

Precision health for children and adolescents:

HEALTH EQUITY

Collaboration with Harvard Consulting on Business and the Environment

The Challenge



The biomedical model dominates our explanations of and responses to illness, health, and wellbeing.



Precision health therapies are highly unaffordable for most of the world's population.



Children who are most in need of precision health treatments are less likely to benefit from such innovations.

Key Takeaways

- When the design and development of precision health technologies are linked with Sustainable Development Goals, the potential multiplier effect can drive greater health equity.
- To solve complex health challenges, we need to collaborate with all stakeholders in the healthcare ecosystem and adopt a transdisciplinary lens that values collective intelligence.
- We need new business models for precision health that reduce the risk of precision health innovations privileging only the few at the expense of health for all.



Context

Precision health holds enormous potential to revolutionize healthcare. There are promising trends and glaring gaps. If precision health is to fulfill its potential, it needs to address the risk of exacerbating current health inequalities and evolve to a vision of health and wellbeing that is inclusive and comprehensive. With that in mind, this brief looks at a few ways to boost the potential of precision health innovations for international development.

Findings

Sustainable Development Goals

- The scale of health challenges and their solutions are beyond the health systems. While SDG 3, ensuring healthy lives and promoting well-being for all at all ages, focuses on health, other SDGs function as protective factors that can decrease the likelihood of a person developing a disease or health disorder.
- The SDGs that directly and indirectly contribute to health outcomes are SDG 1 - Ending poverty; SDG 2 -Zero hunger; SDG 5 - Gender equality; SDG 6 - Clean water and sanitation; SDG 7 - Affordable and clean energy; SDG 11 - Sustainable cities and communities; SDG 13 - Climate action, and SDG 16 - Peace, justice and strong institutions.
- When precision health is linked with one or more of these SDGs, the potential multiplier effect can drive greater health equity.

Research and knowledge generation

- Trends in precision health research from 2010-2020 show significant gaps in demographic representation, including women, First Nations people, minority groups, people with disabilities, and people from the LGBTQI+ community.¹
- A bibliometric analysis of precision medicine between 2012 and 2018 identified only 1.6 percent of articles included terms related to the social determinants of health, health disparities, or health equities in their abstract or title.²
- These gaps distort our understanding of health across populations and highlight the need for more inclusive interdisciplinary and transdisciplinary research to ensure precision health advances benefit people equitably.

- To solve complex health challenges, we need to collaborate with all stakeholders in the healthcare ecosystem and adopt a transdisciplinary lens that values collective intelligence.
- The potential of precision health can be furthered by transdisciplinary research which is characterized by its seven key elements:³
 1. A focused effort to transcend disciplinary boundaries;
 2. The inclusion of multidisciplinary and interdisciplinary academic research;
 3. The involvement of non-academic societal actors as knowledge-holders;
 4. A focus on specific, complex, societally relevant, real-world problems;
 5. Working in a transformative manner;
 6. An orientation toward the common good, and
 7. Reflexivity
- In this context, precision health is seen as an area where transdisciplinary practices can lead to the generation of new knowledge and innovative processes, achieved through collaboration among experts from various domains with a shared goal.
- The approach also requires a commitment to inclusivity, particularly the inclusion of stakeholders and experts from low-and middle-income countries (LMICs) who can provide contextual knowledge and insights, and engagement with marginalized and vulnerable populations in meaningful ways throughout the research and development process.⁴ This goes beyond mere tokenistic involvement and values 'non-experts' as holders of knowledge.



Figure 1: Collaborations and knowledge ecosystem for an inclusive precision health future

Source: UNICEF

New business models

- A major challenge remains in balancing affordability and profitability in the context of precision health innovation, which is costly and time-consuming with uncertain outcomes. The current business models in this field are dominated by a few large corporations and may not promote health equity.
- To move towards accessible precision health for all, the require reflection on how to revise business models and incentives to:
 - Prevent precision health innovations from favoring only a small group and instead benefit the broader population;
 - Support and sustain the long journey from discovery to service delivery;
 - Redefine the roles of pharmaceutical companies, healthcare providers, insurers, and government policies in healthcare production and distribution;
 - Enhance strategies to advance health equity and sustainable health outcomes; and
 - Explore alternative healthcare production and delivery models.

See Insight Report No. 3 for more information on precision health, including the potential applications of innovations and technologies for the humanitarian and development sector.

Opportunities

- The development of precision public health policies and practices that integrate public health principles and approaches will improve the prevention of the most common diseases in our population. Genomic based diagnostics brings precision, identifying people at the greatest risk, enabling treatment at a much earlier stage, even at a pre-disease stage. Early diagnosis is cheaper and more effective.
- This is a need and opportunity to build workforce capacities and capabilities that can bring precision health system closer to fulfilling the vision of every child has the right to survive and thrive.
- While small and medium-size businesses make up most of the B Corp global community, a few large companies such as Unilever ANZ, Danone ANZ and Patagonia are becoming certified B Corps. Certification means these companies are committed to meeting high standards of social and environmental performance, transparency, and accountability. There is a vital opportunity for healthcare and biopharmaceutical companies working in the precision health space to become B Corporations and demonstrate how the sector can create a profit while building positive social and environmental impact.

Notes

1. Viana, J. N., et al., 'Trends and gaps in precision health research: a scoping review', *BMJ open* vol. 11,10 e056938. 25 Oct. 2021, doi:10.1136/bmjopen-2021-056938.
2. Williams, J. R., et al., 'Current applications of precision medicine: a bibliometric analysis', *Per Medicine*, vol. 16, no. 4, 2019, doi:10.2217/pme-2018-0089.
3. Lawrence, M. G., et al., 'Characteristics, potentials, and challenges of transdisciplinary research', *One Earth*, vol. 5, issue 1, 2022, pp. 44-61, doi:10.1016/j.oneear.2021.12.010.
4. Flores, W, and Hernandez, A., 'Health Accountability for Indigenous Populations: Confronting Power through Adaptive Action Cycles', *IDS Bulletin* 49., 2018, doi:10.19088/1968-2018.133.

Insights Briefs

Innovation Nodes Insights Briefs serve as resource for practitioners and decision makers to quickly get up-to-speed on new and unknown areas of potential innovation for children.

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Email: innovation@unicef.org

Website: www.unicef.org/innovation/



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Suggested citation: