Scaling Innovation To Reach Sustainable Development

Goal 3

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The present report “Scaling Innovation to Reach Sustainable Development Goal 3” has been authored by, and is the product of the Capstone Student Team of the Jackson Institute for Global Affairs at Yale University.

The report presents a first look at innovation scaling in SDG3 GAP agencies and was based on a limited number of interviews conducted by the Capstone Student Team during the Fall of 2021. As such, it may not represent the heterogeneity of activities among SDG3 GAP agencies on innovation scaling.

The report will be published on the SDG3 GAP website as an external report, together with an accompanying note prepared by the SDG3 GAP Secretariat, with input from SDG3 GAP signatory agencies, presenting further information from the SDG3 GAP agencies on scaling innovation and how the SDG3 GAP R&D, Innovation and Access accelerator will strengthen collaboration among the agencies in innovation for impact and SDG progress.
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<tr>
<td>ADP</td>
<td>The Access and Delivery Partnership</td>
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<tr>
<td>CODA</td>
<td>Conditional On-Demand Assistance</td>
</tr>
<tr>
<td>DPPA</td>
<td>Digital preparedness pandemic assessment</td>
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<tr>
<td>GAP</td>
<td>The Global Action Plan for Healthy Lives and Well-being for All</td>
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<td>GAVI</td>
<td>The Global Alliance for Vaccines and Immunizations</td>
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<td>GFF</td>
<td>The Global Financing Facility for Women, Children and Adolescents</td>
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<td>Global Fund</td>
<td>The Global Fund to Fight AIDS, Tuberculosis and Malaria</td>
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<td>HIEx</td>
<td>The Health Innovation Exchange</td>
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<td>IDIA</td>
<td>The International Development Innovation Alliance</td>
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<td>IFFI</td>
<td>International Finance Facility for Immunization</td>
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<td>ILO</td>
<td>The International Labor Organization</td>
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<td>MAP</td>
<td>Microarray patch</td>
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<td>MHC</td>
<td>Mental healthcare</td>
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<td>Minimum-value product</td>
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<td>Sustainable Development Goals</td>
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<td>TDR</td>
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<tr>
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<td>The Joint United Nations Program on HIV/AIDS</td>
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<td>UNDP</td>
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<td>UNICEF</td>
<td>The United Nations International Children’s Emergency Fund</td>
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<td>UN Women</td>
<td>The United Nations Entity for Gender Equality and the Empowerment of Women</td>
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<td>USAID</td>
<td>The US Agency for International Development</td>
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<td>VIPS</td>
<td>Vaccine Innovation Prioritization Strategy</td>
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<td>WFP</td>
<td>The World Food Programme</td>
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<td>WHO</td>
<td>The World Health Organization</td>
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Executive Summary

Introduction. In 2015, the United Nations adopted 17 Sustainable Development Goals (SDGs) laying out the necessary benchmarks to realizing the 2030 Agenda for Sustainable Development. Even before the COVID-19 pandemic, the world had fallen behind on achieving SDG targets, notably SDG 3: “To ensure healthy lives and promote well-being for all at all ages.” The significant setback from the pandemic prompted the 13 multilateral agency members of the SDG Global Action Plan (SDG GAP) agencies, spearheaded by the World Health Organization (WHO), to extend their search for innovative solutions to accelerate work towards global health and well-being.

To inform agency strategies on how to bring impactful health innovations to scale in target countries around the world, this report explores current health innovation models, case studies of scaling health innovation, and reported lessons learned from experiences scaling health innovation.

Results. This report first delves into the models of the 13 SDG GAP agencies to understand how they assess health demand in the countries they work with, identify promising innovation to alleviate unmet health needs, and scale successful innovations across countries and within healthcare systems. The report then presents nested case studies of instructive in-country agency work on specific innovations and scaling innovations. After comparing reports and documents from the 13 agencies, significant lessons learned emerged, characterized either by their commonalities across agencies or their singularity compared to other reported experiences.

Implications. When considering how agencies can best advance their work towards SDG 3, collaboration between agencies and between agencies and external partners presents a distinct strategy that deserves separate analysis. Despite sometimes high transaction costs, nearly all agencies reported that interagency collaboration yields major benefits. Collaboration with external parties is also critical to advancing in health innovation, and more frequent instances of collaboration with in-country stakeholders will only enhance understanding of problems on the ground.

By compiling and analyzing the innovation models, nested cases, and lessons learned across agencies, this report hopes to facilitate learning among GAP agencies and identify potential areas for improved agency collaboration. As the next step, WHO and SDG GAP will workshop this report’s findings by considering how the GAP might act on its insights and suggestions. Reflecting on both shared and divergent experiences in scaling innovation might prompt agencies to reimagine how they proceed in the health innovation space, hopefully generating novel solutions, encouraging agencies to play off comparative advantages, and advancing the GAP’s shared vision of health for all.
The COVID-19 pandemic has caused progress towards SDG 3 to stagnate:

- SDG 3 works specifically on health, targeting areas such as maternal mortality, health education, communicable diseases, and mental health
- COVID-19 stalled global progress towards SDG 3 and exacerbated disparities in progress between countries
- Innovations include technological or social delivery programs. They can be scaled up, out, and deep to support countries’ SDG 3 goals and trajectories

Laid out by the United Nations in 2015, the Sustainable Development Goals (SDGs) present 17 multidimensional, socially-oriented objectives for all countries to achieve by 2030. Among these goals is SDG #3: To ensure healthy lives and promote well-being for all at all ages.

The COVID-19 pandemic has stalled global progress towards SDG 3 and exacerbated disparities between countries. As of summer 2021, 90% of countries are still reporting one or more disruptions to essential health services as a result of COVID-19. The cumulative impact could amount to a decade of progress in reproductive, maternal, and child healthcare obstructed or reversed by complications of the pandemic.

Scaling health innovations presents the most comprehensive and efficacious solution to return countries on track to achieve SDG 3 by 2030. We define a health innovation as either a novel technological breakthrough or a social good delivery program designed to bridge immediate gaps within national or community healthcare systems. Inherently motivated by opportunities for efficiency gains, innovation can demonstrate the highest level of fast-acting impact in the healthcare space. Specifically, innovation development follows a process of (1) understanding evidence-based demand (demand identification), (2) rapid solution prototyping (supply matchmaking), and (3) successful implementation (innovation scaling). Innovation scaling targets also vary in scope: horizontal scaling out brings an innovation to another area or country; vertical scaling up entails policy changes to institutionalize an innovation; and intertemporal scaling deep allows an innovation to set lasting new community norms. Innovation is of increased interest within the civil society and nonprofit sector, as it pools in the efforts of governments, the private sector, and scientific communities.
The United Nations and multilateral agencies have a unique role to play in scaling innovation:

- Non-governmental organizations can bridge systemic gaps between the supply and demand sides of innovation
- WHO Innovation Hub represents the SDG 3 GAP agencies’ initiative to promoting innovative work in the global health landscape

The UN and multilateral agencies such as the WHO have a unique role to play in scaling innovation. The private sector can ensure a robust supply of innovations, but may lack the ability to assess in-country demand, form government partnerships, and work within existing health systems. Multilateral institutions, especially those with long-term private-public partnerships, established trust, working relationships with country governments, and systems-level understanding of at-risk communities, bridge an instrumental gap between innovation “supply” and health “demands.”

WHO and twelve other agencies, similarly striving to achieve breakthroughs in global health progress, have gathered to form the Global Action Plan for Healthy Lives and Well-being for All (SDG 3 GAP for short). So far, their long-term, forward-looking SDG-themed focus has manifested in support for on-the-ground operations in 37 countries, highlighting both their unwavering commitment to country-level equitable healthcare and the merits of collaboration among supranational actors.

More specifically, given the non-exclusionary and overlapping nature of global health work, SDG 3 GAP agencies are seeking to tap into potential synergies among themselves by learning from each other’s successes, harmonizing any strategic fragmentation, and laying the groundwork for disruptive reforms in global health governance.

To help supercharge SDG 3 GAP’s capacity for scaling demand-driven innovation and plan future programs, we conducted a nested comparative case study to describe and compare agency innovation models, country cases, lessons learned, and collaboration models.
Methodology

We conducted a nested comparative case study, with the 13 SDG 3 GAP agencies serving as cases and a nested deep-dive into one to two examples of innovation scaling per agency. We explored the agencies’ scaling models in three domains: how the agencies are 1) capturing, communicating and amplifying existing health demand in countries; 2) matchmaking these demands to health innovations; and 3) assisting in bringing innovations to scale.

**Observation.** An innovation accelerator meeting with SDG 3 GAP agencies took place virtually in the early stages of the study, with representatives from most agencies presenting brief details of their respective institutional scaling models, examples of scaled innovations, and lessons learned. We recorded detailed notes from agency slide decks and participant comments from this meeting.

**Desk Review.** To familiarize ourselves with the global health innovation space, we reviewed selected published and gray literature on scaling innovation in health, and country-level case studies that are identified in the 2021 Global Action Plan Progress Report. To better frame our study, we reviewed publicly available documents on each agency’s website, and requested internal documents of interest from the agencies on their respective innovation strategies, models, success stories, and learnings. We recorded detailed notes on selected agency documents.

**In-depth Interviews.** We conducted interviews with representatives from twelve out of thirteen SDG 3 GAP in student pairs, with one interviewer asking questions and directing the discussion, and the second interviewer taking notes. We prepared interview guides with a set of core questions, to be asked of all agencies, and agency-specific questions, to fill in gaps in knowledge from the desk review. We wrote the interview guides around four core areas: model, country cases, lessons learned, and collaboration. Pairs met before interviews to prepare and finalize questions, and held debriefs after interviews. For some agencies, we conducted second-round interviews to further probe key insights drawn from first-round interviews. We recorded all interviews with permission from all parties, and sections of recordings were transcribed as necessary.

**Analysis.** We conducted our analysis using affinity mapping on Miro, an online collaborative whiteboard platform that enables teams to draw insights from qualitative data. We compiled our notes from observations, desk review, and in-depth interviews, and transcribed key phrases onto virtual post-it notes, which we color-coded by agency. Then, as a group, we intuitively sorted the post-its into clusters, assigning themes to each cluster. Individually, we read clusters to compare and contrast agency practices, and identify broader trends.
**Validation.** We presented the findings from our observation, desk review, interviews, and analysis to the SDG 3 GAP innovation accelerator agencies. The meeting served as a validity check for our results so that agency representatives could provide feedback as well as any clarifications or corrections as needed. Feedback from agencies was incorporated into the final report.

**Limitations.**

It is important to acknowledge some of the obstacles we faced and limitations to our study. First and foremost, as a group of students with no previous experience working for UN agencies, we clearly had an outsider perspective as we approached our work. Although this was certainly advantageous at times, it also meant that in some instances, we may have lacked the appropriate context to understand each agency’s day-to-day work, situational awareness of certain case studies, or the challenges that each agency faces. This manifested the most when we could not find much publicly available information on ILO’s and UN Women’s innovation work, and did not get to interview with UN Women.

Additionally, we should note some of the limitations we experienced during our desk review and interview process. During our desk review, we were able to compile a thorough amount of information on agency models and case studies for 11 out of the 13 agencies, but were faced with limited publicly available data from two agencies. Furthermore, we were not able to conduct an interview with one agency. Among the remaining 12 agencies we interviewed, in most cases, we only spoke to one representative from each agency. As such, we were sometimes limited by representatives only being able to provide us information about their specific teams or functions, and thus we may not have gotten a representative picture of the complete breadth of each agency’s functions. That being said, we worked to mitigate this challenge by conducting prior research on each agency, and were sometimes given follow-up materials after the interviews to get more information on topics our interviewees did not feel knowledgeable enough to speak on.

Lastly, it is important to consider the asynchronous, individual nature of our analysis. The insights we drew may have been biased or unchallenged since only one student worked on each thematic section in the interest of time. One way we mitigated this was having people who had not previously worked on each specific agency be the one to separate out the notes and form preliminary insights on each topic to minimize bias.
Models for Scaling Innovation

Model Commonalities

Across agencies, scaling models share a number of notable trends. First, almost all models contain the three distinct components of (1) identifying demand, (2) identifying innovations, and (3) scaling those innovations. Second, nearly all agencies mention some form of funding or investment as important criteria to consider in scaling. The distinguishing approaches of these models can be approached from a high level (i.e. broad overview) first, followed by a more in-depth analysis of elements that are unique to a particular agency. Identifying demand and innovations fall into the upstream components of the model, whereas scaling follows as a later process.

Models’ Distinguishing Characteristics

The methods of assessing demand fall into two categories consistently reported by many agencies: first, direct country-level assessment entails looking at information that comes from country contexts rather than using a top-down approach. Agencies may work with parliaments and legislation to determine what is needed for innovation in a specific country, as well as involve country representatives and teams on the ground to surface critical spaces for need. This could be followed by a procurement process for technologies presented by companies. In comparison, agencies may focus more on secondary analysis, i.e. conducting landscape reports to determine what medicines, diagnostics, and tools are available. Some examples include market analyses, pipeline reports, and disease narratives.

In identifying innovations, some agencies use bootcamps or accelerators, while others utilize innovation pitches followed by technical review. Both approaches call for ideas and solutions that can be scaled; bootcamps and accelerators are designed to bring teams together and nurse them so they can go through different stages in a set time frame. For example, teams rapidly prototype solutions and ultimately get a working proof-of-concept by the end of the accelerator program. Innovation pitches are also used to develop proposals, which can then be vetted by a technical review panel of experts before they are approved for funding (e.g., Unitaid) and before the agency makes a recommendation. Innovations that are brought to such pitches can also be sourced through outside funders rather than the agency itself (e.g., WHO).

The process of scaling innovations is considered the downstream component of models. In terms of commonalities, several agencies explicitly mentioned their role as a “catalyst” – for the purposes of this report, the definition of catalyst used here refers to
agencies that are more involved in facilitating logistics beforehand, rather than directly supporting scaling and tracking the success of an innovation. Funding is also very important for scaling, which was mentioned at least briefly across nearly all models. For example, the Global Fund uses blended finance to maximize investments; blended finance implies the mixing of both public and private funds, and this mobilizes private capital flows to emerging projects development projects. For the World Bank, funding goes directly to the countries to ensure scaling sustainability.

Table 1 shows that certain agencies are relatively more focused on the upstream side of identifying demand and innovations (ILO, UNAIDS, Unitaid, WFP), while one is relatively more focused on downstream scaling (UNICEF). Many agencies equally focus on both. The third column of Table 1 lists the two primary methods of assessing demand (e.g., direct country-level and secondary landscape analysis). Interestingly, UNAIDS acknowledges its role as an intermediary; the agency builds trust between innovators and the Ministries of Health, but does not play a role in implementation of an innovation, following an innovation, or tracking its success. Although UNAIDS identifies contexts and solutions, it leaves room for local adoption of the solution.

<table>
<thead>
<tr>
<th>More focused on identifying demand and innovations</th>
<th>More focused on scaling</th>
<th>Approach to upstream identification</th>
</tr>
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<td>Gavi</td>
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<tr>
<td>GFF</td>
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<td>country-level investment case</td>
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<td>Global Fund</td>
<td>✓</td>
<td>direct country-level &amp; secondary analysis</td>
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<tr>
<td>ILO</td>
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<td>UNAIDS</td>
<td>✓</td>
<td>intermediary</td>
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<tr>
<td>UNDP</td>
<td>✓</td>
<td>direct country-level</td>
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<tr>
<td>UNICEF</td>
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<tr>
<td>Unitaid</td>
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<td>secondary analysis</td>
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<tr>
<td>UN Women</td>
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<tr>
<td>World Bank</td>
<td>✓</td>
<td>direct country-level</td>
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<td>WFP</td>
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<tr>
<td>WHO</td>
<td>✓</td>
<td>direct country-level</td>
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Table 1: Upstream vs. Downstream focus on scaling for SDG3 GAP Agencies
Table 2 presents approaches to identifying demand and innovations. To summarize by column, the phrase “multi-sectoral” design or approach was explicitly mentioned by a few agencies either in text or in interviews, and it implies that the agency brings the capacities of overlapping UN agencies together and puts them in communication with each other to work towards a common goal. Identifying innovations using this approach could involve not just Ministries of Health, but also Ministers of Finance, of Science, of Education, of Justice, and other multilateral government partners. The second and third columns show that more agencies use bootcamps/accelerators compared to innovation pitches as a primary method to identify demand and innovations.

Based on the last column, many agencies also explicitly mentioned sustainable scaling either in text or in interviews. Sustainable scaling ensures long-term success of the project outside of the agency’s involvement after the agency “leaves” a country or moves onto another project. In essence, the project or innovation can “graduate” if the government takes ownership.

To highlight select unique approaches of certain agency’s models:

- **WHO aims to match health needs with ready-to-scale innovations**: WHO has developed an innovation scaling framework that links the health needs of countries with mature, evidence-based innovations and facilitates their

<table>
<thead>
<tr>
<th>Agency</th>
<th>Multi-sectoral design or approach</th>
<th>Bootcamps and/or accelerators</th>
<th>Innovation pitches and technical review panel</th>
<th>Emphasis on sustainable scaling</th>
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<tr>
<td>Gavi</td>
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<tr>
<td>Global Fund</td>
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<td>WHO</td>
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Table 2. SDG3 GAP Agency Approaches to Identifying and Scaling Innovations
implementation at scale. The approach applies innovation assessment, carried out initially by innovation funders and aggregators, as innovations are identified, reviewed and incubated, while additional assessment and suitability for the operational context is ensured by WHO’s technical experts in close collaboration with the WHO Country Office. WHO therefore functions as a convener and matchmaker in the health innovation scaling process. Bringing together key stakeholders while the final decision to select, adapt and scale innovations sits with Ministries of Health in countries.

Global Fund places the burden on domestic investment: The Global Fund places the burden on domestic investment. By being transparent and setting clear boundaries and expectations about increasing the level of domestic investment, Global Fund mitigates donor dependency for projects that it funds, ensuring the feasibility of scaling.

UNFPA’s scaling approach recognizes the need to have proofs of concepts and early results: (does it work, for whom, and where) to demonstrate the potential for adaptation and scale. UNFPA sources models internally and externally.

UNICEF’s “public good” approach: UNICEF pushes for turning innovations into open sources for everyone to use freely (e.g. mHero).

UNDP emphasizes scaling “deep”: UNDP hopes to impact culture through innovation that alters behaviors and norms of the community, pushing for innovation to be seen and treated as public goods.

Additional Insights

In addition to the findings above, the following insights emerged during our qualitative analysis of the data on innovation models:

Agencies vary in their methods for identifying innovations: Some consider few solutions at the onset whereas others search for as many as possible. Agencies also show discrepancies in which part of the process is best for bringing in partners.

Partnerships require clear delegation of responsibility: Ideally, projects have strong leadership and a clear passing-along of steps from the agency to its partners, or even to other SDG GAP agencies.

Pilot and proof-of-concept are key in investment cases: Investment cases are often open-ended and country-led; they usually involve much collaboration and communication between both country representatives and SDG GAP agencies. Within the GAP, the GFF, World Bank, and UNFPA emerge as key players in investment cases. Although investment cases do not follow a prescriptive format, the pilot and proof-of-concept stages carry extra importance compared to other models. Because investment funds inherently plan for scaling, it is more difficult to shift the funds to other projects if the original is unsuccessful at the pilot stage.

Fine-tuning supply side framework can
facilitate matchmaking: Currently, the “wholesale” approach is popular as incubators provide and finance many innovations. In particular, WHO adopts the wholesale approach by looking at the expressions of demand from countries, after which the innovation funders will look at packages of innovations that can match those needs. Ideally, agencies would have a standardized system for hedging risks of new innovations.

Community willingness to adopt an innovation can influence innovation success: Matching innovations to demand and implementing the interventions require community input. While agencies need to consider health outcome metrics when choosing interventions, they must also consider community willingness to adopt a given innovation. Communities should be well-informed to make decisions about their own health, which requires increasing public health literacy among community members.

UN bureaucracy might not always be the best at scaling: Some agencies (Unitaid, UNAIDS) do not involve themselves in the implementation and scaling portions of the model and leave these responsibilities to country governments, global health scale-up partners, or other agents. Their reasoning includes the argument that UN bureaucracy might not be as efficient as other sectors.
Innovation Nested Cases

Overview

In order to best understand scaling models and illustrate lessons learned, each agency provides a compilation of their success stories, previous bottlenecks, and active works, which we consider “nested cases.” We report the scope of innovations that agencies have documented, and choose one or a few specific health-related examples that represent their process, scale, and impact. In surveying both the breadth and depth, we have a stronger understanding of the nature of work that each agency has done and can further do in the innovation space. A more comprehensive list of innovations can be found in Appendix B.

Insights

The reported universe of nested cases confirms many of our findings in other sections. First, there is a variety in the time scale with which agencies actively work on innovations, some graduating in two years while others are monitored through a decade. Second, innovations can emerge from both direct country-level assessments (World Bank, Unitaid, UNDP) or secondary landscape analysis (ILO, WFP, UNICEF); in this process, they can be home-grown, transferred horizontally from a similar region, or incubated within an accelerator. There is a trend among the reported nested cases to focus more on social delivery solutions rather than technological advances. There is also a strong emphasis on maternal and neonatal care, drug delivery processes, and data communication/management streamlining.

A common theme emerging from these nested cases underscores the importance of increasing government capacity and preparedness as part of scaling up. GFF encoded their investment framework according to RMNCAH-N, which has in part facilitated the quick recovery from Ethiopia’s health system crisis in 2017. Unitaid tried to develop standardized proposals for funders to implement cross-country projects; UNDP and UNICEF, on the other hand, stresses investment in country ownership of innovations through South-South collaboration. In improving the social distribution of technical solutions, there are many indirect ways with which agencies can improve community health standards. UNAIDS, for instance, focused on the funding eligibility in Kenya, which translates into a higher budget for TB and HIV. The electrification project of the World Bank might seem to not target health, but it still demonstrated positive effects on the availability of health services and living standards in remote areas.
Through its **Vaccine Innovation Prioritization Strategy (VIPS)**, Gavi worked with PATH to advance the **microarray patch (MAP)** transdermal technologies to improve access and delivery of a broad range of vaccines and other medicines in low-resource settings. Microarray patches are small bandage-like patches that can painlessly penetrate the skin’s outermost layer to deliver a drug or a vaccine. MAPs show the potential for drugs’ stability over different thermal conditions, ease-of-use, needle-free delivery, increased coverage, and reduced programmatic costs. Between 2021 and 2025, Gavi’s VIPS alliance hopes to implement MAP products for greater equity and access to more effective vaccines, including IPV, rabies, hepatitis B birth dose, or maternal tetanus.

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**GFF**

GFF’s work in Ethiopia represents one instructive case on the agency’s work in investment. **Ethiopia’s investment case** outlined many key reforms and priorities that they have been able to finance and implement. GFF worked with the country’s government to narrow health financing gaps and strengthen data systems for monitoring progress. These efforts to strengthen the country’s health system and mobilize health investments contributed to better outcomes including service delivery, more attended births, and increased use of contraception. To help the Ethiopian government increase resources and use funding efficiently, GFF collaborated with the World Bank and the Bill and Melinda Gates Foundation to provide technical assistance. By removing financial barriers, the community-based health insurance expanded to cover five out of nine regions in Ethiopia; in 2019, 28% of the population was covered in comparison to in 2015, where only 1% of the population was covered.

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**Global Fund**

**Project Last Mile** was created in 2010 to leverage and share core private sector expertise to improve health systems across Africa. This innovation’s goal was to leverage partner Coca-Cola’s distribution network to provide medication to last-mile areas. This was done by sharing supply chain logistics, marketing skill, and best business practices to transfer knowledge from the Coca-Cola system and build up the capacity of country Ministry of Health partners to improve the availability of medications to respond to local needs. Within this project, the Global Fund’s role was to provide funding directly to country Ministries of Health, use their marketing skill, identify key supply chain needs, and engage with partners and country governments to build understandings of the project.
ILO

Much of ILO’s current work focuses on the digital economy because the space’s rapid evolution demands the agency adapt many of its processes to new developments. They hope that innovations can help formulate new norms on digital employment. Most of this was based on the concept that you had a designated workplace but the digital economy has changed that. Some examples of innovation platforms ILO is working on include Turkopticon (a third-party website to centralize workers’ reviews and requests), FairCrowdWork.org (information platform from a trade union perspective by the Austrian Chamber of Labor and the Swedish white-collar union), and Ombuds (German software testing platform for paid crowdsourcing).

UNAIDS

UNAIDS works on a spectrum of health and non-health innovations, such as but not limited to Proximie (surgeon connectivity), Retrago (syringe safety), Mango Sciences (cancer treatment financing), medical education, or providing electricity or wifi to community centers to attract more young people to get voluntary STI testing.

In Zambia, UNAIDS facilitated support for a blended medical school, highlighting its intermediary role in scaling innovations. Before the COVID pandemic, UNAIDS had worked with an innovator on a non-ultraviolet sanitizing light to address antimicrobial resistance. Then when COVID broke out, they helped repurpose the solution which has been validated to kill bacteria and 99.9% of the coronavirus. They have also worked with startup-Blink for documenting innovations that arose out of COVID-19 and a global innovation map is available. UNAIDS had been working with an AI-based TB diagnostic solution, but when COVID came, they helped repurpose the solution to scan for COVID-19. These innovators in Wuhan were among the first to test the technology. It expanded to other countries once it was successful.
UNDP

UNDP’s Access and Delivery Partnership (ADP) assists countries in strengthening their policies, human capacities, systems and regulations that are needed to make sure that medicines and vaccines reach the people who need them, especially in low- or middle-income countries. UNDP worked in tandem with WHO, the Special Programme for Research and Training in Tropical Diseases (TDR), and PATH to develop service offerings in terms of procurement, supply chain, legal support, and policy strategies support.

ADP operates on three main principles: country ownership to ensure sustainability and to properly address priorities, cross-sectoral and multi-stakeholder collaborations to represent various perspectives, and South-South learning and cooperation to ensure mutual knowledge exchange.

ADP’s value chain consists of enabling policy & regulatory framework and system-level cross-sectoral coherence, robust control system to ensure quality, affordability, strategic pricing, and procurement, evidence-based implementation and context-aware delivery research, and pharmacovigilance to ensure safety and management of adverse events.

UNFPA

In 2020, UNFPA piloted an innovation project using drones to deliver blood and maternal health commodities to health facilities in order to overcome transportation issues to last-mile health facilities in Benin, West Africa. Although Benin’s maternal mortality rate had gradually fallen from a high of 432 deaths per 100,000 live births in 2013 to 397 in 2017, UNFPA still identified the need to continually improve maternal health situations in the region. Drones were implemented in co-creation with midwives; UNFPA consulted with them to understand the main reason why women die while giving birth, primarily due to a lack of blood in emergency situations. UNFPA then discussed with an “ecosystem” of actors – including the agricultural and business sectors that also used drones for their operations. As of now, drones are operating with two departments and 50 health facilities in Benin. UNFPA is scaling the project up with national authorities to make it a sustainable business operation, ensuring that the technical assistance, supply, and expertise are all in place.

Advocacy played an important role in the Benin project, since everyone needed to be aware that blood during maternal delivery is a pressing need (i.e., how many women are dying per day). In reality, however, innovations must respond to a pressing need that everyone on the ground has agreed upon for UNFPA to develop innovations in countries that address real bottlenecks.
**MHero** is a two-way, mobile phone-based communication system that connects ministries of health and health workers. It uses data from existing local health information systems to deliver messages via local channels. It reduces the barriers that can exist between health workers and their support systems. IntraHealth International and UNICEF created mHero in August 2014 to support health-sector communication during the Ebola outbreak in Liberia.

Humanitarian agencies, international NGOs, and Liberian government officials brought together their varied types of technical expertise to ensure that health workers feel a part of the process. The pilot involved verifying the contact information of health workers to ensure that they are receiving messages on the cell phone numbers associated with their personnel records. These messages were also used to document challenges for improvement before proceeding with scaling up the innovation.

After the end of the Ebola crisis, the Ministry of Health and Social Welfare in Liberia integrated the platform into its health information system to meet ongoing communication needs for various health services. Other countries followed.

In general, Unitaid groups their innovations by innovation type, including cross-cutting, diagnostic, prevention, and treatment. They also group their innovations by disease/health area, which include HIV, malaria, tuberculosis, cervical cancer, hepatitis C and chagas, and cross-cutting areas, such as fever management and reproductive, maternal and child health.

The **Access to Seasonal Malaria Chemoprevention (ACCESS SMC)** project was a Unitaid funded initiative to scale up access to SMC treatments for children across the Sahel. In the case of ACCESS SMC, the intervention (i.e. in the Sahel-sub region of Africa) so country eligibility was essentially predetermined. Through partner consultations, Unitaid developed a malaria disease narrative, presented a high-potential area for investment to its Executive Board for endorsement, and then launched a call to potential partners (including universities and NGOs) to work on innovative solutions to scaling up SMC. Once the implementing partners were identified, Unitaid began laying the groundwork for scaling by testing SMC delivery models and by making SMC treatments cheaper through increased demand and collaboration with generic pharmaceutical industries. The initial project scaled the intervention to 7 countries, and later, through effective scale-up, increased to a total of 13 countries. While the ACCESS SMC project finished in 2018, Unitaid has been using data from the World Malaria Report to track the number of children receiving SMC post-gran closure. This shows annual coverage continues to increase, rising from 19 million children receiving at least one dose in 2018 to more than 33 million in 2020.
Ethiopia’s *Reproductive Health Strategy* was a successful innovation used to improve and accelerate access to sexual and reproductive health. It identified six priority areas: social and cultural determinants of women’s reproductive health, fertility and family planning, maternal and newborn health, HIV/AIDS, reproductive health of young people, and reproductive organ cancers. The program worked toward a contraceptive prevalence rate of 60% by 2010, increased couples’ approval of family planning by 75% by 2015, and increased awareness of the links between STIs/post-abortion complications and infertility by 80%.

However, while the program was considered successful, it did not go without facing challenges. For example, more efforts are still needed to prioritize reproductive health among key decision makers, to understand the unique needs of the different populations, and design and implement health services to address them, to establish multi-sectoral initiatives to open dialogue between the health-sector development programme and nongovernmental organizations, and to strengthen the contraceptive security and logistics system.

