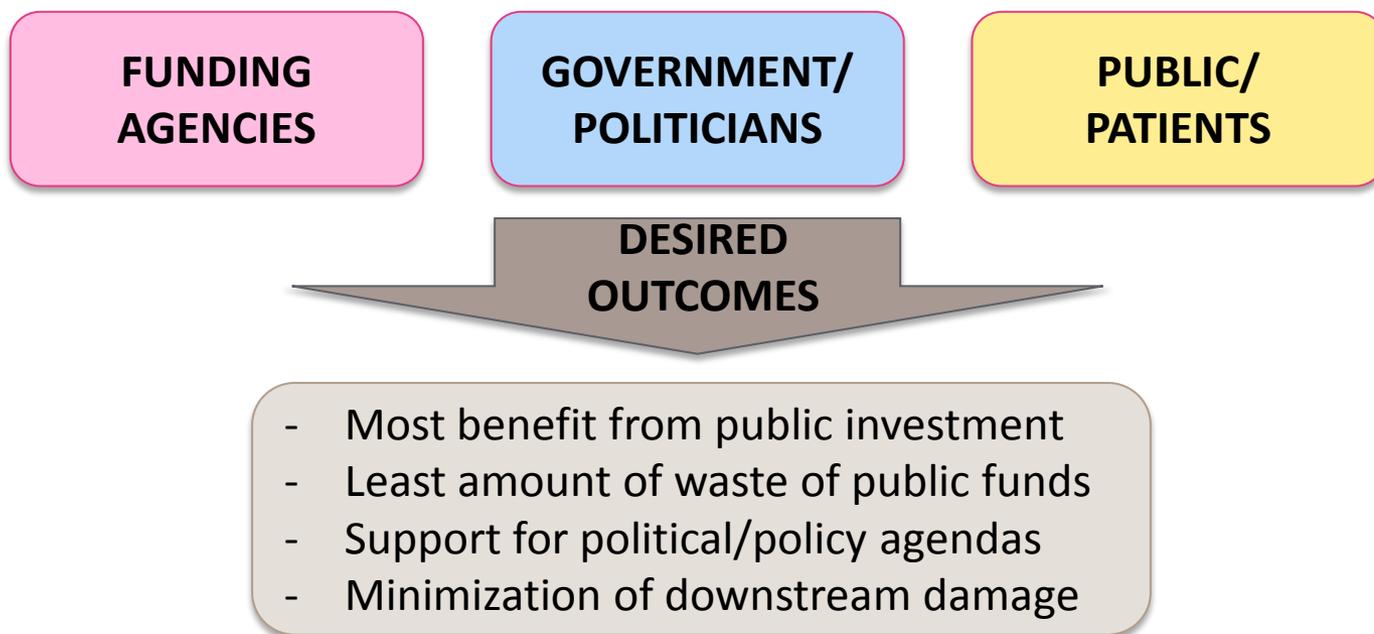# Integrity challenges in evaluating innovation and the path to impact:
A research funders perspective

Dr Maura Hiney
Head of Post-Award and Evaluation
Health Research Board Ireland

Dr Maura Hiney
Head of Post-Award and Evaluation
Health Research Board Ireland

HRB Health Research Board

Research. Evidence. Action.

Drivers of evaluation

In a resource-limited environment, with a distrustful public and vulnerable political systems, there is increasing pressure to <u>demonstrate</u> that research produces societal and economic benefit/impact and not just new knowledge.

FUNDING AGENCIES	GOVERNMENT/ POLITICIANS	PUBLIC/ PATIENTS

DESIRED OUTCOMES

- Most benefit from public investment
- Least amount of waste of public funds
- Support for political/policy agendas
- Minimization of downstream damage

Evaluation activities provide an important interface between funding agencies and their stakeholders

- Often the only interface with stakeholders (researchers, government departments, policy makers and the public)

- A means of driving desired behaviours through eligibility criteria for funding schemes (follow the money!)

- A means of driving innovation and implementation through the evaluation questions we ask during and beyond the research process

What do we measure at the moment?

