

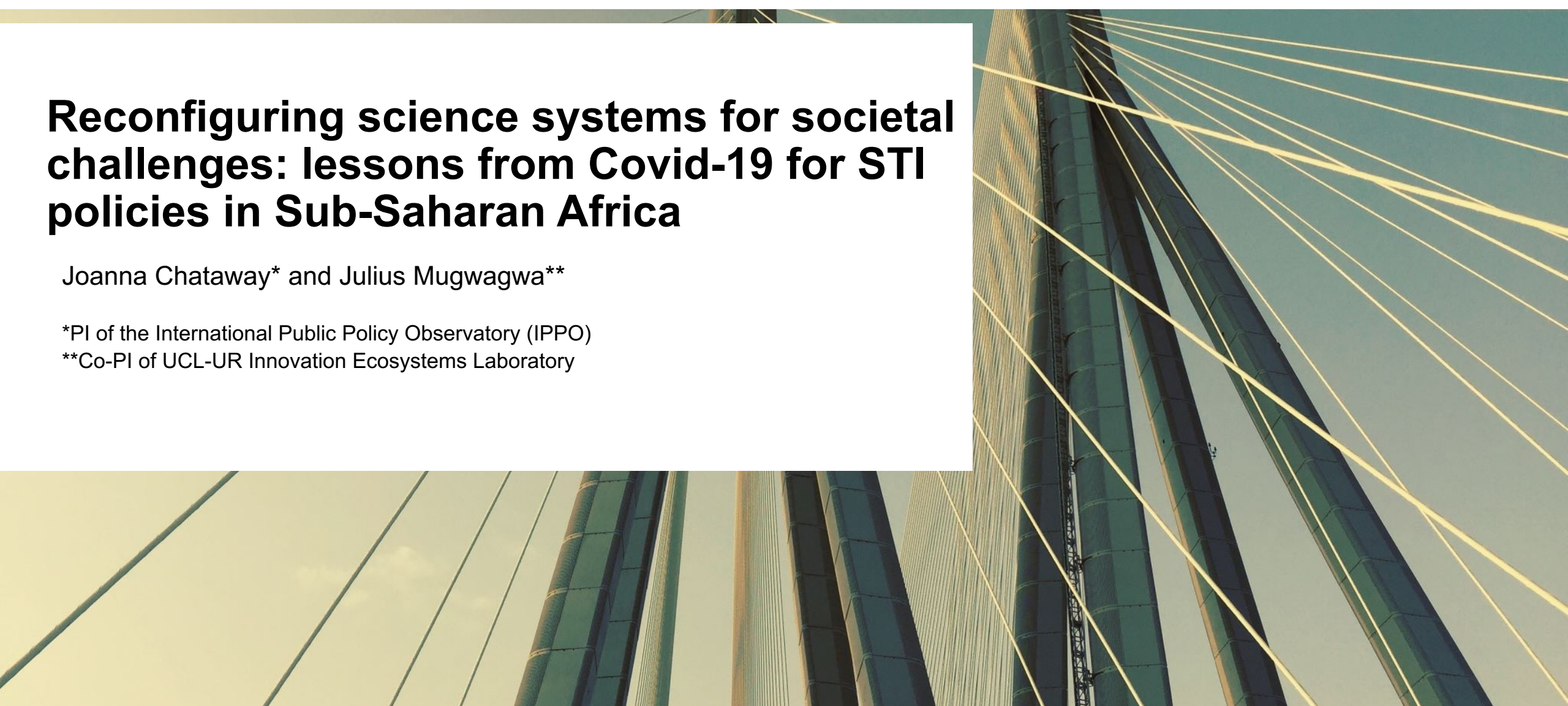


Reconfiguring science systems for societal challenges: lessons from Covid-19 for STI policies in Sub-Saharan Africa

