

changing
diabetes®
in children

Terry Mwende
Terry lives with type 1 diabetes
Kenya

Changing Diabetes® in Children

Programme review

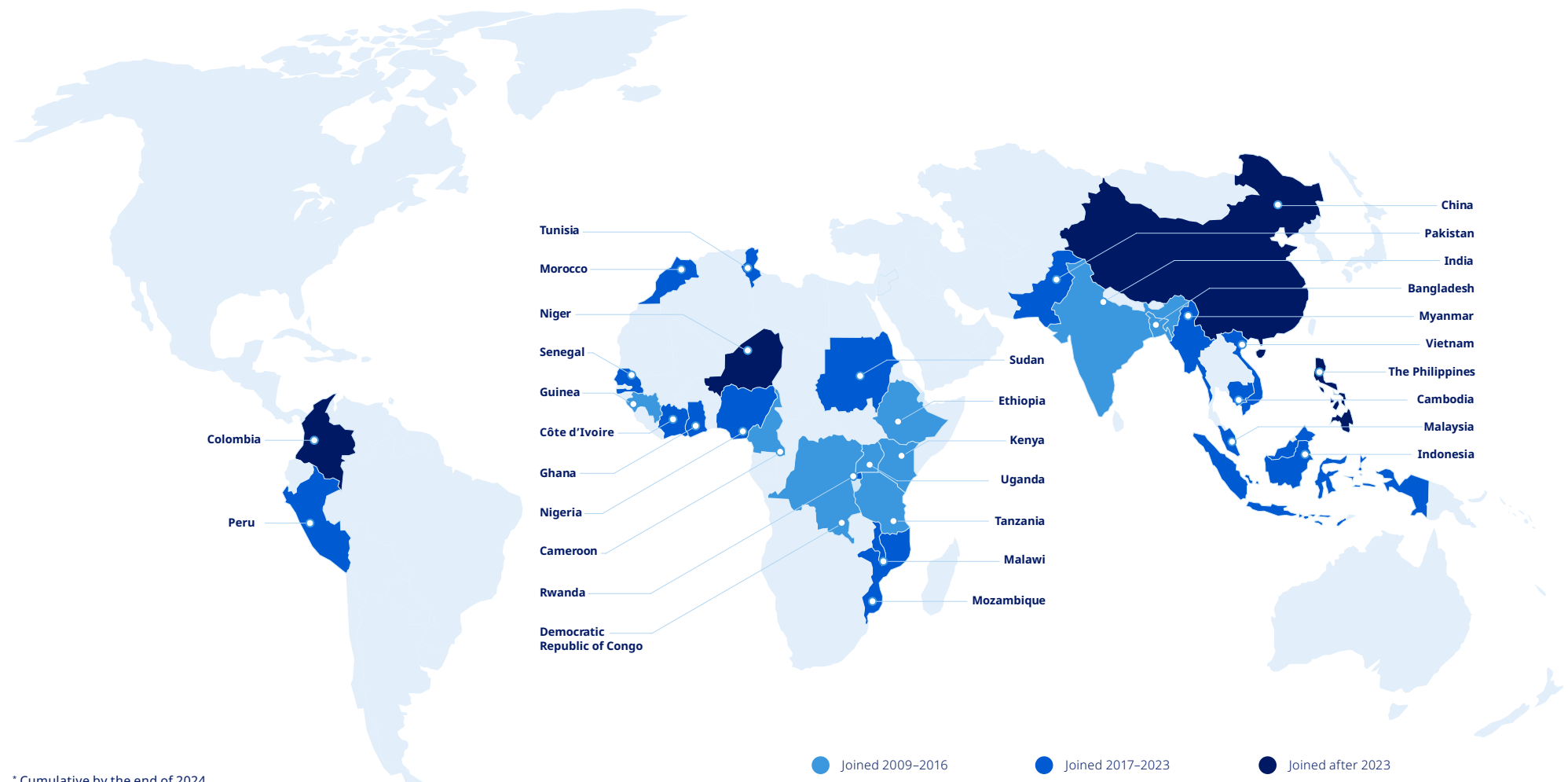
A 15-year review of the Changing Diabetes®
in Children programme, exploring its evolution,
impact and key learnings

2009–2024



A journey to transform type 1 diabetes care in low-resource settings

For 15 years, Changing Diabetes® in Children has worked with the aim that no child should die from diabetes. What began as a small pilot in a few countries has evolved into a global partnership, reaching over 64,000* children and young people across 30 countries.



* Cumulative by the end of 2024.



Introduction

Programme evolution

Impact

Key learnings

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Valentino Hernández Diéguez
Valentino lives with type 1 diabetes
Peru



Baydaj Adnan
Baydaj lives with type 1 diabetes
Pakistan



Muhammad Nabhan
Muhammad lives with type 1 diabetes
Indonesia

Foreword

Fifteen years ago, Novo Nordisk set out on a journey with a simple but powerful ambition: that no child should die from diabetes. In many parts of the world, a diagnosis of type 1 diabetes can still mean life or death – not because treatment does not exist, but because children cannot access it.

In 2009, the Changing Diabetes® in Children programme was launched to help close this gap. What began as a small pilot has grown into a global partnership spanning 30 countries, reaching over 64,000* children and young people who might otherwise have gone without care. The programme is now on track to meet its goal of reaching 100,000 children by 2030. Together with our partners, we have shown that it is possible to build systems for type 1 diabetes care in low- and middle-income countries (LMICs), including efforts to bring insulin, monitoring tools, education and trained healthcare professionals closer to where children live.

This progress is the result of dedication and collaboration. Ministries of health, local clinics, global organisations, healthcare professionals and community leaders have come together around a shared vision of health equity. Their work has not only saved lives but created hope and opportunity for children and families.

Despite these advances, the challenge is growing. The number of children diagnosed with type 1 diabetes continues to rise, especially in low-resource settings. That is why we are entering a new phase of the programme, harnessing digital innovation and data-driven insights to support sustainable integration into national health systems and ensure that care reaches every child who needs it.

To everyone who has been part of this journey: thank you. Your commitment has changed lives and laid the foundation for a future where every child with type 1 diabetes can access the care they need, no matter where they are born.



Elin Jäger

Senior Vice President,
Chief of Staff and Head of CEO Office,
Corporate Strategy & Sustainability,
Novo Nordisk

Introduction

Type 1 diabetes is a serious chronic condition affecting more than 1.8 million children and young people globally.¹

In LMICs, limited access to insulin and essential supplies continues to drive higher mortality rates and deepen health inequities. In some regions, life expectancy after diagnosis remains dramatically lower than in high-income countries – a reflection of systemic gaps in care.¹

“A study done by one of our colleagues in 2005 showed that a child under the age of 14 diagnosed with type 1 diabetes in rural Mozambique had a life expectancy of less than one year, on average, just 0.6 years,² compared to about 60 years in Norway or Finland. **We used to say that where you’re born determines how long you live with type 1 diabetes.** We said we must change this.”

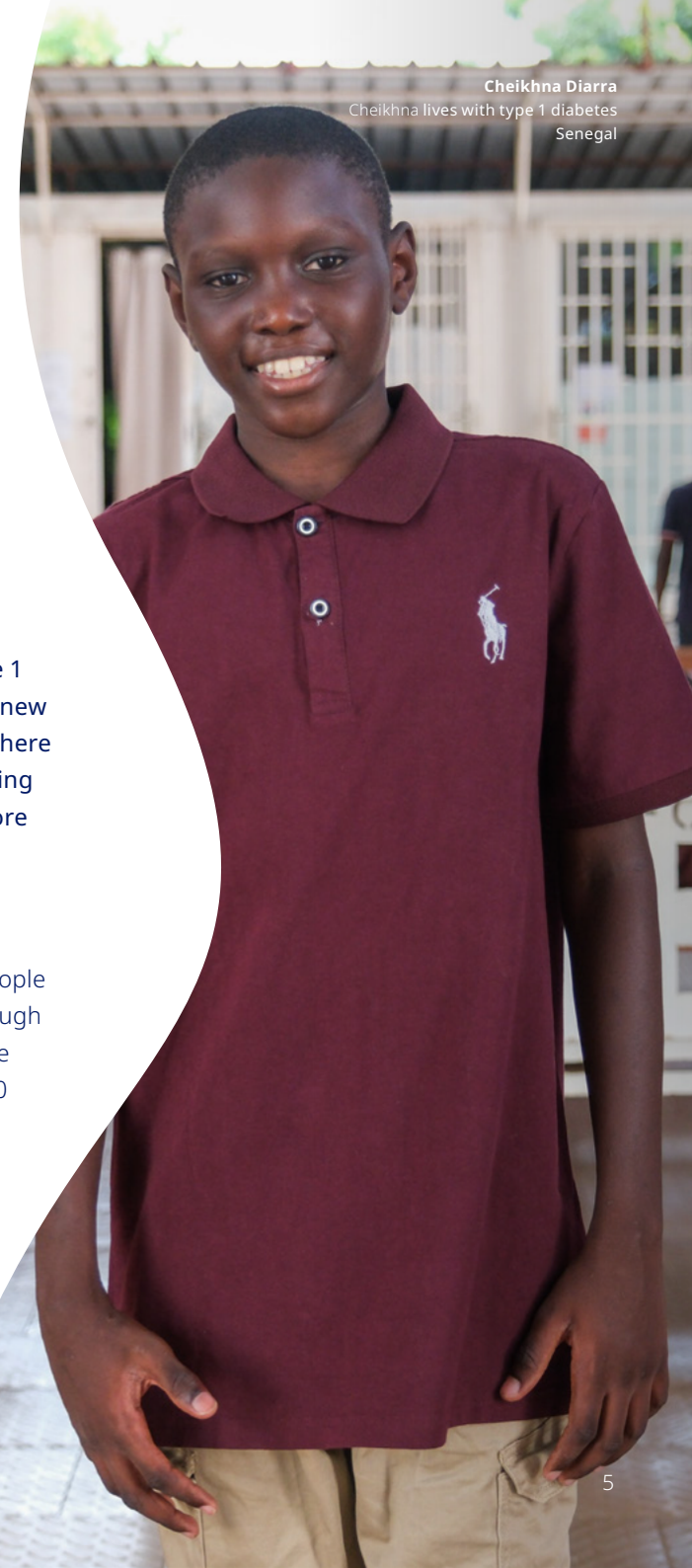
Prof Silver Bahendeka, Professor of Medicine and Endocrinology, Uganda Martyrs University; Senior Consultant Physician, Diabetes and Endocrinology, St. Francis Hospital, Uganda

Despite these challenges, there is a clear opportunity to change outcomes. With timely diagnosis, education and consistent support, children and young people with type 1 diabetes can live healthy, fulfilling lives. By 2050, 85% of new type 1 diabetes cases are expected to occur in LMICs,³ where health system resources and reliable data are often lacking – making the need for sustainable, scalable solutions more urgent than ever.

“**We started at a time when there was nothing:** people didn’t survive with type 1 diabetes. We didn’t have enough funds for insulin, monitoring or investigations. We were constantly struggling. I didn’t know where the next 100 children’s supplies would come from.”

Dr Archana Sarda, Diabetologist and Founder, Udaan, India

Cheikhna Diarra
Cheikhna lives with type 1 diabetes
Senegal



A public-private partnership

In response to these challenges, Novo Nordisk launched the Changing Diabetes® in Children programme in 2009.

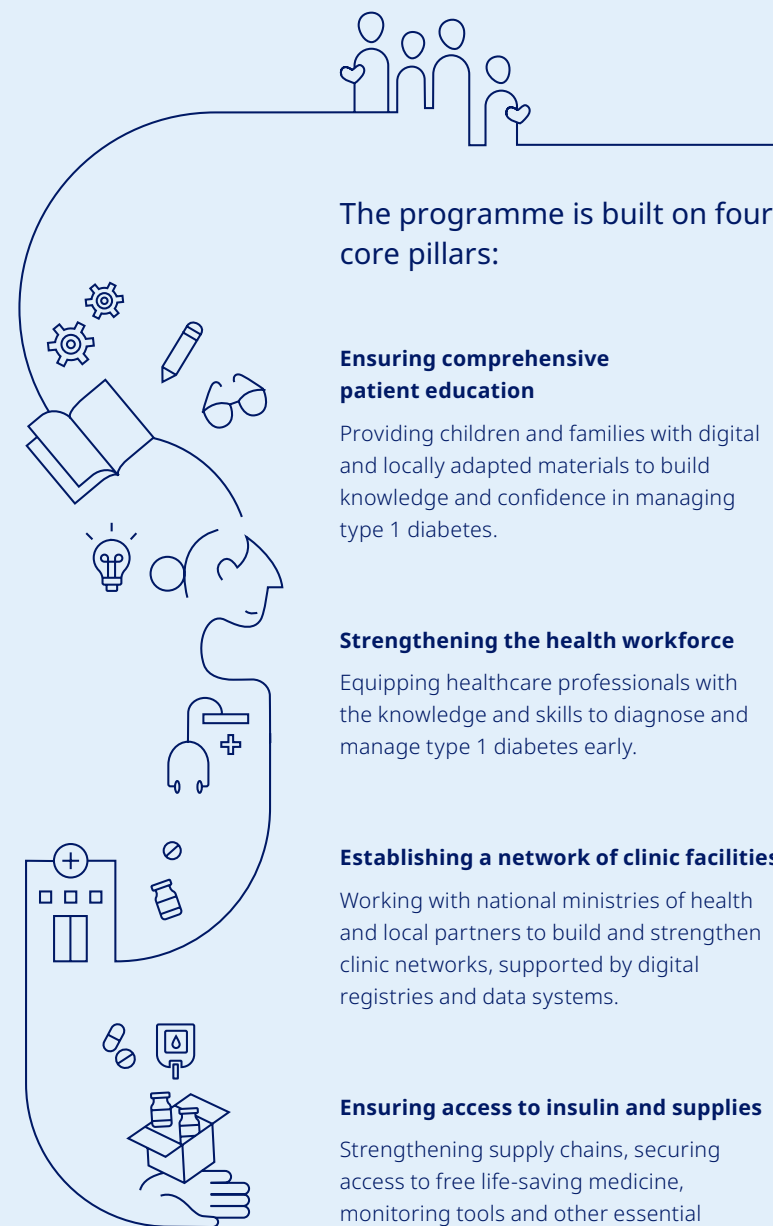
The programme was designed to improve access to care for children and young people living with type 1 diabetes in resource-limited settings, with a clear ambition:

that no child should die from diabetes.

“Changing Diabetes® in Children has shown the power of partnerships in creating impactful, replicable models of care. **By working together, we help strengthen health systems and expand access to care, contributing to healthier societies worldwide.**”

Roberto Rigobello, Vice President, Social Responsibility, Novo Nordisk

At the heart of this programme is a strong public-private partnership, bringing together global partners – Roche Diagnostics, the International Society for Pediatric and Adolescent Diabetes (ISPAD) and the World Diabetes Foundation (WDF) – alongside national ministries of health, hospitals, diabetes associations and academic partners, including Harvard University. This collaboration combines expertise, resources and local knowledge to provide comprehensive and sustainable diabetes care.



Bilguissa's journey with type 1 diabetes

When Bilguissa Balde was diagnosed with type 1 diabetes at the age of six, managing the condition in Guinea was a daily struggle. Insulin was often out of stock, monitoring supplies were unavailable, and her family could only seek emergency care if they could afford it. Even doctors had little experience of treating children, and periods without insulin left her gravely ill, sometimes in a coma.

Everything changed in 2009, when she became one of the first children enrolled in the Changing Diabetes® in Children programme in Conakry. For the first time, she received insulin and monitoring supplies regularly and free of charge. She learned how to measure her blood sugar and understand the results, giving her control and stability.

“Receiving insulin for free was a huge deal. I used to think only older people got diabetes, but seeing kids like me living with it gave me courage. When I run out, I just go back to the hospital. **It's been a source of hope and has literally saved lives.** Now, we know we can survive.”

Bilguissa Balde, Guinea

As the programme expanded, it created new clinics, trained health professionals and built a community of young people with diabetes. Inspired, Bilguissa began peer education and advocacy. Today, she is a nutritionist and mentor, showing others that a full, healthy life is possible with diabetes.





Programme evolution

Since its launch in 2009, Changing Diabetes® in Children has evolved from a hub-and-spoke pilot into a global programme built on public-private partnerships. It is now entering a new phase focused on digital innovation and the integration of type 1 diabetes into the national health system.

Pilot: 2009–2016

Testing a viable approach to type 1 diabetes care in LMICs

9 countries
150 clinics
14,650 children

Cumulative by the end of 2016.

Scale: 2017–2023

Reaching more children in more countries

20 countries
500 clinics
52,250 children

Cumulative by the end of 2023.

