Digital health transformation in the global NCD response

A call for unified approaches and scaled investment

Side event to the 78th World Health Assembly
Monday 19 May 2025

BACKGROUND

Digital health solutions and technologies are being developed and utilised at an accelerated pace worldwide. These solutions and technologies bring remarkable gains for public health and healthcare service delivery. However, despite the vast opportunities presented by digital health solutions, particularly concerning the prevention and management of non-communicable diseases (NCDs) such as diabetes, their full potential is yet to be realised in low-and middle-income countries (LMICs). Among the major challenges hindering progress are the fragmentation of systems, inadequate digital public infrastructure, and a lack of sustainable resourcing and investment mechanisms.

On 19 May 2025, the International Diabetes Federation (IDF) and the World Diabetes Foundation (WDF) co-hosted this leading stakeholder side event to discuss progress, present LMIC perspectives, and coordinate a sustainable path using digital transformation to advance the global NCD response.

OVERVIEW

Prof Peter Schwarz, IDF President, and Mr Bent Lautrup-Nielsen, WDF Head of Global Advocacy, co-hosted the event with a lineup of expert speakers (by order of intervention):

- Dr Farshad Farzadfar, Scientist, World Health Organization.
- Mr Michael Frost, Senior Advisor, Health Information Systems Programme (HISP), University of Oslo.
- Dr Jackie Maalouf, IDF Vice-President and President of DiaLeb.
- Ms Nupur Lalvani, IDF Blue Circle Voice member from India and founder of Blue Circle Foundation
- Ms Jacklynne Ogutu, WDF Head of Digital Health Solutions.
- Dr Elizabeth Onyango, Head of NCD Prevention and Control Unit, Kenya Ministry of Health.
- Dr Omary Ubuguyu, Assistant Director, Non-communicable Diseases, Tanzania Ministry of Health.
- Dr Champika Wickramasinghe, Deputy Director General MoH NCD Sri Lanka.
- Dr Derrick Muneene, Unit Head of Capacity Building and Partnerships, Digital Health and Innovation Department, WHO.
- Ms Sanne Frost Helt, Senior Director Policy and Partnerships, WDF.

Over 80 people attended in person, over 2,100 registered for the live stream, and 837 unique viewers watched live. Within three weeks, the event recording had over 300 views on YouTube.

Watch the recording

HIGHLIGHTS FROM THE OPENING REMARKS

Mr Bent Lautrup-Nielsen, WDF Head of Global Advocacy.

Mr Lautrup-Nielsen opened the side event. He underscored the critical moment of the event in view of the upcoming fourth UN high-level meeting on NCDs and the importance of leveraging technology for NCD prevention and control. Just ahead of the World Health Assembly, the zero draft of the high-level meeting political declaration was released. Notably, Mr Lautrup-Nielsen stressed, item 39 of the draft emphasises the role of technology and innovation, and how digital health tools and assistive technologies are key towards preventing and managing NCDs and mental health conditions.

He added that interventions from global agencies and country representatives as outlined at the event are essential to understand what real-time and concrete implementation actually means when seeking to harness technology and innovation in the fight against NCDs.

Prof Peter Schwarz, IDF President.

Professor Schwarz highlighted the transformative potential of digital health in responding to noncommunicable diseases (NCDs). He described the current moment as a “disruptive change” in how healthcare is delivered, diseases are diagnosed, and access to care is expanded – largely due to digitalisation and technological innovation. Professor Schwarz urged participants not to see digital health merely as a new channel for delivering services but as a way to be “in the pocket” of people living with diabetes and other NCDs through ubiquitous tools like smartphones.

He called for the strategic use of digital tools, including artificial intelligence, to diagnose earlier, intervene sooner, and ultimately improve the quality of care. Framing digital health as the most promising area of innovation discussed during the World Health Assembly week, he encouraged governments and relevant organisations to leverage global best practices and frameworks to shift the NCD response from late-stage treatment to proactive, patient-centred care.