Inputs → **Outputs** → **Outcomes** → **Impacts**

Developing the proposal	**Direct products of this research**	**Subsequent use of these outputs**	*Downstream effects on society, economy*
• Novelty of idea • Need for research • Track record • Governance • Level of collaboration • Potential impact or benefit	• Dissemination metrics • Knowledge transfer • Practice- based metrics • Policy outputs • Data outputs • IP / Patents • New collaborations • Capacity building metrics	• Citation and use of published outputs • Change to practice • Use in policy and regulation • New product/devices • Spin-outs/Licences • Leveraged funding • Career progression	• *Better services* • *Improved health and well-being* • *GDP returns* • *More /'Smarter' jobs* • *Safer environment* • *Better quality of life* • *Food security etc.* • *Spill-over benefits*

0 yrs. ⟶ **10+ yrs.**

⇧
End of Project

Without good practice in the research that we fund, how can we trust the evidence that forms the basis of our evaluation measures

As we move to thinking more about innovation and impact in the research that we fund, we need to start thinking about how we can incorporate <u>responsible research and innovation</u>, as well as <u>research integrity</u>, into our evaluation frameworks

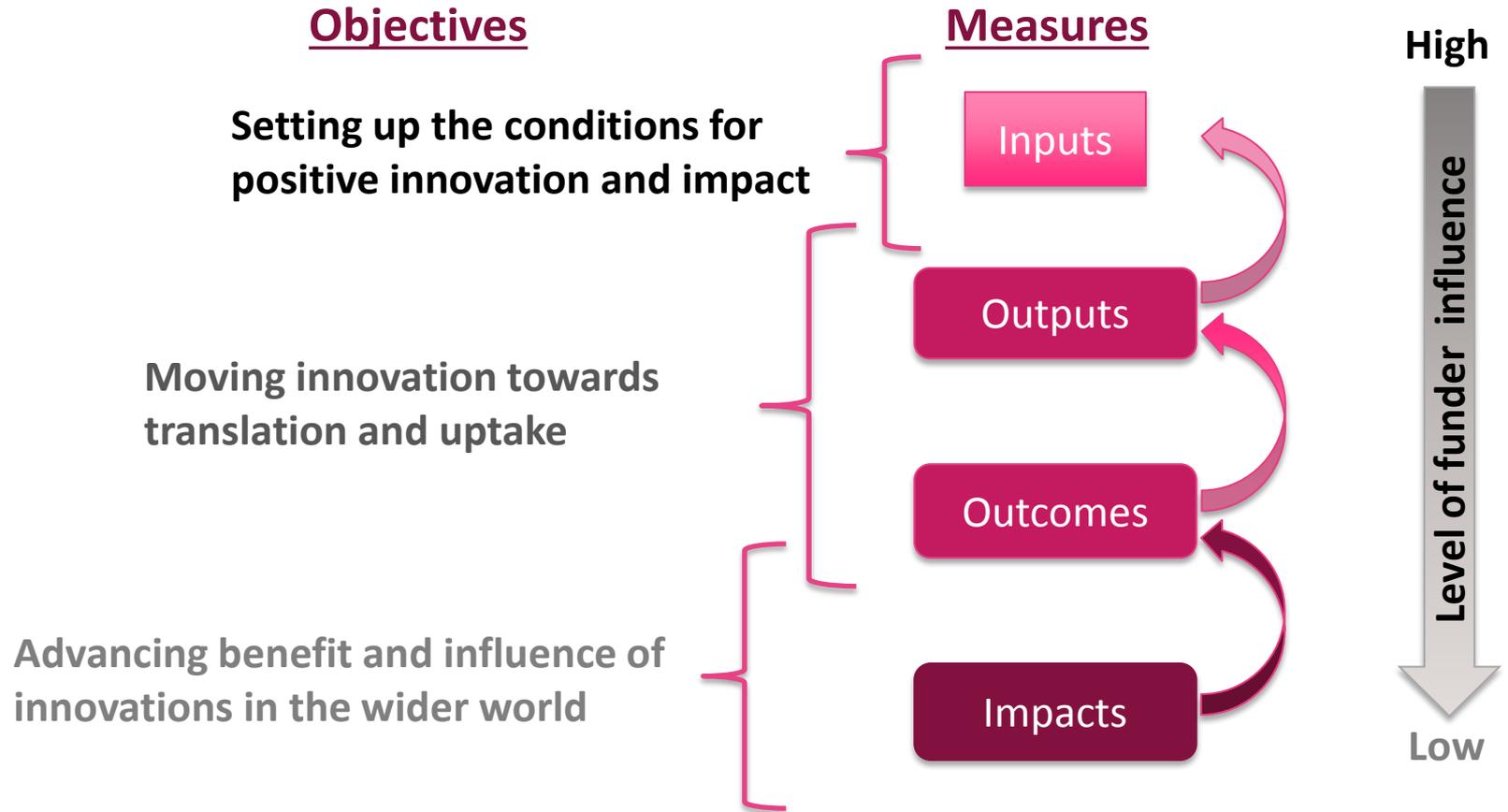# How do Research Integrity and Responsible Research and Innovation (RRI) differ?

