

# THE INNOVATION EFFECT

POWERING DISRUPTIVE GLOBAL HEALTH SOLUTIONS



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## Making Innovation Matter

*Conference report from The Innovation Effect*

*“There is an unmet need for having a dialogue about global health innovation across sectors. A more serious understanding of what global health innovation is, why it matters, and what the role of the United States is currently—and could be in the future—is imperative for catalyzing and scaling the solutions we need to achieve development goals.” – Dr. **Stephen Morrison**, Center for Strategic and International Studies’ Senior Vice President and Director of Global Health Policy.*

More than 150 leading global health and development thinkers convened on June 15, 2016 for **The Innovation Effect: Powering Disruptive Global Health Solutions** in Washington, DC. Hosted by PATH, in collaboration with the Center for Strategic and International Studies (CSIS), Devex, the Bill & Melinda Gates Foundation, Johnson & Johnson, Tableau Foundation, United Nations Foundation, and the US Agency for International Development (USAID), the event explored what happens when unique partnerships, disruptive technologies, transformed systems, and data-driven insights combine in often unexpected ways to create dramatic improvements in the health and well-being of people around the world.

## More Than Just New Technologies



*Tom Frieden, Director of the US Centers for Disease Control and Prevention. PATH/Hilary Schwab*

“Innovation isn't always about new technologies,” explained Dr. **Tom Frieden**, Director of the US Centers for Disease Control and Prevention. “It can be about new ways to think, of interpreting what’s unfolding on the ground, and it can also be improvements to existing programs.” That distinction is important because how we define global health innovation plays a major role in how we fund, nurture, understand, and scale its impact.

Smallpox eradication, Frieden noted, offers a wonderful example of “continuous innovation.” In addition to an effective vaccine, the true innovation lies “in understanding who and how to vaccinate, as well as how to monitor, motivate staff, and get political leaders on board.”

Identifying the “who”, the “how”, and securing political buy-in can come about in unexpected ways.

For example, Facebook usually isn’t the first thing that comes to mind when we think of global health, but its increasing role in connecting communities and individuals has made it an important communication and health literacy tool. Facebook’s Free Basics program—which provides access to health, education, and other services on mobile phones in markets where Internet access may be less

affordable—significantly broadened the rural user base for 1doc3, an e-health platform in Columbia that connects people in remote areas with licensed doctors in urban areas to answer health questions.



*Jackie Chang, Head of Global Partnerships for the Facebook platform. PATH/Hilary Schwab*

Upon joining Free Basics, said Ms. **Jackie Chang**, Head of Global Partnerships for the Facebook platform, 1doc3 started seeing a lot of questions come in that they typically wouldn't see coming from urban areas. One of the questions was around “condom water.”

“At first,” Chang said, “we thought this must be trolling, but when 1doc3 investigated, it turned out that people in certain remote areas believe that boiling a condom and drinking the water helps prevent pregnancy. “[1doc3’s founder] took that information back to the Colombian government and created a model where the private sector is engaging with the public sector on health education campaigns targeted toward very specific remote areas.”

The 1doc3 experience illustrates the power of reliable data in helping us understand the problems we need to solve, the efficiency and effectiveness of existing interventions, and in bringing out political support.

## Democratizing Data

Insufficient data, as well as a lack of understanding of what existing data tell us, can also present critical challenges. Mr. **Neal Myrick**, Director of Social Impact at Tableau Software and Director of the Tableau Foundation talked about the power of data visualization as a key form of innovation.

“Technology has given us the ability to transform massive Excel spreadsheets and databases with lots of rows and numbers into a picture you can look at once and immediately grasp what you should be focusing on.” Making sure the community is a significant part of the feedback loop forms a crucial component of Tableau’s social impact mission, according to Myrick. “If you think back over the last couple of decades, funders and NGOs would often go into a community, collect tons of data about that community, and bring that data back to their headquarters. The community would have no ongoing benefits from the data extraction exercise. Part of today and tomorrow’s global health innovation process must include ensuring communities benefit from data collection.”



