The Forum on Public-Private Partnerships for Global Health and Safety (PPP Forum) fosters a collaborative community of multisectoral leaders from business, government, foundations, humanitarian and professional organizations, academia, and civil society to leverage the strengths of multiple sectors and disciplines to yield benefits for global health and safety. The PPP Forum is premised on the understanding that partnerships among these stakeholders can facilitate dialogue and knowledge exchange; utilize technological and process efficiencies; promote innovation; and synergistically advance humanitarian, international development, and global health interests. The U.S. National Academies of Sciences, Engineering, and Medicine provides a neutral evidence-based platform through which the PPP Forum is convened.

This public workshop has been planned by an ad hoc expert committee. The intended audience is the PPP Forum members and the organizations they represent, stakeholders from the information and communications technology sector, other public and private entities that have participated in or are considering collaboration across sectors to further global health and safety, and academics and researchers across multiple disciplines who are focused on understanding the value proposition and impact of various models of public-private partnerships to improve global health through the use of digital technology.

**Workshop Objectives:**

- To identify and explore the major challenges and opportunities for developing and implementing digital health strategies within the global, country, and local context
- To frame the case for cross-sector and cross-industry collaboration, engagement, and investment in digital health strategies
- To discuss how health and the health sector can drive other sectors to adopt digital technologies as a common platform
- To identify the ecosystem of actors necessary for successful digital health strategies, and country/local level solutions for moving forward

**Workshop Context:**

Current global health priorities, such as the targets of the U.N. Sustainable Development Goals (SDGs), are ambitious. Setting an agenda for the next fifteen years, targets have been established to drastically reduce maternal mortality as well as premature mortality from non-communicable diseases. Targets call for ending the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases among others, as well as achieving universal health coverage and ensuring universal access to sexual and reproductive health-care services. While vast improvements have been made in global health in the past decades, the health challenges that weigh disproportionately on low- and middle-income countries (LMICs) continue to stand as a barrier to achieving poverty reduction and economic prosperity as intended by the SDGs. Meeting these targets, particularly reaching the last mile to achieve eradication or 100 percent population coverage, calls for innovative approaches. In this regard the global community has recognized the value of digital technology as a
transformational tool to push forward the SDGs. Technology can help build on the interconnection among the goals, realize multiple benefits, as well as avoid barriers and conflicts on the path toward reaching the SDGs.

Digital solutions can increase progress toward better health in LMICs through speed and reach, while increasing access to goods and services in a more people-centric, affordable, and sustainable way. Digital solutions that contribute to the social, economic, and environmental dimensions of sustainable development can provide attractive business opportunities. The information and communication technology sector, in particular, has existing stakes in the digital world and has shown increasing interest in the broader concept of a more connected digital lifestyle, of which health is a vital factor. The prospect of the value creation for investing in both digital ventures as well as health improvement creates incentive for multisectoral involvement with both the public and private sectors finding value in developing partnerships with a digital health focus. Public-private partnerships promote a multidisciplinary approach to developing solutions, which is ultimately beneficial to all partners and the countries in which they operate.

The digital health field has been growing over the last decade, and now includes categories such as mobile health (mHealth), health information technology (IT), information and communication technology (ICT), wearable devices, telehealth, and telemedicine. Applications of digital health are being used to reduce inefficiencies, improve access, reduce costs, increase quality, and personalize care. However, despite the growth of the digital health sector, often in LMICs digital health’s potential is not being realized because of an existing fragmented landscape in which multiple public and private actors and agencies with varied technologies and interests are working separately and with overlap. In this fragmented landscape, scaling of promising digital health solutions is often impeded by a lack of coordinated funding that is aligned with government priorities, limited regional leadership and peer support, and a lack of support and availability of open source technologies that could be reused or adapted. Developing digital health-focused PPPs based on government and community identified priorities can help connect the dots among the many stakeholders within the digital health landscape, foster coordination and integration, engage both public and private sector stakeholders in tackling existing challenges, and increase the potential for impact.

WORKSHOP NOTES

• This workshop is being recorded. Please identify your name & affiliation when asking questions.
• We are webcasting this event live online, link can be found on our webpage: http://ow.ly/KtAV30akIdU
• Please use hashtag #PPPGlobalForum to tweet about this event
• Soon after the meeting an archive of the video webcast and presentation slides will be available at: http://ow.ly/KtAV30akIdU
• A proceedings of the workshop will be published by the National Academies Press.
• Sign up at: nas.edu/PPPGlobalForum for updates from the PPP Forum.

