Technology can transform global health and education, but it's no silver bullet

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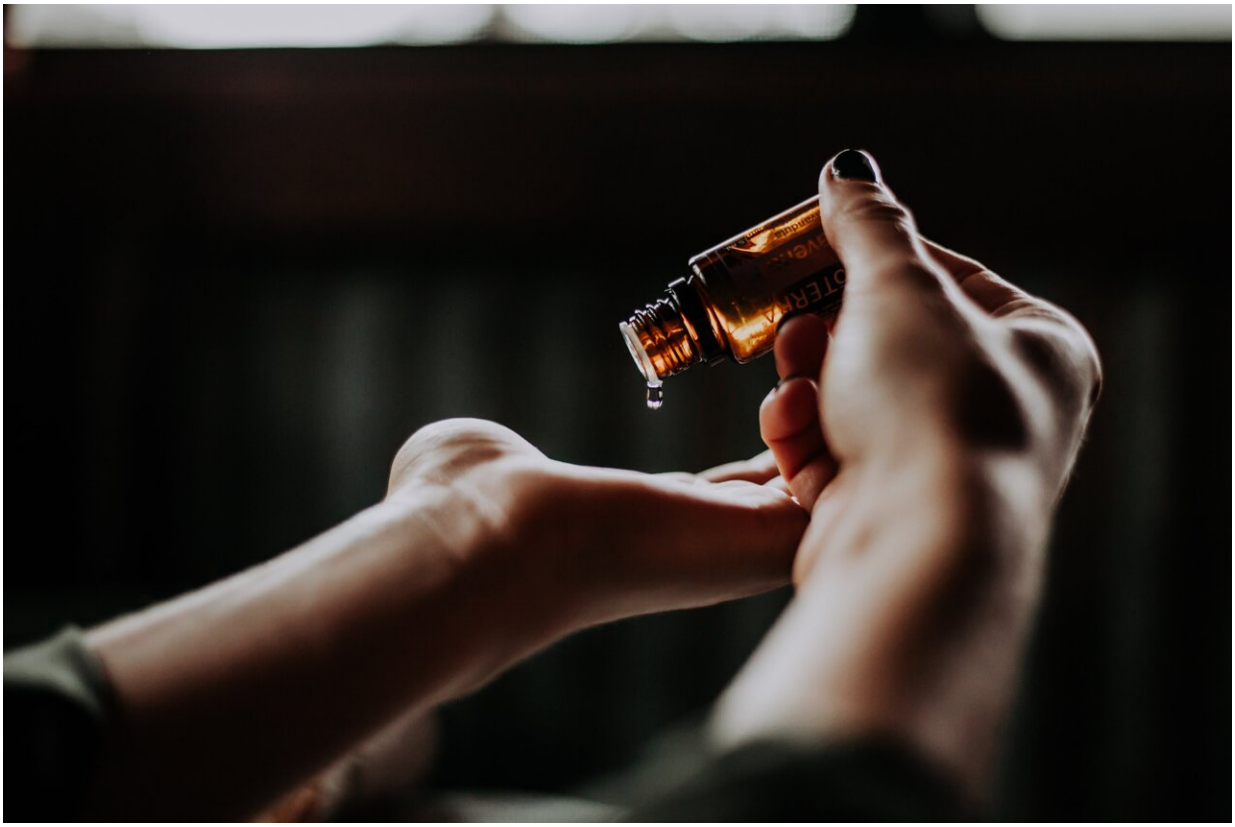

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New report offers a blueprint for prudent investments in technology, through which governments can create effective and fair health and education services.

Well-considered investments in digital technology can be transformational for health and education services across the developing world, but too often they fail to deliver impact at scale, according to research released today by the Oxford University-based Pathways for Prosperity Commission on Technology and Inclusive Development.

Melinda Gates, co-chair of the Pathways Commission, said: "Better health and education for young people—the twin engines of what economists call "human capital"—could drive the next phase of economic progress in developing countries, but only if governments design policies to ensure technology reaches the most marginalized communities."

The commission's new report, Positive disruption: health and education in a digital age, has found that silver bullet initiatives, focusing only on technological hardware, such as introducing laptops in classrooms, are often not effective beyond the initial pilot. This is usually due to policy makers adopting a piecemeal approach, which fails to consider the wider system in which the technology is being used.

However, the research finds that by looking at entire health and education systems, and deploying technology at strategic points, countries can provide health and education that works for all.

Professor Stefan Dercon, academic director of the Pathways Commission at the University of Oxford's Blavatnik School of Government, said: "Done right, digital investments can take advantage of technology's massive potential, but failing to harness these opportunities risks further excluding the poorest. Directing funds towards technologically-enhanced health and education systems and the right digital connectivity can unlock benefits that could be transformational for the way clinics and classrooms operate in the future."

The report highlights evidence from around the world where well-judged investments in technology are transforming health and education outcomes:

In Mali, a non-governmental organization called Muso contributed to a ten-fold decline in child mortality—by enabling health workers to proactively seek patients and deliver free care door-to-door. Since Muso deployed digitally enabled devices and a data dashboard, providing individual feedback on health-worker efficiency, it has seen a 10 percent increase in the number of houses visited per month.

In Uganda, the web-based application Mobile VRS has helped increase birth registration rates from 28 percent to 70 percent across the country, enabling decision makers to track health outcomes and improve access to services for these children.

In Kenya, school children's academic performance is lagging more than two years behind their actual grade. But, Tusome, a digitally-enabled literacy programme introduced by the Kenyan Ministry of Education, is now boosting outcomes, such that, if scaled, the country's learning gap could be closed. This initiative includes digitized teaching materials and teacher feedback mechanisms.

Professor Dercon said: "On average, children across sub-Saharan Africa spend approximately eight and a half years in the classroom but only effectively receive around four and a half years of learning. If Tusome's success in promoting literacy in Kenya were scaled up across the continent, it could mean that millions of children are no longer left behind. When technology is deployed thoughtfully and judicially, positive disruption on a large scale is entirely possible."

The Pathways Commission report offers four core principles to ensure funders and policymakers avoid the pitfalls of inappropriate adoption

and poor implementation of technology and chose solutions that will offer better health and education for all:

- Deploy technology only when it is the best solution for a specific, identified problem and when it will work within local political and cultural contexts
- Focus on hardware which provides the content, data and connections needed by end users. Hardware for hardware's sake is not a route to success.
- Don't harvest data without an end goal in mind. Instead, invest in frameworks which organize data so it can be used to inform decision-making, fuel positive feedback loops and enable personalized services
- Ensure the technology genuinely works for all by making deliberate efforts to tailor interventions to address the needs of those who the system is currently failing.

If technology is deployed strategically, the Commission concludes that there are 5 digitally-enhanced future visions which are realistically achievable for developing countries—where inequalities in health and education are minimized:

- Personalised learning and healthcare, which can be tailored towards the poorest and those left furthest behind
- Proactive, inclusive systems which bring technological resources to those that need them most
- Healthcare and education expertise being brought to remote areas via phones, video-link and virtual reality
- Teacher and healthcare roles redefined and enhanced by digital technologies, AI and automation of administrative tasks
- Health and education services continuously learning and improving via data-led feedback loops for decision-makers at every level.

More information: Positive disruption: health and education in a digital age: pathwayscommission.bsg.ox.ac.u … /positive-disruption

Provided by University of Oxford