



EUROPEAN POLICYBRIEF



CHALLENGE DEFINITION IN OPEN INNOVATION PROCESSES

Challenge-based innovation processes, used in e.g., open innovation, functional procurement, hackathon etc., have become increasingly popular during the last years and are also core of the experiments conducted in the CHERRIES project. The RRI experiments in CHERRIES are in fact based on demand-driven and open innovation approaches that should address the emerging and unmet needs of the health care sector at territorial level in order to build more equitable and more socially “porous” healthcare systems for the health and benefits of all the citizens within each territory. This policy brief describes the lessons-learned in the course of the definition of the challenge.

16. April 2021

INTRODUCTION

The Responsible Research and Innovation (RRI) approach aims to encourage societal actors to work together during the whole research and innovation (R&I) process to better align R&I and its outcomes with the values, needs and expectations of society. Experience shows that strategies and practices based on RRI can open up R&I to all relevant actors, and improve co-operation between science and society, fostering the recruitment of new talent, and pairing scientific excellence with social awareness and responsibility.

Territories have a specific advantage to address the complexity of the challenges set by the interplay between science and society. Indeed, local actors have an intimate knowledge of the physical territorial setting, and local ecology, i.e., the status quo of the complex relationships between cultural, social, economic and political actors, of the local dynamics, history, expectations and requirements as well as specific concerns. Territories can work towards the establishment of self-sustaining R&I ecosystems that are characterised by a high degree of openness, democratic accountability, and responsiveness to need by taking action to promote all parts of RRI (i.e., gender equality, science education, open access/open data, public engagement, and ethics).

This requires them to bring relevant R&I actors together, for instance citizens and civil society organisations (CSOs), universities, research institutions, formal and informal education institutions (including primary and secondary schools), governments and public authorities (including regional and local administrations and science policy institutions), businesses (including industry, the service sector and social entrepreneurs) and science mediators. New R&I working methods within and between organisations, including novel and transparent governance relations, would promote greater sustainability and inclusiveness at local, national, EU and global levels.

Consortia are expected to elaborate and implement a more open, transparent and democratic R&I system in their defined territories. Consortia are expected to evaluate their activities and provide evidence of societal, democratic, environmental, economic and scientific impacts. Involvement in the project should have a measurable transformative and opening effect on organisations involved; this should be sustainable (i.e., last beyond the lifetime of funding), for instance through the introduction of new forms of decision making, development of business plans or co-operation agreements, and institutional changes in participating organisations.

EVIDENCE AND ANALYSIS

In the course of the CHERRIES project, we are experimenting with challenge-based approaches to innovation policy. The experiment, at the core, follows three steps. 1) a call for needs is launched to identify unmet needs in the context of three territorial healthcare systems. Stakeholders are invited to report these needs. 2) one need per territory has been selected and translated into a challenge, that is the core of the launched Call for Solutions. Applicants are proposing innovative solutions to this challenge. 3) a selected Solution Provider will receive a grant for co-creating the proposed solution together with the need-owner. Further, the Solution Providers will be supported and receive business support for establishing the new solution on the market. Thus, the RRI experiments can be described as demand-driven and open innovation approaches addressing emerging and unmet needs of the health care sector in order to build more equitable and more socially “porous” healthcare systems. In the following, we want to focus on the evidence and lessons learned during the Call for Needs and the translation into the challenge.

The experiment design has been adapted by each territory to fit preconditions that include territorial culture, previous experiences as well as the project partners situation, role, and networks within the ecosystem – thus making it a place-based approach. This is affecting the engagement approaches for the stakeholder groups. The stakeholder-specific engagement processes, means and tools should be carefully considered at the beginning of challenge-based innovation approach. In CHERRIS, the choices were to ranging from open, bottom-up answers from all institutional stakeholders (Cyprus), open answers from all citizens but in a predefined topic (Örebro), to opening up existing routines within the public healthcare system (Murcia). Consequently, the focus, was either to address people that are aware, knowledgeable, familiar and experienced with the sector and its needs (Cyprus), expand the reflection beyond healthcare professionals (Murcia) or to test it as a new approach for public engagement and participatory policy processes (Örebro). Based on these different regional cultures and target groups, the communication and engagement strategies needed to be adjusted accordingly. The role of RRI during this first stage was aimed at making the process of need identification in health more open, inclusive and responsive to territorial/societal challenges. The tools deployed in this context are ranging from personal invitations of important stakeholders, to communication and dissemination campaigns, webinars and the radio shows to activate the general public. The selection of the Need to be translated into the territorial challenge has been made by a Selection Committee consisting of local experts and selected stakeholders.

However, the engagement of stakeholders in the process of need identification is challenging and thus time-consuming. The difficulties in this process lay on two different levels. First, the direct benefit for the need submitter is not straightforward as it takes time to explain the need in some detail and at the same time, this step is still very abstract. Which relates to the second point, that it seems to be not very intuitive to describe a problem with a high degree of detail instead of suggesting potential solutions to this unsatisfactory situation. Thus, it is important to explain the necessity of a comprehensive description of the problem for the following processes. The translation of the need into a challenge, to be solved by a third party, is a central step in the methodology and the basis for challenge-based innovation approaches. One or multiple needs, aggregated into a collective demand, must be translated into a challenge that serves as central element for the Call for Solutions. Due to this translation, the document submitted as a need is not the same that constitutes the challenge. Later must be developed by the process owner (e.g., the project team) together with the need owner in order to safeguard a targeted call that is practical, feasible, applicable and outlines pathway to impact.