*From left to right: Raj Kumar, Founding President and Editor-in-Chief of Devex, Neal Myrick, Director of Social Impact at Tableau Software and Director of the Tableau Foundation, and David Fleming, Vice President of Public Health at PATH. PATH/Hilary Schwab*

Mr. **Clayton Sims**, Vice President of Mobile Development for Dimagi, underscored the importance of getting community health care workers information back about the impact of their work—not just getting data out of the system.

Sims described a study that ranked community health care worker performance in rural India, sharing results with the workers themselves. “Just getting that basic information back to the health workers in a

way that was comprehensible to them made a huge impact on how many visits they did. This is an important part of addressing those fundamental questions that we still don't understand at the developmental level, such as what incentivizes people. It's not just money, it's not just jobs. A lot of it is doing great work. Better data, and better ways to visualize and share that data, will be key to understanding those intrinsic and external motivations.”

Mr. **Raj Kumar**, Founding President and Editor-in-Chief of Devex, calls this “democratizing data.”

Personal experience, in addition to innovative data visualization tools, can also transform the meaning of numbers.

## ***When Abstract Numbers Became a Woman, and a Friend***



*Apepeju Jaiyeoba, CEO of Mother's Delivery Kit and PATH Innovation Champion.  
PATH/Hilary Schwab*

Ms. **Apepeju “Peju” Jaiyeoba**, CEO of Mother’s Delivery Kit and PATH Innovation Champion, provided an example of continuous innovation inspired by personal experience. After a close friend died in childbirth in Nigeria, previously abstract statistics associated with maternal and infant mortality suddenly had the face of a loved one. Driven to understand and improve those numbers in Nigeria, Jaiyeoba spent time in rural villages across the country. “I saw women giving birth on bare floors risking sepsis, I saw midwives sucking mucus from the nostrils of newborns with their mouths to prevent asphyxia, and I saw traditional birth attendants using glass or rusty blades to sever umbilical cords, exposing babies to neonatal tetanus.”

First, she started a foundation to train birth attendants and improve access to high-quality health care services and personnel. As work progressed, she realized that access to proper sterile supplies represented a major hurdle. That’s when she started the Mother’s Delivery Kit company, which works with local manufacturers in Nigeria to create affordable packages of sterile supplies and get them to the rural areas that need them the most.

Jaiyeoba’s company has close relationships with Nigeria’s traditional birth attendants (TBAs), who handle more than 70 percent of deliveries in the country. In addition to mucus extractors, gloves, cord clamps, and other crucial sterile supplies, the kits include olive oil, which many TBAs believe helps offer early spiritual protection for newborns. Integrating TBAs into the kit’s development, delivery, and adoption process also represents a powerful piece of the innovation process.

## ***Nurturing Innovators***

Jaiyeoba’s drive, energy, and talent have propelled her success. The US government has also played a key role in nurturing that talent and creating opportunities to expand and scale her innovation through the State Department’s Mandela Washington Fellowship. The Fellowship, begun in 2014, is the flagship program of President Obama’s Young African Leaders Initiative, which empowers young people through academic coursework, leadership training, and networking.

Dr. **Kristin Lord**, CEO of IREX, which runs the Mandela Washington Fellowship program for the State Department, pointed out that nurturing the African innovators who are just now coming of age will be

crucial for global health and development. “By 2045 we expect there to be 400 million Africans between the ages of 15 and 24,” she said. “Which of them will be health leaders and critical members of the health workforce?”

“The Mandela Washington Fellowship program has really showed us the power of investing in leaders,” she added. “Take Peju [Jaiyeoba]. She was part of this program, benefitted enormously from a six-week intensive course, a leadership development plan customized to the individual, mentoring, and networking experiences. We need more of these leadership development programs in the health sector in Africa and it’s something that could be very much customized to advance broad public health needs.”

Indeed, launching such a program, dedicated to nurturing global health innovators in Africa, was one of several policy recommendations that emerged from the event discussions.

### *Shining a Light on Problems that Need Solutions*

The role of the US government in empowering innovators and innovation was a running theme throughout all event conversations.

Ms. **Ann Mei Chang**, Chief Innovation Officer and Executive Director of the US Global Development Lab at USAID, said she sees the role of USAID and other donor agencies shifting over time. “We will play more and more of a catalytic role to empower innovators by de-risking early stage ideas, shining a light on the most important problems that need solutions, and then partnering with innovators from around the world to find, test, and scale those solutions.”



*Ann Mei Chang, Chief Innovation Officer and Executive Director of the US Global Development Lab at USAID. PATH/Hilary Schwab*

Participants agreed that shining a light on critical problems is essential to bringing new innovators and investors into the global health innovation process.

Product profiles are incredibly useful, said Mr. **Inder Singh**, CEO of Kinsa, reflecting on his previous experiences as Executive Vice President of the Clinton Health Access Initiative (CHAI). “The public sector being able to say ‘these are the specific specifications around the product we need’ was incredibly helpful for me as an intermediary to go out to the private sector and say ‘Listen, this has been laid on a platter for you, there’s clearly going to be a market here for this. Please think about investing in this area’.”



*Inder Singh, CEO of Kinsa. PATH/Hilary Schwab*

For the maternal and newborn health field, problems in need of solutions are copious and multifaceted. Through its catalytic role in Saving Lives at Birth: A Grand Challenge for Development, USAID has been able to shine a new light on maternal and newborn mortality in resource-poor settings, identify and fund smart, simple, low-cost, integrated technology solutions, and bring new funders to the field.

“Grand Challenges are an important new tool that [the Obama administration] brought to USAID,” shared **Wendy Taylor**, Director of USAID’s Center for Accelerating Innovation and Impact (CII). “They have proven to be...able to democratize innovation and bring forward a whole range of solvers from all over the world to tackle long entrenched problems.” Indeed, half the applications for Grand Challenges come from developing countries.

The financial model is also significant. Taylor noted that USAID’s US\$20 million investment in Saving Lives at Birth leveraged \$80 million from program partners—including The Government of Norway, the Bill & Melinda Gates Foundation, Grand Challenges Canada, the UK Department for International Development, and the Korea International Cooperation Agency—and nearly \$40 million of additional outside funding for individual projects.

Through its intense focus on acceleration and scale, CII has also demonstrated that development timelines can be shortened. “Of the 14 investments we made in the Fighting Ebola Grand Challenge, explained Taylor, “within one year, half of them are already available in the market and the others are poised to come to the market by the end of this year. That was remarkably fast progress. I think there are some really good lessons there that we've been trying to draw out and apply to other innovation programs we fund.”

USAID’s Development Innovation Ventures program, Broad Agency Announcement, and Grand Challenges programs were designed to move much more rapidly than traditional government grant processes. Nevertheless, Ann Mei Chang cautioned, the role of government is not to invest in exactly the same way as the private sector. “The role of government should be to address market failures—those early stage risky investments or public goods for emerging markets that are not going to get funded by the private sector...The innovation programs we're trying to roll out are very much oriented towards low-ticket items, trying to attract and engage a much broader swath of entrepreneurs who don't normally engage with USAID.”

## ***Bridging the Culture Clash***

The pace of real-time, iterative improvement is a crucial factor in the innovation process. According to Raj Kumar, it is also a key part of the Silicon Valley ethos. “You don't just do an evaluation to figure out what happened earlier, you actually try to find out what's happening right now so you can improve it every day, every minute.”

That is not currently the global health ethos, reflected Dr. **David Fleming**, Vice President of Public Health at PATH. “We need to move that innovation process into the general way that public health projects are conducted in country. In general, the mindset and the funding incentives are still set up so that you design the project, go in and do it, collect information, and at the end of the project—three years later—you figure out whether you're successful.”