Transform: 2024–2030

Innovating global solutions for type 1 diabetes in low-resource settings

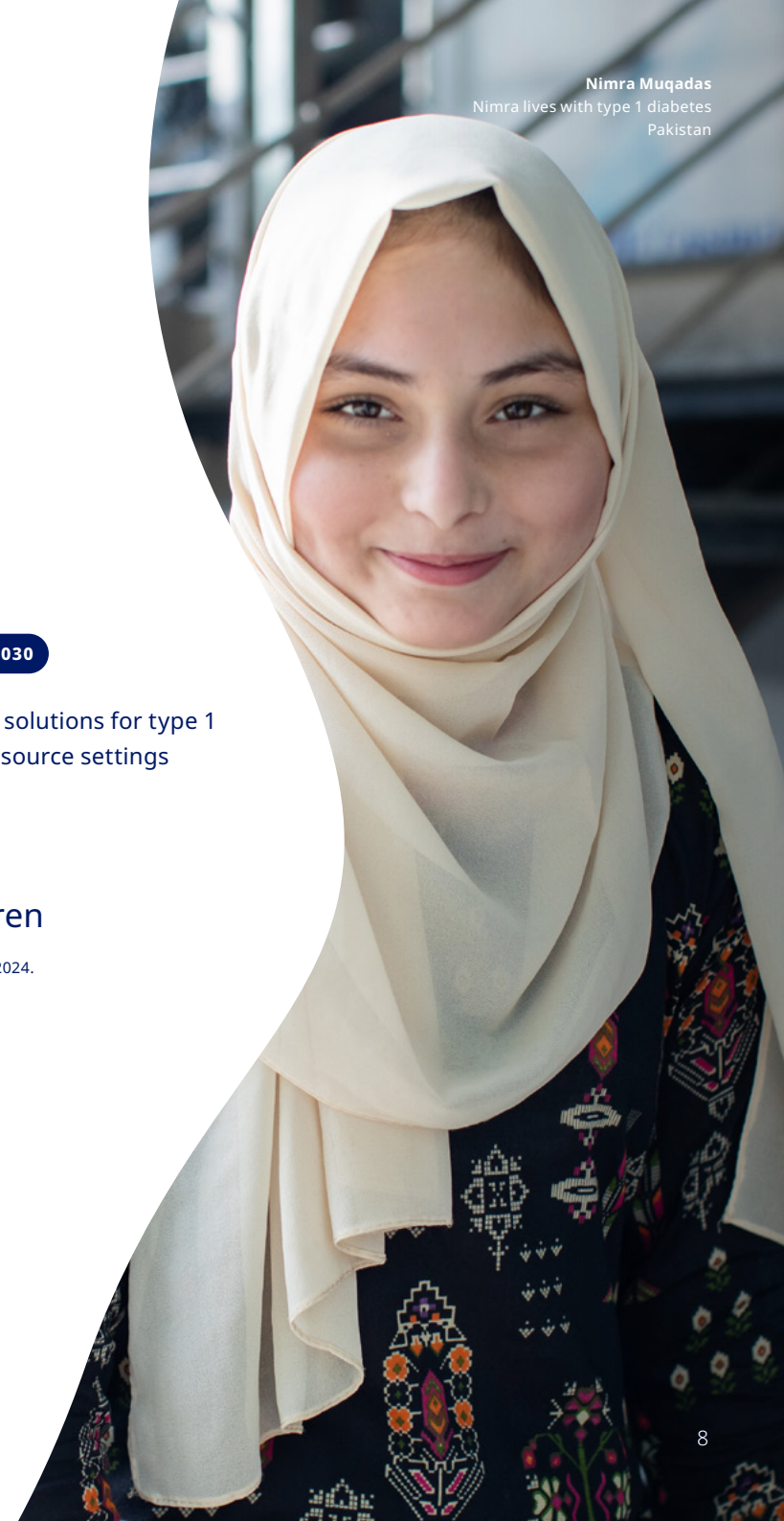
30 countries
700 clinics
64,740 children

Cumulative by the end of 2024.

“For ISPAD, one of the greatest impacts is the reach: **the exponential growth in the number of children cared for and the number of countries involved.** I’m not sure that without this partnership, we could reach so many children and countries so rapidly and fulfill our mission.”

Sylvia Lion, Corporate Relations Advisor, International Society for Pediatric and Adolescent Diabetes

Nimra Muqadas
Nimra lives with type 1 diabetes
Pakistan



Impact

Over 15 years, Changing Diabetes® in Children has shown that type 1 diabetes care is possible in low-resource settings, helping to strengthen local capacity, empower children through education, integrate digital solutions and inspire policy change.

Reaching children with life-saving care

Since its launch, Changing Diabetes® in Children has reached **over 64,000* children across 30 countries** – many in rural and underserved areas who previously had no access to insulin, monitoring supplies or diagnostic tools. By making these essentials reliably available, the programme has enabled children to receive consistent, life-saving care, reducing stress and uncertainty for children, families and healthcare professionals and giving them hope for the first time.

This impact represents more than service delivery – it has reshaped what is considered possible for chronic disease care in LMICs. In many countries, the programme helped establish the first structured services for children with type 1 diabetes, often integrated into national health systems, and provided a model for comprehensive type 1 diabetes care in LMICs.

“These children might not have been alive without this programme; it’s very impactful. Its continued impact reflects the shared commitment of all local and global partners to make care possible.”

Leif Fenger Jensen, Managing Director,
World Diabetes Foundation



64,000+

children reached with comprehensive care*



700+

clinics established or refurbished†



28,000+

healthcare professionals trained†



200,000+

patient education sessions delivered†



16,000+

children participated in diabetes camps†

* Cumulative by the end of 2024.

* Cumulative by the end of 2024.

† Cumulative by the end of Q3 2025.

