IMI2 Project 101005122 - DRAGON

The RapiD and SecuRe AI enhAnced DiaGnosis, Precision Medicine and Patient EmpOwerment Centered Decision Support System for Coronavirus PaNdemics

WP1 – Management

D1.3 RRI Charter

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Deliverable submission date	31/03/2021
Deliverable type	Report
Dissemination level	PU

Responsible Research and Innovation Charter

Preamble

The European Commission's Horizon 2020 funding programme includes the 'Science with and for Society' (SwafS) objective, which strives to build effective cooperation between science and society.[i] This should enable scientific talent recruitment and coupling of scientific excellence with social awareness and responsibility.

Responsible Research and Innovation (RRI) is a manner of 'thinking and doing' that guides research and development in ethically appropriate ways. It is an approach which implies that societal actors—such as researchers, citizens, policy makers, companies and civil society organizations—work together in the whole research and innovation continuum to better align both the process and its outcomes with the values, needs and expectations of society. Public engagement, diversity, education, open access, ethics and governance are the key thematic elements of the RRI action to be promoted via the SwafS objective.[ii]

Purpose

This Charter sets the responsible research and innovation conduct expected from DRAGON consortium partners to perform their project related roles, by committing to uphold the six RRI objectives when and where feasible.

The six RRI objectives are described as follows:

1. **Public engagement: engagement of all societal actors and their joint participation in the RRI process.**[iii,iv,v]

   Public engagement is about co-creating the future with the public and bringing diversity of actors that would not normally interact on matters of science and technology.

   - Engage and involve as many types of stakeholders as feasible within the scope of the consortium.
   - Patients and public should play an active role in advising on research design, research participation and research related educational materials.
   - Discuss ethical and data privacy and protection issues.
   - Build an inclusive, transparent, and creative research and innovation process.
   - Build mutual understanding amongst stakeholders within and outside the consortium by:
     - learning from each other;
     - exploring controversies;
     - and co-creating ideas, knowledge, or solutions.
   - Design stakeholder engagement as a two-way process for feedback to be incorporated into the research and innovation process.
   - Make the research and innovation process more societally relevant and desirable.
   - Speed up the process of availability of project outputs and acceptability
   - Contribute to empowering patients and public by improving their health literacy.

2. **Diversity: integration of diversity in the research and innovation context.**[v,vi,vii]

Significant unjustified imbalances (e.g. gender, race, economic and so forth) are a disadvantage and a risk for research and innovation outcomes. The process of redressing a lack of diversity is a key challenge for RRI.

- Ensure diversity in research teams and provide equal opportunities
- Ensure diversity in decision-making bodies within the management structure
- Integrate diversity (needs and behaviours) in research and innovation (R&I) content to improve the research quality and societal relevance of the produced knowledge, technology and/or innovation.

3. **Education: make change happen through raising awareness.**[v,viii,ix]

Building capacity and developing innovative ways to raise awareness of research within society is key. It can help increase society's appetite for innovation and create further research and innovation opportunities.

- Give greater credibility to the work of researchers (and their organisations).
- Enable continuing opportunities for building knowledge and skills development.
- Contribute to creating more skilled, agile workforce able to confer a competitive advantage and better capitalise on employment opportunities.
- Foster an environment which allows for a better informed and empowered public to the opportunities and threats arising from research and innovation.

4. **Open access: boost innovation through wide-spread knowledge dissemination.**[v,x,xi] The global shift towards making research findings easily available and accessible helps knowledge circulation and foster greater innovation.
   - Enhance the extent to which research is timely and take account of 'state of the art' technologies, management or service frameworks.
   - Take into consideration IT-infrastructure, intellectual property rights, content-mining and alternative metrics.
   - Include research results in public sphere to allow easier access.
   - Take into consideration inter-institutional, inter-disciplinary and international collaboration among all actors.

5. **Ethics: ensure research within the Dragon consortium is conducted in an ethical manner which respects the rights of the participants, maximises benefits and minimises harm.**[v,xii, xiii] The highest priority should be given to compliance to all applicable ethical principles, relevant national, EU and international legislation pertaining to research and data privacy and protection.
   - Adhere to European Code of Conduct for Research Integrity
   - Research aimed at:
     - 'doing good' and contributing to social justice;
     - encouraging patient engagement;
     - being undertaken by people who have necessary skills and knowledge;
     - taking account of diverse and heterogenous populations and ensure inclusion of often underserved groups;
     - and taking account of the potential environmental impact.
   - Research design minimises bias to ensure fair conclusions are reached.
   - Research outcomes always honestly reported in an accessible and timely manner.
   - Research seeking to minimise any adverse impact on the wellbeing and privacy of individuals.
   - Structures and the frameworks within which research is undertaken always seeks to redress lack of diversity and often excluded groups.
   - Research process engages and involves diverse stakeholder groups.
   - Research transparency maintained throughout the process.

6. **Governance: development of a framework that integrates the previously mentioned RRI objectives.**[v,xiv,xv]

Good governance helps to not only ensure clear, helpful outcomes from research but also strong foundations to legitimise it.

- Embed the aforementioned five elements to implement good governance and research ethics by:
  - anticipating opportunities and risks;
  - being inclusive and willing to be challenged on set approaches;
  - be reflexive by putting research into context through the regular posing of questions regarding norms and values;
  - and respond to changes as experience is gained and knowledge is built, including taking action to address any unintended consequences.
- Ensure those who undertake research help to legitimise it by incorporating processes that demand openness.
- Implement a "co-development" model of governance leading to reflexive governance.

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[i] European Commission. Responsible research & innovation. Retrieved from https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation

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[xiii] European Commission. Ethics. https://ec.europa.eu/programmes/horizon2020/node/767

[xiv] SiS.net - Science with and for Society NCP Network. Science Governance. https://www.sisnetwork.eu/rri/governance/

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