PLANNING COMMITTEE ROSTER

Ann Aerts (co-chair), Head, Novartis Foundation
Elaine Gibbons (co-chair), Executive Director, Global Corporate Engagement, PATH
Bob Bollinger, Professor of Infectious Diseases, Johns Hopkins University School of Medicine
Reza Jafari, Chairman & CEO, e-Development International
Anna Thompson-Quaye, Sr. Director Business Development & Strategic Partnerships, access.mobile International

STAFF

Rachel Taylor, Forum Director
Priyanka Nalamada, Research Associate
Katherine Perez, Senior Program Assistant
8:00A  Registration

8:30-9:00A  Welcome
Clarion Johnson, Co-Chair, Forum on Public-Private Partnerships for Global Health and Safety; Consultant, ExxonMobil

**Introduction to the Workshop from the Planning Committee Co-Chairs**
Ann Aerts, Novartis Foundation
Elaine Gibbons, PATH

<table>
<thead>
<tr>
<th>I. Digital Health within the Current Global Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>The session will introduce multisectoral perspectives on key themes and considerations in digital health, including challenges and opportunities in the development and implementation of digital health strategies, engagement and collaboration between different stakeholders, incentives and drivers to adopt digital technologies, and solutions to move forward.</td>
</tr>
</tbody>
</table>

**Facilitator:** Bob Bollinger, Johns Hopkins University

9:00-10:30A Opening Dialogue
Ted Herbosa, University of Philippines
Florence Gaudry-Perkins, Digital Health Partnerships
David Novillo Ortiz, Pan American Health Organization/World Health Organization

10:30-10:45A BREAK

<table>
<thead>
<tr>
<th>II. Digital Technology as an Enabler for Multidisciplinary Approach to Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>As the concepts of connected living and digital lifestyle evolve, stakeholders in the technology sector are developing strategies to advance them. Health has been recognized as a critical element in this space with significant potential for new investments. Among private sector players, both the technology sector and the health sector are well positioned to bring their core competencies to bear in the development of digital health initiatives and broad strategies. Governments also have a clear interest in improving population health and wellbeing. Therefore, there is a unique opportunity for public-private sector collaboration in digital technology to enable a multidisciplinary approach to address the health needs of populations. Barriers to this approach include a lack of support and infrastructure that allows access and affordability to digital health technologies, as well as the interoperability of systems to increase ease in usage and minimize inefficiency. Through this approach, technology can be an enabler for patient- and community-centric models to drive the digital health agenda. This session will introduce established multidisciplinary business models for digital health employed by technology companies and health care companies. Participants will elaborate on the challenges and opportunities of their approaches and offer concrete ideas for solutions.</td>
</tr>
</tbody>
</table>

**Facilitator:** Ann Aerts, Novartis Foundation
III. Digital Health Strategies at the Country Level

The use of digital technology can have a positive impact on improving health outcomes, particularly in low-resources settings. However, a fragmented landscape of actors and interests working to implement digital health solutions can lead to a lack of coordination, waste, and unrealized benefits. In order to build health solutions around market needs in a coordinated integrated way, digital health strategies must be aligned with the health priorities established by countries and communities. Starting with country- and community-led priorities can aid the private sector in developing digital health strategies that are responsive to the needs of patients and communities. Collaboration among the actors of the ecosystems for health and technology advances the opportunities for business and therefore impact. This session will feature lessons learned from successful strategies based on country-level priorities. The discussion will explore frequent barriers and challenges, and distill critical success factors.

Facilitator: Elaine Gibbons, PATH

2:00-3:30P   Panel Presentations and Discussion
Lesley-Anne Long, PATH Digital Health Initiative
Olasupo Oyedepo, ICT4HEALTH Nigeria
Alvin Marcelo, Asia eHealth Information Network
Neal Myrick, Tableau

3:30-3:45P   BREAK

IV. Pull vs Push at the Community Level

Public and private sectors primarily rely on a push approach to deliver health through digital health initiatives. Contrastingly, pull programs rely on input from communities, which can increase the acceptance and adoption of innovation from both the system that is establishing technologies and the individuals utilizing technologies. Getting buy in from both sides from the start increases the potential for success. Equally important is the necessity to document the outcomes of digital health initiatives in order to understand what is driving success or scale. Questions arise on how communities can be empowered to take an active role in pull programs, what incentives are needed to create the “pull” from communities, and additionally what role do community health workers play in driving the “pull” forward. This panel will aim to illuminate the answers to these questions using examples of pull programs in the digital health space in low- and middle-income countries.

Facilitator: Bob Bollinger, Johns Hopkins University
Panel Presentations and Discussion
Christoph Pimmer, School of Business, Northwestern Switzerland FHNW (by video-conference)
Adele Waugaman, USAID
Larissa Fast, Fulbright-Schuman Research Scholar in the UK and Sweden
Kaakpema Yelpaala, access.mobile International

V. Tapping into Grassroots Initiatives and Entrepreneurs
This session will focus on the importance and practice of cultivating an environment where grassroots entrepreneurs and initiatives are contributing to the global digital health landscape. The discussion will explore the value of fostering and sourcing new ideas within digital health from the grassroots level and promising models for implementing them.

Facilitator: Anna Thompson-Quaye, access.mobile international

5:00-5:30P Speaker
Nnamdi Oranye, Media Contributor and Author

VI. Review of Key Messages and Closing Remarks

5:30-6:00P Ann Aerts and Elaine Gibbons, Workshop Planning Committee Co-chairs

6:00-7:00P Informal Reception