Education for empowerment

Education is central to Changing Diabetes® in Children. Children and young people with type 1 diabetes, along with their families, are responsible for managing over 95% of their care. Without clear guidance and support, safe and effective self-management is not possible.^{4,5}

Changing Diabetes® in Children has delivered over **200,000 patient education sessions** and supported more than **16,000 children** through diabetes camps. These efforts have helped children and their caregivers understand their condition, learn how to monitor blood glucose, adjust insulin, and respond to illness or physical activity. In many countries, Changing Diabetes® in Children introduced structured education for the first time, helping to build confidence and reduce stigma.

Educational materials have been adapted to local languages and contexts. In recent years, Changing Diabetes® in Children has expanded its digital tools, including the **Diabetes Besties** animated series, which is used across multiple countries and has helped reach children in remote areas. In addition, the AI-based WhatsApp chatbot **T1D Bot** beta version has been developed, providing free, accessible guidance for children and families.

“Even with the best insulin, without education the impact is limited. **Changing Diabetes® in Children’s strong focus on education and lived experience has been just as important as ensuring insulin supply** – together, these pillars have made the programme stronger.”

Dr Archana Sarda, Diabetologist and Founder, Udaan, India

“**Education is the cornerstone of type 1 diabetes care.** With proper follow-up and counselling, significant improvements in clinical outcomes and quality of life can be achieved, even in low-resource settings.”

Dr Bedowra Zabeen, Consultant Paediatric Endocrinologist and Director, BADAS-PDRC, BIRDEM, Diabetic Association of Bangladesh



Diabetes Besties

In 2022, Changing Diabetes® in Children launched Diabetes Besties to address the lack of patient education materials for children living with type 1 diabetes. The animated series follows Betty as she manages her condition while going to school and playing with her friends.

Since its launch, Diabetes Besties has been viewed more than 200,000 times and is now available in over 20 languages, helping children around the world to learn about diabetes management in an engaging way. Providing accessible, visual and audio-based materials supports children and their families to understand and manage type 1 diabetes effectively.



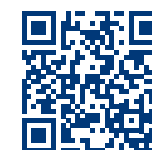
[Explore the episodes](#) →



Type 1 diabetes chatbot

The Changing Diabetes® in Children type 1 diabetes demo chatbot is a free and accessible resource for evidence-based information on type 1 diabetes. Powered by generative AI and large language models, the chatbot provides conversational, child-friendly guidance, bringing patient education closer to children living with type 1 diabetes as well as their families and healthcare professionals.

The chatbot aims to enhance global understanding of type 1 diabetes by leveraging open-source technology and gathering real-world data.



[Access the demo bot on WhatsApp \(+41 772835540\)](#)

Strengthening local capacity

Type 1 diabetes disproportionately affects children in LMICs, where limited access to insulin, trained healthcare professionals and specialised care worsens health inequities. Families often travel long distances to hospitals that lack the infrastructure or staff to manage chronic conditions in children.⁶

Changing Diabetes® in Children works with local ministries of health and partners to strengthen local capacity and increase equitable access to care by training healthcare professionals and establishing accessible clinic networks.

Over the past 15 years, the programme has trained more than **28,000 healthcare professionals** in paediatric diabetes care. Changing Diabetes® in Children collaborates with ISPAD and WDF to develop accessible training materials tailored to paediatric type 1 diabetes care, introducing structured protocols and supporting peer learning.