HIGHLIGHTS FROM PANEL 1:
DIGITAL HEALTH TRANSFORMATION IN THE GLOBAL NCD RESPONSE

Dr Farshad Farzadfar, Scientist, World Health Organization.

Dr Farzadfar presented the WHO's work on digital health, highlighting the main challenge as a fragmented and weak data system in the face of the growing NCD burden.
One of WHO's core actions is strengthening NCD Routine Health Information Systems (RHIS) by developing norms and standards, tools and techniques, and support for implementation, monitoring, and evaluation.
WHO has introduced a monitoring framework at the facility level using predefined indicators to track medicine and technology availability, service accessibility, and performance.

At a broader level, the Global Monitoring Framework addresses system determinants, service delivery, risk reduction, and health outcomes at the population level.
WHO has also developed digital tools to operationalise these frameworks.
A key example is the DHIS2 (District Health Information Software 2) tracker, an open-source tool created in collaboration with the University of Oslo, which allows patient- and facility-level monitoring. Due to streamlined indicators, patient updates take less than 30 seconds. Additional tools include a digital cardiovascular risk scoring system, an emergency data collection platform, and an action plan dashboard that benchmarks facility performance against national targets.
Implementation support includes advocacy, RHIS (Routine Health Information System) data analysis, usability testing with healthcare professionals, technical assistance for national frameworks, and evaluation through different initiatives. Future developments include integrating Patient Reported Outcome Measures (PROMs) to assess better the availability of medicines and technology at the household level.

Mr Michael Frost, Senior Advisor, Health Information Systems Programme (HISP), University of Oslo.

Mr Frost presented the requirements to build a long-lasting national digital system for NCDs. He emphasised the importance of local ownership, adaptability, and integration into routine health services. **DHIS2, an open-source platform developed by the University of Oslo, is now the world's most extensive health management information system and is deployed nationally in over 70 countries.** Its flexibility — being usable beyond health — contributes to its long-term sustainability. The University of Oslo works closely with countries to support the implementation and adaptation of DHIS2. As part of this approach, it has helped build a global network of locally owned and operated groups affiliated with the platform's development and the HISP Centre.

Beyond this, the University has developed a strong DHIS2 community and an academy system that has trained between 60,000 and 70,000 IT professionals. The goal is to ensure that countries can access services locally, without having to rely on external consultants from Norway, the US, or Europe.

Country examples include hypertension control in Nigeria, diabetes-related surgical follow-up in the Solomon Islands, a cancer registry in Rwanda, and cardiovascular disease management across the Americas in partnership with PAHO.

Mr Frost concluded that digital systems must meet reporting requirements and provide real, practical value to the end user — such as supporting clinical decision-making and workflow — if they are to be embraced and sustained over time.

Dr Jackie Maalouf, IDF Vice-President and President of DiaLeb.

Dr Maalouf spoke both as Vice-President of the International Diabetes Federation (IDF) and as a mother of a person living with type 1 diabetes.

She outlined IDF's evolution over the past 75 years alongside technological advances, from the first Standards of Education in the 1990s to global guidelines in the 2000s and the launch of the IDF School of Diabetes in the 2010s. With over 100,000 users, the IDF School is undergoing a major revamp to serve healthcare professionals better.

Dr Maalouf emphasised that digital health tools must be people-centred, inclusive and equitable. Despite progress, many barriers remain, including limited access to devices and connectivity in low-resourced areas and a lack of investment in building the digital capacity of the health workforce.

To help overcome these challenges, IDF positions itself as a facilitator of digital innovation in diabetology. Dr Maalouf called on all stakeholders to invest in digital health literacy, scale up successful models like the School of Diabetes, and develop inclusive policies integrating AI while protecting privacy. She also stressed the importance of fostering cross-sectoral partnerships to enhance interoperability and ensure that NCDs are embedded in all digital health strategies.

THE LIVED EXPERIENCE PERSPECTIVE: THE IMPORTANCE OF DIGITAL SOLUTIONS TO IMPROVE THE LIVES OF PEOPLE LIVING WITH DIABETES AND OTHER NCDs

Ms Nupur Lalvani, IDF Blue Circle Voice member from India and founder of Blue Circle Foundation.