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Science Push or Policy Pull

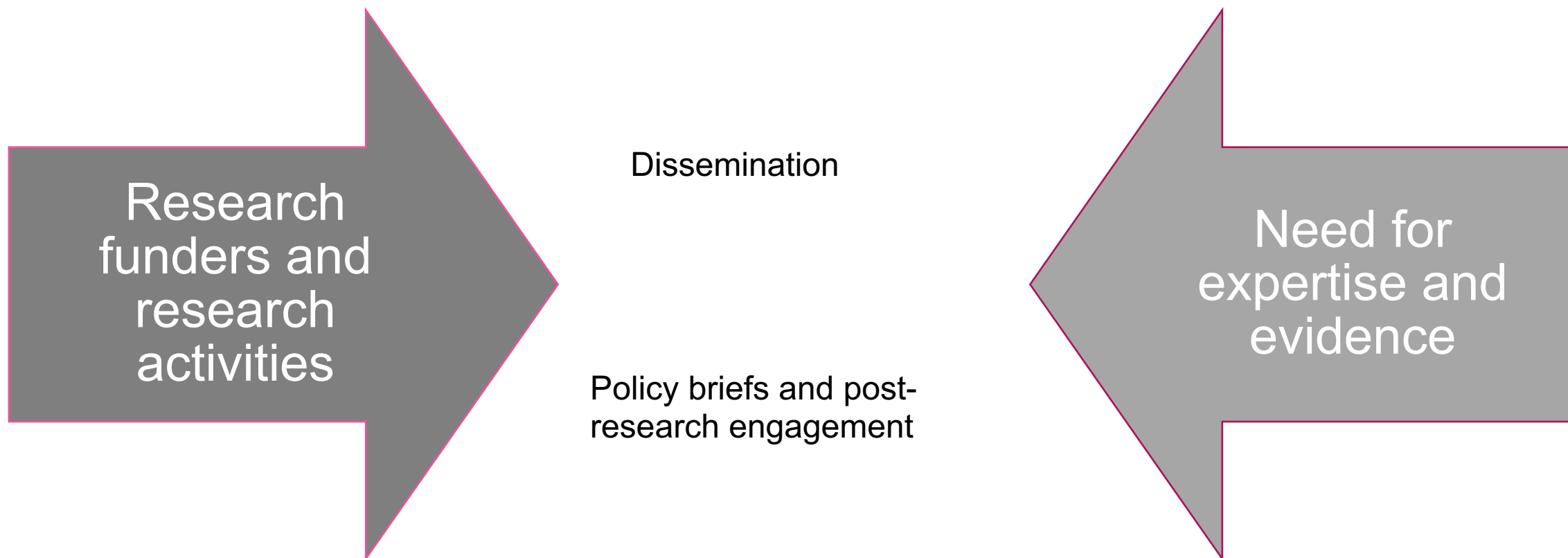
- How do we try and improve the relationship between knowledge and policy practice?
- Is ‘broker’ a good description of the multiple ways in which we try and negotiate the relationship between knowledge supply and demand?
- How are the relevance and quality of science (and tools) influenced in this relationship?

COVID19 – research and evidence to the rescue?

- How have places with strong scientific institutions performed during the pandemic?
- How have they leveraged the push-pull relationship to confront challenges and harness opportunities?
- What can we learn about what's needed in different African countries?

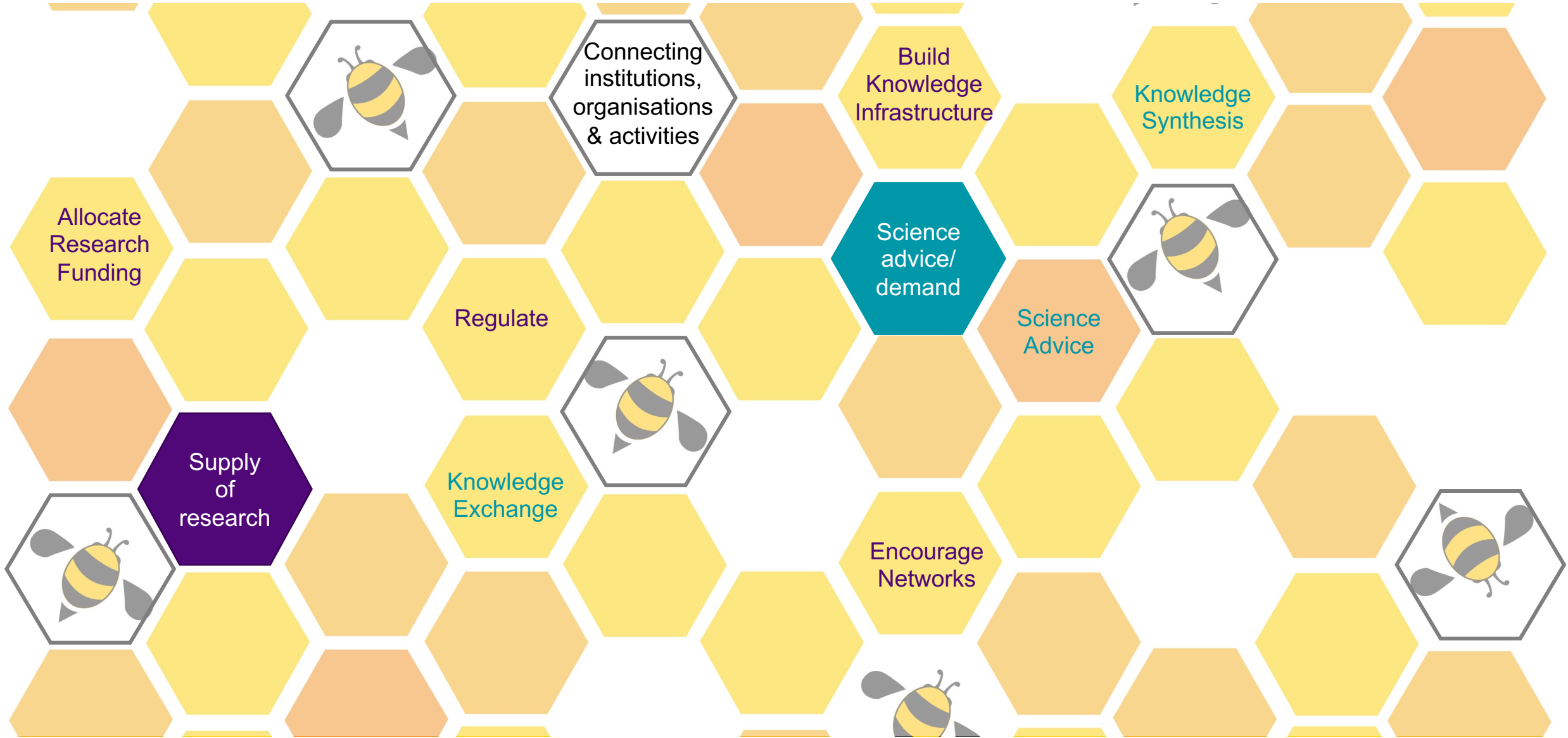


One the one hand....approaches to bridging policy and research



Sometimes works but often doesn't

Science Policy – a story of more than two halves



What and who is IPPO?

