POSITION PAPER

EXCELLENCE IN HEALTH RESEARCH: THE BEST CLINICAL AND SOCIAL RESEARCH FOR A BETTER HEALTH

GROUP LEADER: Emilia Romagna Region

OTHER PARTNERS: Campania, Lazio, Marche, Sicilia, Toscana, Provincia Autonoma di Trento, Valle d'Aosta, Veneto.

This document has been draw up in close collaboration with the Italian Ministry of Health

THE BEST CLINICAL AND SOCIAL RESEARCH FOR A BETTER HEALTH

Health research – as an essential part of the National Healthcare Systems (NHS) activities, in accordance with the Legislative Decree n. 502 of the 30th December 1992 – is fundamental to ensure both efficient public health services targeted to citizens and coherence with country healthcare and assistance needs.

By 'health research', we mean a broad range of scientific and technological activities involving both innovative research aimed at significantly improving and enhancing both our knowledge on different pathologies and/or promoting innovative (diagnosis, treatment, etc.) solutions (the so-called theory enhancing research); and the research aimed at positively addressing and providing possible solutions to specific concrete problems and producing useful information for decision-makers (change promoting research). Health research also involves training interventions to enhance research expertise of Regional Health Service professionals and to facilitate the research network development. More in general, these activities are focused on producing innovation and enhancing health processes, also by means of new diagnosis and healthcare instruments and their upgrading.

Quality health research is an investment capable of fuelling operational and scientific knowledge benefiting citizens'health, quality healthcare services and the economic system as a whole. According to the European Union's 2020 strategy, thanks to its high degree of innovation, *health* represents a potential key *driver* of competitiveness and growth. In this context - and with a view to contributing to the further economic development - new technologies are crucial in boosting the system performance.

One of the most significant tasks of biomedical and health research policy is connecting research & innovation. The latter may be achieved, on the one hand, through the assessment of actual innovative potentialities of research targeted to health services and in accordance with the most urgent needs of the NHS. On the other hand, through the clear identification of fully validated innovations that deserve to be widely deployed within the System.

Furthermore, the EU 2014-2020 programming period emphasizes health and social care integration (1). **Methods, objectives and results of social research** – if properly integrated with methods, objectives and results of biomedical and health research – may contribute to decision and knowledge enhancement processes, as well as to strategic planning of introducing and managing innovation. Social research contributions have a key role in the following areas: health and social care organization, human resources mapping and analysis, learning needs of targeted healthcare professionals and related coherence with the fast changing socio-economics context.

Given the shortage of economic resources and the resulting competition to hold them, funding devoted to research should be rationalized. Furthermore, waste in the production and reporting of research evidence has long been detected; as a matter of fact up to 85% of public research investments gets lost (2). It makes you wonder whether it still makes sense to increase (or at least not to reduce) investments devoted to health research, or rather, to enhance the efficiency for resources allocation.

Existing resources in the NHS and scientific and academic context should be valorised, avoiding duplications and overlapping that may hamper health research impact.
Cooperation and synergies should be therefore enhanced among research and innovation stakeholders (Health System, University, Industry). This could be also achieved through regional and national technological Clusters and Districts.
Beyond strengthening cooperation, specific approaches may enter the strategy, such as the use of cultural activities to prevent cognitive impairment and promote healthy lifestyles, as well as urban design coherent with changing lifestyle, etc. .

The present document is intended to promote an in-depth reflection on actions aimed at strengthening health research within regional health systems and their enhancement and deployment across Europe as a whole.
By means of a representative sample of practices and methods identified at regional level, this document highlights relevant policy areas, Italian state of the art and possible gaps as well as guidance to be further developed at the European level during the Italian Presidency of the EU.

METHODS

Overview of research activities supported by the Italian Regions. A questionnaire has been structured so as to be able to collect information about existing regional policies, infrastructures, coordination groups and networks in the health research context.
At the same time, relevant information on financial tools targeted to the public health research (sources of financing, programmes and initiatives), arrangements for research priority setting identification, types of funding allocations (assessment) and publicly-funded research monitoring processes have been also investigated. Moreover, data have been collected to provide a deeper insight into regional experiences in sharing research data outputs (Open Access) and – more generally – into methodologies, strategies and tools used (or to be used) in promoting and communicating health research.
Analysis, Validation and Sharing results. In order to identify both best practices and possibly potential weaknesses, the information resulting from the overview have been analysed and results have been validated and shared with the participating regions.

