through the territorial assistance network.

Critical issues emerged can be summarized as follows: (i) an excessive gap between health levels provided by the Italian regions, especially in terms of prevention and territorial assistance and - within these Regions -, the inequality between urban areas and internal areas; (ii) a poor capacity in integrating hospital services, local health services and social services; (iii) a delay in the implementation of local health care services and prevention services, also with significant disparities among Regions, especially in relation to hospital-territory integration; (iv) a poor synergy in the definition of prevention and response strategies of the health service with respect to environmental and climate risks, according to the so-called “One-Health” approach.

In addition, the Covid-19 emergency has highlighted the crucial importance of having technological/digital solutions for public health, strong digital skills and adequate processes for care services. Digital health in the post-emergency phase shall provide an important contribution in the management of public care and assistance processes, e.g. in outpatient services, and in facilitating the communication between healthcare professionals and patients. An important acceleration of investments in digitization of the Italian NHS is therefore necessary, especially in the fields of: telemedicine, management of basic medicine activities, outpatient visits, pre-triage, pre-screening, monitoring of patients treated from home, tele-consultation and digital collaboration between hospitals and healthcare companies for the management of information or between emergency departments, intensive care and infectious diseases and local assistance; patient relationship management capable of informing citizens, especially the fragile categories, detecting their health conditions, communicating with them and managing the territorial and hospital emergency networks. To this end, developing and deploying innovative technologies such as Artificial intelligence, Internet of medicine and big data applications is crucial.

In line with this context, the component contributes to responding to two main challenges:

1. Enhancement of health assistance and territorial healthcare network

- **WHAT:** Fragmentation and disparities of territorial healthcare across the regional systems lead to inhomogeneity in the provision of the so-called “essential levels of assistance” (LEAs), ultimately compromising quality and appropriateness of care services provided. Strengthening and reorganizing primary care, also by leveraging the experience of the pandemic, implies the need to overcome the fragmentation of healthcare responses through the effort to ensure continuity of care, multiprofessional and multidisciplinary approaches, integrated hospital-home pathways, improved clinical governance of care pathways and socio-health integration.
- **WHY:** The analysis of data and information on local healthcare assistance in Italy highlights a very uneven picture between Regions and some widespread structural weaknesses:

- lack of provision of integrated home care services, compared to other OECD countries guaranteeing accessibility to home care (4% elderly patients compared to the OECD average of 6%);
 - lack of homogeneity in terms of mortality among geographical areas (e.g. average death rate - deaths per 1,000 individuals per year - in Italy of 10.5, from P.A. Bolzano 8.3 to Liguria 14.3. The figure is obviously affected by the different demographic distribution of the elderly population among the regions);
 - territorial inequalities in terms of years in good health and quality of life especially in older age (average life expectancy 83 years, from Campania equal to 81.4 to Trento equal to 84);
 - lack of integration between hospital and healthcare territorial services and between health and social services.
- **RECOMMENDATION:** The challenge is also highlighted in the country-specific recommendations and aligns with the European objective to ensure economic, social and territorial cohesion related to - and valid beyond - the Covid-19 emergency (Art. 4(1) of the proposal for a Regulation COM (2020) 408 final). In order to pursue this aim, the component intends to: i) support the economic policy linked to investments in research and innovation and the quality of infrastructures, taking into account regional disparities; ii) improve the efficiency of public administration, in particular by investing in skills of public servants, accelerating digitalization and increasing the efficiency and quality of local public health services (Recommendation no. 3 of COM (2019) 512 final). The proposal also concerns the area of “Health and Prevention”, in line with the Sustainable Development Goals (SDGs), in particular Goal No. 3, of the 2030 Agenda and the public health measures provided for by the Treaties, in particular art. 168.

2. Health, environment, and climate: national reform plan and investments in public health for resilience and sustainable recovery

- **WHAT:** The need of preserving citizens’ health against environmental and climatic pollutants, as well as contrasting the impact of environmental changes, prompts to adopt the "One-Health" approach, which embraces both national health and environment and climate prevention systems. This strategy is innovative and fits into the institutional structure of the Italian NHS. It is also consistent with the development outlined for the Italian NHS with the aim to achieve international organizations’ targets. Implementing the holistic “One Health” approach allows for a stronger leadership in the healthcare sector promoting healthier, safer, and more accessible facilities.
- **WHY:** Data and information available show an urgent need to address the current fragmentation of interventions meant to guarantee a cohesive approach across the Healthcare, Environment and Climate sectors. Italy has faced many environmental crises and climatic emergencies over the years, often resulting in health emergen-

cies, highlighting critical serious issues in prevention actions. The socio-sanitary relevance of environmental determinants is exemplified by data on air pollution that place Italy among the most critical European areas (about 30 thousand deaths per year due to fine particulate matter, which represent 7% of all deaths - excluding accidents). It is widely recognized the role of environmental determinants as risk factors for pathologies that represent the majority of morbidity and mortality in European countries (tumors, metabolic syndrome, neurological and reproductive pathologies) and for rarer but of absolute importance pathologies such as congenital anomalies (5-6% of children in the first year of life in Italy). The poor capacity, dynamism and resilience of the Italian NHS in the proactive assessment of the impacts of environmental exposures and climate change on health - in a country located in the Mediterranean area that is among the most fragile with respect to climate change, seismic risks and hydro-geological instability - is related to a limited interdisciplinary and intersectoral culture - from governance, to management, to public health professionals, to risk assessment.