With regard to funding incentives, entrepreneurs in the room shared perceptions that collaborating with government can be cumbersome, requiring specialized accounting and reporting systems, and slow, with some grants taking a year just to be approved, causing work to lose momentum. As a result, some innovators do not seek partnerships with government at all.

Many of those innovators reside in Silicon Valley.

Mr. **Charles Kenny**, Senior Fellow at the Center for Global Development asked whether a culture clash exists between “innovators who are used to fast feedback from the market, and the overhead required to meet government funding requirements.” The answer: an unequivocal yes.

Prior to her role at USAID, Ann Mei Chang spent many years in leadership roles at Google, Apple, and other quintessential West Coast innovation powerhouses. “There is certainly a big gulf between Silicon Valley and government, on both sides,” she said. “The Global Development Lab is certainly working to bridge those two worlds. We have a tiered, evidence-based funding model, similar to what one sees with start-ups. And we’re trying to provide a lot more flexibility. Data is essential. It’s not just about [how many people you reach]. That’s not a measure of longer-term success. I think the most critical measure of success is our ability to really adapt and run and to continue to improve our products and solutions.” Nevertheless, Chang acknowledged, “it’s true that there is just not a whole lot of communication or understanding between these worlds.”

In terms of communication challenges across coasts and sectors, Inder Singh added, language matters. “One of my early experiences at CHAI was addressing an audience of private, public, and NGO leaders,” he reflected. “I remember that during that conversation I used the word ‘profit’, and I can’t tell you how fast a third of that group turned off. The word was taboo. I learned very quickly to use ‘reasonable return on investment’ instead. When I use that phrasing, groups from the advocacy and NGO communities are happy to engage.”

“It’s not a bad thing that the public and private sectors don’t speak the same language,” he added, “we just need to recognize the communication and cultural challenges, and find solutions to facilitate overcoming them.”

One of those solutions, he noted, is the use of intermediaries like CHAI and PATH that are structured to facilitate communication and collaboration across sectors.

“I found that when well-known multilateral institutions attempt to communicate with the private sector, and vice versa, they get hung up on what can be discussed, who can be in the room, and whether there will be any perceived conflicts of interest—powerful, powerful blockers to facilitating communication between the sectors. By contrast, intermediaries create a safe space to easily and nimbly communicate, including discussing business models and very in-depth cost structures of, for example, drugs—under non-disclosure agreements of course.”

Silicon Valley, participants agreed, is an increasingly important partner for global health innovation, not only as a source of talent and innovation, but also as a source of funding.

“During the Ebola crisis,” Stephen Morrison noted, “one of the surprising things that people had not predicted was that West Coast, principally West Coast-based new philanthropists, jumped forward with a quarter of a billion dollars of resources. That was a very significant, positive sign of what has occurred in the environment of global health...It’s important to acknowledge that there is a lot of good will and good faith that’s coming out of that sector and interest to be very engaged in these matters.”

## Managing Beyond the Crisis of the Day

Ebola, Zika, and other health security issues came up often throughout panel discussions as lenses for cross-sector collaboration, investment, and the challenge of innovating for the unknown.

Two characteristics epidemics share with innovation is that they are both often unpredictable and unprecedented, said Tom Frieden. “No one would have predicted that we would have a mosquito-borne virus causing a severe birth defect. It has never happened before.”

“Valuable innovations here are systems that increase our preparedness, our ability to find, stop, and prevent health threats anywhere in the world,” Frieden continued. “That means both high-tech and low-tech solutions. It means both lab and epidemiology. It means rapid response teams and human resources. We have to invest in systems in countries all over the world so that we’ll know when an unusual health event is happening sooner to its time of emergence. That’s the single most important thing we can do. That means innovations in funding, in diagnostics, in training, in laboratory work, in surveillance systems, and they have to be multiuse.”

Wendy Taylor asked the key question: “How do we invest, really plan ahead, and tap into the best of what ingenuity and creative thinking has to offer today to ensure that we’re not facing tomorrow’s threats with yesterday’s tools?”