GOVERNANCE

Enhance social and scientific effectiveness of research; keep patients' safety; manage and monitor risks arising from researchers' activities; ensure clear and high-quality procedures and research practices by developing approaches capable of valuing research; identify multidisciplinary and multi-stakeholder research areas able to contribute to the improvement of health outcomes through innovations (both in terms of process and product) constituting the research governance - which should involve local stakeholders committed to the research production, support and management. All this can be expressed in two words: *research governance*.

Programs easing knowledge production within the Health Service may be developed through a wide range of activities, procedures, principles, regulations and standard of good practices effective in managing research processes: from the project identification – including the research development – to the research outcomes.
Beyond the correct distribution of the available resources, the public health service research governance (both regional and national) should carefully consider the impact new knowledge can have on the governance of innovation and clinical practices. Scientific research – even though prone to freely express its creativity - must be capable of answering factual questions and issues arising from the NHS, primarily in the view of adopting or rejecting new technologies.

Points of reflection
In order to select best research proposals (also in new and multidisciplinary areas), procedures – developed on the basis of transparency, effectiveness and accuracy – need to be implemented and shared in each Member State; priorities should be defined according to the usefulness in governing areas of uncertainty in health interventions; priorities need to be identified on grounds of their potential to tackle social challenges that could jeopardize the future of social and health's services sector as we know it today. In this context, sharing and compare best practices developed in the EU regions is key to our purposes.

PRIORITY SETTING
Health research prioritization methodologies are aimed at channelling public funding towards specific research areas in order to optimize public investments to tackle the lack of resources and boosting, at the same time, health research towards specific needs that can improve the health status of the population. Prioritization is essential while dealing with research that should answer concrete problems, and is key to provide decision makers with valuable information. Research themes should be in line with social and health's needs as well as with each regional health system, accounting for existing excellence centers and challenges to be addressed. Patients and health professionals need to be engaged both in setting priorities which are to be funded and in early participatory project design.
Points of reflection
Methodologies that can foster a clearer and better identification of problems (hierarchically ordered in terms of enabling factors) to be addressed, should be adopted. These methodologies are key in pinpointing priority research areas/questions to be investigated and funded by the different regional health systems,. The value of existing networks at regional-national (i.e *Progetto Mattone Internazionale*[1]) or at European level (i.e EUREGHA[2]) needs to be enhanced and requires to be planned in advance, with a long-term vision.

[1] http://www.progettomattoneinternazionale.it/

[2] European Regional and Local Health Authorities – EUREGHA: http://www.euregha.net/

PAY BACK ASSESSMENT

Monitor and assess the impact of the publicly-funded research is the culminating point of a process which develops from the research priority setting for a Health System (whether national or regional). The impact assessment identifies the research ability of providing a specific Health System with transferable, relevant and useful results.

Because of the shortage of economic resources and the resulting competition to hold them, funding devoted to research should be rationalized (2). The assessment should be multidimensional as the context itself is multidimensional. The following items are, therefore, to be taken into consideration: public health enhancement, economical outcome, health policy, social wellbeing, knowledge advancement, infrastructures and skills/expertise development. Nowadays. research has a variety of impacts and each of which should be analysed to gain the overall picture that can guide policy/decision makers and stakeholders (3).

Points of reflection

Incorrect scientific questions or irrelevant to citizens' health, low-quality methodology of research studies, difficulty in finding original data, distorted or even misleading results are some of the more frequent reasons hampering the quality of a great number of published scientific papers. The same reasons are therefore responsible for the waste of public investments. This is not just the result of the unavoidable uncertainty entailing research, this is also due to the scant regard for factors that can be tackled to achieve significant overall improvements. Beginning 2014 *Lancet* (4) published a set of articles displaying recommendations about what to do to avoid the waste of resources. Only the prompt assessment of the research impact can help properly (re)address economic resources and health organisation/planning.

DISSEMINATING and COMMUNICATING RESULTS

The dissemination of research results is a crucial part of the research process itself, that should rely on a twin-track strategy involving internal and external research output dissemination and communication (5).