- **RECOMMENDATION:** A new institutional and systemic strategy and organization, functional to manage the health-environment-climate matter, is necessary to ensure the compliance of the Country towards international organizations' targets, and in particular: a) the Global Action Plan for the Prevention and Control of NCDs 2013-2020 by the WHO; b) the Sustainable Development Goals of the UN 2030 Agenda; c) the indications of the Sixth Ministerial Conference on Environment and Health of the Ministers of the WHO European Region in Ostrava in June 2017, aimed at ensuring "better health, a healthier environment and sustainable choices". At the same time, in line with the European recommendation on the Italian reform program [20.5.2020 COM (2020) 512 final] and with the other re-launch and resilience guidelines [including EU Public Health Policy - PE 652.027 - July 2020, Brussels, 27.5.2020 COM (2020) 456], it is necessary for the Country to strengthen the resilience of healthcare and environmental policies and institutions, enhancing their human, cultural and instrumental capital, guaranteeing the effectiveness of health promotion in synergy with other reform programs (first of all, the green and digital transition), taking into account the potential impacts of post-Covid-19 growth on the environment and health, also in light of the ongoing climate change.

b) Objectives

In light of the above-mentioned challenges, this component aims to enhance health assistance and territorial health network, improving the quality and sustainability of home care, community-based care and long-term care aiming to ensure better assistance levels throughout the whole country. To this end, the component also aims at addressing the fragmentation and lack of homogeneity of healthcare services offered in the different Italian regions, in line with the 2019 and 2020 EC country-specific recommendations and the strategic objectives set at national level. Finally, this component aims at applying

holistic approaches in planning and managing social and health services and environment, climate and health prevention. More specifically:

- consolidate the role of the local healthcare District¹ in planning of actions, of primary and secondary prevention in the health and social field, as well as in rehabilitation through the preparation and governance of treatment paths;
- consolidate the role of the community, through the identification of a facility, the so-called “Community Health House”, making it a local reference point for social and health matters for individuals. This place shall guarantee care of chronic patients, which is one of the greatest challenges for health and social systems in an ageing population;
- implement processes for assessing the needs of the population by level of complexity through the strengthening of socio-health single access points (“punti unici di accesso” - PUA) and multidimensional assessment units (“unità di valutazione multidimensionale” - UVMD);
- enhance home care, especially for vulnerable and disabled people, through the development of remote monitoring techniques and home automation;
- enhance the health workers’ professional skills, also in the domain of new technologies;
- ensure the proactivity of healthcare services in the field of public hygiene as a means to guarantee the health of the population, by strengthening the planning, monitoring and coordination of interventions, as well as ensuring adequate technological supply;
- design and implement at national level a strategic investment plan aimed at creating a national system for the prevention of health with respect to environmental and climatic determinants according to the holistic "One-Health" approach;
- increase the provision of essential levels of assistance (“Livelli Essenziali di Assistenza”, LEA) by improving the results of the core and non-core indicators contained in the New Guarantee System (“Nuovo Sistema di Garanzia”) of the Italian Ministry of Health.

c) National strategic context

The component-related set of investments falls within the Italian national strategic context in the healthcare sector and within the budgetary policy objectives for 2021-2023, which take into account the National Recovery and Resilience Plan in line with Eu-

¹ In Italy, the *Azienda Sanitaria Locale* (ASL) is the local health authority that has to plan and organize the health and medical assistance for the population that lives in its territorial area, supplying diagnosis and treatments by public and/or private providers. The ASLs are divided in *Distretti* (“Health” or “Social Health” Districts) that plan the territorial medical assistance, coordinating the general practitioners’ activities with the other health structures on their territory, and supplying some health services (mental health, drug addiction, service for people with disabilities and others). These Districts thus play a key role in establishing the range of services to be provided and in guiding the different players involved in disease prevention, health promotion, social and disability services.

ropean programming. These investments are also part of the Italian national strategic health plan which is going to be defined by the Italian Ministry of Health, in collaboration with other Italian public administrations. Furthermore, the component is consistent with the Italian national energy and climate plan, pursuant to Regulation (EU) 2018/1999, as well as with the territorial plans for a transition under the Just Transition Fund, with partnership agreements and operational programs based on EU funds, as well as with the contents of the White Paper on artificial intelligence - an European approach to excellence and trust from the European Commission (dated 19/02/2020). The program, with an interdisciplinary value, also has a role in contributing to achieve the objectives set out in the European Green Deal.

Furthermore, in May 2020, the Italian Government approved the Decree no. 34 (the so-called “Decreto Rilancio”, or “Relaunch Decree”), which introduced urgent measures to support families and businesses to recover from the economic consequences of the Covid-19 emergency, while confirming the effort to guarantee everyone’s health and safety.

Concerning the overall economic feasibility of the component, it should be specified that investments-related costs estimated for the purpose of this document only refer to the quota for which the funding through RRF is requested. These lines of action are part of a wider national health programming and could receive additional financial support by both the national budget and other European programs (e.g. ReactEU). For instance, personnel costs and other non-quantified expenditures will be included in the definition of the structural national health budget.

3. Description of the reforms and investments of the component

1) Reform projects

Reform 1.1: Definition of organisational and technological standard for Territorial healthcare assistance and its facilities and Define a new institutional structure of Health-Environment-Climate prevention (under Health “Reform Proximity networks, facilities and telemedicine for territorial healthcare assistance”).

Challenges and Objectives: The reform, as a preparatory element for the interventions of the Component, intends to:

- Establish a new model of territorial healthcare assistance, which has to be close to citizens’ needs, granting the population with effective equity of access to healthcare and social services, through the definition of homogeneous qualitative and quantitative standards, the strengthening of the network of district services, as well as through the consolidation of the hospital and the emergency network integrated within it.