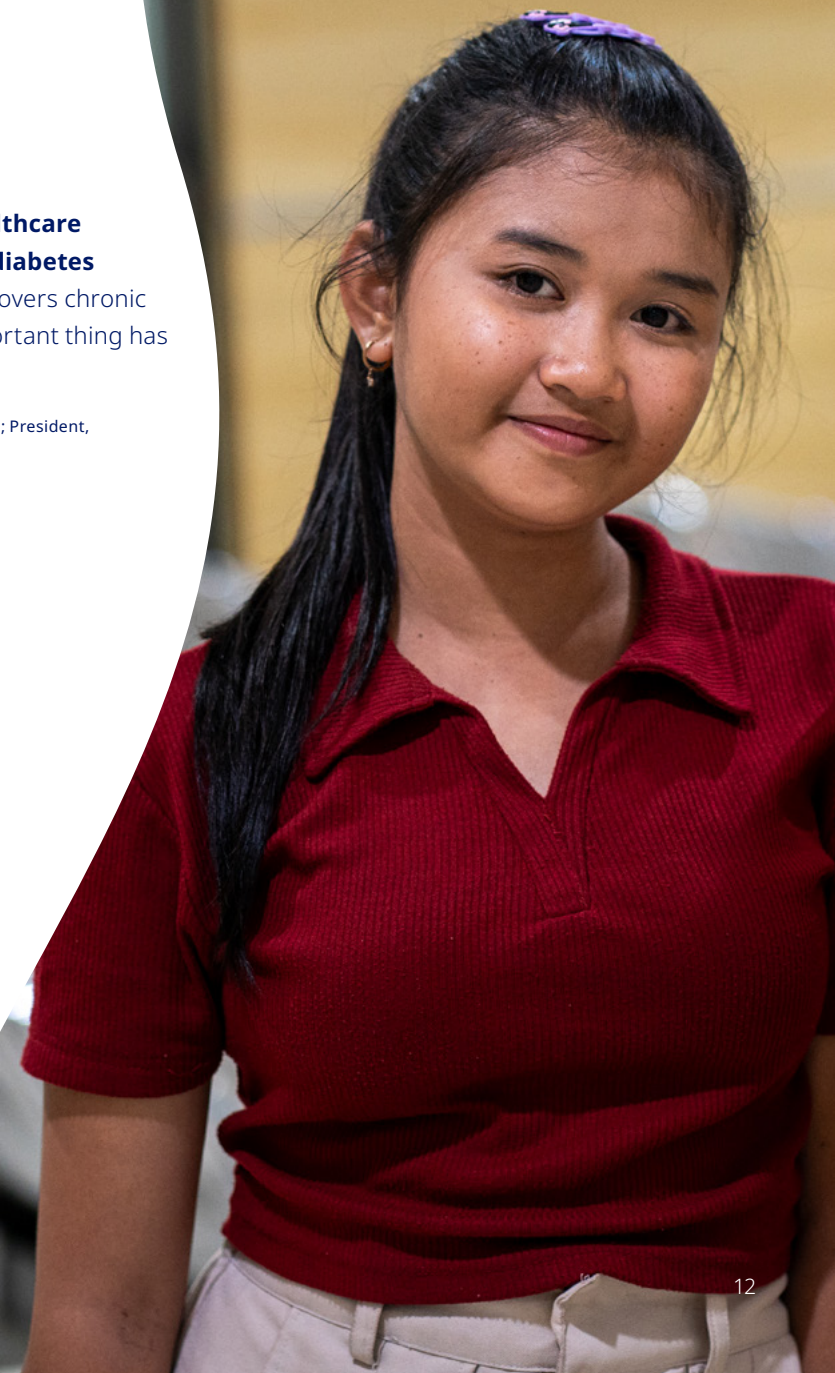
The programme has also supported the establishment or refurbishment of over **700 clinics**. These decentralised facilities bring specialised care closer to where children live and provide regular check-ups, insulin, monitoring tools and patient education – often for the first time.

“Believe it or not, **many doctors and healthcare professionals didn’t know that type 1 diabetes existed**, because medical training rarely covers chronic diseases like this. So, I think the most important thing has been the training of the healthcare team.”

Segundo Seclén, Endocrinologist, Clínica Médica Primavera; President, Association of Juvenile Diabetes, Peru

“Healthcare professional development is another major achievement. **Without a skilled team, you can’t achieve your goals**. Through the Changing Diabetes® in Children programme, we have successfully trained nearly 2,000 healthcare professionals in Bangladesh to date.”

Dr Bedowra Zabeen, Consultant Paediatric Endocrinologist and Director, BADAS-PDRC, BIRDEM, Diabetic Association of Bangladesh



Advancing access to data

Reliable data is essential for improving and shaping effective policies for children with type 1 diabetes. In many low-resource settings, data on incidence, outcomes and service coverage have historically been fragmented or unavailable, making it difficult to plan services, advocate for resources and monitor progress.^{3,7}

“We couldn’t accurately measure type 1 diabetes incidence, and **a modelling study suggested nearly half of cases might be missed.** To expand access, we need to know who is affected and ensure patients receive high-quality care, measuring every step of the care pathway to make it effective, efficient, responsive and equitable.”

Prof Rifat Atun, Professor of Global Health Systems and Director of The Health System Innovation Lab, Harvard University

Changing Diabetes® in Children is helping to close this gap by supporting the development of national **digital patient registries** and generating real-world evidence through the **first global cohort study** on paediatric type 1 diabetes, in collaboration with Harvard University.

These initiatives help improve the visibility of the paediatric diabetes population and strengthen national data systems. In several countries, registries have been integrated into the national digital infrastructure to support screening, follow-up and programme management, while the Harvard Global Cohort Study builds a global ecosystem of data on type 1 diabetes in children. Together, these data solutions generate and apply insights that can help improve care, guide decision-making and advance broader non-communicable disease (NCD) and health system strengthening.