The **internal** process is based on the free movement and sharing of research results (whatever results) among experts (peers) and, more generally within the scientific community. As a consequence knowledge increases and a virtuous cycle towards the *open knowledge society* activates. But, in order to be really *open*, the **external** process is needed, allowing information to cross scientific community borders and thus enter the society.

Open Access[3] (6) is a key tool for **internal dissemination and communication** purposes.

[3] There are three main routes that articles can be made as open access.

- GREEN ROAD: immediate or delayed open access that is provided through self-archiving .
- GOLD ROAD: immediate open access that is provided by a publisher (PLoS, Biomed Central, …) the publishing model is "author-pays" (the author or the institution pays to publish).
- RED ROAD: More traditional publishers (referred to as 'hybrid publishers') are offering authors the choice of whether to publish their articles in Open Access

Open Access means unrestricted online access to peer-reviewed scholarly research (journal articles, monographs, recommendations, …). Open Access literature is digital, online, free of charge, and mostly free of copyright and licensing restrictions. Results of publicly-funded research can therefore be disseminated more broadly and faster, to the benefit of researchers, innovative industry and citizens.
As all research and innovation builds on earlier achievements, an efficient system for broad dissemination of and access to research data and publications can accelerate scientific progress.
The European Commission objective is to optimise the impact of publicly-funded scientific research, both at European level (FP7, Horizon 2020) and at Member State level. This is essential for Europe's ability to enhance its economic performance and improve the capacity to compete through knowledge.(7)
Universities and funding agencies should maximize the impact of research and the dissemination of research findings through the OA models.
A particular important issue for the long-term sustainability of the author-pays OA is the funding allocation. A small number of universities have already established funds to pay processing fees e.g. the Compact for OA Publishing Equity (COPE) or the Harvard Open Access Publishing Equity (HOPE) (8). Funding Agencies pay the Article Processing Charges and allocate the funds available for OA charges and other publication costs within research grant applications. Most recently, in July 2012, the Research Councils of the UK (RCUK) announced a new OA policy: funding for Open Access is available through a block grant awarded directly to research organisations (9). In fact the funds would not come from the grant budget itself, but through a separate disbursement process whereby a grantee could request additional funds to pay open-access processing fees for articles based on grant-funded research.
Since the beginning of 2014 an important breakthrough was made in Italy. In the SIR grant (Scientific Independence for Young Researchers, ex FIRB) (10), the art. 9 state that "Principal Investigators are responsible for ensuring that the submission of final peer-reviewed manuscripts that arise directly from their awards will be publish in OA journals/archives".
The **external communication** entails a wider knowledge transfer that can engender a crucial consensus in research and innovation policy issues. Being able to transfer clear, prompt and accurate information should be a key skill of researchers and people who, with different assignments, are engaged in this field. The citizen should be at the heart of research communication; thanks to the availability of such information he will have the feeling of being part of the decision process affecting him and, at the same time, confident with the results this process is delivering.

Points of reflection

Quality research is a *sine qua non* that could be achieved trough research governance and prioritization actions. But the communication and dissemination process is a key factor as well. The new communication ecosystem is a rather rich context (**new media**) that provides researchers with greater opportunities to widely display research results. Researchers can combine traditional modalities of scientific publishing with constantly evolving new tools (Open Access and social media). Nevertheless, the paradox plain to all to see is the increase of communication tools that does not necessarily link to the efficient conveyance of research data to the citizen. There are two main reasons hindering the external research communication strategy. The first reason is strictly related to the use

of unsuitable communication tools and methods; the latter compromises the contents transfer, despite their quality, accuracy, promptness and transparency. The second reason is the lack of **existing wealth of knowledge.** The latter is a condition for effective scientific communication targeted to citizen. Pre-existing knowledge, indeed, is where new emerging knowledge grounds, which is fundamental to knowledge creation and sharing. Education and information empowerment actions may be useful to settle this pre-existing knowledge where cutting-edge further knowledge – resulting form new research – can successfully fixate (11).