IPPO is a partnership, funded by the ESRC as a strategic investment, to respond to policy need with rigorous international and national knowledge synthesis. Its mission: to mitigate serious social harms of COVID-19 and accelerate the UK's recovery. IPPO partners include:



University of Glasgow/Policy Scotland



Aims and Outputs

Enable national, devolved and local governments to:

- make better decisions in conditions of stress
- avoid unnecessary mistakes; enable ongoing engagement with, and application of, evidence to inform rapidly evolving policy needs
- and achieve better outcomes for people across the four nations of the UK

Living Map of Evidence.

<https://covidandsociety.com/policy-research-tool/>

Topic Snapshots

https://covidandsociety.com/article_type/topic-snapshot/

Expert blogs

- https://covidandsociety.com/article_type/blog/

- Global scans of policy

Rapid Evidence Reviews: 4 on different aspects on education post-Covid-19, more to come on UBI design and NHS wellbeing

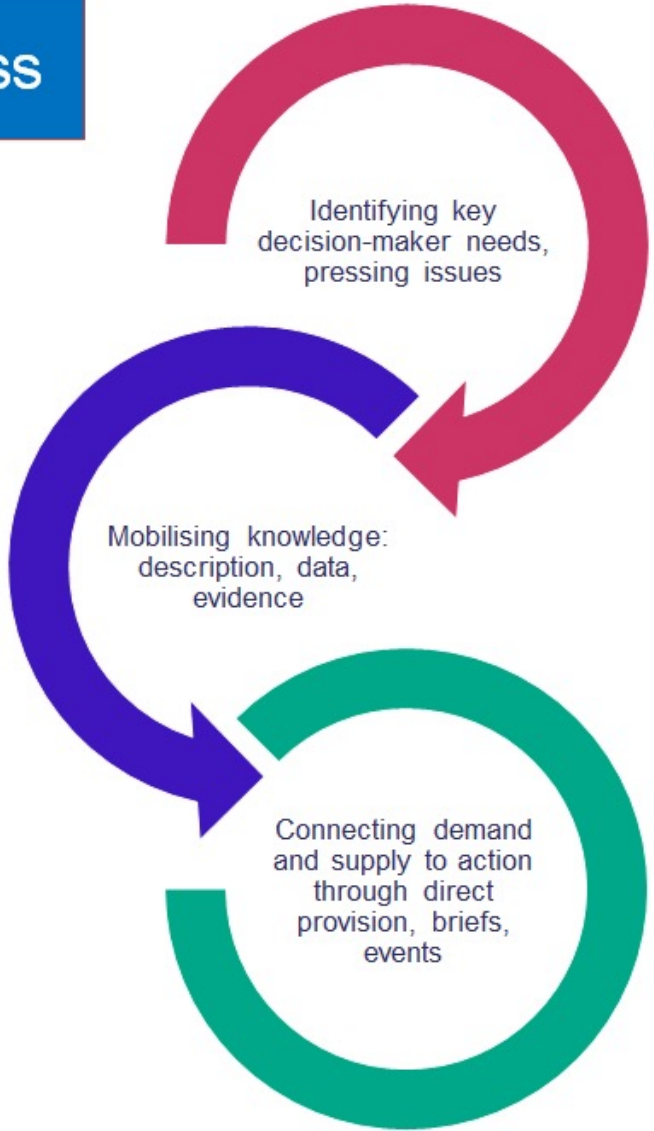
Systematic Reviews: 1 on distance learning, 1 to come on social capital and another on population level mental health

The Conversation, Social Media and Newsletters


- <https://theconversation.com/covid-19-how-the-conversation-helps-build-bridges-between-research-and-policy-157932>

IPPO process

Education
 Adult Care
 Mental Health
 Housing
 Vulnerability
 BAME
 Online




Stakeholder engagement: shaping questions
 National government, devolved administrations, local government, public services, regulators, parliament, NGOs, business