Ms Lalvani explained the funding challenges most low- and middle-income countries encounter. Numerous priorities make responding to different needs and allocating resources difficult. In this instance, the scalability and affordability of digital interventions can make a meaningful difference.

She shared a personal experience from India to illustrate how digital health tools can support people with diabetes meaningfully. Her organisation, the Blue Circle Foundation, runs programmes for underserved communities, providing financial assistance and offering ongoing support to people with diabetes and their families through ongoing support.

In one instance, the Foundation created a WhatsApp group for the family of a five-year-old recently diagnosed with type 1 diabetes. The team discovered the child's parents were illiterate when they did not reply to messages. In response, the Foundation began sending voice messages instead. This simple shift led to better communication with the parents and improvements in the child's diabetes self-management. These minor but thoughtful adaptations can empower people with diabetes and their caregivers to navigate challenges and achieve better health outcomes.

Social media is also a powerful tool for people to stay connected, share experiences, and learn from one another. Five years ago, the Blue Circle Foundation launched the Blue Circle Diabetes app — created by and for people with diabetes. What began as a small initiative has grown significantly, with over one million glucose-related records logged in the app each month.

The success of digital health tools — and indeed, of any health policy — depends on the meaningful involvement of people living with the condition. It is not optional; it is essential.

HIGHLIGHTS FROM PANEL 2: DIGITAL HEALTH SOLUTIONS IN PRACTICE

Ms Jacklynne Ogutu, WDF Head of Digital Health Solutions.

Ms Ogutu opened the panel by underscoring the urgent need to address the growing burden of NCDs, particularly in low- and middle-income countries (LMICs), where 80% of people with diabetes reside and over 60% remain undiagnosed. She highlighted WDF's partnerships with countries like Tanzania, Kenya, and Sri Lanka. She noted that these are not pilot experiments but proven, locally led digital solutions ready for scale.
Ms Ogutu identified fragmentation, infrastructural inequality and misaligned investment as the top barriers to progress.

She praised global frameworks like WHO's SMART guidelines and digital adaptation kits. **Still, she emphasised that frameworks alone cannot drive change. Instead, transformation requires coordination, investment in interoperable systems, and a commitment to ethical, inclusive digital health.** She concluded by affirming that digital health is not a luxury — it is a lifeline, particularly for people in resource-limited settings.

Dr Elizabeth Onyango, Head of NCD Prevention and Control Unit, Kenya Ministry of Health.

Dr Elizabeth Onyango presented Kenya's transition from a fragmented digital landscape to an integrated system through the Digital Health Superhighway, Taifa Care.
She described how recent legislation, including the Digital Health Act and the Data Protection Act, helped create an enabling environment for digital health solutions. **Kenya's community health information system, which equips health promoters with smartphones, now collects real-time data on diabetes and hypertension.**

Dr Onyango shared the development of SPICE, a patient-level system that has improved NCD data visibility, forecasting, and patient management, with integration into national DHIS2 platforms. Despite this progress, challenges remain, including infrastructure limitations, digital literacy gaps among healthcare workers, and resistance to transitioning from legacy systems. She emphasised the need for sustainable financing and wider adoption to ensure digital solutions translate into better patient outcomes.

Dr Omary Ubuguyu, Assistant Director, Non-communicable Diseases, Tanzania Ministry of Health.

Dr Ubuguyu presented Tanzania's digital health journey as transforming from paper-based records and fragmented systems to a more unified digital infrastructure. Historically, the NCD response in Tanzania lagged behind better-funded programmes like HIV and malaria. **But this began to change with national support for digital health and partnerships such as the Diabetes Compass project with WDF. Initially intended for a limited number of facilities, the project has now expanded to over 5,000 sites.**
Dr Ubuguyu highlighted the use of artificial intelligence to support clinical decision-making, for example by flagging critical values like dangerously high blood glucose.