POSSIBLE POLICY ASKS/ACTIONS TO BE SHARED WITH THE MEMBER STATES, also aimed to guide resources allocation and / or EU Institutions' mission agendas

- Indentify **research needs,** paying attention to areas lacking of research activities and innovation initiatives, by picking up on existing care problems that deserve to be tackled by means of innovative tools and services.
- Promote **research governance** that, besides the appropriate resource distribution, accounts for appropriate impacts in terms of new knowledge, clinical practices and innovation governance**..**
- Identify **procedures for the technical and scientific assessment** of project proposals. The latter should be selected on the strength of their methodological and scientific quality, innovative capacity and ability to concretely impact on national and/or regional health systems.
- Design **priority setting** public policies as a means to guide the research towards issues significant to national and/or regional systems. Increase the adherence to concrete objectives and strategies by clearly identify their real contribution to the national and/or regional health systems' needs.
- Promote **priority setting** activities coherent to EU priorities and strategies. **Monitor and assess** the impact of the publicly-funded research **in the course of time** to verify whether it yielded useful, relevant and transferable results able to support public decision-making in possible services (re)organisation and coherent (re)allocation of (scanty) economic resources.
- Guide, develop and value **health and social research** to support research governance strategies in boosting innovation and planning processes.
- Advance **public-private partnerships** so as to enable public organisations to govern mission-oriented processes.
- Further promote Member States engagement towards the **open knowledge society** to foster: (1) the Open Access model (2) the citizen's empowerment agenda (knowledge-based public policies, mainly educational and informational).

References

1. Ahtonen A., Economic governance: helping European healthcare systems to deliver better health and wealth?, Policy Brief, European Policy Centre, 2 May 2013.
2. Chalmers I, Glasziou P Avoidable waste in the production and reporting of research evidence *Lancet* 2009;374:86-89.
3. Banzi R, Moja L, Pistotti V, Facchini A, Liberati A. Conceptual frameworks and empirical approaches used to assess the impact of health research: an overview of reviews. Health Res Policy Syst. 2011;9:26. doi: 10.1186/1478-4505-9-26.
4. Macleod MR, Michie S, Roberts I, Dirnagl U, Chalmers I, Ioannidis JP, Al-Shahi Salman R, Chan AW, Glasziou P. Biomedical research: increasing value, reducing waste. *Lancet*. 2014;383:101-4.
5. Speech "Opening up Scientific Data", Neelie Kroes, Vice-Presidente della Commissione Europea, responsabile per l'Agenda Digitale, Lancio del Research Data Alliance, Stoccolma, 18 marzo 2013 - http://europa.eu/rapid/press-release_SPEECH-13-236_en.htm
6. Peter Suber: Open Access Overview (definition, introduction) (http://legacy.earlham.edu/~peters/fos/overview.htm).
7. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010: 2020:FIN:IT:PDF>.
8. Shieber SM (2009) Equity for Open-Access Journal Publishing. PLoS Biol 7(8): e1000165. doi:10.1371/journal.pbio.1000165.
9. http://www.rcuk.ac.uk/RCUK-prod/assets/documents/documents/RCUKOpenAccessPolicy.pdf.
10. http://sir.miur.it/.
11. Andrea Cerroni, "Per una società aperta: fra merito e cittadinanza", in Open Science Open Data. La scienza trasparente, Scienza&società 17-18, maggio 2014, MatePristem, Unibocconi - http://matematica.unibocconi.it/pubblicazioni/le-riviste/scienza-e-societ%C3%A0

ANNEX 1

EXCELLENCES WITHIN PARTICIPATING ITALIAN REGIONS TO SET UP A REFLECTION PROCESS AT A EUROPEAN LEVEL

The overview under the coordination of the *Mattone Internazionale* Project identified some benchmarks of excellence in the field of research.

The ***Fondazione Toscana Life Sciences*** **(TLS),** a not-for-profit organization, is committed to develop basic research projects for industrial application (human health biotechnologies); to support research into rare diseases; to manage technological transfer in the biomedical field; to valorise research both at national and international level. This is done through a Scientific Park where technological platforms and skilled networks and experiences of the regional scientific community – universities, research centres, private labs of the biomedical sector – are provided to support industrial, scientific and business development.

The **Research and Innovation Programme (PRI E-R),** has been launched by the Emilia-Romagna Region over 10 years ago. The Programme has a twofold purpose. Through the Regional Healthcare Service (RHS) the PRI E-R firstly develops tools and actions specifically aimed at strengthening the RHS research capacity. Secondly, the PRI E-R represents an arena in which public-private communication and exchange in biomedical and pharmaceutical field can unfold. Since 2013, the PRI E-R working group – consisting of public entities and private companies representatives – is committed to investigate potentialities and criticalities related to the systematic data collection and use: the registries.