By managing beyond the crisis of the day, answered Mr. **Jaak Peeters**, Global Health Head of Global Public Health at Johnson & Johnson. Peeters underscored the importance of building sustained global capacity to predict and respond to emerging health threats. “When crises emerge, there are a lot of promises, a lot of commitments. When the emergency fades, interest wanes. Expanding partnerships and pushing innovative approaches to every aspect of the global health value chain—from drug and diagnostic R&D, to cross-sector collaboration, to community health worker training—helps ensure we are more prepared for the next threat.”



*Jaak Peeters, Global Health Head of Global Public Health at Johnson & Johnson. PATH/Hilary Schwab*



*Ariel Pablos-Méndez, Assistant Administrator for Global Health and Child and Maternal Survival Coordinator at USAID. PATH/Hilary Schwab*

Indeed, patience, partnership, and realism are essential for long-term success, noted Dr. **Ariel Pablos-Méndez**, Assistant Administrator for Global Health and Child and Maternal Survival Coordinator at USAID. “It’s not always about disruption in the grand style. We also need a quieter, step-by-step and determined kind of disruption,” said Pablos-Méndez. “All of this is sustained through innovation and health system strengthening...Our goal is to make sure countries can stand on their own, with their own capacity and with their own dignity to solve their own problems.”

But how do we fund this kind of sustained systems innovation?

Making appropriate innovation investments in the name of national and global security—not just health—is important if we want to expand existing resources, said Dr. **Tachi Yamada**, Venture Partner at Frazier Healthcare.



*Tachi Yamada, Venture Partner with Frazier Healthcare. PATH/Hilary Schwab*

Calling on his work at the National Academy of Medicine’s Commission on a Global Health Risk Framework for the Future, he suggested that finance ministers should be incentivized to engage. Referring to a Commission recommendation, he suggested, “If the IMF were to judge nations on their pandemic preparedness in grading their capability to sustain a financial loan and demand a higher interest or downgrade that country if its national health systems were insufficient to address a global health risk, this could make a huge impact.”

In addition to more resources, Wendy Taylor added, “[We also need] an intense focus on scale. Part of that is making sure that we’re bringing delivery thinking and focus all the way to the front end of the investment in R&D...What do end users need, what would that market bear?...That requires sustained commitment from the very beginning.”

## **Human-Centered Design**

User experience plays a key role in the adoption of innovation, and different end users benefit from different design approaches.

“When we think about health care—health care delivery, accessing health care, who is going to use products,” said Dr. **Daniel Grossman**, Senior Director of Global Health Innovation at Medtronic, “We need to look at the health-seeking behavior, which around the world is often driven by women as the primary accessors of most health care for themselves and their families. Designing a product, service, interface, or path into a system requires the innovator to walk in end users’ shoes.” That empathy, Grossman noted, is critical to the ultimate adoption of any innovation.

And who better to innovate for women in the developing world than women in the communities themselves, challenged Ms. **Kathy Calvin**, President and CEO of the United Nations Foundation.

According to Ms. **Stephenie Foster**, Senior Advisor and Counselor to the Secretary’s Office of Global Women’s Issues at the US Department of State, “We see tremendously talented women around the world who are coming up with solutions to a myriad of problems in their communities and countries... But everything from access to capital to the broader range of laws often has a negative impact on would-be women leaders and innovators...We need to ensure that we’re really lifting up the voices of women who are in those communities. They are innovators, as well as critical markets for innovation.”

The self-injectable contraceptive Sayana® Press offers a prime example of human-centered design and innovation for women.

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Sayana Press is a registered trademark of Pfizer Inc.



Injectable contraceptives are the most popular form of contraceptive in Africa. They are safe, effective, and discreet, which is important for women whose partners don't want to use family planning. But for many women, they are out of reach.