The reform pursues the redefinition of services to guarantee that healthcare territorial services could be increasingly close to the needs of people (including those who

live in rural or disadvantaged areas), capable of enhancing the peculiarities of the various communities (territorial, professional and scientific).

Through this reform and its related investments, the Italian NHS gives continuity and further enhances the actions and programs aimed at strengthening the coordination between the national and regional level able to ensure uniform “Essential levels of assistance” (LEA) throughout the national territory, contrasting regional variability and high mobility rates between the northern and southern regions. The Ministerial Decree 70/2015, which governs the reorganization of the hospital network, has launched a gradual modernization of the hospital system by improving the governance of the NHS in terms of the quality of assistance and the organization of health services, through the definition of qualitative, structural, technological and quantitative standards relating to hospital care and the emergency network.

In addition to contributing to the achievement of these objectives, the Reform will also make it possible to strengthen the territorial network and ensure greater proximity to the citizen, to better distribute care activities while avoiding overloading the hospital network. Ensuring greater integration between hospital and local facilities is indeed a crucial element to provide a better access to care and a uniform level of provision of the “Essential Levels of Assistance” (LEA) at national level.

Actions:

- definition of a new organizational model of Territorial healthcare assistance network, through the definition of a regulatory which identifies structural, technological and organizational standards;
- enhancement of health know-how through the professional skills updating of health staff, with respect to digital education and dissemination of organizational reform;
- Define a new institutional structure of Health-Environment-Climate prevention, according to the “One-Health” approach, in order to promote human health keeping in due consideration environmental and climatic health determinants and their changes, in synergy with economic and social development of the Country.

The reform is intended to define a new strategy as well as a new institutional and systemic organization, in synergy with economic development, necessary to allow the Country to meet international organizations’ targets; this will allow to promote interventions to ensure healthy, safe and accessible environments. In fact, changes in cultural, structural and technical-scientific at the level of governance and support of “territorial” medicine are needed, including aspects of regulation, research, control, consultancy and training. This to ensure: i) the enhancement of resources (infrastructural, structural, instrumental, human) essential to increase effectiveness of prevention, surveillance and response to health-environment-climate emergencies in the Country through science-based solutions; ii) the updating of actions for the prevention and response to communicable and non-communicable diseases according to WHO, international and European guidelines; iii) health promotion in synergy with environmental protection, intersectionality and inclusion of social and

economic dimensions to support sustainable development uniformly throughout the Country.

Implementation: This reform will be implemented through the following key activities: This reform will be implemented through the following key activities:

- establishment of a National Health-Environment-Climate Prevention System (SNPS) with a dedicated regulatory framework;
- creation of new specific health professional categories;
- proposal for revision of sector regulations and environmental legislation.

The reform also plans to improve the relationship between Healthcare and Scientific Research, as detailed in the Component Innovation, research and digitalization of national healthcare.

Target population: Text... .

Timeline: Text... .

2) Investment Projects

Investment 1.1: Community Health House to improve territorial health assistance.

Challenges: Chronic diseases in 2019 affected almost 40% of the Italian population - i.e. 24 million people - of which 12.5 million have multi-chronicity, for a healthcare expenditure of nearly 67 billion euro. The, amount of chronically ill patients is also in progressive growth, with an impact on the future need to commit health, economic and social resources. Furthermore, according to data of the Italian National Institute of Statistics (Istat), there are 3.1 million people with disabilities in the Country, i.e. 5.2% of the Italian population. Of these, almost 1.5 million are over 75 years old (i.e. more than 20% of the population in that age group). In addition, Italy has the highest share of elder population compared to the EU average - approximately 23.2% of the population is over 65 years old and 3.6% over the age of 80 (Istat) - and life expectancy at birth is among the highest in the world², which results into an overall old and ageing population and a long-term pressure on the NHS to be addressed.

The presence, in this context, of uncoordinated health and social assistance interventions in the territory, the slow increase of local healthcare facilities across the regions and/or the slow increase of the services offered in non-hospital facilities, are a cause of organizational

² Statistics may differ depending on the organisation or institute collecting and analysing them. According to OECD, Italy ranks fourth, with an overall expectancy at birth of 83.4 years (OECD (2020), Life expectancy at birth (indicator). doi: 10.1787/27e0fc9d-en - accessed on 26 November 2020).

inefficiency and hampers the quality of the service provided and perceived by the citizens. This issue has been particularly highlighted by the Covid-19 emergency, and it is now clear that there is the need for geographically widespread facilities, in order to avoid excessive use of hospital care, especially for non-urgent treatments that cannot be postponed.

Objectives: The Community Health House is an organizational solution that has the function of primary care hub and follows a model of delivery and use of services by promoting the proximity of the facilities to the local community, being able to filter access to acute care facilities and to coordinate and integrate all care services for chronic patients already present in the area (e.g. a slight malaise or a small accident, the need for various tests such as non-communicable diseases, difficulty in managing a family situation and the need to find someone who takes care of the person, etc).

In particular, it is important to underline that it acts as a citizen's "single point of access" to health services and that, therefore, it develops and manages a single health database for each citizen, aiming at guaranteeing equal treatment in care and access to such facilities for all residents in the Country.

In the Community Health House, citizens can:

- consult a general practitioner and a nurse throughout the day;
- consult a health professional who welcomes citizen's requests, guides the citizen to services and takes care of activating proper health paths;
- solve adequately most of citizen's problems in a single location;
- manage chronic diseases through shared and supervised care pathways.

More specifically, the investment's objective is the following:

- **activation of 2,575 Community Health Houses** - in order to ensure equity of access, territorial proximity and quality of care to people regardless of age and their clinical picture (chronically ill patients, non-self-sufficient people needing long-term care, people with disability, mental distress, poverty), through the activation, development and aggregation of primary care services, and implementing assistance delivery centers (energy efficient) for a multi-professional response.