The Innovation Accelerator Annual Report 2020 reported that WFP sourced 19 new cutting-edge innovations, growing its portfolio to more than 80 projects supporting 3.7 million people spanning 46 countries. *Conditional On-Demand Assistance (CODA)* is a platform that the WFP has implemented in Uganda and Tajikistan, supporting more than 45,000 people. It allows frontline workers to record information, track individual nutrition, health & recovery status, and indicate treatment success. In replacing paper-based registries, ration cards, and reports, CODA has applications for any on-demand distribution and allows for “decentralized conditionality monitoring.” In South Sudan, WFP Innovation Accelerator and Nutrition Division supported furthering adaptability to meet 80% of the deployment requirements.

WFP also boasts an impressive catalog of health-adjacent innovations. *ShareTheMeal* is an application that enables the global community to donate $0.80 to feed one child for a day. As of April 2020, this crowdfunding platform has over 58 million meals shared and won several social impact awards. While incubated in the WFP accelerator, this Berlin-based company’s operations feel like a spin-off from WFP rather than “home-grown.” Guided by an entrepreneurial mindset, ShareTheMeal sees itself as its own company with its own CEO and a big supporting organization behind (all employees are considered WFP staff). WFP attributes the success of ShareTheMeal to the business model they designed, opening how beneficients can reach donors while keeping major donor backing.
WHO

WHO has developed a ‘matchmaking’ approach to scaling innovations in countries, whereby it links the health needs of countries with mature, evidence-based innovations and facilitates their implementation at scale. One of the success stories of WHO’s innovation scaling work is the installation of multiple solar-powered medical oxygen concentrators in Somalia. In Somalia, there is a severe medical-grade oxygen shortage due to the high supply cost, low human resources, limited technical training, and lack of uninterrupted power supply. This has complicated the containment of pneumonia among under-5 children and recently COVID-19.

The Somalia WHO Representative highlighted this health challenge and the demand for innovation in medical oxygen provision to save more lives. On the basis of this expressed demand the WHO Innovation Hub, working closely with WHO Country Office and Regional Office colleagues, identified six evidence-based oxygen innovations from its partners and provided support on identifying transition-to-scale funding from Grand Challenges Canada and USAID. The WHO Innovation Hub engaged the WHO technical teams to further assess the innovations, and the WHO Country Office of Somalia coordinated with Somalia’s Ministry of Health to ensure the contextual suitability. A promising solar-powered medical oxygen concentrator system was identified, and in just a few months from the expression of demand multiple solar-powered medical oxygen concentrators were installed in a children’s hospital in Galmudug State. The innovation is now scaling also into other parts of Somalia and being explored as a feasible intervention for other contexts with similar demands.

Another example of recent innovation scaling impact achieved is in Zimbabwe focusing on Mental Health Care (MHC): Prior to COVID-19 about 25 per cent of the country’s primary care patients suffered from depression, anxiety and other common mental disorders with a very limited health service capacity to provide care for these mental health conditions. Friendship Bench, a home-grown social innovation, is being implemented at scale through a community-based approach to support people struggling with their mental health. The innovation has already expanded beyond Zimbabwe including Malawi and Tanzania, while it continues scaling also in country, most recently to workplaces.
World Bank

The World Bank supports the consulting of academic, private, and public institutions to develop solutions for public health needs through its *Innovate in India for Inclusiveness Project*. The two-year-old project aims to accelerate the pilot to market process for innovations including low-cost, select vaccines, biopharmaceuticals, diagnostics, and medical devices. The project uses $125 million grant to fund the creation of centers of excellence for validation, early-stage bio-manufacturing, clinical development, training, and technology transfer. This operation demonstrates how the World Bank can collaborate with parliaments in order to determine what is needed for innovation.

In the *Myanmar National Electrification Project*, the World Bank installed solar home systems and renewable energy mini-grids in 7200 villages. Although not exclusively a health innovation, the project provides electricity to 2 million people across schools, rural health clinics, and community centers. With a total $400 million in support, the World Bank demonstrated the importance of mobilizing across sectors to promote advancements in public health delivery.
Lessons Learned

Commonalities in lessons learned across agencies fall into six areas: local constraints and infrastructure, government coordination, maintaining long term commitment and sustainability, innovation culture, business/private sector issues, and evidence collection. We also highlight particularly instructive lessons learned from individual agencies and notable discrepancies regarding preferred scaling frameworks. A full list of Lessons Learned can be found in Appendix C.

We ranked the six thematic areas based on the frequency and depth with which each was discussed in document reviews and agency interviews.

1. Local Constraints and Infrastructure

1.1 - Unique challenges require unique solutions — whether through sustainable and cheap innovation or via transforming constraints into advantages.

Unique challenges require creative thinking and flexible approaches. For example, the UNICEF Oxygen Therapy Project proactively addressed country-specific constraints: some countries do not have oxygen plants and delivery networks, some lack electricity, and some impose travel and/or import restrictions (which were only tightened with COVID). Agencies must work with these constraints and find creative solutions in countries without adequate infrastructure in place to adopt an innovation.

For example, the UNICEF Oxygen Therapy Project attempted to address many of these country-specific constraints by working with governments and partners to find the best solutions for each unique country context. In most cases, that involved a mix of oxygen sources such as liquid oxygen, cylinders, oxygen plants, and concentrators. Specifically, in Peru, UNICEF partnered up with the Ministry of Health to provide oxygen concentrators by plane and by boat to local health centers to help local indigenous communities. By treating moderate cases on site, the agency avoids separating patients from their families. Another example is Bangladesh when in 2020 UNICEF established a new liquid medical oxygen plant in Cox’s Bazar Sadar District Hospital to service the Bangladeshi community and Rohingya refugees. With a large capacity of 9909 litres, it is also servicing COVID-19 patients and other non-COVID-19 patients in the emergency ward.

In fact, constraints often give birth to frugal innovations, which are all the more advantageous. These innovations are usually cheaper, more sustainable, and easier to scale up. For example, the simple addition of more skin-to-skin contact and cloth wrapping in resource-constrained parts of Tanzania lacking incubators helped save preterm babies’ lives. In Cambodia, promoting hand-washing...
through simple hand washing devices made from low-cost, salvaged materials proved effective at decreasing the spread of water-borne disease. The simplicity of these interventions makes taking them to scale much easier.

Finally, context-specific programs are more likely to succeed. Thus, when faced with unique problems, oftentimes local solutions are superior to imported interventions.

1.2 - Innovations must prioritize end-users.

Greater effort to understand end-user needs and behaviors increases uptake of an innovation by making it more targeted, while allowing agencies to adjust innovations before adoption in order to make its scaling process more successful. For instance, understanding additional needs of end-users can increase participation in voluntary health services. In expanding STI testing, UNAIDS managed to increase testing rates, especially among young people, by also offering free wifi and electricity at testing sites. Within UNFPA’s early-stage pilots and proof of concepts, end-users were consistently engaged through user research to ensure solutions were driven by those who knew the local contexts and problems best.

Especially with goods like testing and vaccination that have positive externalities, as they help prevent the spread of illness and disease, extra incentives to visit the administration sites can significantly multiply these positive benefits. The extra incentives also decrease the burden of obtaining a test or vaccine, which is otherwise voluntary.

1.3 - Insufficient local capacity and infrastructure constrain abilities, increasing the need for multisector work.

Inadequate infrastructure, including lack of electricity and poor digital infrastructure, are frequent constraints to innovation adoption and scaling. This is because technology and infrastructure work in parallel: in order for the technology to reach the operation of interest, underlying platforms like energy must already be in place (World Bank). Such challenges underscore the need for health innovation projects to (1) assess potential environmental and market constraints of specific contexts before bringing an innovation to scale and (2) engage and coordinate with sectors or ministries beyond health, including energy and labor. This will help prevent situations in which an innovation arrives on site, but local conditions prevent sustainable use. Basing a project on a community’s existing capabilities or its potential to remedy inadequate capabilities increases its chances of success.

Local skillset and human capital can also limit progress on a project. Even if the necessary infrastructure or technology is in place, neither provide much use without the technical expertise to use it. For instance, the WHO solar-powered oxygen project in Somalia found that its largest challenge was procuring workers who knew how to install solar panels. The World Bank nutrition program in China experienced similar challenges since it required technical guidance to implement nutrition policies.

1.4 - Existing health systems should be strengthened to facilitate access and delivery.

Investing in existing health systems to improve cost-effectiveness, efficiency, and coverage for vulnerable populations will go
a long way towards preparing that system to better adopt innovation (UNDP). It is important for agencies to approach innovation at the country level; this means educating the country’s Ministry of Health about the proposed innovation so that they feel fully empowered to take this on (WHO). These individuals should be aware from the conceptualization of innovation to funding and law agreements in contracts, with legal and policy considerations to ensure that any effort and innovation is driven by an access and a scale-up desire (UNDP).

2. Government Coordination

2.1 - Multisectorial government approaches are essential to overcoming challenges.

Any solution to scaling health innovation is multifaceted and requires the different ministers and stakeholders in one country to coordinate and collaborate together—this can include outside actors in addition to politicians involved in health and direct stakeholders. Such coordination helps to overcome problems related to inadequate existing infrastructure or regulatory barriers preventing the adoption of new technologies (World Bank). Involving government officials beyond the ministry of health also helps prevent innovation projects from stalling or losing traction altogether. If left only to health ministers, the innovation can easily become neglected as ministers of health are usually underfunded (UNDP, UNAIDS).

Furthermore, involving more government actors will help to elevate health problems and potential interventions to higher levels of political leadership. Once political leadership prioritizes health policy and innovation, these plans become more effectively integrated into sustainable development plans at the country level. High level political attention is also extremely effective at overcoming bottlenecks and roadblocks in innovation projects.

For example, UNDP and UNICEF benefit greatly from country-led, multisectorial platforms to help them proactively coordinate regulation with country governments and NGOs. The platforms help negotiate better policies earlier in projects and ensure compliance with local rules and expectations by including government in the conversation sooner.

2.2 - Direct and intentional government coordination delivers fast-acting results.

Government engagement is important in delivering fast results, especially when they require high-level political attention. Both the country’s government and its population must view health innovation as a priority in order to facilitate its adoption—a direct and routine point of contact with the government can help achieve this. For instance, UNDP country teams talk to country governments once every month. Proactively planning with a country government for the stepwise introduction of an innovation primes it for active involvement in the scaling process later on. Agencies’ in-country presence helps integrate national stakeholders’ voices early on and walk them through the design and learning phase. This allows them to understand the innovation’s added value, increasing the chances they support the innovation during later phases of the project.

Finally, to help convince governments of an innovation’s efficacy, agencies can present projects in neighboring countries as examples
of the progress an innovation can achieve in a similar context.

2.3 - Agencies use a variety of approaches to involve health ministers and politicians in innovation.

UNAIDS offers many suggestions around successfully involving country governments in projects, especially at the highest levels. Currently, UNAIDS plans to launch an innovation discovery center, a physical space showcasing innovations that it can invite health ministers and other actors in health innovation, like donors, to tour and explore. By allowing health ministers and politicians to view innovations in a neutral space—rather than sitting through a pitch in their own office—an innovation discovery center puts these critical actors in a position to initiate or propose a project themselves. This is critical: first because government initiation of the project lays the groundwork for country adoption later on. In addition, the quality of conversation around the innovation’s potential is much greater in a neutral space than in the minister’s office where he/she controls its content and direction.

The tendency of political leaders in the developing world to be younger, more tech savvy, and more informal makes agencies’ job of proposing innovation easier. Those leaders aspiring to higher positions also recognize the developmental and political opportunities provided by improvements to their health system. Thus, political engagement is especially effective if advocates position health innovation as a political opportunity for a leader. By stressing positive outcomes like job creation in the health sector, the politician understands that he/she could then take credit for those advances (UNAIDS).

Government leaders are also risk-averse, so it is important to show them that a given innovation is cost-effective, able to reach desired goals, and has positive externalities (GFF). Innovators are wonderful at finding and solving problems, but that is siloed from the realities of government processes. There needs to be co-creation with the public sector services to make sure that buy-in and ownership happens early.

Finally, when the reality is that most government ministries can halt an agency project on a moment’s notice, positive and constructive communication at all stages of a project becomes all the more important. For instance, when UNFPA was working with Benin’s Ministry of Health on drone medicine delivery, the country team messaged the ministry every two months to ensure consistent communication and maintain positive relations with the Benin government.

3. Maintaining Long-Term Commitment and Sustainability

3.1 - Government and community involvement from the beginning best positions them to commit to and take ownership over a project after the agency leaves.

Government commitment to using and maintaining an innovation is essential for its longevity and sustainability. Engaging the community to encourage their ownership and involvement in an innovation is also crucial for its long-term success. If the users
on the ground do not own the solutions, the innovation crumbles once the agency leaves either due to minimal expertise or minimal incentive to continue its operation.

By including civil society and affected communities from the beginning of innovation development, especially through assessing demand, these actors become invested in the innovation sooner, put more effort into its development, and therefore have more interest in its success later on. In this way, a more collaborative process with end-users on the ground uses the time necessary to set up an innovation to also cultivate on-the-ground ownership (UNDP).

3.2 - **Embedding an innovation into existing health systems and delivery structures best positions it for sustainable & scalable impact.**

Innovations require integration into existing health systems and delivery structures. GFF offers a counterexample that demonstrates the consequences of failing to integrate innovation into these structures. The agency recounts that, because innovations tend to converge at the end user, community health workers can end up needing multiple mobile phones or various applications on one phone to report for various vertical programs. These workers then become overwhelmed by the number of different applications required, which come as a result of new technologies failing to coordinate their introduction.

Understanding current government and health system strategies and service delivery mechanisms allows agencies to find opportunities to integrate new innovations without creating extra burdens that negate efficiency gains. In contrast, agencies risk doing a disservice for development and sustainability when they attempt to scale innovations outside of health systems (UNDP). They must aim to integrate innovations into existing health systems in a country as soon as possible once the scaling process begins.

Innovation introduced in the context of a crisis presents a unique opportunity worthy of attention. In the spirit of “never letting a crisis go to waste,” an agency must make a proactive effort to integrate the new innovation into the existing health infrastructure after the crisis subsides. This avoids any tendency to discard interventions after their period of most impact and allows the innovations to continue benefiting patients (UNICEF).

4. **Innovation Culture**

4.1 - **Innovation culture itself should change.**

The development culture across agencies must shift to increase risk appetite and abandon the narrative of constant success. This will promote more scaling, which is inherently riskier than investing in a pilot, and help agencies better record lessons learned from less-than-optimal projects. Every agency should aim to harness a new culture of innovation explicitly in its innovation strategy (WHO).

In addition, several agencies call for the culture to increasingly understand health innovations as a global public good rather than a private good. This could transform how the world researches, finances, and distributes innovations. Not only should everyone have access to health and medicine, but improving public health provides positive
externalities to all parts of society (UNDP).

5. Business/Private Sector

5.1 - Building partnerships with the private sector allows for greater success of scaling by supporting greater local ownership, expertise, and financial sustainability.

Business-to-business tracks provide economies of scale. For example, the Innovation Fund has enabled UNFPA to expand partnerships with the private sector, primarily as a source of expertise and capacity rather than financing. The earlier partnerships with the private sector begin, the better it is for creating long-term success because it ensures ownership at the national level; this gives time for the partners to own the innovation and see it as a priority organically.