Starting from 2010, synergy between health research and industries has also been accomplished trough the High Technology Regional Network (*Rete Regionale dell'Alta tecnologia*) involving the Scientific Institute for Research, Hospitalization and Health Care Rizzoli, Orthopaedic Institute in Bologna.

The **Specific Project for the three-year-period 2012-2015** (*Progetto specifico per il triennio 2012-2015*) of the Autonomous Province of Trento is the aimed to: support and coordinate research, innovation and training actions carried out within the Province; support clinical research needs by means of specific tools and expertises; ease and guide technological innovation processes (New Hospital Focal Point, local entrepreneurship); provide assessment tools for the future planning. The Project also makes available to the provincial health system pre-clinical research expertise, scientific studies editing and proof reading, project management support, medical statistics, health technology assessment, training and continuing professional education on the above mentioned aspects.

Governance. A policy research steadily connected to specific regional legislation references (Decisions of the Regional Governments, Regional/Provincial Laws) are seen in all the participating Regions. Starting from Decisions or Laws, each Region/Province designed (or is about to design) more or less well-structured approaches to research governance, such as infrastructure and technostructure development, coordination groups and research networks setting up.

By means of specific regional registries, most Regions monitor (or intend to monitor) research activities carried out within their RHS and/or funded by regional, national and EU invitation to call for proposals or to tenders. On the contrary, the coordination of regional research activities among the participating Regions is limited. Nevertheless some specific and well-established experiences have been detected in two Regions:
Emilia-Romagna Region is coordinating research activities developed in the framework of the *Regional Group of the Ethics Committees* through the development of guidelines targeted to ethics issues;
Tuscany Region is coordinating regional research activities through the technical and scientific Committee of the Inter-institutional Department for research and didactic activities (Italian acronym: DIPINT).

Priority setting. The importance of addressing regional policy towards issues and problems relevant to the RHS clearly arose from the overview. In some Regions such awareness resulted in priority setting policies; in some other Regions, where such policies are lacking, guidelines to develop these policies are mainly drawn from the Regional Health Plans. Moreover, in all Regions significant attention is paid to fine tuning regional priorities with national and European strategies.

Assessment. The overview analysis distinguishes between the assessment of project proposals and the impact their outputs have on the RHS. All Regions have an evaluation system in place based on pre-established criteria (relevance, coherence to regional and national policies, feasibility and costs) an peer review methods. But only half the Regions put in place project monitor actions. In some cases the scientific assessment is done exploiting standard criteria used in international context through peer review evaluation. Monitoring is both ongoing, trough the interim evaluation of the project activities, and final by means of the structured final report analysis.
In a few Regions the research impact on RHS is assessed. In some cases such evaluation just focuses on the project coherence to the Regional Health Plan and the Essential Levels of Care (Italian acronym: LEA), in some other cases the assessment is based on the evaluation of the impact on the clinical practice. In this context, the Emilia-Romagna Region, as an example, bases the research evaluation on both the bilbiometric analysis and a structured overview targeted to researchers whose studies have been funded by the Region. The overview is aimed at making visible the impact these studies have had on both the clinical assistance and the health services (re)organisation.

Dissemination and communication. Research dissemination and communication is an essential part of the research governance in the participating Regions. According to the information drawn from the survey, the Regions' approach to communicating research differs essentially in intensity, tools and targets.
Internal communication and dissemination is well developed in almost all Regions; researchers, experts, policy and decision makers are clearly identified targets. On the contrary, **external communication** is still playing a modest role (the only experience identified among the Regions is the "Meet the Life Science" website). The latter clearly indicates external communication as an area where resources and planning need to be further deployed.

Furthermore, in three cases – Emilia-Romagna, Tuscany and Veneto – communication is also explicitly targeted to industry, which is meaningful.

Internal dissemination (Open Access). Open Access experiences within the participating Regions are quite limited. In just few Regions the publishing and dissemination of research outcomes are taken into careful consideration, making study results easily available to the RHS. Starting 2013, in accordance with the *European recommendation on Access to and preservation of scientific information* (dated 17.07.2012) and *Helsinki Declaration*, the Emilia-Romagna Region awards with a greater co-financing principal investigators who publish their research results in Open Access. Furthermore, each scientific publication resulting from regional publicly-funded research – firstly form the ***Region-University Research Program*** **(PrRU)** – are collected and made available trough the 'LaNiUslettER 'website in the 'E-Ricerca'[4] section. The significance of such publishing method is also acknowledged by other Regions, namely Sicily and Tuscany, which are committed to develop specific regional policies.