The investment aims at integrating social and health care services for a global care of the person in the Community Health Houses in order to improve care service of chronically ill patients and the most vulnerable population categories, such as people with disabilities. More extensive and inclusive home and community-based care and long-term care is key to provide support to people with disabilities and other disadvantaged groups, as also mentioned in the 2019 country-specific recommendations.

Implementation: The Italian Ministry of Health will be responsible for the planning, execution, management and monitoring of the component as a whole. In relation to the actions that present a concurrence of competences of other public administrations

(e.g. Regions), coordinated and negotiated governance tools will be applied, such as the Institutional Development Contract (Contratto Istituzionale di Sviluppo) with the Italian Ministry of Health as the responsible and implementing Authority and the participation of regional Administrations together with the other entities concerned. This approach will be able to save time and simplify procedures - including authorization procedures - where accompanied by the activation of service conferences (“conferenze di servizi”).

Stakeholder involvement: Italian Ministry of Health and other Italian Ministries, Italian National Agency for Regional Health Services (Agenas), Italian National Institute of Health (Istituto Superiore di Sanità, ISS), Italian Regions, local health units (Aziende Sanitarie Locali - ASL).

Target population: This investment targets the entire population.

Timeline: For details, please refer to Paragraph 5 and Paragraph 6.

Investment 1.2: Homecare as first point of assistance for citizens.

Challenges: As mentioned in the 2019 country-specific recommendations, more home and community-based care and long-term care are crucial in providing support to people with disabilities and other disadvantaged groups. Strengthening home care is one of the main challenges of the Italian NHS. Indeed, as provided for in the Decree of the President of the Council of Ministers of 12 January 2017 and in 2016 National Chronicity Plan (Piano Nazionale della Cronicità, 2016), home must be the preferred care setting when health, housing and family conditions permit. As of today, integrated home care is mainly provided to people aged over 65 (83.7% of cases). With the Relaunch Decree n. 34, dated 19 May 2020, Italy has already intended to strengthen integrated home care, aiming to increase the current 4% of patients aged over 65 to be assisted from home up to 6.7%. This goal takes into consideration the OECD average value (6%) and some particularly virtuous examples in Europe, such as Sweden, at 10.9%, Germany, at 9.5% and Spain, at 7.1%. In addition, the aim is to mend the fragmentation and the lack of homogeneity of home services offered throughout the Country.

Objectives: The goal is to enhance the home healthcare offer by engaging 282,425 people. The investment aims to strengthen the resilience and the ability of the Italian NHS to manage processes related to integrated home care, going beyond the objectives set in the above-mentioned Relaunch.

To achieve this objective the investment is composed by following lines:

- implementation of 575 Coordination centers for homecare;
- provision of technologic devices to home care professionals;
- provision of telemedicine technologies to vulnerable patients, cared for home;
- enhance digital and technological solutions of the local healthcare unit (ASL) in

order to connect data and clinical information.

The Decree n. 34/2020, in line with the recommendations of the Council on PNR 2020 and with the 2019 country-specific recommendations, in the context of strengthening the NHS in relation to the Covid-19 emergency, provided for an increase in the staff necessary to ensure the provision of essential levels of assistance, especially in the area of the homecare. The adoption of advanced ICT tools and the development of an artificial intelligence model aim at streamlining the communication systems between the various parties involved, thus allowing simplification of existing information flows and providing a contribution to operators in the provision of care and assistance and to decision makers in the governance and planning of services. In particular, the investment aims to promote continued and continuous home care of the patient throughout the Country, implementing the services provided for all “vulnerable individuals”, pursuant to art. 1, paragraph 4, of the Decree n. 34/2020, with particular attention to the various aspects related to chronicity.

Thus, the intervention intends to strengthen this type of care and shall reorganize and re-engineer processes also through the development of innovative digital solutions to address artificial intelligence and telemedicine. The ability of connecting the patient’s residence with the healthcare environment can generate direct benefits for the patients and their families, who will be able to interact with healthcare professionals directly from their own homes, obtaining precise and targeted indications on care, thus contributing to the constant monitoring of their health.

Implementation: The Italian Ministry of Health will be responsible for the planning, execution, management and monitoring of the component as a whole. In relation to the actions that present a concurrence of competences of other public administrations (e.g. Regions), coordinated and negotiated governance tools will be applied, such as the Institutional Development Contract (Contratto Istituzionale di Sviluppo) with the Italian Ministry of Health as the responsible and implementing Authority and the participation of regional Administrations together with the other entities concerned. This approach will be able to save time and simplify procedures - including authorization procedures - where accompanied by the activation of service conferences (“conferenze di servizi”).

Stakeholder involvement: Italian Ministry of Health and other Italian Ministries, Italian National Agency for Regional Health Services (Agenas), Italian National Institute of Health (Istituto Superiore di Sanità, ISS), Italian Regions, local health units (Aziende Sanitarie Locali - ASL), businesses.

Target population: This investment mainly targets the over-65 aged population segment, i.e. around 14 million people in the Country.

Timeline: For details, please refer to Paragraph 5 and Paragraph 6.

Investment 1.3: Strengthening of Intermediate healthcare and its facilities (Community hospital).

Challenges: The adverse effect of the lack of complete implementation and fragmentation of local health services, along with the consequent integration between territorial and hospital services, is one of the main challenges that the Italian NHS currently faces. In particular, the difficulties of citizens in finding answers to their health needs locally generate important inefficiencies every year with repercussions also on safety and quality of services provided. The not sufficient level of territorial healthcare facilities negatively impacts the quality perceived by citizens of the NHS, and it can generate stress and a sense of abandonment, especially in most vulnerable individuals and people living in disadvantaged areas.

Objectives: The general objective of the investment is to ensure the creation of 753 Community hospital. These facilities have a crucial function between patients, home and hospitalization. This intervention shall take place in the context of the general improvement of the primary care system in order to personalize local assistance, avoiding, if possible, the psychological distress of a hospitalization, especially for the most vulnerable individuals.

This temporary hospitalization is intended to reduce hospitalization for people with acute or chronic diseases, as it would be dedicated to people who need continuous nursing and medical assistance. Patients may come from home or other residential facilities, from the emergency room or discharged from acute care hospitals.

Furthermore, this will foster the pertinence of hospital services by providing an alternative to improper access to the emergency room, especially for those who need health surveillance, but with already defined diagnosis. Finally, this will facilitate discharge by providing the family and local services with the time necessary to adapt the home environments to the needs that may have emerged, safeguarding the social costs and the income capacity of families.

Implementation: The Italian Ministry of Health will be responsible for the planning, execution, management and monitoring of the component as a whole. In relation to the actions that present a concurrence of competences of other public administrations (e.g. Regions), coordinated and negotiated governance tools will be applied, such as the Institutional Development Contract (Contratto Istituzionale di Sviluppo) with the Italian Ministry of Health as the responsible and implementing Authority and the participation of regional Administrations together with the other entities concerned. This approach will be able to save time and simplify procedures - including authorization procedures - where accompanied by the activation of service conferences (“conferenze di servizi”).

Stakeholder involvement: Italian Ministry of Health and other Italian Ministries, Italian National Agency for Regional Health Services (Agenas), Italian National Institute of Health (Istituto Superiore di Sanità, ISS), Italian Regions, local health units (Aziende

Sanitarie Locali - ASL).

Target population: Entire population.

Timeline: For details, please refer to Paragraph 5 and Paragraph 6.

Investment 2.1: Health, environment, and climate: national reform plan and investments in public health for resilience and sustainable recovery.

Challenges: During the Italian Presidency of 2017 G7-Health, the impacts of climate and environmental factors on health have been set as the health priority of this century. In Italy, the balance and the sustainability of the economic development of many sectors with respect to the environment and to health has been critical, as highlighted by recent data: many areas of the Country suffered a significant contamination, such as to require remediation interventions. In 58 of these contaminated areas, inhabited by about 6 million people (10% of the national population), the extent of the contamination required the rise of these areas to sites of national interest; out of these 58 National interest sites, 45 has shown a 9% increase in malignant tumors in the younger population and a mortality rate greater by 4-5% compared to those who live in no-risk areas, with an expected scenario of greater criticality in the future. Environmental crises with health impacts are exacerbated in contexts of severe and widespread earthquake, hydro-geological and climatic fragility extended to the entire National territory. As recently analysed in the WHO-UNCCC Climate and Health Country Profile, Italy shows large inefficiencies in policies and institutional actions at central and local level aiming at prevention and promotion of health.

Objectives: Boosting ability, effectiveness, resilience and impartiality of the Country in facing current and future health impacts, associated with environmental and climate risks, in a “One-Health” vision, through the implementation/adaptation of about 190 (> 50%) reference structures of the national network of the national health-environment-climate prevention system.

One-Health is a collaborative, multidisciplinary, intersectoral and coordinated approach to address potential or occurred risks that come from the interaction between the environment-pollution-human ecosystems.

Implementation: The Italian Ministry of Health will be responsible for the planning, execution, management and monitoring of the component as a whole. In relation to the actions that present a concurrence of competences of other public administrations (e.g. Regions), coordinated and negotiated governance tools will be applied, such as the Institutional Development Contract (Contratto Istituzionale di Sviluppo) with the Italian Ministry of Health as the responsible and implementing Authority and the participation of regional Administrations together with the other entities concerned. This approach

will be able to save time and simplify procedures - including authorisation procedures - where accompanied by the activation of service conferences (“conferenze di servizi”).

Stakeholder involvement: Italian Ministry of Health and other Italian Ministries, Italian National Agency for Regional Health Services (Agenas), Italian National Institute of Health (Istituto Superiore di Sanità, ISS), Italian Regions, local health units (Aziende Sanitarie Locali - ASL).

Target population: Entire population.

Timeline: For details, please refer to Paragraph 5 and Paragraph 6.

4. Green and digital dimensions of the component

a) Green Transition:

The component generally contributes to the development of the **green transition** by:

- improving of technological efficiency by enhancing all forms of innovation and optimization of production processes;
- providing a more efficient care service, which reduces the needs for travels to hospitals - which is cause to pollution generated by transport means - in favour of a local and home-driven approach;
- supporting energy efficiency renovation of the infrastructures and equipment;
- supporting risk prevention models and the management of both climate and non-climate related natural risks or risks linked to human activities, such as pandemic crisis.

b) Digital Transition:

The Project generally contributes to the development of the **digital transition** by:

- strengthening of digital capabilities and implementing of advanced technologies in hospitals, consistent with the Integrated National Plan for Energy and Climate;
- fostering a deep technological evolution of communication and data transmission systems from territorial units to hospital or territorial competent structures with large benefits on the appropriateness of the health services provided;
- strengthening the digitization of care by promoting the diffusion of care devices in connection with each other, especially for professionals and disadvantaged people in the field of telemedicine;
- redefining operational methodologies within the Italian NHS using digital technologies and robotics strategic elements, ensuring monitoring and remote assistance, integrating research activities with care activities.