Research Integrity	Responsible Research and Innovation
Codification of behaviour expected of the individual researchers within their profession to ensure trustworthy outputs, outcomes and impacts and preserve the research record	Codification of the dimensions required to shape, maintain develop, coordinate and align innovation-related processes, actors and responsibilities to ensure desirable and acceptable outcomes
Principles: honesty, accountability, reliability, transparency , duty of care and independence in the research process	**Principles:** Inclusivity, reflexivity, anticipation, responsiveness, sustainability, and care in the research on and use of an innovation
Collective responsibility of the individual and their professional societies and institutions, journals , funding agencies (the trans-scientific community)	Cooperative responsibility (meta-responsibility) through <u>wide</u> inter-disciplinarity and <u>deep</u> inter-disciplinarity (research and society)
Focused on the present	**Focused on the future**

RI principles are inward facing and address quality, reliability and trustworthiness of the research outputs and outcomes

RRI Principles are outward facing and address societal acceptability and trust in the research outputs and outcomes and ultimate impacts

We need both!

How might a funding agency embed RI/RRI when evaluating innovation and impact?

Objectives

Measures

High

Setting up the conditions for positive innovation and impact

Inputs

Moving innovation towards translation and uptake

Outputs

Outcomes

Level of funder influence

Advancing benefit and influence of innovations in the wider world

Impacts

Low

Setting up the conditions for innovation and impact

Many of the questions that we ask in assessing the 'fundability' and quality of a proposal are already driven by RI concerns:

- Description of the methodology and statistical approach
- Data management plan (for open access and sharing)
- Value-added of co-applications and collaborators
- Research governance plans (for larger awards)
- Track record of the researcher (i.e. research outputs to date – usually publications!)

Some questions are driven by RRI concerns:

- Dissemination plan for research outputs and outcomes
- Relevance of the research for the target audience
- Potential impact (but usually from a researcher perspective)

Setting up the conditions for innovation and impact – the DORA principles

The San Francisco Declaration (DORA) advocates for evaluation questions that aim to increase the value of the research and reduce waste:

Examples:
- Establish the need and evidence gaps (systematic review)
- Change the perception that publication in high-impact journals is the only metric that counts
- Broaden outputs considered as part of track record (e.g. datasets, software, public engagement, protocols, next generation metrics)
- Focus on the quality of the research plan (methodology, statistics etc.)
- Focus on the relevance/value of the research to the end user

Setting up the conditions for innovation and impact - HRB Public Reviewer Panels

- Enabling people from all walks of life to participate in the review process

- Huge interest from the public in this initiative

- Training of 150 randomly selected public reviewers delivered to date

- Moving towards public review as an evaluation criterion in future schemes

This is Bob

Bob has an interest in health.

Bob wants to share his opinions with health researchers.

Bob becomes a public reviewer for the Health Research Board.

Bob is smart.

