Advancing health equity and sustainability: An evidence-informed assessment tool for Responsible innovation in Health (RIH)

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Background and objectives

While new health technologies raise significant economic, ethical and social issues, the Responsible Innovation in Health (RIH) framework emphasizes the importance of developing technologies that are responsive to system-level challenges and support equitable and sustainable healthcare (1).

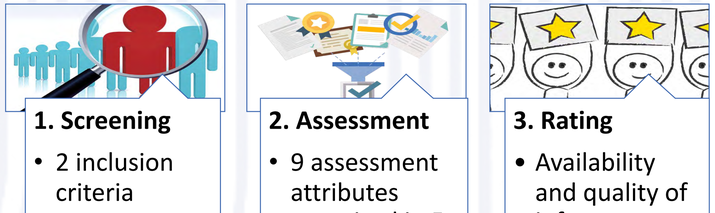
To identify the degree of responsibility of innovations at an early stage, we developed and validated **The In Fieri Assessment Tool for RIH**, which supports an evidence-informed judgment through a three-step process: screening, assessment and rating.

Approach

1. Literature review: key concepts, dimensions and indicators of responsibility
2. Web-based horizon scanning: inventory of 105 health innovations
3. Development and pre-test of preliminary versions
4. Delphi study with international experts to validate constructs
5. Inter-rater reliability assessment

The In Fieri Assessment Tool for RIH

- Normative orientation
- Evidence-based judgements
- Applied in three steps:



- A scorecard is used to support its application:

Value domains & Attributes	Availability & Quality of information sources: Available?	High 3 pts	Moderate 2 pts	Low 1 pt	Assessment of the attributes: A 5 pts	B 4 pts	C 2 pts	D 1 pt
Population health value								
1. Health relevance	☐	3	2	1	5	4	2	1
2. EL&S issues	☐	3	2	1	5	4	2	1
3. Health inequalities	☐	3	2	1	5	4	2	1
Health system value								
4. Inclusiveness	☐	3	2	1	5	4	2	1
5. Responsiveness	☐	3	2	1	5	4	2	1
6. Level & intensity of care	☐	3	2	1	5	4	2	1
Economic value								
7. Frugality	☐	3	2	1	5	4	2	1
Organisational value								
8. Business model	☐	3	2	1	5	4	2	1
Environmental value								
9. Eco-responsibility	☐	3	2	1	5	4	2	1
Number of attributes documented:		**Quality mean score:**			**RIH features mean score:**			
Interpretation ≥ 7/9 → Covers key aspects of RIH < 7/9 → Compromised by missing information		**Interpretation** ≥ 2 → Based on superior quality sources < 2 → Compromised by inferior quality sources			**Interpretation** 4.1-5.0: Almost all RIH features are present 3.1-4.0: Many RIH features are present 2.1-3.0: Few RIH features are present 1.0-2.0: Almost no RIH features are present			
When one of the above two requirements is not met, the overall score is not meaningful								

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FOR RESPONSIBLE INNOVATION IN HEALTH | POUR L'INNOVATION RESPONSABLE EN SANTÉ | PELA INOVAÇÃO RESPONSÁVEL EM SAÚDE

Results

Validation of constructs - Delphi study (2)

- 4 groups of experts: RRI scholars, biomedical engineers, bioethicists and HTA experts
- Constructs: Applicable? Important? Clear? Relevant?
- > 300 comments shared by experts
- Consensus obtained over the great majority of constructs

Inter-rater reliability assessment (3)

- 2 raters, 25 health innovations (e.g., diagnostic tests, medical devices, digital solutions, etc.)
- «Perfect» agreement for all screening criteria
- «Almost perfect» agreement for 7/9 assessment attributes
- «Substantial agreement» for 2/9 attributes

Conclusion

By validating the RIH Tool's constructs and confirming key aspects of its reliability and applicability, our study brings its development to completion. It can be jointly put into action by innovation stakeholders who want to foster innovations with greater social, economic and environmental value. The Tool is available as Supplementary File in Silva et al. (3) or through e-mail (hp.silva@umontreal.ca).

References

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2. Silva HP, Lehoux P, Hagemeister N. Developing a tool to assess responsibility in health innovation: Results from an international delphi study. Health Policy and Technology 2018; 7(4):388-96.
3. Silva HP, Lefebvre A-A, Oliveira RR, Lehoux P. Fostering Responsible Innovation in Health: An Evidence-Informed Assessment Tool for Innovation Stakeholders. International Journal of Health Policy and Management, 2020; (In Press). Available Online from 15 March 2020.