Focus: Scientific Institutes for Research, Hospitalization and Health Care (SIRHH).

Scientific Institutes for Research, Hospitalization and Health Care (IRCCS - Istituto di Ricovero e Cura a Carattere Scientifico) are independent institutions of national relevance (art n. 1 of the Legislative Decree n. 288⁄2003) working according to standards of excellence in order to perceive research aims, mainly clinical and translational, in the biomedical field as well as in the organization and management of healthcare services, with special reference to highly specialized hospitalization and health care.

The Ministry of Health is responsible for supervising Research Hospitals activity in order to ensure that the research is in the public interest and that it has a direct impact on patient care. The Regions, entirely responsible for the organization of healthcare facilities and services, are directly involved in ensuring the effective delivery of services. Despite the increasing number of SIRHH in the last 10 years, funding resources are decreasing. Due to the governance complexity a continuing strategic interaction among Ministry of Health and Regions is needed.

Furthermore, to increase SIRHH researchers' contribution to scientific knowledge enhancement, a stronger interaction and connection between Hospitals and Universities is needed. The latter can facilitate and foster knowledge circulation, resources sharing, research outputs transfer both to industry and health systems. Thus – following some public SIRHH's example with already well-developed research infrastructures, organizational models and technology transfer potential – a research-healthcare-industry integrated model could be achieved taking advantage of public-private partnerships pointed out by the EU 2014-2020 strategy. These partnerships are aimed at strengthening both national and European industry, making available to other sectors, structures, innovation technologies, expertise and know-how. Thus, industrial production needs combines with ethical principles laying at the very core basis of public and no profit research activity, typical of SIRHH.

[4] http://assr.regione.emilia-romagna.it *e* www.laniuseltter.it

New cultural, scientific/technological, social and health scenarios forces one to reflect upon the SIRHH role. These are the technical and operative resources of basic, biomedical, translational and organisational research in their own Regions and in the national context, as a whole.
The integration and multidisciplinary of these network projects could enhance knowledge, find common roots, outline methodologies and programmes supporting NHS and RHS in the interest of patients, supporting transfer of research findings into industry through programmes such as the Regional Operational Programme and European Regional Development Fund (ROP-ERDF).
The ERDF programme focuses its investments on several key priority areas. In order to define macro policies that will be achieved in each ROP, the participation of SIRHH Network to the ERDF is strategic in particular regarding to following thematic issues:

- Research and innovation (research activities support, high technology content innovation processes and networks);
- Digital Agenda (technology innovation in healthcare; integrated e-Government services with solutions for smart cities and communities);

The latest EU Directive on Patients' Rights in Cross-border Healthcare (Legislative Decree n. 38 of the 4th March 2014) is challenging and SIRHH can take on the challenges through research and of care pathways.
The healthcare pathways and the outcomes for the National and Regional Health System could be improved by implementing the excellences and the cooperation among the SIRHH that will be, at the same time, more competitive in the European context and more attractive to patients and investments.
Furthermore the SIRHH, working in a multidisciplinary system, should define common policies on international cooperation and development projects, fostering collaborative studies among excellent centres, setting up pathology networks and registries in their own countries. They can also encourage synergies in conducting research projects, resulting in increasing efficiency (i.e. development of telemedicine projects for wide geographical areas; definition of healthcare policies; data sharing network; planning training programmes targeted to health professionals, etc. …).
The SIRHH Network could represent the bridging instrument between the National Health System and the International research network that, in the 2014-2020 period, could develop and launch new projects triggering a virtuous cycle of attracting new resources and expertise.

