

# Responsible innovation: an opportunity for the engagement of the global health community

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## BACKGROUND

- Innovations ranging from science and technology to the social continue to shape human development and with that global health. How to regulate innovation processes and products has been discussed for some time. (1)
- Responsible innovation (RI) is one governance concept that has gained increasing traction in recent years. (2)
- RI/RRI has eight dimensions: multi-actor public engagement, gender equality, science education, moving from open access into open science, ethics, design science with and for society/ governance, sustainability and social justice/inclusion(2)
- The definition of conducting RI includes the consideration of social values throughout the innovation process, which has potential impacts on the field of global health as the field operates in a variety regions and therefore cultures around the world. (3)

## METHODS AND MATERIALS

- We searched four academic databases (EBSCO All, Scopus, Science Direct and Web of Science) for the phrase “responsible innovation” either in the title of the journal, in the article abstract or article title and downloaded 185 articles.
- We downloaded 61 articles published in the Journal of Responsible Innovation (JRI) by Taylor Francis since its beginning in 2014 to the month of April 2015. The JRI is yet to be indexed; however, the editors of the journal are leaders in the field of RI. All data sources were uploaded into Atlas.ti 7™ software for both quantitative and qualitative analysis.
- A total of 246 documents were included in this study and analysed using the qualitative data analysis software Atlas.ti 7™.
- The documents were sorted into two families; “JRI” for articles from the Journal of Responsible Innovation, and “Non-JRI” for all of the other articles.
- Additionally, we searched same four academic databases for articles with the term “global health” in the journal title that also contained the phrase “responsible innovation” in the abstract.

## OBJECTIVE

- The purpose of this study is to investigate the extent to which the term “global health” and related terms are mentioned and discussed in the literature covering responsible innovation, as well as to investigate the extent to which the concept of responsible innovation is visible in global health-related literature

## RESULTS

**Table 1. Global Health related terms in RI literature** Percent articles by data source for code mentions

Code	JRI (n=61)	Non-JRI (n=185)	Total (n= 246)
“global health”	3.3	5.4	4.9
“international health”	1.6	1.0	1.2
“world health”	3.3	4.8	4.8

- 4.9 percent of articles in the total responsible innovation literature mention the term “global health”, for a total of 57 paired quotations.
- 32 of the quotations were false positives, meaning they were found in the references, footnotes, or “About the Authour” sections.
- Three articles discussed the importance of context-sensitive design of health innovation and creating innovations that are context appropriate (4,5,6)
- One quote lists global health among energy, water, food, and sustainability as a ‘Grand Challenge’ facing science today (7)
- 4.8 percent of totally articles contain quotations that contain the term “world health” for a total of 27 quotations. 7 of these quotations were referencing this World Health Organization, and 16 quotations were from the references.
- A total of four quotations were assigned to the phrase “international health”, three found in the references, and one quote commenting on how international health programs are designed with a top-down approach. (6)

**Table 2. Mentioning of RI in Global Health literature search results** (number of articles) by database

Search Term	EBSCO All	Scopus	Science Direct	Web of Science
“global health” in source title	6842	2467	366	2054
“global health” in source title “innovation” in abstract	67	22	31	12
“global health” in source title “responsible innovation” in abstract	0	0	0	0
“international health” in source title	29254	4654	344	263
“international health” in source title “innovation” in abstract	20	26	5	3
“international health” in source title “responsible innovation” in abstract	0	0	0	0
“world health” in source title	71794	15550	0	108
“world health” in source title “innovation” in abstract	245	30	0	5
“world health” in source title “responsible innovation” in abstract	0	0	0	0

- In all four of the academic databases searched there were zero search results for articles in global health related journals containing the phrase “responsible innovation” in the abstract (Table 2).

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- Results for the same search, but with the term “innovation” in the abstract resulted in at least one article result in all but one of the journal keyword and database combinations.
- However, the highest percentage of articles that mention the term “innovation” in the abstract by source title is 8.4 percent, indicating that there is minimal involvement of the global health literature with the term “innovation”.

## DISCUSSION AND CONCLUSIONS

It is understood that research and technology innovation influences the field of global health.

***“The crisis in global health is not a crisis of disease, it is a crisis of governance”***

– Ilona Kickbusch (8)

- Despite this, we found evidence that the global health discourse is not currently engaging with the concept of responsible innovation, and the literature on responsible innovation has minimal involvement with the term “global health”.
- At present, there is an opportunity for global health stakeholders to join the discourse within the field of responsible innovation integrate global health aims, such as equity, within the RI framework.
- The responsible innovation literature emphasizing “context-appropriate” innovation to aid global health initiatives is a positive finding, indicating that interaction between the two sectors is indeed possible (4,5,6)
- For example, inequitable distribution of the risks and benefits of new technologies can quickly become an issue because the majority of scientific research and technology development is concentrated in more powerful nations in the international system.