5.2 - When pitching to investors, agencies must prioritize an innovation’s potential impact to trying to impress with its science.

Scaling involves taking risks, and convincing others to join a risky venture is an art. Agencies sometimes focus too much into the science of innovation, neglecting to effectively communicate the potential impact, return on investment, and funding requirements. Such impact-focused criteria better persuades external partners like investors to buy into an innovation. To better communicate an innovation’s value, UNICEF has proposed engaging in increased implementation research to assess adoption feasibility and cost. This will allow them to modify an innovation as needed and present better-researched evidence of an innovation’s value to potential investors. UNICEF also expects greater programmatic and technical guidance along with increased communication with end-users and implementing partners will improve the agency’s ability to better communicate an innovation’s potential impact.

6. Evidence Collection

6.1 - Evidence of demand must be collected in a careful manner to ensure results.

It is often challenging for suppliers of an innovation to consolidate demand and accurately predict need in remote areas without developed digital infrastructure (WHO). However, the effort to accurately understand demand immensely helps innovators by informing which raw materials to secure to address what health demands.

6.2 - Careful and transparent assessment of a potential innovation is crucial.

Agencies must distinguish between the processes of assessing an innovation and endorsing an innovation since an assessment alone might appear like an endorsement from an outsider’s perspective. To prevent confusion as well as aid innovations’ chances of positive evaluations, agencies must be transparent about the criteria they use to evaluate innovation.

6.3 - Agencies should gather evidence to
support an innovation at every stage of development.

After developing funding proposals, the next step to obtaining actual funds is gathering evidence that a new innovation is superior to current methods. On the demand side, collecting evidence early on about health outcomes, processes, behavioral changes, and longer-term changes among target users helps inform evidence for or against the innovation’s need. On the innovation side, specifying the innovation’s objectives and identifying metrics to gauge whether an innovation meets its objectives shows the efficacy of the innovation (UNICEF). Validating both the existence of need and the efficacy of the innovation requires gathering evidence along every step of the demand identification and innovation testing processes.

Discrepancies

While agencies largely agreed on many of the lessons learned, they differed on the role of pilots in the scaling process. Since investing in innovation is an expensive and risky process, some agencies advise comprehensive testing of proof-of-concept in the pilot stage before scaling up, as this reduces the chance of failure. However, other agencies find the process of finalizing a pilot before scaling extremely lengthy and ineffective, especially considering the urgency of health demands. These agencies advocate for scaling to serve as an interactive learning process that requires early implementation with opportunities for the innovation to constantly adapt.
Proponents of the linear proof of concept, to pilot, to scale up strategy believe that testing at each stage reduces the risk of taking these pilots to scale and ensures the greatest chance for success. Specifically, in an interview with UNFPA, one interviewee expressed the agency’s intention for early ventures to go through ideation and prototyping phases to create working proof-of-concept. If successful, UNFPA will then implement and transition the project to scale. While this framework leads to a higher chance of success in scaling up, its major drawback is the time required for a rigorous testing process, leading to long periods before full implementation and scaling of the innovation.

Agencies that emphasize streamlining implementation advocate that scaling should operate as an interactive learning process. Specifically, in an interview with the Global Fund, the interviewee emphasized the importance of learning while scaling. Finalizing a pilot before scaling could take up to ten years. This process is extremely time-consuming, especially given the urgency of its targeted health demands. Instead, using learning cycles can iteratively test an innovation’s efficacy while still accelerating the scaling process through its systematic framework. Agencies like the WHO and Unitaid also support this approach. The WHO argues that a rigorous assessment in the pilot stage may overwhelm design teams, especially since it is essential to leave time and space for implementation research. Unitaid advocates for more time spent on implementation rather than lengthy considerations about the end goal of scaling; although Unitaid places less of an emphasis on this cyclical learning process, they similarly value time efficiency, urging partners to bring innovations to the implementation phase sooner. Unitaid supports evidence generation through implementation research to document the feasibility, acceptability and cost-effectiveness of new tools of innovations to capture learning and promote widespread adoption and drive scale-up.
Collaboration

During our agency interviews, we asked representatives to discuss each agency’s collaborative process and comparative advantages. We found that despite high transaction costs, interagency communication was highly beneficial. The findings below are limited to the data collected from our desk review and interviews, and are likely not exhaustive in capturing all interagency collaborations.

Agency representatives reported that inter-agency communication—whether in the form of sharing expertise or actively collaborating on projects—has large benefits. The high transaction costs of collaboration, such as pushing progress and ensuring follow-through, may be a barrier to inter-agency collaboration. The ability to coordinate between agencies was also identified as a skillset—one that may not be readily available at all agencies.

The figure below displays our findings on inter-agency collaboration, with connecting lines representing bilateral interagency collaboration, and the size of the bubbles indicating the relative number of collaborations for each agency. Several agencies were frequently brought up as collaborators, including Unitaid, UNDP, and UNICEF. That is not to say that other agencies do not have frequent or meaningful collaborations, but rather that these were the agency names that were brought up the most by representatives in our interviews.

Many smaller agencies, limited by a headquarters-based staff, rely on larger agencies with country offices and greater expertise in local contexts and cultures. For instance, as a small agency, Unitaid does not have country offices, so they often collaborate with WHO, which does. Broadly speaking, Unitaid’s collaboration model seeks to identify comparative advantages or specialties of various agencies and leverage those skills for certain projects, which makes a good case for agency specialization and communication of specialties across agencies in order to facilitate mutually beneficial collaborations.

Figure 1: Inter-Agency Collaboration. Unitaid, UNDP, UNFPA and UNICEF had the most reported inter-agency bilateral collaborations.
External Collaborations

Agencies described frequently collaborating with external organizations, including country governments, local/community representatives, private companies, and academic institutions. These collaborations often work well for finding innovations, funding, or scaling.

When it comes to agency-government collaboration, we found that partnerships were largely outlined by country governments and then proposed to the agency. Some agencies, such as UNDP, UNAIDS, and WHO, employed a multisectoral approach to collaboration, in which they engaged with government officials across several ministries (often in conjunction with the private sector as well) in order to facilitate communication and ensure a well-rounded approach with multiple perspectives that made scaling easier. For example, UNDP prefers to include country Ministers of Justice, Education, Agriculture, Finance, or Science as appropriate when scaling innovations. They find that sometimes, ministries of health can be underfunded, and so including other ministries helps innovations to gain traction and prevent them from being neglected.

Several of the agencies we spoke to mentioned frequently collaborating with academic institutions. For instance, UNICEF collaborated with the University of California - Berkeley on developing a mobile application for their decentralized finance (DeFi) innovation. It also collaborates with a diverse set of academic partners, including Rhodes University, Malawi University of Science and Technology and Makerere University. Other partnerships between UN agencies and academic institutions include UNFPA and MIT, as well as UNDP and the University of Manchester. Despite the reported benefits (each agency we spoke to that described using agency-academia collaborations reported the experience as a success story), only a few agencies mentioned using such methods. This suggests that these partnerships may be an undervalued technique and provide a valuable collaboration opportunity for other agencies.

Best Practices

Below are several of the best practices that we have compiled based on agency representative responses as well as insights from our data analysis:

**Agencies should generously publish and disseminate knowledge management products.**

One opportunity to facilitate collaboration is for agencies to publish specific resources (catalogues of medicines, status reports, etc) that other agencies can reference. Making such products easily available may help reduce the transaction costs of collaboration. For instance, Unitaid makes use of WHO recommendations, and supports the development of WHO recommendations, before pushing for an innovation to be scaled. Additionally, the Global Fund has an available catalogue of quality-controlled and affordable medicines available for investment, and works with Unitaid to update the list. The UN Innovation Network also enables sharing.
Collaborating with civil society has major benefits.

Engaging civil society and local stakeholders improves agency accountability and innovation take-up — communities are more likely to utilize an innovation if they specifically asked for it. UNFPA country teams, for example, work with civil society collaboratively to ensure innovations are designed, used and accepted by the communities.

Leverage political incentives when presenting health innovations.

When working with a country’s government, it can be helpful to present health innovation as an opportunity for political gain, especially for young leaders. Political incentives for action work well, especially if an agency’s proposed project offers concrete benefits like job creation rather than just broadly improving health. Young leaders in particular are especially well-positioned to take up health innovation initiatives as they tend to be more tech savvy and forward-thinking. For example, one agency provided an anecdote of working with a health minister who felt the success of the agency’s project was tied to his ascendency to the presidency.

Engage with governments in an educational capacity.

UNAIDS cited the importance of in-person innovation exchanges, emphasizing that “seeing is believing” and health ministers engaging in person with the innovations can galvanize them to take action. Educating public officials on the less-obvious benefits of investing in health innovation, such as economic reasons, political stability, and equity, can open doors to collaborating with government.

Distinguish between one-time collaborations and ongoing partnerships.

One-time collaboration tends to be more helpful when projects operate on a local context and have high levels of specificity. On the other hand, ongoing partnerships are particularly helpful for knowledge dissemination and identifying demand.
In each interview, we asked agency representatives to choose 3-5 functions critical for scaling innovation for which they felt their agency had a comparative advantage. The list of 12 functions, taken from the WHO innovation strategy, included the following: funding, assisting with regulatory barriers, procurement, cultural and contextual knowledge, implementation research, transition of change management, project management, marketing and communication, behavioral insights, organizational development, systems strengthening, and knowledge about the local context and the innovation. During the course of our interviews, agency representatives identified 3 additional functions that were not included in the original list that warranted addition: market shaping, connections with the private sector, and country footprints. At the December 3rd SDG 3 GAP meeting, we asked agency representatives if they felt their agency had a comparative advantage in the newly proposed categories and updated our records accordingly. The full list of agency responses can be seen in Appendix E, and is intended to highlight each agency’s relative strengths and facilitate future collaborations when skills outside an agency’s typical functions may be needed.

“EDUCATING PUBLIC OFFICIALS ON THE LESS-OBVIOUS BENEFITS OF INVESTING IN HEALTH INNOVATION, SUCH AS ECONOMIC REASONS, POLITICAL STABILITY, AND EQUITY, CAN OPEN DOORS TO COLLABORATING WITH GOVERNMENT.”
Additional Insights

In addition to the findings covered under agency models, nested case examples of innovation, lessons learned, and collaboration, the work with SDG 3 GAP agencies yielded additional insights on best practices when bringing health innovations to scale. Many agencies reported similar persistent challenges in scaling innovation, and agencies presented enough novel thoughts on funding that they deserved an additional section. The additional findings fall into the categories below on challenges and funding. Of note, during our validation meeting with agencies, several agencies mentioned *procurement* as a major challenge for UN agencies trying to scale innovation. While procurement discussions did not feature prominently in our interviews, this topic will warrant further exploration in the next phase of this work.

Challenges

Most challenges across the SDG 3 GAP agencies center around collaboration, human resources, prioritization, and communication. All findings below were derived from agency interviews, and the identity of the agency has been omitted, to allow agency representatives to speak freely about the challenges in their field.

1. **Self-imposed competition between agencies instead of collaboration**

The reality of international development is that agencies compete for financial resources, donor resources, political attention, and space, which hurts innovation scale-up and discourages efficient teamwork. For instance, sometimes some agencies do not allow other agencies to join a project that involves innovation. This distracts from creating an optimal path to scaling up since other agencies can often offer beneficial help. Agencies should work to generate incentives for collaboration, rather than continuing on the status quo of passive competition. Such an incentive might look like rewarding financial resources to projects with joint programming.

Some SDG 3 GAP agencies may prioritize obtaining funding instead of gaining a comparative advantage when entering the innovation space. For example, high-ranking officers may attend meetings to appear active in front of donors and secure financial assistance even if they know their agency is not the most qualified for scaling up a given innovation.

Additionally, agencies sometimes focus on scaling a specific tool identified by donor priority rather than by end-user need. Instead, agencies must prioritize projects that are country-driven and avoid work on innovations that target countries do not request or need.

2. **Lack of human resources slows down progress**

Many innovation scaling projects lack adequate human resources, especially at the implementation stage. Some health
teams on the ground would like to work on more innovations at the same time, but find their ability to do so constrained by small team sizes. Moreover, multiple projects report lacking human resources to complete existing plans. Agencies also reported a need to improve the capacities of resource team members, such as core facilitators and supervising leaders and experts.

Finally, the lack of human resources can compound problems like slow government progress. Governments tend to move more slowly than agents in the innovation space and private sector investors, usually due to lack of leadership, lack of capacity, or lack of human resources in the government.

3. Health innovations are often not sufficiently prioritized by agencies

Health innovations are not sufficiently prioritized internally, which leads to not enough resources, both financial and human resources. There is also a general lack of prioritization of scale-up of essential health technology. For instance, even when pushing for a national prioritization of one intervention, there are sometimes ministers that will not participate, donors that neglect the innovation, or stakeholders that would not be interested because scaling up a given medicine is not a top priority for them. This kind of diversity of interests among national stakeholders slows down innovations.

A legacy of international agencies pushing innovations onto assumed beneficiaries—who may not actually want the product—further discourages target countries from prioritizing health innovation. WHO is trying to reverse that assumption by better assessing in-country health demands before beginning an innovation project. However, shifting this mindset will remain challenging due to entrenched understandings of how the multilateral innovation ecosystem engages with and advocates for innovation.

4. Bureaucratic processes slow innovation scaling

Time-consuming bureaucracy and high transaction costs often turn into bottlenecks that significantly constrain innovation projects. However, this delay can also be an opportunity to use the processes to work with countries to assess risk and to ensure that they can implement the identified innovations and articulate their needs. Lastly, some countries also have travel or import restrictions, which slows innovation scaling.

5. Better documenting failures and owning up to mistakes

Limited documentation of failures in detail risks losing the insights and contextualizing the lessons learned generated from these failures. Agency project reports must better record failures and mistakes so that lessons learned become more deeply integrated into subsequent projects. The pilot version of UNICEF’s innovation mHero serves as an example of better documenting successes and room for improvement before implementing the innovation.

Agencies need to abandon the narrative of constant success. They need to realize that the development culture needs to abandon its planned, linear models as innovation is an iterative process that inherently involves failure.
6. Get to know the end user

Many innovators do not take the time to understand the very demand they hope to address; lack of attention to the end user from the onset of a project can produce a product the intended recipient does not know how to use, or simply does not want to. Spending more time educating themselves on the unmet needs of target end users will allow innovators to design a product more suited to its intended purpose. Innovations designed with the user in mind will have better user acquisition and ultimately more impact on health.

Agencies might also focus on building easy-to-access communities that bring together the consumers of a given innovation. Such a network could help overcome ongoing challenges with user acquisition by providing a channel both for existing users to communicate advice and acquire new users. UNICEF’s U-Ambassadors offers an instructive example of a platform designed to help an innovation (the U-report innovation) reach marginalized populations, namely girls and rural youth.

7. Room for improved communication among agencies

Lack of clear communication between agencies can limit potential synergies between agency interaction. Interagency communication poses logistical and coordination challenges, notably including at the country level, but lack of interagency work, especially on similar projects, can result in inefficient and uncoordinated outcomes. Multiple agencies stated that COVID-19 has shown that in-person meetings and face-to-face conferences are much more productive than those online. Holding an event live helps prevent miscommunications from happening on a country and global level.

8. Collaboration and coordination issues with governments can be difficult

Some innovations do not bring the government along at the co-creation stage and do not allow them in on the co-creation development case earlier on in the pilot program, so there is little government input to the pilot. Innovations should prioritize creating space for the government to get involved in the pilot programs very early on. Other obstacles to coordination can include leadership, donor relations, and investment dilemmas. Thus, there is a need to forge new collaborations within the health and development innovation ecosystem.

9. Geographical barriers can make countries or regions hard to reach

For example, the logistics of reaching end users in remote locations like the Pacific islands slowed COVID-19 vaccine roll-out and resulted in small volumes of vaccines delivered.

10. A better standard for innovation evaluation is needed

No gold standard currently exists against which agencies can evaluate novel innovations when determining whether to invest resources in their development. Of course, crafting such a standard is an inherently difficult task as innovation is, by definition, a fluid and ever-changing space. As a result, nearly all innovations will require novel types of evidence to evaluate their use. Nevertheless, several agencies highlighted the need for well-
positioned international organizations like the World Bank to set a gold standard of evidence to help standardize the process of innovation identification. However, this lies beyond the mandate of some agencies’ technical authority.

11. Miscellaneous challenges (and some solutions)

Broad, key priorities are often too broad to effectively guide agency innovation priorities. For instance, aiming for a “reduction in maternal mortality” opens the agency to a wide array of potential solutions, likely too many for the agency to explore. Instead, by articulating more granular priorities, agencies could streamline the process of identifying innovations and help better match innovations to demand.

Agencies are not always able to be present, active participants in dialogues around health demand at the country and regional levels, usually due to a lack of on-the-ground presence.

Challenges in providing sufficient support to country offices during acceleration and scaling of innovations across the world prompted UNICEF to found the Global Innovation Centre to support to transformational scale solutions such as U-Report, RapidPro, mHero, UPSHIFT. The success of the centre’s model has given rise to an expanded UNICEF Office of Innovation with multiple thematic Global Innovation Hubs that provide support and resourcing to accelerate innovations to the level of transformational scale (reach of at least 1 million children in multiple countries across multiple regions).

Other significant barriers to scaling include regulatory issues, procurement challenges, and cultural biases/inertia.

“AGENCIES NEED TO ABANDON THE NARRATIVE OF CONSTANT SUCCESS. THEY NEED TO REALIZE THAT THE DEVELOPMENT CULTURE NEEDS TO ABANDON ITS PLANNED, LINEAR MODELS AS INNOVATION IS AN ITERATIVE PROCESS THAT INHERENTLY INVOLVES FAILURE.”
Funding Challenges

Limited Financial Resources. Insufficient local and/or agency funding often creates bottlenecks to scaling even if sufficient demand is present, often hobbling countries who hope to become leaders in innovation. Furthermore, it is easy to imagine that countries most in need of innovation are also those most likely lacking funds. Several agencies mentioned that it would be easier if agencies had flexibility in the country governments’ financing.

Grant Funding Limitations in Scaling.

Although grant funding is effective at accumulating and testing a large volume of innovation ideas, it can struggle to incentivize scaling for two reasons. First, grant money is risk-averse: grants will fund pilot after pilot, but they hesitate to bring one singular pilot to scale, as scaling is inherently riskier than testing a pilot. Scaling is the equivalent of “putting all your eggs in one basket.” Second, grant money can become “lazy” as it does not always hinge on a direct mandate or expected returns as investments often do. Agencies might be tempted to treat grants as free money without a specific directive, leading them to sit on the resources rather than put them to productive use. As a result, investment is often a better funding strategy if an agency is looking to bring innovation to scale rather than pilot many different ideas.

2. Funding “Pro Tips”

Agencies should work towards full government adoption of the innovation through routine programming and self-financing.

When considering providing funds, agencies must hold detailed, candid conversations with country governments about project maintenance and sustainability.

Understand financial architecture: the scaling finance has to come from the same sources of funding that are financing the health system.
Conclusion

This report was a deep-dive into the models of the 13 SDG 3 GAP agencies to understand how they assess health demand in their respective nations, identify promising innovations, and scale successful innovations. It is a product of a comparative case study that involved a desk review of each agency’s work in innovation, in-depth interviews, and qualitative analysis through affinity mapping. It reports findings on the models, nested cases, lessons learned, and collaboration strategies, with the aim of facilitating learning among the GAP agencies and identifying potential areas for improved agency collaboration.

We hope SDG 3 GAP can use the findings from this report to create a targeted action plan for enhanced interagency collaboration. A possible next step for GAP agencies could be to use the insights from the report, and through a human-centered design approach, create “how might we” questions that can then be workshopped by SDG 3 GAP. For example, looking at the insight “despite high transaction costs, agency representatives report that interagency communication has large benefits,” we can create the following question to challenge and address this finding: “how might we decrease the high transaction costs associated with interagency collaboration?”

Ultimately, we hope the findings from our study will help WHO and its partner UN agencies develop solutions targeted to areas with the greatest potential for collaboration and impact, and accelerate progress towards reaching SDG 3: ensure healthy lives and promote well-being for all at all ages.


Appendices

Appendix A: Models for Scaling Innovation by Agency

**Gavi**

**Identifying Demand**

For GAVI’s Vaccine Innovation Prioritization Strategy (VIPS), demand is typically identified through partner and stakeholder consultations. Country stakeholders are consulted via surveys and in-person interviews. For example, survey respondents were asked to select their top 5 priority implementation barriers to immunization and top 5 most valuable vaccine product attributes across three different use-settings: routine facility-based immunization, routine community-based immunization, and immunization campaigns. Aside from interviews, literature reviews, databases (such as PubMed, manufacturer websites, clinical trial databases), and additional information was gathered from Alliance partners and international experts.

**Identifying Innovation**

The VIPS Alliance Working Group (VIPS WG) defines the scope of the innovations using partner and expert consultations, and subsequently identifies 24 innovations every round to present to GAVI. Next, VIPS WG builds the evaluation framework that GAVI uses to identify programs best-suited for the innovations. In the process of using an evaluation framework for feasibility and cost-effectiveness, GAVI wants to determine if the innovations function in a program setting. The course then shifts focus to how the innovations will work in terms of feasible integration into regulatory frameworks before assessing their cost-effectiveness. Last, GAVI searches for existing systems into which it can most seamlessly integrate the innovations. Through looking at specific vaccines and use cases, Gavi may recommend implementing these technologies.

Vaccine investment occurs in a transparent five-year cycle driven by country demand as determined by market and resource availability. GAVI’s efforts to navigate this process include the following:

- GAVI focuses on pathogens more so than products as its mission is to prevent disease irrespective of the product used.
- If multiple vaccines exist for one disease, GAVI looks at the effectiveness and averted cases/deaths as a result of the product. Using a robust framework that evaluates impact and cost, the process aims to balance health risk and cost-effectiveness.

Distinct from some other agencies, GAVI’s innovation program includes innovative financing mechanisms to shape vaccine markets in a way that increases vaccine access for middle and low-income countries. For example, GAVI’s International Finance Facility for Immunization (IFFI) branch uses a bond-based structure in which developed country governments can make commitments
for long-term bonds so that GAVI can have immediate and flexible funding.

**Scaling Innovation**

The majority of innovations that GAVI concentrates on scaling fall under one of four categories: proven innovations, laboratory management systems, tracking vaccine delivery, and surveillance. In order to bring these to scale, the agency’s model contains three levels: (1) innovating in scale-up of proven solutions, (2) investing in infrastructure and ecosystem building (VIPS), and (3) investing in new and cutting-edge solutions and working with countries to identify use cases for them. VIPS fits into the middle of these levels as an important enabler. VIPS is designed to advance innovations still lacking proof-of-concept by crafting an evaluation framework that includes indicators. VIPS focuses on innovations that could be key in building immunization infrastructure, such as microarray patches.

GAVI focuses on three main challenges when transitioning from pilot to scale:

- **Consolidation.** In this stage, GAVI identifies a concrete use case and the missing health system elements for scaling.
- **Ensure a mature, well-tested product with potential to scale.** The product must be scalable and work across different countries.
- **Technical capacity of those adopting the innovation.** GAVI needs to invest in human resource capacity building.

**Defining a successful innovation is more difficult than defining a successful vaccine:** Whereas the impact of a vaccine can be measured through number of people reached or number of lives saved, measuring the impact of an innovation depends on the innovation at hand. Metrics for success will vary by innovation—for instance, different metrics are necessary for measuring the impact of a novel device vs. a new delivery system, complicating the task of measuring progress and impact while scaling.

**GAVI currently considers impact through systems created and programs enabled** with the ultimate goal of reaching more people in target communities. By definition, a successful innovation creates or enhances enabling systems to equitably deliver vaccines.

**GFF**

**Identifying Demand**

The GFF currently has a partnership with 36 countries to which they provide financial resources. When a country starts working with GFF, the two entities collaborate to develop an **investment case**, which is a country-led process that key country stakeholders complete with the assistance of the GFF and World Bank. Country stakeholders are therefore largely responsible for identifying demand. Each country’s platform takes a different approach, so GFF might write the investment case along with a number of different stakeholders. Typically, GFF tries to engage with the country’s Ministry of Health and other key government stakeholders, but the country’s platforms continue to take a variety of shapes and sizes.

**Investment Case Development Process**

In general, the investment case does not come with a prescriptive format, but most include a few components. These investment cases contain a list of prioritized reproductive, maternal, newborn, child and adolescent health and nutrition (RMNCAH-N) outcome indicators and activities that the country hopes to engage in, targets they would like to reach,
and a description of the strategy, methods, and programs that the country would like to implement in order to achieve their prioritized goals. Investment cases can take many forms: longer-term strategic documents, official policy or program documents that governments can later implement, looser frameworks, or broad strategies including annual action plans. The purpose of the investment case is to orient the country and plan around RMNCAH-N outcomes that they would like to achieve; this creates a roadmap that can then be invested in by GFF and co-financed by the World Bank and other development partners that are engaged in maternal and child health.

Scaling Innovation

GFF currently works in three distinct activities that help scale innovations.

- **Innovation to Scale Initiative:** In this initiative, GFF works by directly financing proven innovations for the reduction of maternal and newborn mortality. This initiative is part of GFF’s broader approach to innovation to improve the health and wellbeing of women, children, and adolescents. GFF both provides countries with funding to help demonstrate the effectiveness of the innovation and helps integrate these innovations into government systems.

- **Innovation Implementation Support through Country Platforms:** In this activity, GFF uses smaller grants and technical assistance to help catalyze the scale up of innovations that help address country demand. These include smaller investments that help bring innovations to the next stage of development.

- **Development and Planning of Innovation Strategy and Implementation:** This is a systematic process to identify and scale innovations in GFF countries in conjunction with GFF clients, governments, and country platforms. This stage is currently under development and GFF is working with the World Bank to implement this strategy in various countries.

GFF focuses on scale, sustainability, and impact in scaling innovations. When scaling innovations, GFF focuses on three key factors:

- **Assessing Demand:** The first pillar in scaling innovations is assessing demand. Since GFF’s model is country-led, one large strength is that GFF is able to closely understand where there is demand. GFF is able to communicate with its country partners and platforms in order to best respond to their needs. Oftentimes, demands are not granular enough to match innovations, and thus GFF starts to engage in policy dialogue to obtain additional specificity. The key priorities, such as reduction in maternal mortality, are often too broad, and so GFF proposes a more detailed discussion with country leaders supplemented by data to identify key constraints and achieve prioritized outcomes. In this process, GFF hopes to engage with the public sector and development partners as well as the private sector and civil society organizations to bring unique viewpoints that will eventually help identify the true bottlenecks and challenges. The purpose of this policy dialogue is to create a more detailed list of challenges that the government is facing in implementing key health
programs so that GFF can matchmake those with innovations.

**Identifying Supply:** WHO, UNICEF, USAID, and other partners are developing pipelines to identify proven evidence-based innovations that are ready to scale. GFF is modeling after these pipelines and leverages the work done by other agencies and incubators in bringing innovations along. GFF’s priority lies in scaling innovations and integrating them into government planning and financing. These are proven innovations that address challenges and key bottlenecks preventing rapid improvement in RMNCAH-N outcomes.

**Financing:** Financing efforts generally include funding for innovation procurement and implementation. This is where GFF can provide co-financing or catalytic financing through its partnerships with the World Bank and other development partners to build innovations at scale through the public sector pathway. The primary goal of GFF is to help governments integrate these innovations into their long term budgets and plans. Secondarily, GFF hopes to provide additional domestic resources and build these systems for size, scale, sustainability, and impact.

**Scalability Framework**

GFF’s scalability process has four main parts: country/secretariat level demands, country/secretariat level supply of innovations, matchmaking, and financing/procurement.

In the first step of this process, GFF works with the country platforms and government stakeholders to articulate constraints and bottlenecks. Second, GFF supplements the articulation of these constraints with some support from their results teams and implementation team at the secretariat level. This allows GFF to have midterm reviews of the innovation as a part of the investment case implementation.

Simultaneously, GFF engages in domestic landscaping of innovations. This is supplemented by some of the global landscaping work that GFF does of ready-to-scale innovations that other development marketplaces and incubators have created.

Then, in matchmaking, GFF brings the previous two steps together. Demand assessment is important for country platforms and government stakeholders to articulate their needs and constraints. GFF can then identify innovations through the landscaping process that will solve the problems outlined in the investment case. Rather than forcing a specific innovation onto the country, the GFF hopes to maintain a collaborative process, allowing countries themselves to articulate demand and identify how the current supply can meet those needs. GFF sees innovation as a largely country-led process.

Lastly, financing occurs through a variety of mechanisms. The investment case itself creates long-term strategies and priorities for countries to leverage their own domestic resources. There is also development partner financing aligned with the investment case priorities, which usually is sourced from other development partners; this can include co-financing through the World Bank.

**Global Fund**

**Identifying Demand**

In order to identify health demand, the Global Fund draws from several different sources. First, a technical team has a good sense of where the bottlenecks are on the Global
Fund’s scope of diseases (HIV, tuberculosis, and malaria). The technical team conducts a landscaping analysis to find key step-up areas where the Global Fund can make an impact. At the same time, teams managing countries are able to surface critical spaces of need. In addition, landscaped innovations outside of the Global Fund are sometimes brought to the teams to see if there are opportunities for collaboration. Finally, the Global Fund also identifies need through their own research or research by their partners, with an emphasis on problem statement-driven analysis, as opposed to how to use a certain innovation presented to them.

**Identifying Innovation**

The Global Fund does not innovate new products themselves—instead, they follow the guidance of the essential medicines list from WHO to assist in the deployment of products. However, there are no such constraints on digital, technological, or systems innovations, which allow more room for free-flowing innovation. The Global Fund is not a research & development organization, but rather a scaling organization, so they work downstream with their partners to think forward about deployment.

**Scaling Innovation**

The Global Fund maintains an important role both funding and scaling. Their core role is to take both products and systems to scale. In order to mitigate donor dependency for projects that they fund, The Global Fund makes sure to be transparent about increasing the level of domestic investment to ensure accountability about the feasibility of scaling. Furthermore, they opt for instruments such as blended finance in order to maximize their investments. The Global Fund does not serve as a long-term funding agency, but rather places the burden on domestic investment.