Annex 2. Summarizing Questionnaire

A.O. – Hospital/s
APSS – Trento Health Authority [*Azienda Provinciale per i Servizi Sanitari*]
ASSR – Regional Agency for Health and Social Care of Emilia-Romagna
ASUR – Regional health care organization, Marche Region – [*Azienda Sanitaria Unica Regionale, Regione Marche*]
D.G.R. / D.G.P. – Regional Government Decision / Provincial Government Decision
DIPINT – Inter-institutional Department for research and didactic activities (Tuscany Region) [*Dipartimento Interistituzionale per l'Implementazione delle Attività di Ricerca e Didattica*]
D.Lgs. – Legislative Decree
FAS - Fund for Development and Cohesion (previously, Fund for Underutilised Areas) [*Fondo per le Aree Sottoutilizzate, ora Fondo per lo Sviluppo e Coesione –FSC*]
FSE – European Social Funds
IRCCS – Scientific Institute for Research, Hospitalization and Health Care
IRCCS - INRCA – National Institute of Health and Science on Aging, Marche Region [IRCCS - *Istituto Nazionale di Ricovero e Cura per Anziani, Ancona, Marche*]
LEA – Essential Levels of Care
L.R./ L.Prov. – Regional Law / Provincial Law
Piano Operativo di Consolidamento e Sviluppo – Consolidation and Development Operational Plan
PRI ER – Research and Innovation Programme of Emilia-Romagna [*Programma di Ricerca e Innovazione Emilia-Romagna*]
PRIHTA – Research Programme for the Health Technology Assessment Innovation (Veneto Region) [*Programma Di Ricerca per l'Innovazione di Health Technology Assessment*]
P.S.R./PSSR – Regional Health Plan / Regional Plan for Health and Social Care

REGION	Campania	Veneto	Emilia R.	Marche	Sicily	Aut.Prov. of Trento	Tuscany	Lazio
General								
Research policy in its own RHS	Y	Y	Y	Y	Y	Y	Y	Y
Reference to the legal framework	P.S.R.2011-2013 – Dec.Comm.n. 22/2011, Regional Law 4/2011(int.L.R.5/2013)	L.R. 9.2.2001n.5	L.R.n. 29/2004; D.G.R.n. 297/2005; D.G.R.n. 61/2011.	L.R. n. 13/2013; L.R. 17/2010 e n. 17/2011	PSR 2011-2013; Piano Operativo di Consolidamento e Sviluppo 2013-2015; L.R.n.7 24.2.2014	L.Prov.N° 16, 7.2010; D.G.P. n. 434 13.3.2006; D.G.P. n. 2628 11.2010; D.G.P. n. 2324; D.G.P. n. 2216.	L.R.27.04.2009, n. 20; L.R.24.02.2005, n. 40; PSR	D.Lgs. 502/92, art. 12 e 12 *bis*
Origin of the funding devoted to the research	**regional/national/EU**	**regional/national/EU**	**regional/national/EU**	**regional/national/EU**	**national/EU**	**regional/national/EU**	**regional/national/EU**	**national**

REGION	Campania	Veneto	Emilia R.	Marche	Sicily	Aut.Prov. of Trento	Tuscany	Lazio
Regional funding devoted to the research: Y/ N / *to be developed*	Y	Y	Y	Y	*to be developed*	Y	Y	N
Programs and initiatives	Regional calls for proposals	Regional calls for proposals	Regional calls for proposals	Regional Special Projects planned with the Coordination of the Authorities hosting thee 4 RHS Genera Directors	*to be developed*	Health research Provincial calls for proposals	Regional calls for proposals	Regional and national co-funded calls for proposals
Other initiatives	Coordination of regional /national/EU calls for proposals	Coordination of regional /national/EU calls for proposals	Coordination of regional /national/EU calls for proposals	Coordination of regional /national/EU calls for proposals	Coordination of regional /national/EU calls for proposals	Coordination of regional /national/EU calls for proposals	Coordination of regional /national/EU calls for proposals	Coordination of regional /national/EU calls for proposals
Infrastructure/technostructure supporting research activity – *Regional Level*	Regional structure	Regional Program (PRIHTA), ARSENAL	Regional structure	Regional structure	Regional structure	Provincial structure	Regional structure (UVAR)	Regional structure
Infrastructure/technostructure supporting research activity – *Local health Units Level* (i.e. Grant Office)	Local health Units structure	Local health Units structure	Research Offices	Local health Units structure: ASUR /AA.VV; A.O/Univ.; INRCA	Some Local health Units structures	Research Unit in the clinical governance area	Local health Units structure (DIPINT)	Local health Units structure
Research Network	N	IRCCS joining the PRITHA Project	ASSR and Research Offices Network (PRI ER)	Informal network	Local health Units Representatives Network	APSS/ IRCS Project (Health Research Implementation)	Regional District of Life Sciences and DIPINT	N
Assessing research impact on the RHS	N	N	Y	Y	N	N	Y	Y