Research and knowledge: mobilising answers

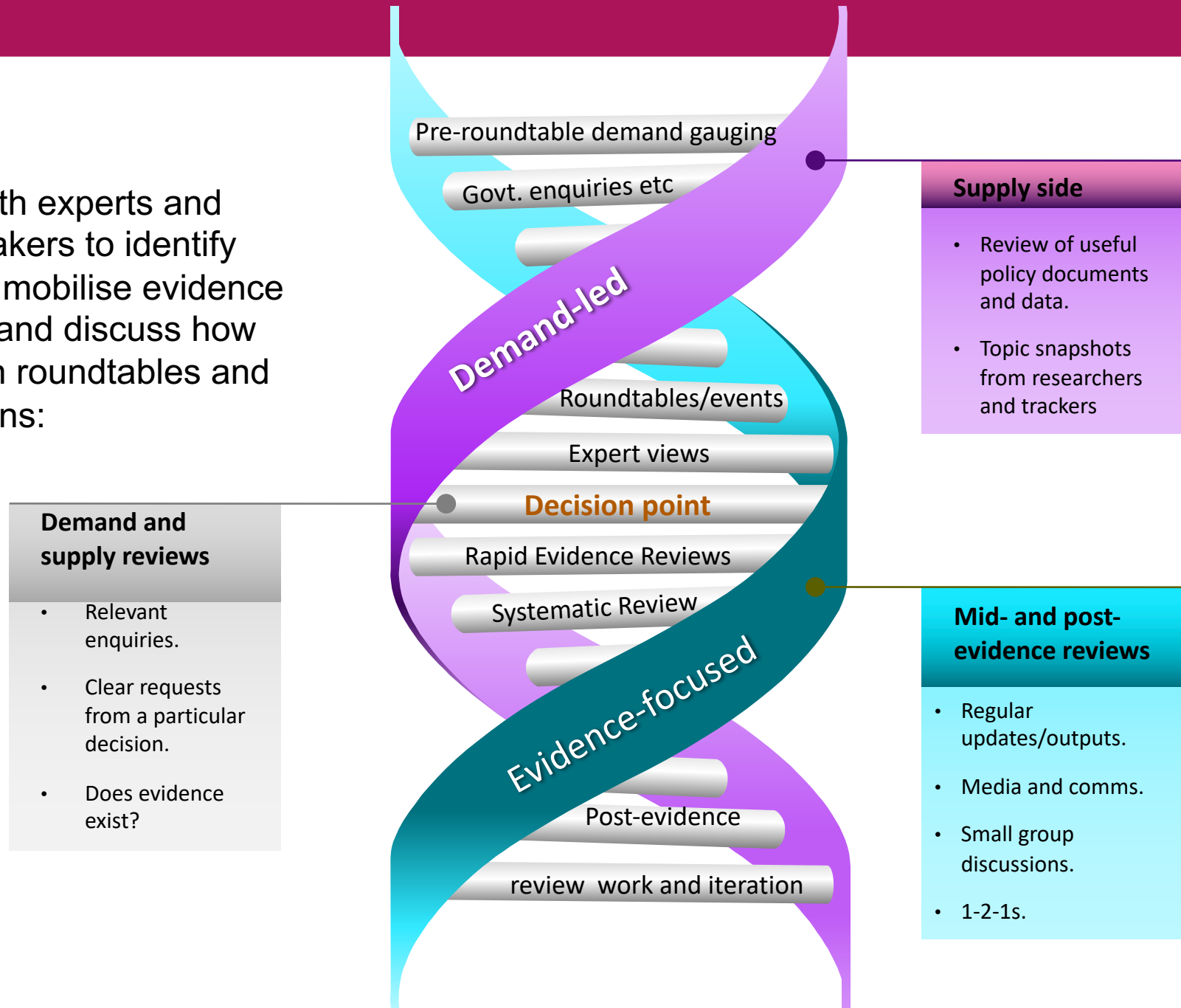
- Living Map, Evidence Reviews, Systematic Reviews
- Topic expertise networks
- Global Scans through INGSA, Blavatnik and partners (OECD, SEAN etc)



Linking to action and learning

- Website, articles, briefs
- Events, conversation,
- Media

We work with experts and decision-makers to identify key issues, mobilise evidence of all kinds and discuss how to apply it in roundtables and conversations:



COVID - the post-normal science era on steroids

- Challenges to reliance on single disciplinary 'closed models'
- Need for speed
- Complexity of the relationship between evidence and values is highlighted
- Profoundly non-linear relationship between science and policy

Beyond brokerage

- We don't broker evidence in conventional ways, we build relationships, co-produce, integrate knowledge from multiple perspectives and shape agendas often across policy and evidence silos
- In opening up evidence-based conversations we pull things together in distinctive (incomplete) ways and always with reference to what others are doing in the space
- And we do this very quickly

Like modellers, we should hope to be useful

Rather than working from the assumption that we can maintain clear boundaries we need to work on a different basis:

- Rigour in methods and approach
- Diversity and plurality of actors and approaches
- Openness, transparency and dialogue
- Need to operate with a degree of humility

All models are wrong, and all integration activity is incomplete. Just wrong and incomplete in better and worse ways.

