



## **Join Us to Optimize Health Through Cohort Research**

Deliverable 5.4: Online courses on RRI designed for different target groups, ranging from citizens to researchers

Version 1.0

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<b>Project Coordinator</b>	Birgit Schauer (UMG)
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<b>Authors</b>	Natalie Terzikhan (EMC), Silvan Licher (EMC)
<b>Contributors</b>	Birgit Schauer (UMG)

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## List of Abbreviations

D	Deliverable
RRI	Responsible Research and Innovation
WP	Work Package

## Summary

This report concerns Deliverable 5.4 of the JoinUs4Health project (grant number 101006518). As leaders of the Work package “Formal and informal education”, we share with you the resources and materials of the educational activities that we provided, through which we share and teach the concept of Responsible Research and Innovation (RRI). We also reflect on the public engagement aspect and the unintended but very effective cross-consortium collaborations.

## Introduction

In the previous deliverable (D5.3)<sup>1</sup>, we presented our current formal and informal educational activities, through which the Responsible Research and Innovation (RRI) concept is shared at our workplace, the Department of Epidemiology of the Erasmus Medical Centre in Rotterdam – The Netherlands. In this deliverable, we elaborate more on selected educational activities as mentioned in D5.3. Specifically, resources and educational materials of two RRI informed projects; the **From Science to Society** course, and the **What the Health** podcast series. Both these educational projects were designed –by the leaders of Work Package 5 on formal and informal education to foster RRI through education and make the designed material publicly available to a broader audience.

The initial idea for the current deliverable was to design an online course, in which we would translate an existing basic epidemiological course to an online publicly available one. As the project progressed, we decided to change our approach for it to be more covering the RRI process dimensions. Therefore, we were keen to come up with better alternatives and design different educational materials.

As mentioned earlier in D5.3, we practically carried out educational activities related to RRI in three different ways, i.e. by

- 1) directly teaching the concept of RRI formally;
- 2) indirectly teaching RRI through competence teaching, and through project-based learning; and finally
- 3) informally practicing RRI ('practice what you preach').

### **From Science to society**

**Course description:** (modified from D5.3)

Views on what should be considered a 'successful' scientist are changing. Scientists are expected to produce high-quality research that is also societally relevant and societally impactful. This demand for societal impact is widespread across disciplines, and was the very basic need of a 10-week minor that we designed based on the RRI philosophy.

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<sup>1</sup> <https://zenodo.org/record/7591564>

To train a future-proof generation of scientists, we designed an interdisciplinary course that fosters skills in three key areas to achieve societal impact: a) Communication, b) RRI and c) open science & public engagement.

By using Project-based Learning as our main pedagogical approach, we provide students with the opportunity to develop responsible skills and practices. Besides following inspirational lectures and interactive workshops, students interact directly with societal stakeholders, who provide students with pressing societal or scientific questions at the start of the course. Students subsequently address these within small groups of peers through project work and are encouraged to engage other external stakeholders in their project and as such to understand and apply principles of responsible and open science.

As the course timeline shows in **Figure 1**, in the first two weeks students are exposed to the concept of RRI. Thereafter, each week is dedicated to one stakeholder group, including 1) the education community, 2) the research community, 3) the civil society organisation, 4) the policy maker, and 5) business and industry, in which prominent lecturers in that field are invited to speak about how they incorporate RRI in their field. Furthermore, RRI skills are also taught throughout the course. Students attend several workshops to improve their communication and presentation skills for a wider audience. Finally, students practice RRI by jointly working on their project, to address a societally relevant problem.