Be like Bob

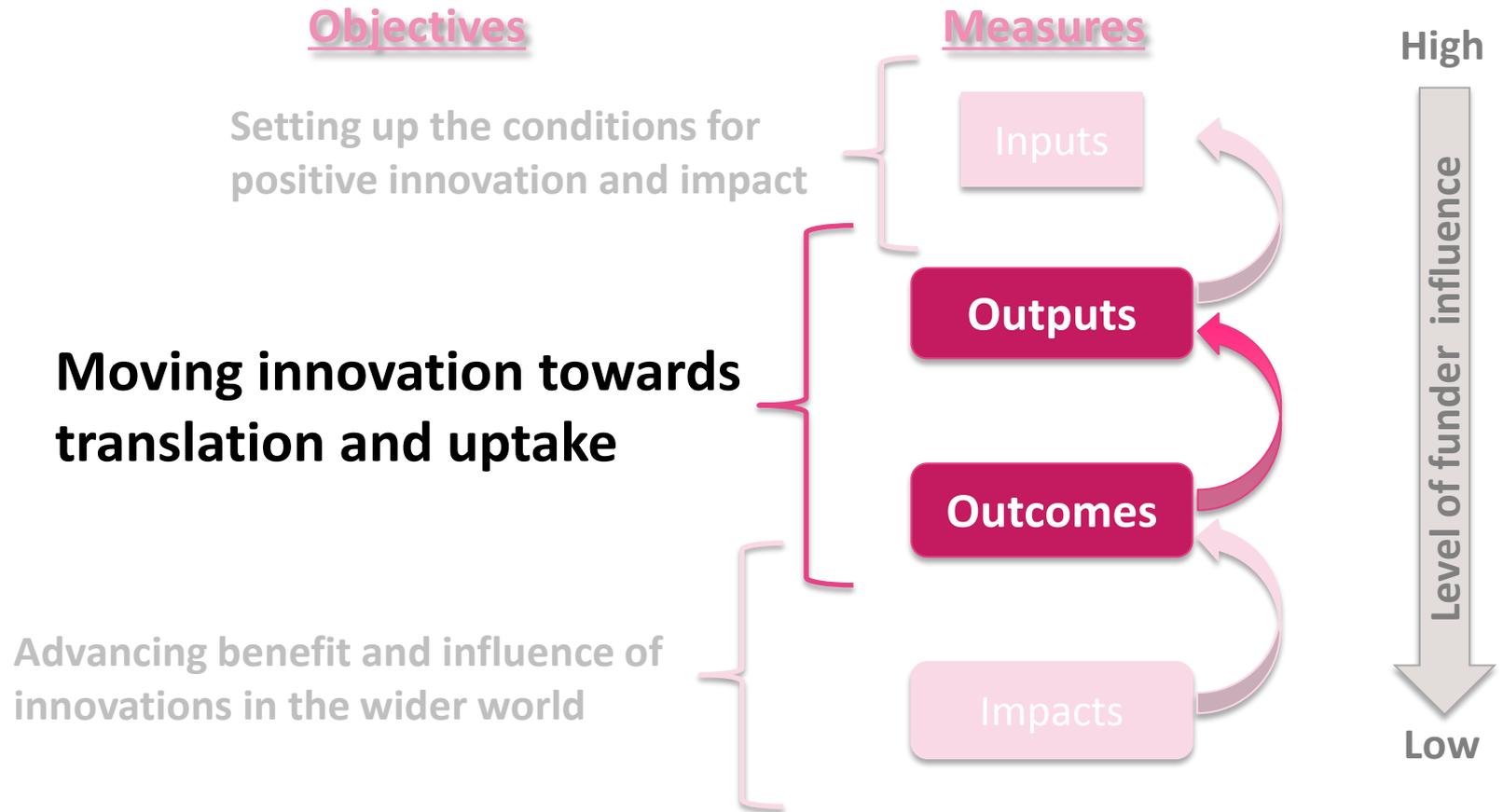# Setting up the conditions for innovation and impact - Priority setting partnerships

- Priority Setting Partnerships (PSPs) to identify and prioritise unanswered questions or evidence uncertainties

- Aim to make health research funders aware of the issues that matter most to the end users of the research.

- Speaks very strongly to RRI concerns about citizen participation in the research process

James Lind Alliance

Priority Setting Partnerships

How might a funding agency embed RI/RRI when evaluating innovation and impact?