Specifically, the investments address the following elements:

- **Home as the place of first care:** it sustains the development of the digital transition by involving investments in the implementation of artificial intelligence systems that, through big data and machine learning, will provide support to operators, decision makers and will enable patients to receive the necessary treatments in a timely manner. With respect to the green transition, the project will allow to keep patients at home, limiting their transfers of those of their families. In addition, transfers of caregivers will also be limited to cases of necessity. Better home care optimizes the consumption of drugs and disposable medical devices, through increasingly personalized and flexible plans.

TABLE 1 - Green and digital impact					
	Digital		Intervention Field Tag	Green	
	Intervention Field Tag	%		Climate %	Environmental %
M6C1: Investment 1: Enhancement of health assistance and territorial healthcare network,					
1.1 - Community Health House to improve territorial health assistance	na	0%	na	0%	0%
1.2 - Homecare as first point of assistance for citizens	013 e-Health services and applications (including e-Care, Internet of Things for physical activity and ambient assisted	100%	na	0%	0%
1.3 - Strengthening of Intermediate healthcare and its facilities ("Community hospital")	na	0%	na	0%	0%
M6C1: Investment 2: Health, environment and Climate					
2.1 - Health, environment and climate: development of an ecological public health model	na	0%	na	0%	0%

5. Milestones, targets and timeline

1) REFORM

Reform 1: Definition of organizational and technological standard for Territorial healthcare assistance and its facilities” and “Definition of a new institutional structure of Health-Environment-Climate prevention” (under Health “Reform Proximity networks, facilities and telemedicine for territorial healthcare assistance”):

- definition of a new organizational model of the local network through the identification of structural standards, technological and organizational;
- development of human capital through the professional development of direct digital education of health personnel and disclosure of organizational reform.

Define a new institutional structure of Health-Environment-Climate prevention:

- establishment of the National Prevention System Health-Environment-Climate (SNPS) and related regional articulations;
- establishment of new health professionals specifically dedicated to health-environment - climate issues and the definition of the relevant curriculum;
- proposed revision of industry standards and environmental legislation, including the Decree. April 3, 2006, n. 152 for alignment with the new management system.

2) INVESTMENT

Investment 1.1: Community Health House to improve territorial health assistance:

- survey and identification of the existing Community Houses to be restored, converted and built from scratch by Q1 2022;
- implementation of the interventions and activation of 2.575 Community Houses by Q2 2026.

Investment 1.2: Home-care as first point of assistance for citizens:

- designing of 1 digital model ADI following an analysis of national and international best practices on the application of Artificial Intelligence by Q2 2022;
- development of the digital model of ADI by Q4 2023;
- implementation of 575 infrastructures related to ADI by Q2 2024;
- model implementation identified for ADI's Health workers by Q2 2026;
- supply of telemedicine for ADI patients for ADI by Q2 2026.

Investment 1.3: Strengthening of Intermediate healthcare and its facilities (“Community hospital”):

- recognition and identification of existing structures to be restored, to be converted and to be realized ex novo by Q1 2022;
- realization and / or adaptation of structures as community hospitals by Q2 2026.

Investment 2.1: Health, environment, and climate: national reform plan and investments in public health for resilience and sustainable recovery:

- establishment / strengthening of centers of excellence at National level;
- creation / strengthening of local structures of SNPS-SNPA networks and of eventual other public research institutions by Q4 2022;
- establishment / strengthening of regional and local hubs with specific skills and responsibilities in health-environment-climate by Q4 2025;
- digitisation of the SNPA and SNPS networks, including the digitisation of networks of environmental and health monitoring data at the local level by Q4 2025;
- set up of a School of Specialization in Health-Environment and Climate at the Departments of Medicine prior agreement with Italian Ministry of University and Research by Q4 2025;
- establishment of the center for training and update in Health-Environment / Climate; distance learning courses by Q4 2025;
- three-year national and multidisciplinary research calls in health-environment-climate by Q4 2025;
- strengthening of regional health facilities, hospitals, IRCSS and other research organizations, for the development of integrated interventions in health promotion, active surveillance and health care and participative communication systems of the communities by Q2 2026.

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Milestones and targets	Mission or target name & number	Qualitative indicators (for milestones)	Quantitative indicators (for targets)	Timeline for completion (indicate the year)	Data source methodology	Responsibility for reporting and implementation	Description and impact of each milestone and target	Assessment risk	Verification mechanism
COMPONENT 1 - Priority research, facilities and infrastructure for territorial healthcare assistance Subcomponent 1.1 - Strengthening of intermediate research facilities ("Community Hospital")	a1) Identification and analysis of existing structures to be restored, to be converted and to be realized (see above)	Action plan for 21 Regions	Baseline	Cost			see column 1.2		
	a2) Realization and / or adaptation of the structures in the community hospitals		0	753			see column 1.2		
	a2.1 By December 2023 is expected to reach a state of progress of work equal to about 80%.								
COMPONENT 2 - Health environment and climate Subcomponent 2.1 - Health environment and climate	a3) Realization and / or adaptation of the structures in the community hospitals		0	753			see column 1.2		
	a3.1 By December 2023 is expected to reach a state of progress of work equal to about 80%.								
	a3.2 By June 2026 is expected to conclude the activation of all 41 units								
COMPONENT 3 - Health environment and climate Subcomponent 3.1 - Health environment and climate	a4) Realization and / or adaptation of the structures in the community hospitals		0	753			see column 1.2		
	a4.1 By December 2023 is expected to reach a state of progress of work equal to about 80%.								
	a4.2 By June 2026 is expected to conclude the activation of all 41 units								
COMPONENT 4 - Health environment and climate Subcomponent 4.1 - Health environment and climate	a5) Realization and / or adaptation of the structures in the community hospitals		0	753			see column 1.2		
	a5.1 By December 2023 is expected to reach a state of progress of work equal to about 80%.								
	a5.2 By June 2026 is expected to conclude the activation of all 41 units								
COMPONENT 5 - Health environment and climate Subcomponent 5.1 - Health environment and climate	a6) Realization and / or adaptation of the structures in the community hospitals		0	753			see column 1.2		
	a6.1 By December 2023 is expected to reach a state of progress of work equal to about 80%.								
	a6.2 By June 2026 is expected to conclude the activation of all 41 units								

