misuse and care for patients receiving an opioid prescription and thus participate in primary prevention of an OUD, ultimately reducing the incidence of OUD. AJPH

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The authors have no conflict of interest to declare.

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Geneva Health Forum: The First International Conference on Precision Global Health

The Seventh Edition of the Geneva Health Forum: Precision Global Health in the Digital Age was the first conference entirely dedicated to the newly emerging concept of precision global health. Precision global health aims to more precisely bring the right interventions to the right people at the right time. It does this by integrating digital tools into innovative solutions, all of which are rooted in a unique synergy between life science, social science, and data science.

Increased connectivity, improved access, and user-friendly interfaces qualify digital technologies as primary candidates for transforming the way we practice global health. The role of technology has been prominent in outbreak preparedness and response. mHealth, the use of mobile technologies and other wireless devices in health care, improved contact tracing during the West African Ebola virus epidemic. The use of timestamps and the collection of GPS (Global Positioning System) points with surveillance data allowed real-time identification of contacts who had not been visited yet, strongly increasing the accountability of contact tracers.[1]

Technological leapfrogging has enabled mHealth to become a powerful tool in the context of lower- and middle-income countries, allowing us to better communicate messages and raise health awareness through social media campaigns. Learning for health professionals also benefits from technology, such as with the award-winning OpenWHO platform (https://openwho.org), which has reshaped the landscape for distance learning through the promotion of massive open online courses. OpenWHO won a Jet d'Or de Genève, a prize awarded at the Geneva Health Forum to honor persons or projects that have made a significant contribution to global health by strengthening health professional training via an interactive, Web-based, knowledge transfer platform. Such platforms allow remote participants to access top-quality faculties.

Additionally, digital technologies have played a central role in advancing methodological frameworks for large data volume and large data sets. Deep-learning algorithms have enabled Big Data to be analyzed in an efficient and rapid manner, with the application of image recognition and text interpretation. Precision global health thus aims to use digital innovations to make quantum leaps in global health. Digital tools, when combined with social and life sciences, offer great potential for solving complex problems, and as technology continues to evolve, the global health community must evolve with it.

ACCESSMOD 5

AccessMod 5 is a newly created tool that supports universal health care by modeling physical accessibility to health care. Its five main functions include the following:

1. accessibility analysis,
2. geographic analysis,
3. referral analysis,
4. zonal statistics, and
5. scaling up analysis.[2]

Recently, the tool was used to model access to emergency hospital care in Sub-Saharan Africa, as shown in Figure 1.[3] The Seventh Edition of the Geneva Health Forum recognized access to medicines as a major challenge in global health and awarded the Jet d'Or de Genève to Nadya Wells, who addressed the issue by using the case of insulin and praziquantel for best practices on access and affordability.

NEAR-FIELD COMMUNICATION WEARABLES

Several projects presented at the Geneva Health Forum embodied efforts to deliver global health interventions with more precision. Among them, Khushi Baby produces real-time and actionable maternal and child health data.[4] The Khushi Baby project, led by Yale undergraduates, stemmed from the realization that low awareness of the importance of vaccines,

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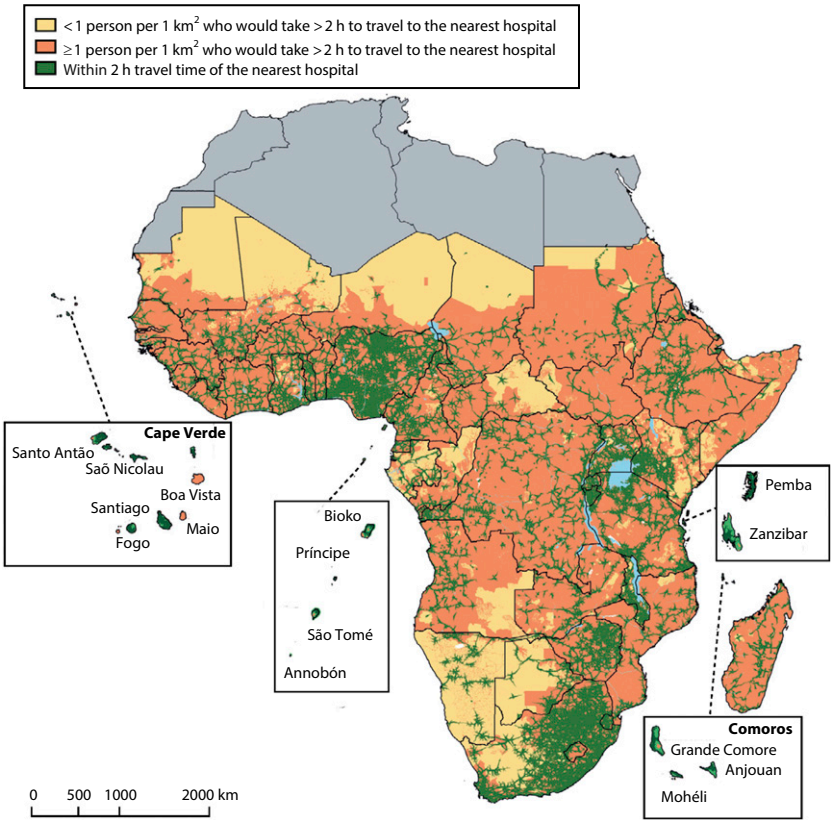