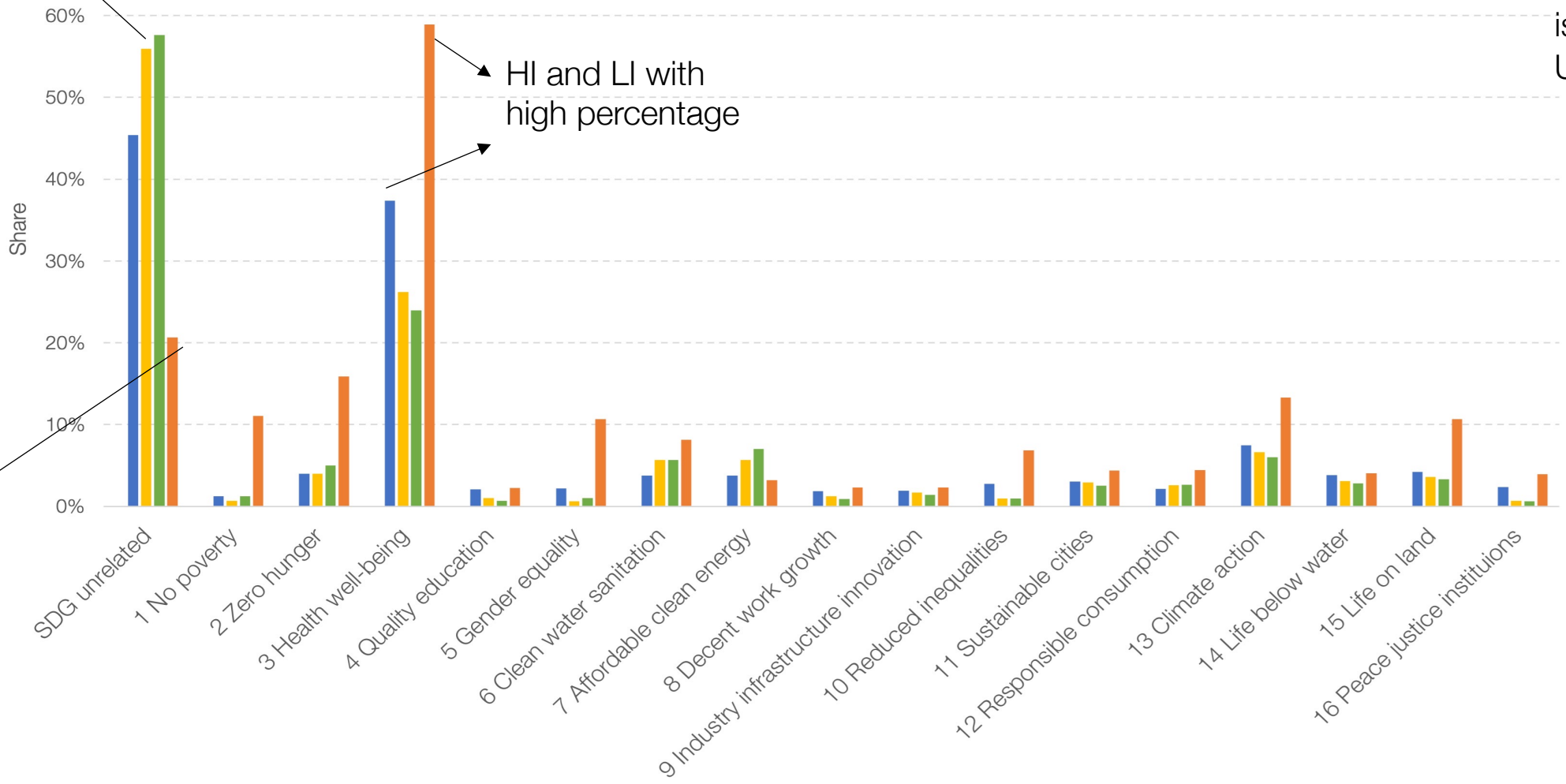
SDG Research Specialisation by country income group