**ILO**

ILO has a limited role in health innovation, but there is an innovation unit working to take care of social protection systems. For instance, they may help member states design social policies to make sure that people do not have to pay out of pocket for health care or will have an income when they are sick. ILO’s innovation programming is primarily centered around labor market skills. As scaling innovation is a challenge across sectors, we decided to include a brief summary of ILO’s model, which may provide insights for agencies working in health as well.

At the moment, ILO’s work in innovation focuses on skills, namely the Skills Innovation Facility. The Domestic Worker Centre, an initiative of the Domestic Workers Association of Zimbabwe, won the 1st ILO Skills Challenge Innovation Call for a proposal to provide specialist training in modern domestic skills to improve workers’ employability.

**Identifying Demand**

The Skills Challenge Innovation Call invites individuals and organizations to propose new and practical ideas to key skills challenges that have the potential to scale up or out.

**Identifying Innovation**

The Skills Innovation Lab is a six-month program, through which the winning proposals receive technical support and guidance from ILO Skills Specialist to develop ideas into prototypes. They might also pilot the idea to test on the ground, readying the innovation for implementation.

**Scaling Innovation**

Through the Skills Innovation Connections network, innovators can connect with ILO constituents, Technical and Vocational Educational Training Institutions, academia,
practitioners, and private sector stakeholders to share their ideas and identify further collaboration opportunities for identified key challenges.

**UNAIDS**

UNAIDS operates as a Joint Programme coordinating efforts of 11 different UN agencies. It is the only UN entity to have representatives of civil society on its governing board. It has a presence in 75 nations in addition to headquarters in Geneva. UNAIDS was established to address the need for multisectoral coordination to address the challenge of HIV and AIDS. UNAIDS’s advantage is within its multi-sectoral design: it brings the capacities and structures of the eleven UN agencies (cosponsors) at the country- and the global-level working towards a common goal. UNAIDS looks at what needs to be done to end AIDS and then identifies the agencies based on their mandates to deliver cohesively on the strategy.

UNAIDS has several advantages and unique strengths within the UN system. First, high-level political engagement - UNAIDS works as an advocate and regularly engages with Heads of states, senior ministers across sectors in the developing and developed world. It believes that political engagement can be more successful if health innovation is positioned as a major opportunity for positive outcomes like job creation in addition to better health outcomes. Health is the biggest opportunity for creating new jobs in many countries. Second, UNAIDS is uniquely placed to drive innovations locally due its in-country footprint. Third, there is unique value creation due to the multisectoral nature of UNAIDS work that leverages “intersectorality” - several health challenges need different sectors to work together to deliver optimal healthcare - for example, education (in building health workforce), energy (between 30-70% of health infrastructure in several countries do not have electricity and have limit ability to leverage digital health) or with defense ministry (to approve use of drones for health supply chain related challenges), etc.

**Identifying Demand**

UNAIDS identifies health demand through a variety of methods, but mainly by working with Ministers of Health to determine their countries’ needs and pain points.

**Identifying Innovation**

When UNAIDS identifies a clear, specific unmet need, it usually has multiple solutions, all of which are context-specific. UNAIDS then considers the context and tries to find a similar setting where a similar problem has been addressed successfully. For example, UNAIDS was able to successfully translate solutions already tried and tested in India to relevant markets in other developing countries. UNAIDS plays a role in identifying contexts, solutions, and identifying the solutions as options for the problems presented.

UNAIDS drives innovation through the Health Innovation Exchange, which is a platform set up by UNAIDS that brings partners throughout the health ecosystem. The HIEx does this through three ways: addressing pain points, scouting innovations, and finding investment opportunities.

UNAIDS works with Ministers of Health to figure out what their countries’ needs and pain points are. Examples include the need for electricity in Ethiopia to roll out digital aspiration, the need for more healthcare education in Ghana and Zambia to train nurses.
UNAIDS scouts innovations through networks such as incubators, investors, and accelerators. For example, UNAIDS facilitated an innovator on developing a blended medical education program in Zambia. Blended medical education costs six million USD to set up and can be set up in six months, compared to approximately 100 million USD and 8-10 years for traditional medical school. By nature, blended programs involve a greater mix of classroom and hands-on training time.

UNAIDS finds investments. While traditional donor funding is critical for scaling access to healthcare, UNAIDS finds that it is not sufficient for the scale needed to address the current gap in access. Challenges also exist in donor funding. First, grant money is risk-averse: grants will fund pilot after pilot, but they hesitate to bring one singular pilot to scale, as scaling is inherently riskier than testing a pilot as it requires significant commitment of funds. Second, grant money can become “lazy” as it does not always hinge on a direct mandate or expected returns. Agencies can be tempted to treat grants as free or undirected, leading them to sit on the resources rather than put them to productive use.

UNAIDS self-describes as an intermediary, important for building trust between agents in order to advance projects more efficiently. UNAIDS believes that innovation adoption requires a trust broker and that a lack of trust is the primary reason many innovations do not go to scale. Government stakeholders in target countries often receive project pitches from many different agents, some more credible than others; as a UN body, UNAIDS can help distinguish between real innovators and scams. UNAIDS scouts for the challenges and then works to build trust between innovators and the ministries of health.

Scaling Innovation

UNAIDS’ involvement in scaling is variable. In some cases, UNAIDS maintains active participation, but in most, UNAIDS does not play a role in implementation, though may engage in monitoring or evaluation. Because the agency focuses on brokering trust and making connections for a large number of cases, this “light touch” approach allows UNAIDS to become involved in more cases rather than working with fewer cases for longer periods of time. In most cases, once the right partners have established trusting relationships, little work is left for UNAIDS. Furthermore, after receiving UNAIDS’ “stamp of approval,” projects can usually advance more quickly due to the assurance of quality it provides.

UNDP

Identifying demand

Country governments set their own agendas before going to UNDP for help with implementation. UNDP may approach countries with a list of priority health innovations and technologies and assist countries in selection.

Scaling innovations

Scaling up, scaling out, and scaling deep: UNDP uses three scaling approaches: scaling up with institutional and policy changes to further the innovation; scaling out to greater numbers through adoption of the innovation; and scaling deep to impact cultural behaviors and norms via the innovation.

UNDP scaling process follows a
chronological order: From start to finish: R&D -> new health technologies -> regulatory approval, with a robust regulatory system -> selection and prioritization, with health technology assessment -> public procurement, with cost effective pricing and procurement -> distribution and storage -> service delivery, with implementation and delivery research included -> patients.

**UNDP does not wait for fully-developed innovations; it involves itself in nascent design stages:** To ensure access and successful scaling, UNDP does not wait for the delivery of fully-developed innovations before becoming involved in the process. By waiting, UNDP only addresses challenges once they arise, rather than proactively working around them in earlier design phases. Furthermore, UNDP emphasizes that all relevant stakeholders must consider access and delivery challenges earlier when scaling. This includes maintaining a constant dialogue between product supply and in-country demand, as scaling is not just the responsibility of the demand side, but also supply side agents, including funders and innovators.

**At the country level, involving ministers from multiple sectors helps projects gain traction by becoming more integrated into sustainable development plans:** UNDP attempts to create strategies that involve not only Ministers of Health but also of Science, Finance, Education, etc. By involving more officials coming from different sectors, projects gain traction more easily and become more integrated into country planning. Because many governments tend to underfund their ministries of health, innovations left to the Minister of Health alone may not be sufficiently resourced.

**UNFPA**

**Identifying Demand**

By inviting country teams to UNFPA's 2020 and 2019 Innovation Challenges, UNFPA leverages actors on the ground to identify their countries' needs. UNFPA notes that the lack of accurate and timely data reporting on family planning commodities at last-mile healthcare facilities is a challenge to assessing demand. Otherwise, UNFPA largely orients its priorities around sourcing innovations based on three key directives: ending unmet need for family planning, ending maternal deaths, and ending violence against women.

**Identifying Innovations**

UNFPA scans for innovations aligning with its mission to end unmet family planning needs, maternal deaths, and violence against women: The 2020 UNFPA Innovation Challenge serves as a primary example for how UNFPA identifies and supports innovations to end preventable maternal deaths. In 2020, the program hosted a bootcamp testing new approaches to end unmet family planning needs. In the years following the UNFPA Innovation Team’s genesis in 2015, the team identified multiple internal crowdsourcing challenges on innovation. UNFPA then made a deliberate choice to scan and source global innovations in line with its three aforementioned goals.

**2020 UNFPA Innovation Challenge**

The Innovation Challenge hosted UNFPA country teams for testing tech and non-tech innovations that empower women, work with communities, improve service quality, and strengthen health systems. The Challenge followed a 2019 bootcamp focused on UNFPA's first transformative goal: ending unmet need for family planning. The 2020 Challenge focused on the second goal: ending
preventable maternal deaths.

Providing support for nascent innovations: In partnership with the WFP Innovation Accelerator, the event sourced and selected the most promising ideas and teams to participate in a week-long bootcamp and six month-long design sprint. At the bootcamp, the participating teams connected with UNFPA mentors who have expertise in sexual and reproductive health, management and leadership, supply-chain logistics and business development. The teams also received seed funding and technical assistance. These teams then designed, rapidly prototyped and tested solutions to family planning and maternal health. The end of the design sprint yielded working proofs-of-concept, which allowed the country offices and their partners to move on to the next stage of implementation and to eventually transition to scale.

The Innovation Challenge lets potential innovations undergo many rounds of ideation and prototyping: By focusing on these early ventures, more innovations can undergo additional rounds of ideation and prototyping. Through this model, UNFPA created a deliberate workstream focused on the umbrella transformative result of ensuring reproductive rights for all.

Model reimagined: Following the successful 2020 Innovation Challenge, UNFPA plans to rethink how to mainstream the innovation process across the organization. It thus had to pause on an innovation challenge on its third transformative, ending violence against women, in order to improve the sustainability of its innovation project.

Scaling Innovations

UNFPA’s country-level approach involves a three-stage process: UNFPA country teams played major roles in most projects that eventually went to scale. The process follows a three-stage approach. The first stage is split into a global and country-level step:

- Identify global bottlenecks, which provides a global vision.
- Source and support pilot projects not only with the country offices, but also with for-profit organizations, ventures, and startups outside of UNFPA. Country-level representatives look at identified bottlenecks and translate them into their own country-level methodology. For example, the current UNFPA Innovation Strategy identified four global bottlenecks that could be solved through innovations: last mile delivery, mhealth, data, and innovative financing. In the case of Benin, a fifth bottleneck of girl’s empowerment was added. At the country level, UNFPA conducts a full analysis of the number of innovations that are gradually being developed in their various projects: innovations are positioned on a graph so that UNFPA can see where they are in the cycle of innovation. The goal is for all innovations to reach a plateau of productivity (see Figure 2).

Second, UNFPA brings in expertise to measure the impact of the project and identify if it is viable. In the third “late stage accelerator,” UNFPA brings in more finances to support projects already proven to be impactful and viable. This larger investment may come through the mainstream programs of UNFPA such as a corporate program that offers grants and loans.
UNICEF

**Identifying demand & identifying innovations**

UNICEF procures health innovations from both in-house and external accelerator sources. Its Product Innovation takes a structured approach to identify, develop and scale new and innovative products by working with and connecting field partners and programmatic experts to identify need, with industry to develop products that meet that need and with programming partners and donors to bring products to scale. In another example, a collaboration between UNICEF and New York University College of Global Public Health (GPC) generated innovation ideas to be developed in target countries. A GPC course designed solutions addressing the biggest problems UNICEF tackles around the world. A panel of experts selected winning teams, and interventions were tested in designated country offices. This initially functioned as an experiment to understand if academic solutions could be translated into practically useful pilots.

**Vetting innovations**

UNICEF tests and improves developed innovations at in-country offices before proceeding with wide scale-up. UNICEF also ranks and grades innovations with teams of experts evaluating them in terms of feasibility, what-if potential, and significance. Vetting occurs both before they are presented to regional/country offices, and as the offices consolidate innovation options.

**Scaling innovations**

UNICEF follows a five-year planning cycle with evidence-based innovation goals in mind. Following this phase of strategic planning, UNICEF proceeds to the implementation phase that includes reporting, monitoring, and evaluation. The plan generally contains annual activities that serve as benchmarks for operations, but UNICEF can modify these activities based on individual countries’ needs as well as observed results from previous activities.

Since its launch in 2015, UNICEF’s Global Innovation Center in New York City has been critical in informing innovation scaling strategies, models, and critical success factors. emerged from 1,600+ days of scaling
innovations for children across 90 countries by UNICEF’s Global Innovation Centre. UNICEF’s scaling framework (adopted from International Development Innovation Alliance) contains the following components: ideation, which includes defining and analyzing the development problem and generating potential solutions through horizon scanning of existing and new ideas; research and development, which includes further developing specific innovations that have potential to address the problem; proof concept, which includes field-testing the intellectual concept behind an innovation to gain an early, “real-world” assessment of its potential; transition to scale, which includes innovations (that have already demonstrated small-scale success) developing their model and attracting partners to help fill gaps in their capacity to scale; scaling, which is the process of replicating and adapting an innovation across large geographies and populations for transformational impact; and sustainable scale, which is the wide-scale adoption of operation of an innovation at the desired level of scale/exponential growth, sustained by an ecosystem of actors.

UNICEF also differentiates scaling models by its degree of participation in the innovation scaling process. On its scale of “most” to “least” UNICEF influence, its projects range from acquisition, franchising, licensing, sustained service, organic growth, to open source. Most UNICEF models aim to have “less influence”, meaning UNICEF pushes to transform innovations into open source models for everyone to use freely.

**Unitaid**

**Identifying Demand**

Unitaid conducts landscape reports to determine what kind of medicines, diagnostics, and tools are available to meet global health needs and what access barriers may be limiting their widespread adoption. They also run market analyses, write pipeline reports, and develop disease narratives to determine what opportunities exist to advance global health goals. They examine opportunities for innovation to drive public health impact and then create a Unitaid area for intervention -- areas of focus where Unitaid issues calls for proposals that partners can request funding for, in order to execute projects with implementing partners. These proposals are then assessed by a joint proposal review committee which includes a core review team from the Unitaid Secretariat and a group of external experts before they are approved for funding. Although Unitaid works to ensure that they respond to needs in low- and middle-income countries, they do not predetermine countries for implementation. Unitaid’s primary partners among SDG GAP agencies include the WHO, the Global Fund, and UNICEF, but Unitaid also works closely with other organizations such as USAID, the Gates Foundation, academic institutions, and large NGOs.

**Scaling Innovation**

Creating the conditions for scaling Innovation at global and country level is central to Unitaid’s work promoting equitable access to quality health products. Unitaid’s scalability framework, finalized in 2019, outlines three main levels leading to tangible commitments by donors and governments to promote adoption and scale up of evidence-based interventions: global conditions, country readiness and transition conditions. Within this framework, Unitaid addresses product availability, quality, affordability, supply and delivery, demand and adoption and adaptability as key barriers to access and scale, and emphasizes evidence generation to support normative guidance from
WHO recommending the innovation and evidence that the innovation will be able to be successfully integrated within the health systems of LMICs. Unitaid primarily acts as a catalyst (i.e., facilitating scaling conditions beforehand) rather than directly supporting scaling. Countries conduct the scale-up through national programs and fund it either internally or with the help of donors.