The project's core idea is that the need for innovation is communicated by a stakeholder or groups of stakeholders that have the motivation to be involved also in later stages of the process. The process started by mapping and enlarging the stakeholder group beyond the "usual suspects". However, successful engagement of stakeholders is not guaranteed and thus a clear communication strategy should intent to informing them about the model, potential benefits and manage the expectation. Especially, the difference and relationship between the Call for Needs and the Calls for Solutions must be explained well. The role of RRI in the process of challenge identification was also important for fostering a reflection by key actors and stakeholders of regional R&I innovation ecosystem about territorial governance of innovation, need-orientation and priorities in health, and about how to build a territorial "response-ability".

POLICY IMPLICATIONS AND RECOMMENDATIONS

Based on the experiences made during the Call for Needs and subsequent challenge definition in the CHERRIES project, the following aspects should be considered when building challenge-based, open innovation processes:

- **Make sure the process is place-based.** Each region is different in terms of development paths, actor and network constellations, cultural, normative and regulative institutions and subsequently the model should not be applied in a *one-size-fits-all* manner but be adjusted carefully to the regional preconditions.
- **Open the challenge definition.** The challenge definition should be as open as appropriate for the given context, also taking into account drivers, priorities of health and R&I policies. The public participation and open definition of needs represents a democratic empowerment process and gives decision making power to people. The openness provides input legitimacy and motivation.
- **Manage expectations.** While the openness motivates stakeholders to engage actively, there is the danger of frustration if innovation processes fail or identified needs are not selected for a challenge. Failed pilots represent failed opportunities, wasted resources and lead to frustration but are part of innovation processes.
- **Involve experts.** While the openness adds the demand side and therefore a more holistic perspective on sectoral challenges, it is important that the identified need (or needs) get translated into a challenge by people knowledgeable about sectoral idiosyncrasies. Thus, the process can be described as bottom-linked rather than bottom-up.
- **Identify a demand.** Another critical aspect in this process is to identify an actual demand rather than a simple need or want. The difference is that a demand is characterised by a willingness to pay. Therefore, an innovation pilot based on a demand has a higher likelihood to create a market for itself and a lower risk of ending in the valley of death.

SUSTAINABILITY AND LEGACY

The experiences made in the course of the CHERRIES mapping and experimentation phases are published in project deliverables and thus available for exploitation of other projects. The most noteworthy aspects are the regional mapping and reflection reports for advancing regional policy (D2.2), the Cherries Toolbox for RRI practices in healthcare (D3.1) that collected more than 150 practices and responsible approaches CHERRIES and other projects can exploit, the report on the adapted regional experiments (D3.2) that highlights the experiences and differences made in each of the territories, as well as the report on the collected needs within the territories (D4.1).

PROJECT OBJECTIVES AND METHODOLOGY

The CHERRIES project supports RRI policy experiments in the healthcare sector in three European territories - in Murcia (ES), Örebro (SE) and the Republic of Cyprus (CY). These processes, their outcomes and the policy frameworks are mapped, monitored, evaluated and serve as evidence-base for revision of sectoral policies, strategies and innovation support instruments. Thereby, CHERRIES engage the territorial

stakeholder ecosystems in participatory agenda setting, need articulation and institutional reflection processes. These serve as starting point for collective approaches with shared responsibilities aiming to create more open, inclusive and self-sustaining territorial research and innovation (R&I) ecosystems.

The CHERRIES methodologies for challenge-based innovation approaches are tested, documented and spread beyond the three pilot regions. This methodology provides a framework for participatory innovation-agenda setting within a sector that is facing multiple challenges (e.g., aging societies, increasing comorbidities, financial stability of the underlying wealth fare model etc.). The methodology, thus, provides a tool for better aligning the directionality of R&I processes with the territorial and social health challenges. At the same time, it is a "*responsibility-by-design*" approach for identifying research priorities and the demand for innovation.

PROJECT IDENTITY

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| PROJECT NAME | Constructing Healthcare Environments through Responsible Research Innovation and Entrepreneurship Strategies (CHERRIES) |
| COORDINATOR | Stefan Philipp, ZSI – Centre for Social Innovation, Vienna Austria |
| CONSORTIUM | ARETAEIO HOSPITAL, Nicosia, Republic of Cyprus Centre for Social Innovation – ZSI – Vienna, Austria Cyprus Research & Innovation Center Ltd – CyRIC –, Nicosia, Republic of Cyprus European Business and Innovation Centre Network – EBN – Brussels, Belgium European Business and Innovation Centre of Murcia – CEEIM – Murcia, Spain Knowledge and Innovation SrlS – K&I – Rome, Italy Murcia Health Service – SMS – Murcia, Spain Region of Murcia, Murcia, Spain Region Örebro County, Örebro, Sweden The Actíva Foundation, Örebro, Sweden Tecnologías de la Información de la Región de Murcia – TICBioMed – Murcia, Spain Universiteit Leiden, Leiden, the Netherlands |
| FUNDING SCHEME | H2020 - Framework Programmes for Research and Technological Development |
| DURATION | January 2020 – December 2022 (36 months). |
| BUDGET | EU contribution: 1 997 375 €. |
| WEBSITE | https://www.cherries2020.eu/ |
| FOR MORE INFORMATION | Contact: Stefan Philipp, philipp@zsi.at |
| FURTHER READING | CHERRIES Deliverable D2.2: Territorial mapping synthesis and reflection report CHERRIES Deliverable D3.1: RRI & Experiment Toolbox (putting the hyperlink?) CHERRIES Deliverable D3.2: Adapted territorial methodology for the experimentation per territory CHERRIES Deliverable D4.1: Report on identified needs |