6. Financing and costs

Estimated cost of the plan													
Component name	Investment/ Reform	Relevant time period	Total estimated costs for which funding from the RRF is requested	If available: Total estimated cost by year (mn/bn national currency/EUR)						Funding from other sources (as requested by Art. 8 in the Regulation)			COFOG level 2 category / or type of revenue (if relevant, e.g. tax expenditure)
				2021	2022	2023	2024	2025	2026	from other EU	from	Othe	
COMPONENT 1: Proximity networks, facilities and telemedicine for territorial healthcare assistance													
Investment 1 - Enhancement of health assistance and territorial healthcare network													
Investment 1.2 - Homecare as first point of assistance for citizens	a2	2021-2023	34,455,500 €	477,300 €	10,416,200 €	23,562,000 €							
	b1	2022-2024	211,600,000 €		52,900,000 €	105,800,000 €	52,900,000 €						
	b2	2024-2026	189,094,500 €				75,637,800 €	75,637,800 €	37,818,900 €				
	b3	2024-2026	564,850,000 €				225,940,000 €	225,940,000 €	112,970,000 €				
Investment 1.1 - Community Health House to improve territorial health assistance	2	2023-2026	4,000,000,000 €	1,660,480 €	415,120 €	1,199,377,320 €	1,199,377,320 €	1,199,377,320 €	399,792,440 €				
Investment 1.3 - Strengthening of Intermediate healthcare and its facilities ("Community hospital")	a2	2023-2026	2,000,000,000 €	628,000 €	157,000 €	599,764,500 €	599,764,500 €	599,764,500 €	199,921,500 €				
Investment 2 - Health, environment and Climate													
Investment 2.1 - Health, environment and climate: development of an ecological public health model	a1	2021-2025	450,498,950 €	41,586,274 €	115,688,359 €	138,481,496 €	113,156,548 €	41,586,274 €					
	b1	2021-2026	49,501,050 €	9,900,210 €	12,400,315 €	12,400,315 €	7,400,105 €	4,950,105 €	2,450,000 €				
Total		2021-2026	7.500.000.000 €	54.252.264 €	191.976.994 €	2.079.385.631 €	2.274.176.273 €	2.147.255.999 €	752.952.840 €				

2 M6C2 - Innovation, research and digitalisation of national healthcare service

1. Description of the component

Summary box

Policy area: (i) promote the economic, social and territorial cohesion of the Union; (ii) strengthen economic and social resilience; (iii) mitigate the social and economic impact of the crisis; (iv) support the digital transition.

Objectives: The component aims to ensure the necessary enabling and transversal conditions to ensure greater resilience of the healthcare service through: (i) the promotion and strengthening of the scientific research sector, giving priority to the creation of clinical-transnational networks of excellence and being oriented towards prevention; (ii) the strengthening of health information systems and digital tools at all levels of the national health care service; the enhancement of human resources, through the modernisation of training tools and contents and the development of professional skills; (iii) the development of a significant structural improvement in the safety of hospital structures and alignment with the current anti-seismic standards; (iv) replace obsolete healthcare technologies in hospitals, reaching higher standards of efficiency and effectiveness in the clinical path.

Reforms: Reorganize the network of Scientific Hospitalization and Care Institutes (IRCCS) to improve NHS quality and excellence: concerning an update of the national regulations by introducing the necessary rules to review the legal regime of the IRCCS and the research policies related to the Ministry of Health; to support research and strengthen the responsiveness of the NHS to health emergencies, the epidemiological transition and the health needs related to the demographic framework, as well as guaranteeing clear paths that regulate the relations between the national healthcare service and the University, in order to guarantee a greater integration in compliance with the competences of the Ministry of Education, University and Research, the Ministry of Health, Regions and Bodies of the NHS;

Investments: The planned investments concern the development, strengthening and modernization, both in technological, structural and infra-structural terms, of the national healthcare service and the Research sector. All investments are linked to the reform mentioned above;

Estimated costs:

EUR 10,510 million to be covered by RRF, of which 5,230 million in new projects

M6C2 - Innovation, research and digitalization of national healthcare service

	Risorse (euro/mld)				
	Existing	New	Total	REACT-EU	TOTAL NGEU
	(a)	(b)	(c) = (a)+(b)	(d)	(e) = (c) + (d)
Technological and digital update	5.28	4.73	10.01	-	10.01
- <i>Digital update of the hospital technology park</i>	<i>1.41</i>	<i>2.00</i>	<i>3.41</i>	<i>-</i>	<i>3.41</i>
- <i>Hospitals</i>	<i>3.30</i>	<i>2.30</i>	<i>5.60</i>	<i>-</i>	<i>5.60</i>
- <i>Strengthening of the technological infrastructure and of the tools for data collection, data processing, data analysis and simulation at central level</i>	<i>0.57</i>	<i>0.43</i>	<i>1.00</i>	<i>-</i>	<i>1.00</i>
Scientific research, technological transfer and training	-	0.50	0.50	1.31	1.81
- <i>Strengthening and enhancement of the NHS biomedical research</i>	<i>-</i>	<i>0.20</i>	<i>0.20</i>	<i>-</i>	<i>0.20</i>
- <i>Health innovation ecosystem</i>	<i>-</i>	<i>0.10</i>	<i>0.10</i>	<i>-</i>	<i>0.10</i>
- <i>Development of technical, digital and managerial skills of professionals in the healthcare system</i>	<i>-</i>	<i>0.20</i>	<i>0.20</i>	<i>1.31</i>	<i>1.51</i>
TOTAL	5.28	5.23	10.51	1.31	11.82