He noted challenges such as weak platform interoperability, pressure from donor-driven vertical systems, and a lack of standardised patient records. Nevertheless, Tanzania is making significant strides by building on existing health infrastructure and prioritising integration across programmes and levels of care.

Dr Champika Wickramasinghe, Deputy Director General MoH NCD Sri Lanka.

Dr Wickramasinghe presented the country's progress in digital health transformation to improve noncommunicable disease (NCD) outcomes.
Sri Lanka has committed to global targets, including a 25% reduction in premature NCD deaths. Screening is conducted annually for 25% of adults over 35 to achieve 50% effective management of hypertension and diabetes, supported by 24/7 access to essential NCD medicines.
The digital transformation began a decade ago, focusing first on developing ethical standards, guidelines and institutional capacity, including training medical officers and health informatics consultants in Sri Lanka and abroad (including in DHIS2).

The digital transformation began a decade ago, focusing first on developing ethical standards, guidelines and institutional capacity, including training medical officers and health informatics consultants in Sri Lanka and abroad (including in DHIS2). A major challenge was fragmentation due to inconsistent institutional ID systems. This was addressed by introducing a unified health institution identifier and personal health number.
The country now operates under a national digital health blueprint to ensure coherence, avoid duplication, and integrate various systems — many funded by global partners — into a single platform. **Through initiatives like the Diabetes Compass, digital tools are being used, from screening to diagnosis to follow-up, feeding into DHIS2 dashboards. This process enables real-time analytics, supports task-shifting to frontline workers, and informs policy decisions.** Despite strong political will and foundational systems, existing barriers include economic constraints, infrastructure gaps, digital literacy and health worker migration.

HIGHLIGHTS FROM THE CLOSING REMARKS

Dr Derrick Muneene, Unit Head of Capacity Building and Partnerships, Digital Health and Innovation Department, WHO.

Dr Muneene delivered closing remarks reaffirming WHO's leadership in supporting digital health transformation. He presented initiatives like SMART guidelines, digital adaptation kits, and the Global Initiative on Digital Health, which aim to guide national strategies from a global vision to local implementation.
Dr Muneene noted the importance of addressing privacy and equity in digital health design, citing the development of ethical standards and governance frameworks for emerging technologies such as artificial intelligence (AI).
He called for more substantial country ownership, ethical AI integration, and long-term sustainability in digital health systems, reinforcing that people, not systems, must remain at the centre of innovation.

Ms Sanne Frost Helt, Senior Director Policy and Partnerships, WDF.

Ms Sanne Frost Helt closed the event by acknowledging the significant progress made by country partners. **She emphasised the importance of maintaining momentum as we approach the 2025 UN High-Level Meeting on NCDs.**
She reflected on the promise and challenges of digital health transformation, underscoring that while it holds immense potential for improving health outcomes, success hinges on overcoming technical complexities, fostering collaboration, and tailoring solutions to local contexts. Thanking all speakers, partners, and attendees, she reaffirmed WDF's readiness to drive collective action for improved NCD care.

FEEDBACK FROM ATTENDEES

Thirty-three (33) people responded to the feedback questionnaire. Seven (7) were in Geneva, while twenty-six (26) attended online.

Most respondents (17) said they most appreciated the interaction between presenters and speakers, followed by the country case studies (9), the panellists' contributions (6), and the live streaming option (1).

Respondents rated the event's dynamism at 8.8 out of 10, its level of interest at 8.9, and the overall experience also at 8.9.

Respondents suggested the following topics for future IDF-WDF events: addressing diabetes-related stigma in low-income countries, digital health and diabetes care, treatment and complication management in type 2 diabetes, diabetes prevention, and the impact of diabetes on caregivers.

"As a South African, exploring the use of digital tools for health is important because most people in my country have a cell phone, including in rural areas. The only limitation may be sufficient access to internet, which the country is working on".

"Please keep on sharing country cases in these events".

"Event attendees should be provided with a certificate".

"Interpretation in other languages such as French would be appreciated".