REGION	Campania	Veneto	Emilia R.	Marche	Sicily	Aut.Prov. of Trento	Tuscany	Lazio
Indicators			Bibliometric indexes for scientific publications and Programme "The Research hitting the mark!"	Coherence to the PSSR and the LEA		None	DIPINT	Evaluation of project objectives transferred to the RHS
Regional Registry of the research activities	*being defined*	Database collecting research activities and researchers details	Research Regional Registry (AReR)	*being defined*	Researchers database and Network and targeted research archive	*being defined*	*being defined*	Y
Ethics Committee Coordination	N	N	Coordination (ASSR)	N	N	N	Y	N
Type of research funded: basic (1), translational (2), epidemiologic (3), organizational (4)	2,4	NA data	2; 3; 4	4	NA data	1;2;3;4	NA data	1,2,3,4
Evaluation of the research projects	Y	Y	Y	Y	*being defined*	Y	Y	Y
Peer Review								
Peer Review (Y/N)	Y	Y	Y	N	N	Y	Y	Y
Ranking	N	Y	Y	N	N	Y	Y	N
Monitoring of the funded projects: methodology and indicators	N	N	Y	Y Ex-post (financial assessment)	N	Y	Y	N
Regional policy promoting Open Access	N	N	Y	N	*being defined*	N	*being defined*	*being defined*

Ministero della Salute

Mattoni SSN

CONFERENZA DELLE REGIONI E DELLE PROVINCE AUTONOME

REGION	Campania	Veneto	Emilia R.	Marche	Sicily	Aut.Prov. of Trento	Tuscany	Lazio
Type of promotion and access (open/with fee)	NA data	NA data	In the framework of regional calls for proposals the E-R Region awards with a greater co-financing principal investigators who publish their research results in Open Access.	N	NA data	N	NA data	N
Monitoring of publications (OA / not OA) and evaluation of the impact on the RHS	N	N	Y	N	*being defined*	N	N	N
Priority Setting								
Regional policy to address research towards issues relevant to the RHS	*being defined*	Y	Y	Y	*being defined*	Y	Y	Y
Adopted methodology	NA data	Coherence with the PSR, connection of the PRITA with regional pharmacological commissions and the DM to detect the needs	Prioritization process by means of surveys targeted to research representatives (within the Local Health Units and the Region) and analysis of regional guidelines and policy documents	Coherence with the PSR and the LEA	*being defined*	Through the IRCCS Steering Committee, coherence with the PSP	On the *Conferenza per la Ricerca FlagShip*'s suggestion; tool of the "target" developed by MES (S. Anna)	Coherence with the Regional Planning

REGION	Campania	Veneto	Emilia R.	Marche	Sicily	Aut.Prov. of Trento	Tuscany	Lazio
Regional Research connections to national and EU research policies and strategies	EIP on AHA Reference Site; EHTEL Network	Ministry of Education, Universities and Research; National Health Plan; Horizon 2020 thematic	Ministry of Education, Universities and Research; Health Ministry; EUREGHA and ERRIN Networks; EIP on AHA Reference Site	FSE, FAS, EU calls for proposals (Interreg, Europe 2020, Public Health)	ERRIN Network	*Mattone Internazionale* Project; EIP on AHA; AGENAS	Ministry of Education, Universities and Research, Health Ministry, EUREGHA Network	*Mattone Internazionale* Project and Health Ministry
Communicating research								
Research promotion, communication and dissemination	Y	Y	Y	*being defined*	Y	Y	Y	Y
Research communication target (decision-makers/ users)	Researchers; professionals of the RHS	Heath research stakeholders (industry as well)	Researchers; health professionals; decision and policy makers	Researchers; health professionals; decision and policy makers	Research representatives and researchers	Health professionals; researchers; , Heath research stakeholders (industry as well)	Researchers; administrative professionals ; general public	RHS's structures
Methods and tools	Classical media	Conferences; research portal,	website and newsletter *LaNiUSlettER* of the Region-University research Programme	*Mattone Internazionale* Project website	Internet, websites, info days	Training courses, workshops, websites, info days	Publications; events (dissemination and training); new media: "Meet The Life Sciences"	Publications, events