Women in Uganda have to walk as much as 10 kilometers to clinics where the injections are given, Ms. **Fiona Walugembe**, Uganda Project Coordinator for Sayana Press Introduction and Evaluation at PATH, told participants. "Then they wait long hours to be seen, only to find the clinic is out of syringes or the drug. At times women won't be seen at all because family planning is not an emergency. But Sayana Press is changing the game."



*Fiona Walugembe, Uganda Project Coordinator for Sayana Press at PATH. PATH/Hilary Schwab*

PATH championed Sayana Press throughout the journey of innovation—from developing the Uniject™ injection system, thanks in part to investment from the US government, to dreaming up the idea of combining Depo-Provera® with the Uniject device, to working with the manufacturer Pfizer on that effort, to coordinating pilot introductions in four African countries, including Uganda.

The small, prefilled syringe is easy to transport and can be administered in remote locations by village health workers—or even by women themselves in their own homes. "We anticipate that self-injection will give Ugandan women even more control over the timing and spacing of their children and a better chance at a healthy life," Walugembe said, "by putting innovation directly into their hands."

## **Making It Matter**

To have long-term, sustainable impact on global health through innovation, summarized Mr. **Steve Davis** President and CEO of PATH, we must be more thoughtful and also more assertive about human-centered design and the scalability of ideas. "We must aim to lessen global inequities in health and we must focus on impact: changes that will increase access, cost less, or be more effective. Urgent crises require urgent responses, but those responses should be part of a broader framework that keeps the big-picture development agenda at the center, and aligns resources accordingly."



*PATH President and CEO Steve Davis. PATH/Hilary Schwab*

Economic stress and rising isolationism are calling into question the value of making national investments in these areas that concern us most, Stephen Morrison warned. Fortunately, in the midst of increasingly polarized political and economic environments, he added, "people will continue to come back to global health as a refuge. They will continue to try to demonstrate that more can be done through US leadership and that true gains can be achieved on a bipartisan basis."

For this all to matter, said Tom Frieden, "[we have to be willing] to be bluntly honest and ask the question, so what? How many people did this help?"

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Uniject is a trademark of BD.

Depo Provera is a registered trademark of Pfizer Inc.

When results are concrete and the impacts clearly demonstrated, people become excited, Morrison agreed.

Ultimately, concluded Wendy Taylor, innovation is a “means for achieving our larger health priorities... We have to remember that as we’re celebrating all of the progress that we’ve made in reducing child mortality by half over the last several decades, and significantly reducing maternal motility, these are all areas where much of the progress is due to the investments we made in innovation decades ago. Those dividends are paying off in terms of lives saved.”

Lives saved. Disease prevented. Health, empowerment, and prosperity. These are the outcomes; global health innovation paves the road that reaches them.

“It is clear that we need innovation now more than ever,” Steve Davis concluded. “Whether it’s incremental or revolutionary, it needs to be integrated into everything we do, every day. We should double-down our commitment to this agenda of innovation.”

When policy drives innovation, the result is visionary, sustainable change. We can disrupt the cycle of poverty and poor health. We can empower women to take charge of their own health, keep girls in classrooms, end epidemics, and eliminate age-old killers.

Eliminating diseases and ending poverty are audacious goals, but we know that with innovation it is possible to change lives for the better, thousands at a time. Given this powerful potential, what are we waiting for?

## ***Acknowledgements***

PATH is grateful to CSIS, Devex, the Bill & Melinda Gates Foundation, Johnson & Johnson, Tableau Foundation, United Nations Foundation, and USAID for partnering on this important event and to all the speakers and participants.

## ***Keep the Conversation Going***

We believe we all must work together, across sectors, to advance global health innovation in order to save lives and end poverty. We invite you to join us in carrying forward the Innovation Effect.

- Read our 5 takeaways from the event: “[The Innovation Effect: Five reasons it matters.](#)”
- Watch the [video](#).
- Join the conversation on Twitter: [#InnovationEffect](#).
- Contact us to discuss additional ways to partner: Email Heather Ignatius at [hignatius@path.org](mailto:hignatius@path.org).