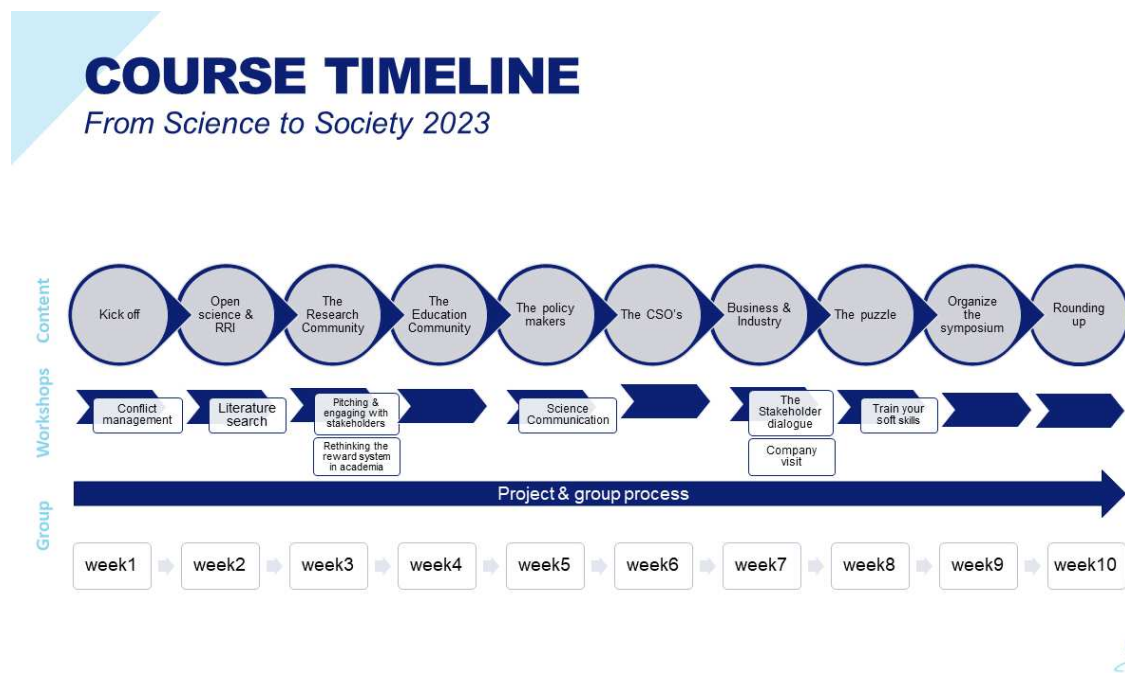


Figure 1. Overview of course timeline of the EMC minor

## Course resources and materials

All our course material was shared early in the process of course design with our partner institutions through a secure SharePoint account. Partner institutions were also welcome to attend our design sessions and ask for advice to implement the same in their institutions.

The following course materials are made publicly available on our website <https://joinus4health.eu/about/for-researchers/learning/>:

1. **The course manual** is a 24-page document in English language. It describes the learning forms and activities of this course (lectures, interactive workshops, intervisions and project group meetings), relevant documents to support the learning of the students, the way grading is done, and a description for each course week including the learning goals, the titles of the plenary sessions & the workshops, and the expected deadlines.
2. **The working document**, originally called the Scaffolding sheet, is a document that is meant to help students move from what they can do to what they will be able to do later (<https://www.pblworks.org/blog/how-scaffold-project-based-learning>). In our course, this working document helps students to break the chosen project topic into parts, and includes follow-up questions that are aligned to the topics discussed during the lectures each week. The main topics in this document are chronologically ordered: Writing a group contract, agreeing on the problem and refining the scope, identifying relevant stakeholders and knowledge (stake)holders, searching for knowledge using scientific evidence and beyond, redefining the problem definition, planning stakeholder engagement, organizing the symposium, writing the project report, reviewing the draft proposal, and preparing the final presentation of the end product.
3. **The project document**: A document that is meant to help the students present their project findings, demonstrate the related (scientific) evidence and describe its societal relevance. This document literally brings the knowledge from science to society and is thereby the last document students need to hand in in order to pass the course!
4. **List of guest lectures** with link to the live lectures (**Figure 2**)
5. Where permitted, access to the **live recorded lectures**
6. Lecture **hand-outs** and supplementary **reading materials**
7. **Student assignments** text for handing in the individual self-reflections
8. **Symposium output**

## The From Science to Society Seminar Series & Symposium

This series is part of the course 'from Science to Society', in which students discover the foundations of Responsible Research and Innovation (RRI) and Open Science. We care about sharing knowledge and insights from our course, that's why our guest lectures are open to guests!

Date	Time	Guest speaker	Topic	Teams-link
05/09/2023	10:00-12:00	<b>Giulia Miklos</b> Assistant Professor at Erasmus School of Social and Behavioral Sciences	Problem-oriented project work	<a href="#">Link</a>
11/09/2023	10:00-12:00	<b>Elisabet Blok</b> R.O.I.T. science club	Reward systems for academic researchers	<a href="#">Link</a>
12/09/2023	9:30-12:00	<b>Samira Abbadi</b> Senior Diversity and Inclusion officer Erasmus MC	European University of Post-Industrial Cities	<a href="#">Link</a>
14/09/2023	10:45-12:00	<b>Lex Bouter</b> Professor of methodology and integrity	Research Integrity	<a href="#">Link</a>
19/09/2023	10:30-12:30	<b>Daniel Bos &amp; Charlotte Cecil</b> Associate professors Erasmus MC	Considering an academic career path?	<a href="#">Link</a>
26/09/2023	09:00-12:30	<b>Sam Riedijk &amp; Diewertje Houtman</b> Lead master programme: Genomics in Society	How to measure impact	<a href="#">Link</a>
28/09/2023	09:00-12:30	<b>Florian Wijk</b> Erasmus Verbindt	Erasmus Verbindt	<a href="#">Link</a>
03/10/2023	11:00-12:00	<b>Arfan Ikram</b> CEO NWO, chair ZonMW head Department of Epidemiology Erasmus MC	The political funding landscape in the Netherlands	<a href="#">Link</a>
09/10/2023	10:30-12:00	<b>Gaston Remmers</b> Chair European Citizen Science Association, Director Mijn Data Onze Gezondheid	Citizen Science for Health	<a href="#">Link</a>
10/10/2023	09:00-12:15	<b>Eliane Lauwers and colleagues</b> Communication and public affairs lead Janssen & Janssen	The role of pharmaceutical industries	<a href="#">Link</a>
13/10/2023	09:30-11:00	<b>Martha Teijema</b> Director Antares Foundation	The interaction between NGOs and science	<a href="#">Link</a>
24/10/2023	09:00-12:30	<b>Amber Yaqub</b> Blogger Faces of Science - RNAW	Science in the media	<a href="#">Link</a>