2. Main challenges and objectives

a) Main challenges

The component “Innovation, research and digitalization of the national healthcare” stems out from the need to intervene in the process of transformation and renewal of the current Italian national health service, promoting the creation of a modern and digitally-oriented offer, able to enhance the quality of care and the response to the health needs of citizens.

The Covid-19 emergency has highlighted some structural weakness of the Italian healthcare system. The response of the healthcare system to the development of the pandemic has been hampered by deficiencies in the supply of adequate medical and health devices, the availability of staff, the provision of infrastructure and of technological and digital equipment.

The Italian Government focused its effort on overcoming the short-term COVID-19 emergency and, together with this, on ensuring a responsive health and care system, able to respond to the needs of the evolving society and overcome the challenges that prevent it from serving the population's needs most effectively and efficiently. To this aim, the national strategies and agenda are perfectly aligned with the priorities set by the EU in terms of digitalisation - in particular concerning the services provided by the public administration and the specific needs of the healthcare system - which require particular attention in ensuring that adequate supply of services is provided through efficient means. Leveraging the innovation and digitalisation of the health and care system - in particular in response to the challenges of the ageing population - and investing in enhancing the training and availability of health workers and medical infrastructure is indeed of primary importance.^{3,4}

On the other hand, the Italian research sector need more funding in order to ensure more coordination and up-to-date improvement of the healthcare service offering. Biomedical research is particularly affected compared to other international practices. The development of transnational clinical networks of excellence would enable the sharing of the geographically-dispersed competences, creation of synergies and, ultimately ensure efficiency and effectiveness in developing the biomedical products supporting the health and care of the population.

Research is an essential item, as it ensures the improvement of the care of the sick, in addition to the development and evaluation of organisational-management methods to increase the efficiency of the NHS. The lessons learned during the Covid-19 emergency show that a new and suitable way to meet needs and contingencies must be identified to establish lasting, transparent and mutually profitable relations between Public action and the action of Private Operators. All this falls within the scope of a sector that has to be considered absolutely “strategic” and where the lead of the central administration is essential. The main challenge in this area concerns the ability to define a new sectoral planning policy approach to combine public interventions in relation to healthcare with the needs and potential of the supply chain as a whole, as well as support the private initiatives in a logic of sustainable and lasting partnerships. It is essential for the Country to equip itself with national research and innovation programs, containing development guidelines to direct the growth of the national ecosystem, and that these are supported by a strategic, unitary and integrated medium-long term vision.

The modernisation and digitisation process is one of the most relevant challenges of the National Health System and, for this reason it requires the continuous update of the

³ OECD (2019) *State of Health in the EU - Italy Country Health Profile 2019*. European Commission (2019) *Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability*, Institutional Paper 105, June 2019 ISSN 2443-8014 (online); see also: *Country Document - 2019 update for Italy*.

⁴ European Commission Recommendation for a Council recommendation on the 2020 National Reform Programme of Italy COM(2020) 512 final.

clinical and assistance skills of health and social-health personnel, balancing the need for highly specialized skills with the need for a high level of integration between operators in the general system of health services. In particular, in line with the need to upgrade and modernise the territorial network as well as the hospital one, it will be essential to focus on training of key figures such as the General Practitioner and the top hospital roles of the Health Authorities (general directors, chief medical officers, administrative director, districts director, head of departments, as well as the board of auditors and the supervisory body), in order to acquire the necessary managerial skills and competencies to face current and future health challenges in an integrated, sustainable, innovative, flexible and result-oriented perspective.

In addition to the development of technical-managerial skills, the scope of the training, will also be aimed at equipping healthcare professionals with knowledge and tools to ensure maximum safety for the patient along the clinical care path. In fact, as shown by a recent study published by the ECDC - European Center for Disease Prevention and Control - it emerges that Italy ranks among the last Countries in Europe for prevalence of healthcare-related infections (Ica).

For this reason, specific training interventions are provided to train health personnel in order to improve the management of hospital infections, reducing the high number of cases that occur annually. The challenges of the component also include the objective of modernising healthcare companies from a structural point of view, in order to ensure the highest standards of anti-seismic safety. The intervention is particularly important, also in light of Italy being one of the Countries with the greatest seismic risk due to its particular geographical position. The consequences of an earthquake also depend on the characteristics of resistance of buildings to the actions of a seismic shock. The more vulnerable a building is (by type, inadequate design, poor quality of materials and construction methods, poor maintenance), the greater the consequences. Interventions are therefore planned to make health facilities increasingly safe places and in line with the most recent anti-seismic standards.

Within the context mentioned above, the component contributes to responding to the following challenges:

- overcoming issues related to the limited resources allocated to research in the health sector and digital health;
- addressing the low level of interrelation between research & AMP ;
- developing a stronger link between research centers and businesses, in an open innovation perspective;
- making healthcare facilities safer and in line with the current anti-seismic safety standards;
- overcoming the critical issues related to the limited and uneven dissemination of the electronic health record;
- resolving the issue related to of equipment ageing / low use of health technologies