**UN Women**

UN Women recognizes that its internal ways of working must adapt to changing outside contexts, especially to responding to emerging and urgent situations.

UN Women will focus on best practice resource-allocation approaches, treating available funding as catalytic investments to drive the growth of the organization and gradually move away from static, traditional funding models. This is in line with a revamped business model that will incentivize planned, strategic growth and take a more rigorous approach to recovering costs.

UN Women also identified guiding principles for its strategic planning during innovation scale-up. These guiding principles include ensuring progress for all population groups and end-users, ensuring sustainable financing for gender equality, and incorporating digital technologies and innovations as tools to accelerate results across thematic areas. Another principle is engaging the media to challenge negative stereotypes constraining women's participation in public and private life and to promote positive social norms so that women are seen as equally legitimate and effective leaders. Furthermore, UN Women looks to improve gathering better data on gender statistics and sex-disaggregated data by filling key data gaps across the SDGs framework and increasing the use of data and knowledge to inform the development and implementation of policies and programmes. Finally, UN Women would ensure national ownership and alignment with national priorities at the country level to facilitate sustainable development.

**World Bank**

**General Overview of Model**

The World Bank identifies demand through a country-driven model, meaning that the information comes from country contexts rather than a top-down approach. The World Bank usually works with parliaments and legislation in order to determine what is needed for innovation in a specific country. These operations exist in a way that the governments can provide funds to support their innovations, but they also have the option of going to the World Bank, the private sector, or academic institutions for grants.

In-country presence looks beyond just health: The World Bank is well-positioned to assess country contexts because they have country offices in almost every client country. The World Bank's value-add is that they do not look at health problems in a silo. For instance, using joint teams working in health operations as well as education or power can lead to the creation of interdisciplinary innovations that address demands in all of those categories.

Innovations go through a competitive procurement process to secure financing: In order for the World Bank to provide financing for innovations, these innovations must go through a procurement process. In general, this process involves some sort of vetting or competitive bidding. In looking to find an innovation to address a specific country demand, companies will provide their products and bids with the appropriate technical specifications and price. Because
of this competitive process, the World Bank funding is not as supportive of younger, newer innovative companies working solely with a prototype rather than a launched product with demonstrated effectiveness. Furthermore, the World Bank recognizes that this process inhibits their ability to scale innovations before they obtain approval.

**Following up to ensure sustainability:**
After an innovation has been scaled into a country, the World Bank follows up with the given country to ensure that the innovation remains sustainable. The World Bank looks at metrics like the number of lives saved from an innovation.

**Scope**
The World Bank primarily works with policy interventions or systems innovations. Within policy intervention, the World Bank aims to provide results-based financing by creating financial incentives for service providers to provide services in lieu of traditional line-item budgeting. In terms of funding, the World Bank typically provides conditional cash grants, which are social protection measures to give cash to households conditional on requirements like bringing children to regular health check-ups.

**Innovation is relative — what is established in one country is novel in another:** In designing and creating policy innovations, many of these blueprints come from World Bank teams. When policy innovations in particular, the World Bank recognizes that innovation is a relative term — for instance, a long established process or product in a high-income country may be a novel innovation in a low-income country. The World Bank keeps this in mind when identifying and designing these policy innovations.

Within the GAP, the World Bank specifically works with medical technologies, new drugs, new devices, and data applications. Although it works a lot in innovation, its many processes do not fall under the same umbrella, often leading to coordination problems.

**Funding**
When the World Bank decides to fund a project, this funding goes directly to the countries, who are responsible for deciding on how to allocate these funds. Grant funding is adequate for developing pilot products, but not ideal for encouraging the scale-up process. Scaling typically involves two components. The first component is increasing the quantity of the desired product or metric; the second is maintenance of the innovation. In providing countries with funding, the World Bank gets involved in discussions with country governments as to how they can ensure that these projects remain sustainable even after the initial grant money has been exhausted.

When determining who receives funding, the World Bank prioritizes evaluating how innovations work and funds these evaluations with their Strategic Impact Evaluation Fund.

**The World Bank’s view on innovation:**
Innovation supports economic development, job creation, inclusion, and sustainability. Although the private sector is the primary driver of innovation development, the World Bank views it as the role of the public sector to create the correct environment for innovation. When it comes to scaling innovations, a supportive regulatory environment and a strong existing infrastructure are essential.

**WFP**

**Identifying Demand and Innovations**
WFP Innovation Accelerator: WFP “sources, supports, and scales” high-impact innovations to disrupt hunger (the Zero Hunger Initiative). To advance this agenda, WFP
leveraged its field presence to set up the WFP Innovation Accelerator in 2015. Considered by the agency as “a cell or living organism of the whole organization,” the Accelerator is a tool to drive new topics in or outside of the organization, and consists of five components: the Core Accelerator, innovation scaling, innovation services, Frontier Innovations, and continuous learning.

The Core Accelerator focuses on sourcing innovations and hosting innovation bootcamps with early design and sprint stages. Through this program, WFP can understand the different needs of projects at different maturity levels to better provide tailored service to nascent innovations. Innovation hubs provide support for innovation scaling. Innovation services work with other humanitarian agencies and the public sector. The Frontier Innovations component of the Accelerator focuses on emerging technology to ensure that WFP is at the “forefront” of innovation; this form of knowledge management includes assessing and advising on challenges and opportunities. Finally, continuous learning involves stakeholder management, which not only informs the development of projects, but also helps WFP tailor their products.

Scaling Innovations

Regarding the process of matching and scaling, WFP offers funding to both WFP teams (i.e., in-house innovators) and external startups. WFP invites both types of teams to the Core Accelerator innovation bootcamps to learn from each other (e.g., local knowledge advantages). They use human-centered design to map assumptions about the problem and target users, ideas for solutions, layout and testing plan, and sustainability models. The innovators then submit their products for the sprint program to judge and select which projects advance. In the selection process, at least eight country offices must sponsor ventures. The judging panel also assesses investment readiness and target government funding security in order to ensure continued social impact. Chosen ventures all must be able to “graduate” the innovation outside of the agency in a financially sustainable process.

WFP also runs a challenge outside of the Zero Hunger initiative by working with the German Development Agency to conduct a digital preparedness pandemic assessment (DPPA), identify gaps in demand, and determine the areas in which innovations may be relevant. WFP relies on beneficiaries through partnerships, and can gather evidence of government buy-in, ask for proof-of-concept, determine a user base, and ensure funding. WFP embeds both hunger and non-hunger-related innovations into its model so that WFP can respond quickly in a wider variety of emergency situations.

WHO

WHO conceptualizes its innovation scaling framework as “3 points” in a triangle, representing key processes including Demand, Supply and Technical Assessment. Key actors or stakeholders are involved in each process, with the WHO Innovation Hub directly facilitates the process of ‘Matchmaking’ stakeholders, driving innovation impact.

Whilst the model is still being matured - with several different pathways for accelerating scaling - one such approach is articulated below, on the next page.

Identifying Demand

**WHO country representatives serve as the key actor for Demand:** Country representatives collaborate with other multilateral government partners to identify and articulate health demand while
accounting for evidence guided by its Triple Billion Dashboard and Acceleration Scenarios. The WHO Data Division’s Delivery for Impact team conducts regular ‘stock takes’ regarding the WHO’s Triple Billion Targets and highlights to WHO’s leadership the data and specific indicators that are trending negatively. While the stock takes, essentially highlighting express the ‘demand’ at country level, against which the WHO Innovation Hub, on its part, helps source the ‘supply’ of mature, evidence-based and scaling-ready innovations that can help close the health gaps and accelerate SDG impact.

Identifying Innovations

Once the catalyzing period advances to matchmaking between demand and innovations, WHO country representatives are invited to speak on country demand and hear innovation pitches, where the hope is that a deeper, context-aware understanding of on-the-ground challenges will help determine the match. Innovation aggregators such as Grand Challenges Canada and USA Gates Foundation provide the best innovations deployment the fastest. In such a business-to-business model, WHO facilitates the discussion between innovation aggregators such as Grand Challenges Canada to see which innovations they have supported over the last five years. WHO works with Ministries of Health through the WHO Innovation Hub and WHO’s Country Office network to select from that basket based on what can best respond to the country’s health context and demand.

Implement and receive feedback before scaling: Implementation of innovations begins with strategizing with country governments, finalizing funding and “innovator readiness” on the supply side, compiling safety protocols and guidance on efficacy, and signing off the match between WHO and countries. In this journey, innovation scale is ‘right-sized’ for context-specific localized success. The decision to scale further within a country is then driven by interactions between WHO Country Representatives, Ministries of Health, and other health ‘demand’ stakeholders while the final decision to select, adapt and scale innovations sits with Ministries of Health in countries.
## Appendix B: Nested Case Studies of Innovations by Agency

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<td>COVID-19 Emergency Response</td>
<td>Mongolia</td>
<td>Preparedness, Community Building</td>
</tr>
<tr>
<td></td>
<td>Electrification</td>
<td>Myanmar</td>
<td>Community Building</td>
</tr>
<tr>
<td></td>
<td>Innovate for Inclusiveness</td>
<td>India</td>
<td>Funding, Supply Chain</td>
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<tr>
<td></td>
<td>M-PESA</td>
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<td>Funding, Community Building</td>
</tr>
<tr>
<td></td>
<td>UAVs</td>
<td>Timor Leste</td>
<td>Last-Mile Delivery</td>
</tr>
</tbody>
</table>

* There is no centralized list of innovations, although the agency is actively engaged in innovation either through their own platforms or partnerships.

** There is a majority of non-health or health-adjacent innovations by the agency; they are all included as opportunities for inter-agency learning. A full list of innovations can be found on their website.

*** Innovation is still in the development process.
(Supply), which technical expert teams then assess (Technical Assessment), and WHO Innovation Hub elaborates on and matches with demand (Matchmaking).

**Scaling Innovations**

Business-to-business innovation “baskets” that have promoted innovations for a long time have the most reliable financial resources to bring proof-of-concept innovations to

**GAVI**

*Agencies must begin projects by speaking with countries.* It is important to first address the needs determined by country ministers and other stakeholders prior to initiating any project. Through doing so, projects can be targeted to address prioritized issues.

*It is important to monitor scale-up possibilities and impact more.* As the scale up is occurring, it is important to understand the impact as there is momentum. Often it may be hard to define impact so creating a criteria for what that entails may be helpful as well.

*Every new introduction needs to have an evaluation framework and monitoring.* This will help agencies understand how impact changes in different stages and countries.

*In the process of scaling up, countries must be engaged and obtain some ownership of the process.* Through doing this, the scale up will be more likely to be demand driven, rather than supply driven.

**GAVI should focus on innovations that enable their key programmatic areas.** This can be done through focusing investments that show impact through GAVI’s programs, rather than stand-alone investments.

**GAVI wants to set up a government structure with technical and supervisory bodies.** This would help understand the longer-term sustainability of innovations that are scaled.

**During the scaling process, ensuring coordination and a cross organizational approach is key.**

*Nextleaf.* The Nextleaf innovation ColdTrace is a Gavi INFUSE Pacesetter Technology that identifies the most promising and data-driven technologies that improve vaccine access and efficacy in low-income countries. When scaling this, there was not much cohesiveness in the project approach, which posed a major challenge. GAVI thus realized the importance of having cross organizational coordination and topical knowledge of the area being worked in.

*Any promising innovation must also be assessed through how it would function in a low-income setting.* A large challenge to doing this is a lack of supporting infrastructure surrounding data management and training.

**Innovations do not have to always be derived from the Global North.** INFUSE has focused on sourcing innovations from the Global South. Doing so allows agencies to focus on supporting innovations that are rooted in the country they are needed.

**Global Fund**
When partnering with multiple agencies or private entities, it is extremely important to make sure that the direction of partnership is already aligned. Agencies and partners need to be in communication from the start and set clear expectations from the very beginning. For example, rather than one agency catalyzing scaling and another one doing it without any overlap, they should make sure that they coordinate together. That is why making sure agencies and partners have aligned with the mission and end goal from the beginning is crucial.

Agencies must avoid structuring projects in such a way that separates groups developing innovation from groups scaling innovation. Intersection between innovation and scaling increases project feasibility and creates feedback loops that better inform both ends of the process. Furthermore, a successful partnership between groups requires more than meeting halfway; successful partnerships require coherent overlap where priorities align, helping both groups to stay on track and reconcile disagreements, mandates, and priorities.

As opposed to a “pilot and scale” model, learning cycles better accelerate the route to scaling. An iterative cycle helps solve problems as they arise during scaling, thus saving time.

Healthcare innovation done right is not a linear process. Instead, it is a cyclical process of identifying a disruptive product or process, considering how it can adapt to the real world, and concluding with systemic scaling.

Strong health and delivery systems lay the foundation to implementing and distributing game-changing innovation.

Agencies must consider the context in which innovations are tested when evaluating. Was the innovation tested in a context where it was most likely or least likely to succeed? Was the innovation very relevant or only tangentially relevant to that test context?

Centering demand-driven innovation is especially crucial within the private sector.

**GFF**

Stakeholders demand innovations already proven superior to existing processes. Stakeholders want to see that an innovation works. GFF judges an innovation as attractive if it completely transforms the way a service is delivered and is proven effective.

- **Comcare.** Comcare is a widely recognized innovation in high demand among GFF clients. Comcare proved that it is good at two things: streamlining data collection and data dissemination to stakeholders. It achieves these outcomes while also demonstrating efficiency gains for frontline health workers.

- **Innovation to Scale Initiative.** Within this initiative, GFF worked in Ethiopia on a program to help babies breathe. The program demonstrated success in improving the clinical performance of skilled birth attendants as well as improving outcomes for mothers and children. GFF is currently looking to demonstrate this evidence at scale.

- **Saving Little Lives in Tanzania.** A compilation of digital devices, training mechanisms, and other process innovations, Saving Little Lives has been shown to improve outcomes for mothers, while also improving provider competence and quality of care indicators.

Innovations must meet specific constraints
identified by public sector stakeholders. Because GFF prioritizes its projects’ sustainability, the agency expects the governments it works with to eventually obtain the capacity to finance the innovations at scale on their own. The goal is to have GFF look at matchmaking innovations with need while the government is responsible for creating a pathway for successful scaling. In order to achieve this goal, the GFF must communicate with public sector stakeholders about the country’s current constraints; this ensures that implemented innovations have the necessary infrastructure to remain sustainable, even after the GFF has left.

This lesson was demonstrated in GFF’s work with Rwanda. Here, the country had a lot of difficulty managing their blood supply and delivering crucial blood products for women in rural areas experiencing complications and hemorrhaging during childbirth. However, with GFF’s help and funding, they nationally scaled Zipline, which is an expensive and effective automated drone enabled supply chain management and delivery application. Rwanda is the first country that has completely automated their blood supply nationally. This only happened because they had identified a specific need and there was an innovation readily available that could overcome the current constraints. Even though it was expensive, they scaled it nationally.

Innovations should be integrated into existing delivery structures and strategy. When scaling and implementing innovation, it is important to understand what the government strategies, plans, and service delivery mechanisms currently are so that one can eventually find a place to integrate the innovation in a way that doesn’t negate any efficiency gains that the innovation may provide.