**We cordially invite all our speakers and those interested to our final Symposium on Wednesday 08/11/2023 13:00-16:00 hours. More information will follow later**

Figure 2. The invitation flyer for the lectures (the so called seminar series) and symposium of the From Science to Society course with active links included to follow the lectures live via Microsoft Teams. Note that the invited speakers are prominent names in their fields.

### What the health - podcast series: General description

The initial plan for this deliverable was to translate an existing basic epidemiological course into an online version. In the past two years, we had regular discussions about the presentation format of this specific deliverable. Based on the learnings from this consortium, the discussions we had with students and advice we received from communication advisors, we decided to move from the idea of making an online course where communication is one sided, to the idea of designing an audio-visual podcast series, in which not only basic epidemiological concepts are explained, but are also discussed in an interactive way with 1) citizens who have zero background of the discussed matter, or 2) with experts. So far, four episodes have been recorded, two others are planned and two editing rounds are agreed with the studio.

The podcast has three purposes:

1) **Making learning inclusive and available for all:** The content of this podcast will be English and publicly available for all.



2) **Bringing science literally closer to the society** by inviting scientist and lay citizens on the same table to discuss a complex epidemiological concept in a very simplified way.

3) **Creating a multifunction product** that can be used on **several platforms and different target audiences**. The audio podcast will be shared on several platforms, including the JoinUs4Health website, the Erasmus university website, and the Erasmus MC website. The video, on the other side, will be used for teaching purposes in next years' "From Science to Society" course. Here, it will be used as a skills training material. This will be done by editing the videos to contain questions that trigger reflexivity and curiosity of the students. These questions will be designed in collaboration with educational advisors.

The following Epidemiological topics have so far been discussed with citizens in this program:

- *Counterfactuals*
- *Confounding*
- *Consistency*

In addition, one interview has been recorded with the Chair of the Citizen Science Association, and consortium partner Gaston Remmers. Finally, another interview is planned with a research journalist to talk about misinformation on social media.

All relevant links to the podcast series will be published on our website [www.joinus4health.eu](http://www.joinus4health.eu)



## Discussion

### **Impact and public engagement**

We are proud to notice that our efforts did not remain unrecognized. Some students enrolled after receiving positive recommendations on our course from the previous students. Others requested us to accept their unofficial subscription due to administrative and financial constraints. Our policy was to accept any student who was keen to enrol and learn from our course. Finally, we are proud to mention that we are asked to share our Impact Story to be published in the Yearbook 2022-2023 of Impact at the Core <https://www.eur.nl/en/impactatthecore>

Regarding the podcast, the product impact and public engagement will be assessed by the number of views and media analytics, including podcast reach [how many people possibly reached the link] and time listened. Educational impact will be assessed by the students in the yearly course assessment.

### **Collaborations: Birds from a feather flock together!**

It has been such a pleasure to work on the abovementioned projects. Besides the joy of investing in a new generation of students with the ideas of RRI and open science, and seeing the bright in their eyes and the belief that they as future leaders can make the difference by having the knowledge that we provide them with, it was incredible to see how collaborations came to be throughout the whole process. These initiatives helped us to meet people who share the same goals and values as we do as a consortium. It was so rewarding to see that we attracted likeminded people to collaborate with us. Collaborators included:

**Erasmus University School of Philosophy** <https://www.eur.nl/en/esphil> (Partner institution): Collaborations on course and podcast design, teaching in the From Science to Society course and working on new grant applications on Impact Education.

**University of Bialystok** (partner institution): Collaborations by exchanging thoughts on societal engagement in the Polish context and by providing our Polish colleagues access to all course design materials from the beginning. Furthermore, EMC representatives were invited as keynote speakers at the citizen science conference.

**Community for learning innovation** <https://www.eur.nl/en/about-eur/vision/community-learning-and-innovation>

**Impact at the Core** <https://www.eur.nl/en/impactatthecore>

**Genomics in Society** <https://www.eur.nl/en/research-master/genomics-society>

**Taskforce Diversity and Inclusivity** – Erasmus MC Rotterdam <https://www.erasmusmc.nl/nl-nl/diversiteit-en-inclusie/taskforce>

**Erasmus Verbindt** <https://www.eur.nl/en/about-eur/strategy-2024/strategy-practice/erasmus-verbindt>