Objectives

Measures

High

Setting up the conditions for positive innovation and impact

Inputs

Moving innovation towards translation and uptake

Outputs

Level of funder influence

Outcomes

Advancing benefit and influence of innovations in the wider world

Impacts

Low

HRB Health Research Board

hrb.ie

Moving innovations towards translation and uptake – metrics of translation

Knowledge translation metrics
- Academic dissemination outputs (papers, presentations etc.)
- Knowledge brokering, targeted messages
- Policy briefs (+ expert opinion pieces)
- Workshops, seminars, training materials
- IP/licences
- Shared datasets, methods

Trust metrics
- Keynotes, invited speaker, session chairperson
- Invitations to sit on end-user advisory panels, industry fora etc.
- Formation of collaborations with relevant academic/policy/public/industry
- Invitation to participate in relevant networks

Moving innovations towards translation and uptake – Open Science

Plan S

- All publications resulting from public funding must be published in compliant Open Access Journals or Platforms.

- Only OA publications will be considered in applications for funding

- Cap on the cost of OA publication (APCs)

Open Science Partnership Toolkit

- Open education, open research funding, open access to publications, data and materials, preregistration, avoidance of restrictive IP

- Toolkit provides measures to assess and study the impact of OS collaborations on research and innovation

- Could be adopted by funding agencies as part of their evaluation

Moving innovations towards translation and uptake – from public engagement to involvement (PPI)

A report on Responsible Research & Innovation

Hilary Sutcliffe, Director, MATTER

- 'Public engagement' describes the myriad of ways in which the activity and benefits of higher education and research can be shared with the public (www.matterforall.org)
- Report sets out why RRI is important, the activities that it covers (with some hows) and some good practice examples.

- Research carried out 'with' or 'by' members of the public rather than 'to', 'about' or 'for' them.
- Improve the quality of PPI approaches in Irish health research and promote interactions that are beneficial by both researchers and PPI contributors.

HRB PPI Ignite Awards

hrb.ie

How might a funding agency embed RI/RRI when evaluating innovation and impact?

Objectives

Measures

High

Setting up the conditions for positive innovation and impact

Inputs

Outputs

Level of funder influence

Moving innovation towards translation and uptake

Outcomes

Advancing benefit and influence of innovations in the wider world

Impacts

Low

HRB Health Research Board

hrb.ie

Advancing benefits and influence of innovations in the wider world – implementation metrics

Implementation and uptake metrics

- Evidence of influence on policy or regulation (citation in documents, advisory committees)
- Evidence of changes to practice e.g. citation in new clinical guidelines
- Evidence of educational influences e.g. additions to curricula, new curricula related to the research evidence
- Evidence for testing and uptake of new products/services
- Evidence of cost-savings in healthcare and elsewhere
- Spin-outs/licences

All of these are dependent on reliable and robust evidence!

Advancing benefit and influence of innovations in the wider world – the challenges

- Transferring an innovation into a real world setting and maintaining it there is a long, complicated, and often hap-hazard process

- Implementation measures should not be confused with whether there might be real and sustained impacts in the future so we need to be careful about what we claim

- Linking a specific piece of research to some future impact (attribution) becomes harder and harder the further away from knowledge creation we move

- Evaluating the longer term impacts of the research that we fund moves beyond the realm of the original research (and researchers)

- Need to preserve markers of quality and trust when thinking about innovation and impact measures

A few questions to think about for the focus tracks

- How much responsibility do researchers have to ensure that their innovations are translated?

- How can we incentivise and alert the research community to the importance and benefits of engaging society in the research process?

- How can we move away from reductionist ways of assessing research, to establish systems that better assess research potential (SE and EUA)?

- Given the resources and expertise required to do meaningful impact assessment, what can we realistically evaluate?

- How can we more closely align the assessment measures used by RFOs and RPOs?

- How can evaluation questions about innovation and future impact more deeply embed markers of trust?

- What Singapore principles are the most important for innovation and impact evaluation and are there others that we need to consider?

Thank you for your time!

mhiney@hrb.ie