This lesson has been learned in a lot of vertical programming work that gets implemented by development partners and focuses on specific service delivery aspects. Sometimes innovations converge at the end user, so community health workers or other frontline providers will have multiple applications that they need to synthesize. This can overwhelm community health workers with all of the new systems, causing these innovations to become ineffective.

Agencies must address existing challenges in transitioning from pilot to scale.

ILO

Added value of collaboration can exceed individual value. The importance of added value from working with other agencies may exceed individual value. For instance, in its work for resilience and migration, ILO has a strong partnership with UNHCR, the World Bank, and IFC. ILO believes that, in a crisis situation, their contribution is only a small part of the countries’ or international community’s response, and thus should be well-coordinated to maximize the overall added value.

It is important to articulate all actions an agency plans to take in order to prevent inefficiencies with other agencies who might attempt similar plans.

It is important to prioritize end-users.

Work in partnerships that bring value in a way that prevents duplication and has complementarity. It is better to scale previous, successful examples, rather than starting from scratch.

It is important for community organizations, workers’ organizations, and civil societies to push the development agenda.
**UNAIDS**

For HIEx, face-to-face conferences are superior to virtual ones as they allow ministers to see the innovation in person.

Health ministers or other agents in a position to initiate a project to adopt an innovation need to see the innovations in a neutral space, not in their own office.

Neutral spaces produce higher quality conversations around an innovation’s potential than do spaces dominated by one party. In a minister’s office, he/she controls its direction.

**Identify health needs by speaking with the health ministers, who are the final owners of the problem.** UNAIDS is currently working on an innovation discovery center that showcases innovations on a regular basis to health ministers and others from the health sector. It can showcase the 100 or so innovations that will be transformational based on the needs they identify. Then UNAIDS will arrange regular, curated visits to present innovations with potential solutions to problems in the minister’s home country who can identify these challenges.

Investment is superior to grant funding when the goal is to bring innovations to scale.

The private sector is better suited to implement some projects, whereas the public sector is better suited to implement others. For some solutions, the public sector is necessary for implementation. For others, the public sector would only inhibit the solution. This depends on the country and on the innovation solution.

**Political leaders in the developing world are younger, more tech-savvy, and more informal.** Younger leaders recognize the development and political opportunities provided by improvements to their healthcare system.

Coordinating between agencies is a skill set with very high transaction costs.

**UNDP**

Cooperation and partnerships must involve civil society, and they must focus on strengthening core functions at country levels.

Access and delivery of new innovations must target the country level, and funders must prioritize access and delivery from the onset of a project.

UNDP must ensure policies do not contradict and rather support each other in order to ensure access to health innovations.

**Essential innovations are often neglected at country level by donors or countries.**

**Scaling must take a multisectoral approach, i.e. it needs to include officials beyond the health sector, and it needs to include all stakeholders at all levels of analysis in order to coordinate a coherent approach.** General failures to identify scaling health technology as a top priority inhibit the necessary multisectoral approach.

**Scaling up needs to be driven from a human rights and equity approach from the beginning.**

**Medicine should be distributed as a global public good and as a common good.** The world should change the way it researches, finances and distributes technology. Everyone should have access to health and medicine.

**UNFPA**

UNFPA notes that investing in pilots decreases the risks of larger investments when taking those pilots to scale, as they
already have proof-of-concept.

UNFPA notes the importance of engaging national authorities and the community as close partners, which helps build momentum behind the concept early on. If the project demonstrates proof-of-concept from the onset, partners will then more readily provide complementary skills to the innovation. In other words, evidence generation informs scaling. UNFPA’s in-country innovation projects are developed, negotiated, and implemented with the government so that all indicators and theory of change receive government input. To improve clarity in the partnership, the program agreement documents signed by the government specify every step at the country level. Everything UNFPA addresses aligns with priorities identified by the government. For example, in the case of Benin, although UNFPA introduced drones for health purposes, they also present security issues; as a result, UNFPA kept regular communication (i.e., about every two months) with the Ministry of Health via WhatsApp to make sure operations did not present security challenges.

At the beginning of a project, it is imperative for UNFPA to consider how an innovation will be scaled, how it may respond to demand, which partners will be engaged, and how national authorities will adopt the project. Close engagement with country government, stakeholders, and end-users at the onset of a project is key to national ownership later on. Ensuring ownership at the national level means that UNFPA must consider how to let an innovative concept graduate to ownership by partners and players on the ground. Without this line of thinking early on, the pilot will not be accepted at the cultural or community level, or it will not “fit organically” because partners are not ready or do not see it as a priority.

Finally, it is important to note that moving from pilot to scale requires advocacy, scenario building, and crucial relationship-building to drive change even when barriers persist or unexpected challenges occur. This comes as the result of a 2017 UNFPA comparative study of innovation in the UN system to promote mutual learning among agencies and evaluate its standing vis a vis other agencies.

UNICEF

Matching an innovation to demand requires evidence. When it comes to matching innovations to demand, UNICEF must rely heavily on evidence when proposing a selected intervention to the target users. Critical to this evidence is demonstrating an optimal understanding of the given problem before introducing an innovation. For best results, UNICEF (or the given agency) should spend more time with end-users in order to fully understand their needs and behavior. Not only does the demonstration of this knowledge improve takeup when proposing a solution, but the prior experience will also allow for the agency to adjust a proposed innovation before adoption in order to make its scale-up process more successful. After making a match, UNICEF always supplements the introduction of an innovation with rigorous monitoring, evaluation, and documentation.

A note on agency selection and comparative advantage: When agencies involve themselves in the innovation space, it is imperative that they recognize their strengths and weaknesses in health innovation scaling. However, the prestige and funding promises around innovation can sometimes tempt agencies to involve themselves in challenges they are not best positioned to address. In that way, agencies must be aware of their individual
comparative advantages relative to those of other agencies before taking on a project. By attaching themselves to a project that best suits another organization, they introduce unnecessary efficacy and efficiency risks.

**Fast results require high-level political attention from the very beginning.** UNICEF recommends planning with target government officials and relevant ministries for the stepwise introduction of an innovation and designing the program with intention to scale from the onset.

**Users infrequently perceive added value of innovations.** UNICEF has encountered many instances in which intended users do not perceive added value in the proposed innovations. UNICEF aims to increase perceived value through three processes: (1) engaging in implementation research to assess adoption, feasibility, and cost in order modify the innovation as needed; (2) providing programmatic and technical guidance; and (3) advocating on behalf of end-users and implementing partners. Through these measures, UNICEF hopes to improve its ability to communicate the value of an innovation and its long-term costs and benefits to intended end-users.

**Innovators often focus too much on the science behind their innovation rather than its added value.** When pitching an innovation, innovators often overemphasize the science behind their innovation rather than its added value, often inhibiting their ability to procure funding and other means of support.

**In-country presence enhances an agency’s ability to communicate an innovation’s added value.** When working with governments, in-country presence helps an agency to engage national stakeholders in an innovation project early on by walking them through the design and learning phase. As a result, these stakeholders realize the innovation’s added value.

**Local constraints can slow adoption—and agencies must learn to overcome these roadblocks.** Local constraints can significantly slow down regional uptake of an innovation, and agencies have yet to learn how to excel at overcoming them. Frequent constraints that arise include lack of local budgets, lack of electricity, problems with local monitoring systems, geographical barriers, lack of human resources (workforce), and travel and/or import restrictions. These factors can all slow innovation scaling. Another example comes from UNICEF’s Oxygen Therapy Project where some participating countries faced travel and import restrictions, which also slowed down innovation scale-up, especially during the COVID-19 pandemic.

In such situations, it is of utmost importance that agencies find opportunities to transform constraints into advantages. This will require creative solutions to challenging problems in environments with highly restricted access to resources.

**Do not fear failure.** Many international agencies, UNICEF included, fall victim to the temptation to only document their success stories in the innovation intervention space. However, agencies should aim to break this pattern not only to avoid repeated failures, but also to document cases that may have failed in their previous context, but might apply to future challenges. Failures now can breed success later. Limited documentation of failures risks losing the insights generated from projects that fell short, and admitting mistakes is often key to workshopping solutions and changing directions.

**Unitaid**
Community coordination in creating and approving projects allows agencies to more effectively assess what it needs and how to mobilize resources and support.

Communities are instrumental in implementation and ensuring that projects remain on track.

As a small organization without country offices, it is critical for Unitaid to maintain close relationships with larger agencies that do have a country presence (such as WHO) so Unitaid can listen and engage with stakeholders.

It is important to have an active civil society that can push for better treatment and vaccines. Unitaid struggles to secure support and funding for innovations that address a disease lacking a large activist base to set its treatment as a social priority (this is the case with malaria).

Agencies need to ensure comprehensive partner engagement throughout the innovation process, including with communities, civil society, country governments, technical partners, donors, and industries at large.

Systematic application of the scalability framework, from the scoping phase to the final stages of implementation and evaluation, produces the best results.

Agencies should place greater emphasis on the scoping phase and on reviewing proposals to ensure an end-to-end process.

**WFP**

Human-centered design best tests the desirability and feasibility of an innovation. WFP starts small and considers everything as an assumption before mapping out those assumptions critical for the innovation to work. The agency then selects a subset (three out of ten innovations) to test. A potential challenge is preventing innovations from being “killed” too early in the process.

A cohesive core team includes people who already own the working innovation. The core goal is to “solve the problem,” rather than ask, “Here is a problem, who wants to solve it?” Moreover, leadership, diversity, spirit (i.e., personality match), and inclusivity are inherent motivators towards overall team progress. Ultimately, a strong team generates internal competency for technological solutions, and it is important to not lose the human-centric approach as teams grow.

WFP recognizes the importance of soliciting early feedback. There are two types of mentors or lines of feedback: (1) innovation coaches/facilitators, and (2) a mentoring program suited for each innovation. WFP-created opportunities for feedback include a mentor day with a roundtable of experts in each sector (technology, business, etc.).

Finally, a minimum-value product (MVP) is a model of the innovation (not a prototype) that is ready to pilot in field operations and is thus safe by design. In building the MVP, WFP should consider the most vulnerable (source: WFP 10/7 presentation). Innovations should piggy-back on one another to simplify the process. A solution that hinges on multiple other factors or products increases the changes of bottlenecks.

**WHO**

At a fundamental level, demand drives scaling. The government in the country of interest must be involved through WHO representatives on the ground in order for the WHO Innovation Hub to unlock demand. WHO adopts a “three-level” to meet country demand: in many cases, Regional Offices work with Country Offices and Ministry
of Health to identify and articulate their health needs, which is then directed to WHO headquarters. The more awareness is raised and capacity is built in the ecosystem through this approach, the more people will be enabled to actually engage in innovation and matchmake and scale innovation.

Although WHO plays a convening role in bringing SDG3 GAP agencies together, the current incentive structure can work against collaboration. Many agencies see little to gain from collaboration, so the GAP must create better incentives to encourage joint programming (e.g., giving money to agencies that work together). Otherwise, agencies may not realize the benefit of collaboration at a bigger scale.

Assessment can be a double-edged sword: overly rigorous assessment might kill an innovation without giving it a chance to evolve. In addition, to prevent assessment from becoming an endorsement, semantics are important; WHO is transparent about assessment criteria so outsiders know exactly what WHO evaluated.

To foster a culture of innovation within governments, WHO is in the early stages of leveraging the WHO Eureka Center, a space built in headquarters that could be replicated across regions, similar to “a brand for health innovation.” WHO envisions Country Offices and Ministries of Health housing their own Eureka Innovation Centers, as a place to engage all staff and amplify digitally-enabled content on innovation.

WHO adopts a wholesale-to-wholesale approach: the team looks at the expressions of demand from countries, and then innovation funders look at packages of innovations that can match those needs. Since it is not systematic or feasible for WHO to engage with individual innovations and innovators on a daily basis, it must create an alternate system that operates as a level playing field for all innovators. For example, WHO partners with International Development Innovation Alliance, which consists of many funders and innovation aggregators who run innovation challenges, to engage with the retail market for every innovation.

Finally, a negative legacy of international agency intervention works against innovation: in the past, potential innovation recipients experienced innovation pushed from innovator to “assumed” beneficiary without fruitful results. WHO seeks to reverse that by starting with demand. However, such an entrenched understanding of innovation in the world is difficult to counter.

UN Women

A sharpened focus can help scale impact. In its second decade, UN Women will advance high-impact and standardized approaches to address underlying structural barriers and drive transformative change, while more effectively integrating the principle of leaving no one behind.

UN Women must leverage its role as a leading global champion for women and girls when convening in dialogue and engaging with stakeholders. This includes its ability to convene and support multi-partner advocacy strategies, platforms and dialogues between governments, civil society and other stakeholders.

Flexible and predictable funding ensures optimal delivery. A diversified funding strategy and intensified efforts to mobilize regular resources are essential. It is important to adapt to shifts in the global operating context and leverage the opportunities these offer for advancing gender equality and
women’s empowerment.

Although there are clear indications of ways to improve access to antiretroviral therapy, data on women’s experiences in choosing to start, and stay on, treatment remain scarce. Sometimes findings that do exist are not translated into policy and practice, and that remains to be improved in the future.

Many women (the end-users) have pointed out that they are facing local constraints that make accessing innovations harder. Specifically, they struggle with transport issues, including the high cost of transport, distance to facilities and waiting times in substandard environments and health facilities that might fail to respect human rights. These constraints have been described as barriers to both initial access and to adherence to using the innovation, especially for women from rural areas. In many cases, women would have to ask for money from family members or borrow from neighbors or co-workers to be able to travel to spaces where an innovation is hosted (usually hospitals or clinics).

Women also pointed out that building trusting relationships with health providers can often be the decisive factor if they would stay on treatment. Many women welcome the innovations but want this intervention to be presented as a voluntary, informed choice in an environment that is confidential, respectful, and supportive. However, that has not always been the case. For example, many women have concerns about the side effects of treatment for themselves and their children and many reported that health-care providers did not properly address these concerns. That would in turn discourage some women from sticking with the treatment. A possible solution to that is to ensure health-care providers get properly trained to provide adequate information and support on treatment uptake and adherence, and on side effect management.

Women need to be provided with better opportunities and mechanisms for providing feedback on the quality and effectiveness of innovations so the end-users can provide continuous and instant feedback in order to improve and sustain the given innovation.

**World Bank**

Agencies must mobilize across sectors in order to promote advancements in public health delivery. An entirely novel solution is not always necessary to address a public health need. Sometimes, communication in leveraging existing systems and putting facilities into place is enough to address demand. In achieving SDG targets, it is particularly important to leverage mobile technology, as well as IT and communications.
## Appendix D: Contacts by Agency

<table>
<thead>
<tr>
<th>Agency</th>
<th>Name</th>
<th>Title</th>
<th>Email</th>
</tr>
</thead>
<tbody>
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</tr>
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Appendix E: Comparative Advantages by Agency

In order to facilitate future collaboration between SDG 3 GAP agencies, this appendix shows the self-reported comparative advantages in scaling health innovations by agency. The left-hand column lists what WHO identifies as critical components in scaling health innovation, augmented by three additions from other agencies (market shaping, connections with the private sector, and country footprint). Each agency consulted (shown in blue) was asked to identify three to five critical components in which they considered their agency especially strong. By providing a simplified understanding of agencies’ relative strengths, the table intends to help agencies identify potential partners for projects involving scaling components they do not excel in.

* The question of comparative advantages was not discussed with the agency.
References