Specialisation in SDG related research by income group 2015-2019

■ High income ■ Upper-middle income ■ Lower-middle income ■ Low income

Note:
90% of SDG
related research
is done by HI &
UMI countries

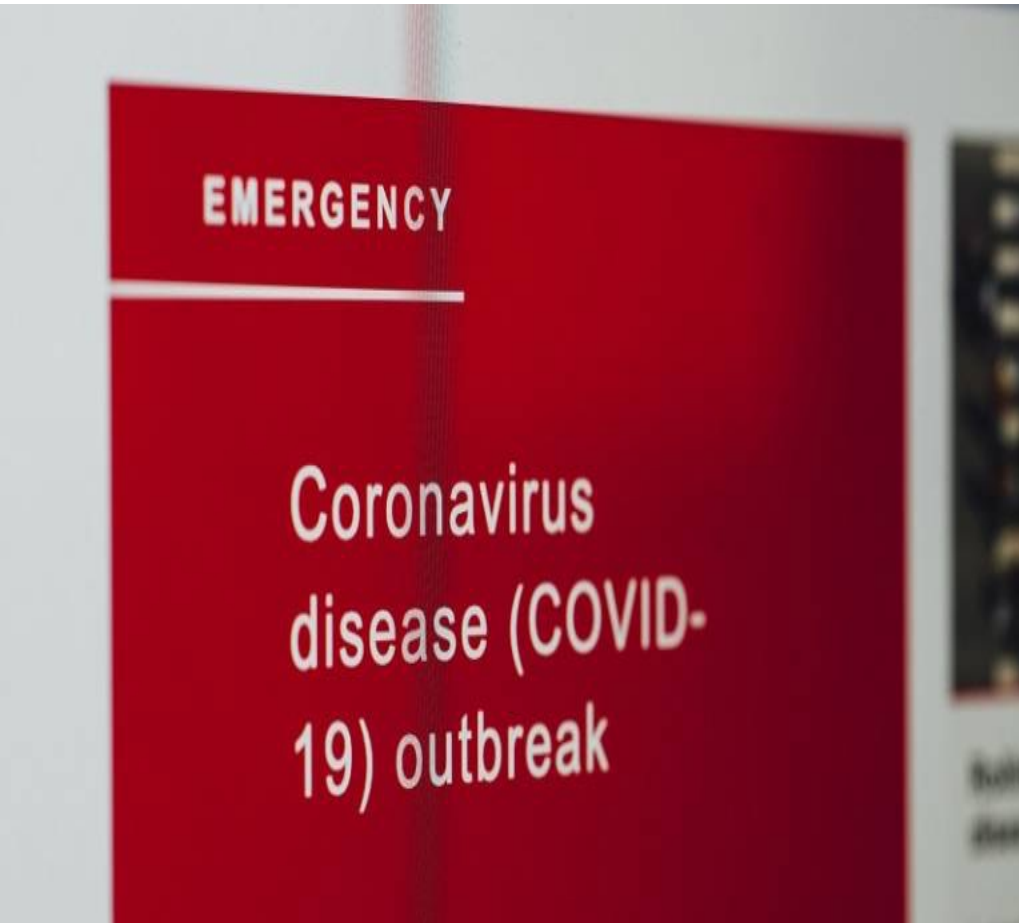


Most research is
unrelated to SDGs

HI and LI with
high percentage

LI with low
percentage
of non-SDG
research

Some reflections on knowledge systems, brokers and local capabilities



Drawing from multiple streams of work

- UCL Ventura CPAP Breathing Aid – a **study of critical factors for a rapid innovation** (Mugwagwa, 2020)
- STECS-Plus Project – a **study of how SGCs have contributed to Covid-19 responses** in 9 African countries (Mugwagwa et al, 2021 – a UCL-UR partnership)
- **Local pharma manufacturing during Covid-19** (Banda et al, on-going work)

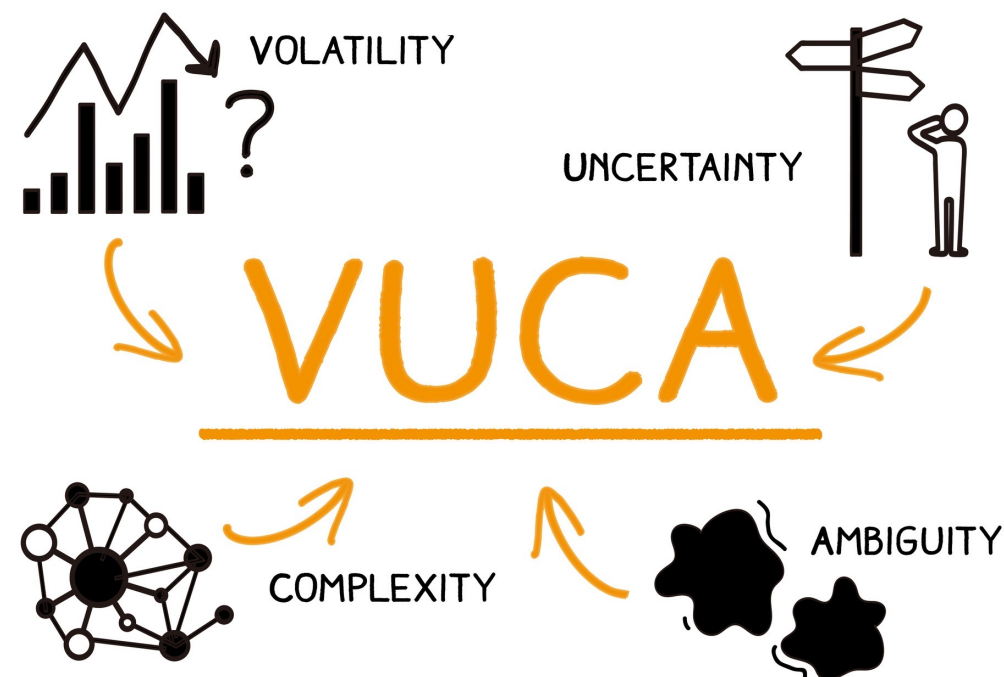
What is the pandemic a case of?

More than about an urgent health challenge and finding solutions to it

- For **development** – about historical, contemporary and future societal progress trajectories and unsustainable options that have been pursued
- For **innovation (science) systems** – the complex and multisectoral character of innovation(science) systems and the need to take interactions, knowledge generation, knowledge flows and knowledge use seriously
- It's about trajectories and systems that do not only coincide with, but cause good outcomes

What the pandemic has revealed

- **Vulnerability, uncertainty, complexity and ambiguity** – shifting levels of capability, accountability and responsibility
- **Tensions** between science, politics and society
- Subliminal, polemic and often aggressive **push back** against science
- **Disconnects and tensions** between global and local – difference between local as a location versus localization, local agency, local empowerment and local as a placing of knowing of doing



