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Integrated Innovation: An Update and Early Lessons

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One of the key features that distinguishes Grand Challenges Canada is our focus on **Integrated Innovation**™. *Integrated Innovation* has been called our 'DNA' and informs all aspects of our work. That being said, from the time it was first described in a publication in 2010 (available at http://www.grandchallenges.ca/integrated-innovation/), our conceptualization and application of this important concept has been further developed through our continuous learning and interaction with grantees. Earlier this year, we posted a video of Grand Challenges Canada Program Officer Pamela Kanellis talking about Integrated Innovation at a Proposal Development Workshop in Dar es Salaam, Tanzania (available at http://www.grandchallenges.ca/integrated-innovation/). Drawing from our experiences applying Integrated Innovation, we now provide a further update on:

- What Integrated Innovation is
- How we apply Integrated Innovation
- What we have learned.

What is Integrated Innovation?
We define *Integrated Innovation* as the coordinated application of scientific/technological, social and business innovation to develop solutions to complex global health challenges. This approach does not discount the singular benefits of each of these types of innovations, but rather highlights the powerful synergies that can be realized by aligning all three. At its core, Integrated Innovation recognizes that scientific/technological innovations have a greater chance of going to scale and achieving global impact and sustainability if they are developed from the outset in conjunction with appropriate social and business innovations. It similarly recognizes that social or business innovations on their own may not be as effective for solving global health challenges.

We conceptualize the three types of innovation broadly:

- **Scientific/Technological Innovation** has a scientific or technological base that can come from the natural, health, social or behavioural sciences or from engineering. Examples of this type of innovation are a more efficient drug delivery system, a new point-of-care diagnostic device or a mobile phone application to facilitate access to health care.

[1] David Brook, Pamela Kanellis, Rebecca Lackman, Raymond Shih, Karlee Silver, Ken Simiyu and Kristen Yee contributed to this article and take responsibility for its content. We are grateful to Jocalyn Clark for comments on versions of the manuscript.

- **Social Innovation** recognizes the broader social, structural and political determinants of health, and addresses one or more of these to improve health outcomes. It addresses local and/or cultural contexts that factor into implementation and scaling up. Examples of this type of innovation are an intervention to address the low social status of women, the engagement of religious leaders to spread health messages or a novel process to alleviate financial barriers.

- **Business Innovation** maximizes the value, relevance and unique quality of the global health solution to create demand. It addresses affordability and accessibility barriers and recognizes that someone (i.e., end users, funders, buyers) needs to be convinced the solution is a worthwhile investment. Examples of this type of innovation are an affordable business model to get investor or government buy-in, a strategy for developing, manufacturing and distributing products or services, or a novel incentive scheme.

Examples of projects taking an Integrated Innovation approach can be found in a short slide deck (available at http://www.grandchallenges.ca/integrated-innovation/) that will be of interest to anyone seeking to better understand the approach.

How we apply Integrated Innovation
Applying the concept of Integrated Innovation helps to ensure that Grand Challenges Canada grantees consider and prepare for their global health solution to go to scale from the outset of their work. Grand Challenges Canada has encouraged the adoption of Integrated Innovation from the outset by:

- Including relevant criteria in each Request for Proposals
- Selecting peer review committees that include scientific/technological, social and business expertise
- Ensuring project milestones identify and address barriers to scale, even at the proof-of-concept stage.

Integrated Innovation is not just a concept that potential grantees must address and consider in their proposals; it is an ongoing part of their projects and continuously revisited during interactions with their Program Officers and colleagues.

To enable the application of Integrated Innovation while prospective grantees are developing their project proposals, we have put together a workbook (available at http://www.grandchallenges.ca/integrated-innovation/) that can be used to think through Integrated Innovation in the context of a specific global health solution.

What we have learned?
Having worked with innovators in all of our program areas over the past two years to apply the concept of Integrated Innovation to their projects and proposals, it has become clear that:

- **Scientific/technological innovation is not simply the production of gadgets or the use of mobile phones.** As we define above, Grand Challenges Canada acknowledges that a range of scientific disciplines, from engineering to the behavioural sciences, may be the basis of the next significant global health solution.

- **Business innovation is not only for solutions with potential commercial viability.** Whether their end user “customers” are in the public or the private sector, almost all solutions require financial resources to work. Being able to convince someone (whether a private investor or a government decision maker) that there is value in paying for the solution will almost always be necessary.

- **Applying Integrated Innovation is not about checking boxes.** All three types of innovation that comprise Integrated Innovation should be considered when addressing barriers to scale and sustainability, but all components within a project should be necessary for the solution to work, go to scale or be sustainable. A common trap is to force a component (e.g., a mobile phone) into the solution just so all three types of innovation are explicitly included. In fact, in circumstances where innovation is truly integrated, it may become difficult to neatly categorize components into the three types of innovation and often one type of innovation (i.e., scientific) can address the barriers seemingly in another sphere (i.e., business). For example, the use of a cheaper and lighter polymer material could improve affordability and distribution of a product.

- **Integrated Innovation is dynamic.** As a global health solution progresses down the path to scale, it is likely that the main barriers to scale will become better illuminated and the priority areas of work will need to be shifted. Engaging end users and stakeholders early and often is an effective way to ensure activities don't stray far from the critical path.

At Grand Challenges Canada, we see the application of Integrated Innovation to global health solutions as an integral part of achieving impact as quickly as possible. We are excited to continue working with the innovation community to further our learning on the application of this approach. We will continue to provide updates as our Integrated Innovation experiment continues and would welcome thoughts or comments from those who have adopted the approach.