FIGURE 1—Geographical Access of the General Population to Public Hospitals

coupled with a lack of data on patterns of health behavior, subjects many children to vaccine-preventable deaths in India. This issue is especially acute in so-called last mile areas—communities that are hard to reach because of geographic location, physical access, and poverty and that, therefore, do not have access to essential health care resources. To tackle this problem, Khushi Baby developed a wearable near-field communication device, which allows one to record and retrieve a child's vaccination records using a mobile application.

The Khushi Baby project demonstrates the importance of transdisciplinarity in precision global health, combining social sciences with the health and technology fields. The Khushi Baby team ("Khushi" means "happy" in Hindi) obtained input from nearly 100 mothers of younger children, as well as local health care workers, in India.[4] These discussions gave birth to a near-field communication device in the form of a necklace, because children in the targeted regions traditionally wear amulet necklaces to ward off disease. The inclusion of the community early on in the project conception allowed the delivery of a culturally appropriate and relevant solution to a need of the targeted population, which is what precision global health seeks to do.

DRONES FOR HEALTH

By delivering medicines, blood samples, and supplies to remote areas, drones can help better connect isolated communities to the health system, another way to tackle the last mile issue.[5] Here too, a combination of engineering, life sciences, and social sciences is needed. Drones are being used increasingly in the health and humanitarian sectors. However, they face several obstacles to implementation, such as regulatory issues and local engagement. Community acceptance and implication is paramount, as shown by a recent Médecins Sans Frontières (MSF) project in Papua New Guinea.[6] MSF wanted to deliver blood samples from a geographically isolated community health center to the closest hospital with functional laboratory diagnostics, a 63-kilometer, or four-hour, drive away. Although the Civil Aviation Safety Authorities and the Ministry of Health reportedly supported the project, MSF sought input and support from the local community by demonstrating the use of the devices and explaining the aim of the project. According to MSF, community members even returned a drone that had been lost in the jungle, signifying their high level of commitment.

SERIOUS GAMES FOR PANDEMIC SIMULATIONS

Serious games and simulations facilitate learning by engaging participants in a game-like scenario. This approach can be used to train staff for a potential real-life event, as a therapeutic tool, or to raise awareness among the general population.[7]

Infectious disease threats are one area where simulations have been identified as a promising training tool. A century after the world's deadliest pandemic, the Ebola, Zika, MERS, and yellow fever outbreaks have made clear the health, economic, and security risks posed by infectious diseases. During the Geneva Forum, an interactive, scenario-based pandemic simulation hosted by the World Economic Forum dealt with issues such as supply chain and logistics, travel and tourism, vaccines and medical countermeasures, and business risk.

Similarly, a consortium of European universities led by the University of Geneva recently developed the IHR3.0 simulator, a pilot Internet-based platform to simulate health crises and allow participants to play various roles (e.g., representatives from various ministries, various countries, and the World Health Organization) in a highly realistic, fast-paced,

and interactive environment.[7] The university hopes to include this simulator in a massive open online course on the International Health Regulations that is being developed in partnership with Paris Descartes University. The expectation is that through better training of the officials in charge, we can improve readiness and coordination during a global health emergency.

The synergistic alliance of social sciences, health sciences, and technology is promising for improving last mile issues, accessing hard-to-reach and underserved populations, and improving training and emergency preparedness in the health professions and global governance. As proof of the success of this approach, the Grand Jet d'Or de Genève was awarded to Marcel Tanner for his outstanding career and contribution to the field of global health. Tanner, among many other things, developed a transdisciplinary approach to global health, enabling the precise and timely delivery of the appropriate intervention to the specific people who need it. Precision global health has the potential to completely transform global health by using a transdisciplinary approach. To ensure successful implementation of precision global health, it remains vital to spark exchange outside silos, to truly engage in a collaborative dialogue, and to build strong partnerships. AJPH

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A. Richard took care of the reviewing and publication aspects. A. Richard and N. Bempong researched and wrote content. A. Flahault provided feedback and guidance. All authors contributed to the concept of the editorial.

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