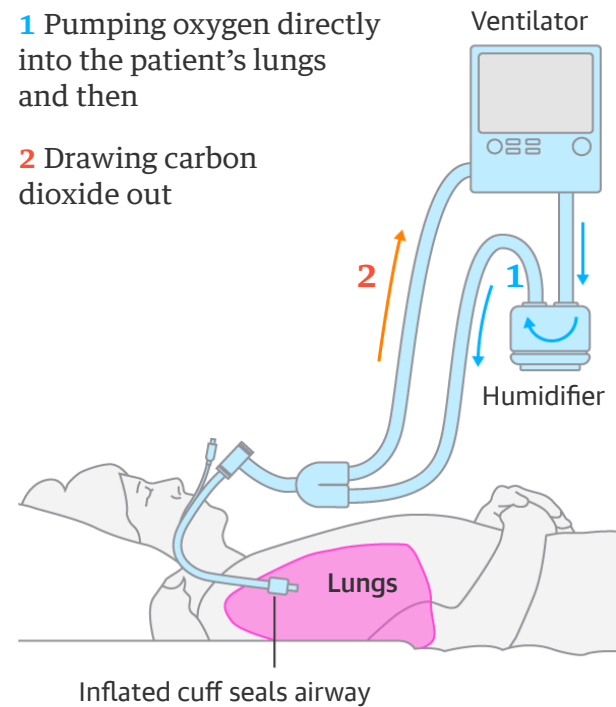
The CPAP story – from idea to market in 2 weeks

“The case of how a group of **passionate, like-minded people, with no disciplinary egos, worked well together, unencumbered by bureaucracy**” (respondent, May 2020)

Ventilator

Helps patient breathe by:

- 1 Pumping oxygen directly into the patient's lungs and then
- 2 Drawing carbon dioxide out

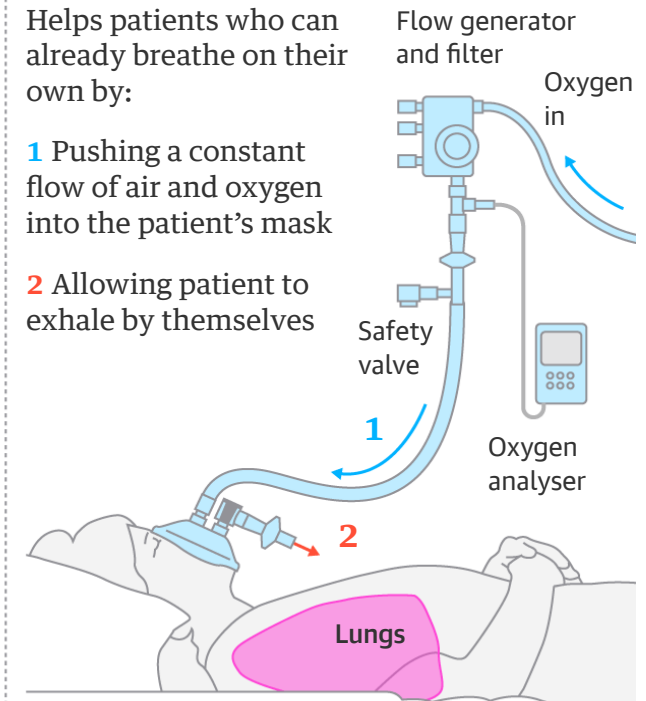


Guardian graphic. Source: UCL, UCLH, Mercedes F1

CPAP device

Helps patients who can already breathe on their own by:

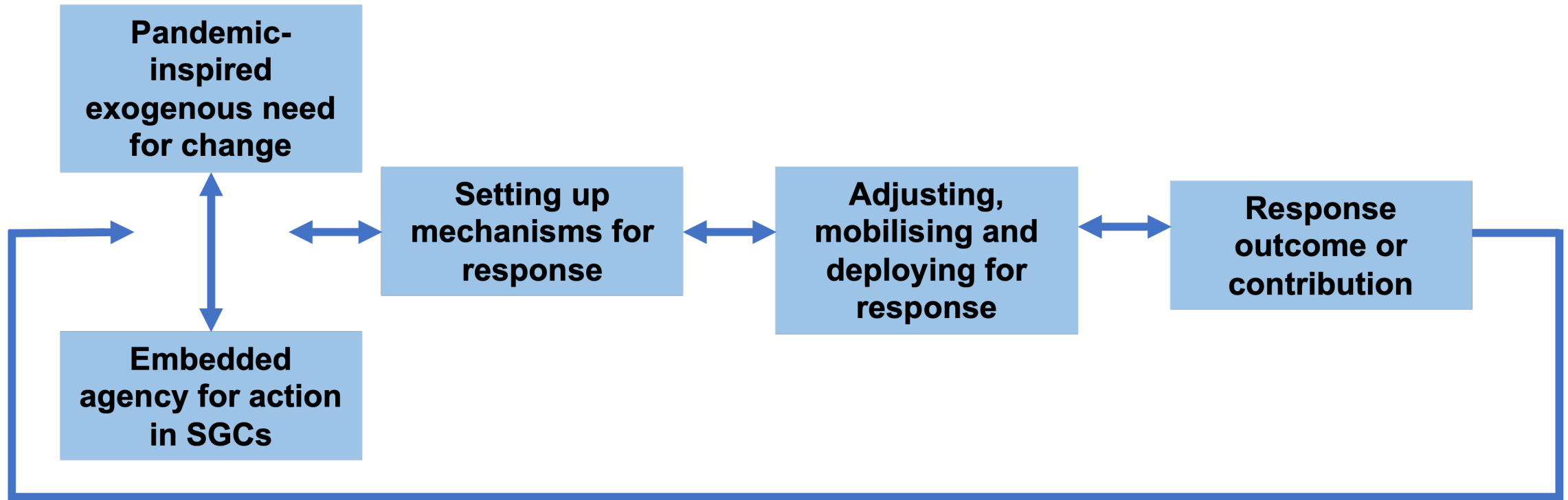
- 1 Pushing a constant flow of air and oxygen into the patient's mask
- 2 Allowing patient to exhale by themselves



Local pharma manufacturing during Covid-19

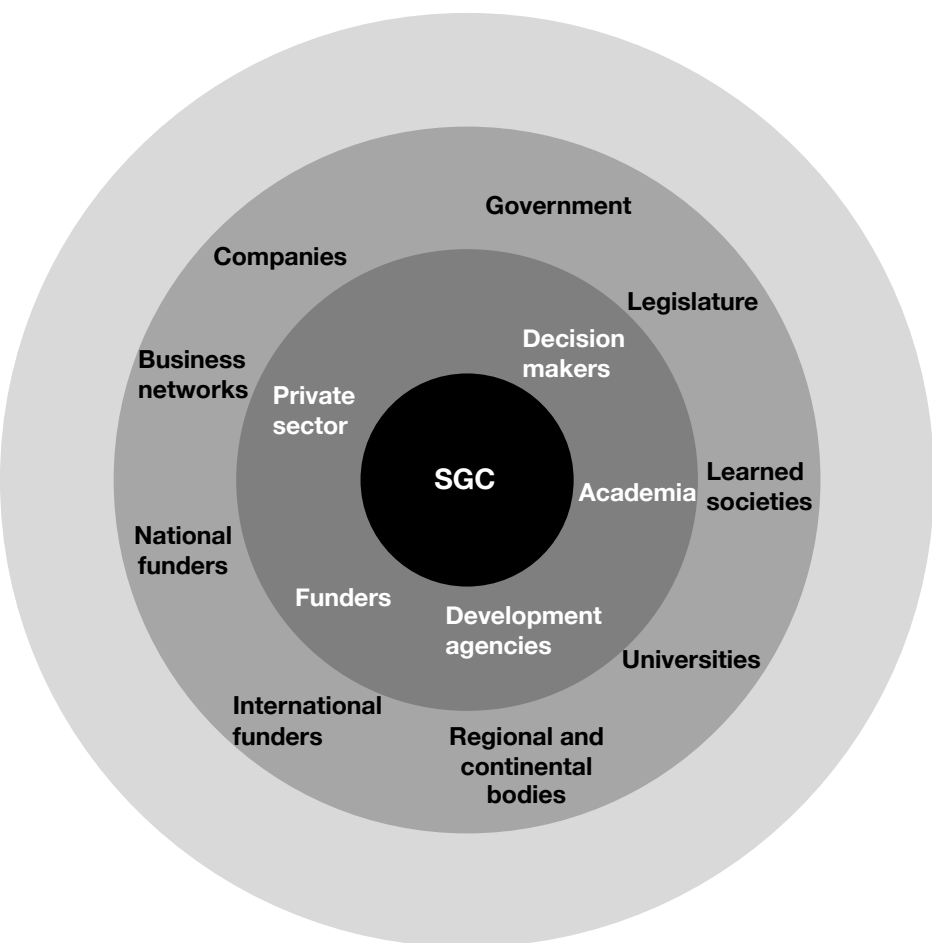
- ‘The pandemic seems to have ushered in a new wave of **transactional approaches** to international relations (protectionism and nationalism), some kind of **retreat to narrower national interests**. The ability to respond locally to emergency needs has been determined by two big factors: accumulated manufacturing capabilities, and **the institutional structures that shape and constrain innovation** such as university technological capacities, regulatory structures and procurement skills’ (**excerpt from ongoing work on local pharma manufacturing during Covid-19**)
- Note 1 – the importance of local/embedded, functional system-wide capabilities
- Note 2 - the key role of science/innovation policy as an industrial policy tool

STECS-Plus Project – SGC’s agency and urgency in response to societal challenges



STECS-Plus project conceptual framework (2020)

SGCs and Covid-19 – some key messages



- SGCs were able to influence national responses either directly as members of **national Covid-19 response taskforces** or through feeding **ideas, evidence and advice** from a range of different contexts into response mechanisms
- For science systems, as **sources of tools and knowledge for responding to societal challenges**, the pandemic has revealed the need for rethinking how these **systems are configured**, the levels of **capacity** in these systems, and their **relevance and agility** at points and times of need.

Key lessons for innovation (science) systems

1. Integration of global and local knowledge – **challenge privileged ways of knowing and doing**
2. Availability of **context-relevant and timely** data
3. Disciplinary expertise, professionalism, relationships and mutual **respect**
4. Interdisciplinary workspaces – **for trust- and experience-building**
5. Key influencers and **knowledgeable intermediaries** are key
6. Lowering **interaction** barriers and cultivating **institutional entrepreneurship**
7. **Co-location and institutional support** for rapid decision-making and action

Finally, what could conspire against science system reconfiguration?

- **Institutional and collective will to rethink** - will the needed adjustments be feasible, quick enough and sustainable?
- Failure to think **beyond conventional constructs** of these systems – constraining room for new nodes and actors in innovation (science)?
- **Collective amnesia when the pandemic relents** – pandemic fatigue and systems re-setting to business as usual?

Some references

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