“Gathering knowledge from the programme, particularly through our partnership with Harvard University, helps us adopt an **evidence-based approach for future stages.**”

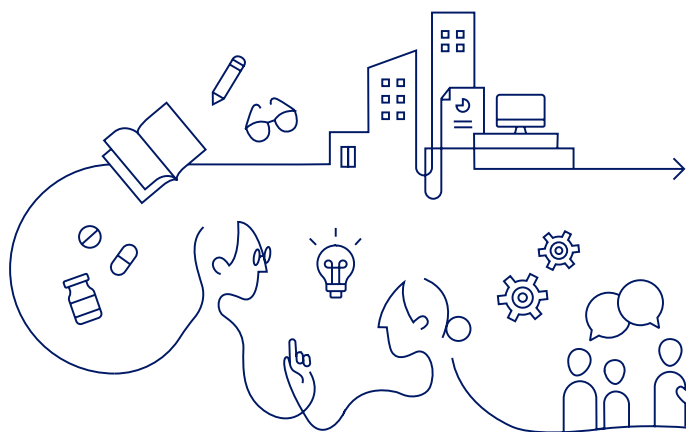
JP Carvalho, Director, Global Health Access Leader, Roche Diagnostics



Raja Muhammad Suleman
Raja lives with type 1 diabetes
Pakistan



Mayleen Marchena
Mayleen lives with type 1 diabetes
Peru



Harvard Global Cohort Study

To strengthen the evidence base for paediatric diabetes care, the Global Collaborative for Changing Diabetes® in Children, a partnership between the Health Systems Innovation Lab at Harvard University and Changing Diabetes® in Children, is leading the first global cohort study on type 1 diabetes in children. The study currently spans 16 countries and is supported by the national digital registries. It aims to generate real-world insights in order to improve clinical practice and guide national and global policy.



[Learn about the study →](#)



Digital registries

Changing Diabetes® in Children supports the development of national digital registries to improve how countries track and manage type 1 diabetes in children. The platform is open-source, license-free and fully managed by national partners. It allows clinics to register patients, monitor care and generate real-time reports. The system is designed to integrate with national health data platforms and meets global standards for privacy and interoperability.



[Learn about the registries →](#)

Raising awareness and amplifying voices

Changing Diabetes® in Children has helped raise the visibility of type 1 diabetes on national health agendas. Working with ministries of health, government officials and local partners, the programme has helped bring clinical experience and patient perspectives on type 1 diabetes into policy discussions. This has supported efforts to prioritise type 1 diabetes within national health strategies and strengthen institutional frameworks.

Education and capacity building have also helped fuel the voices of patient communities. Several young people supported by the programme have become type 1 diabetes advocates and peer mentors, showing how comprehensive care can spark leadership, reduce stigma and create stronger support networks.

Through its global partnership with ISPAD, Changing Diabetes® in Children has helped bring more clinicians and researchers from LMICs to the international stage. In recent years, programme teams have presented dozens of abstracts and posters at the ISPAD annual conference, reflecting the growing local capacity and evidence base in partner countries.

“We put type 1 diabetes on the agenda, stressing the need for timely diagnosis and permanent insulin. Through training, education and alliances with patient groups, we helped create the mandatory national guide, ensuring standardised care across all sectors, and pushed for regulations that made diabetes care a legal obligation nationwide.”

Dr Segundo Sactén, Endocrinologist, Clínica Médica Primavera;
President, Association of Juvenile Diabetes, Peru

“There’s more awareness of type 1 than ever before. We’ve been able to do studies on how patients feel about living with diabetes. Many used to think life with type 1 was hopeless.”

Dr Silver Bahendeka, Professor of Medicine and Endocrinology, Uganda Martyrs University; Senior Consultant Physician, Diabetes and Endocrinology, St. Francis Hospital, Uganda



Prof Rifat Atun presents the Harvard Global Cohort Study at ISPAD 2024

Key learnings

Alongside its impact, Changing Diabetes® in Children has generated important insights into what enables impactful diabetes care in low-resource settings. Comprehensive education and capacity-building, long-term partnerships rooted in local ownership and digital tools to inform practice and policy have all proven essential to lasting care.

A comprehensive approach is essential

Changing Diabetes® in Children has shown that effective type 1 diabetes care in low-resource settings requires more than medical supplies – it takes education, capacity-building and supportive systems. By investing in patient education, healthcare professional training and peer learning, the programme has enabled children and families to manage their condition with confidence.

Strengthening local capacity has meant creating supportive networks around children – from trained healthcare teams and clear protocols to peer support groups and digital tools. Adapting educational resources to local languages and cultures, and supporting young people as they transition from paediatric to adult care, are key to lasting impact.

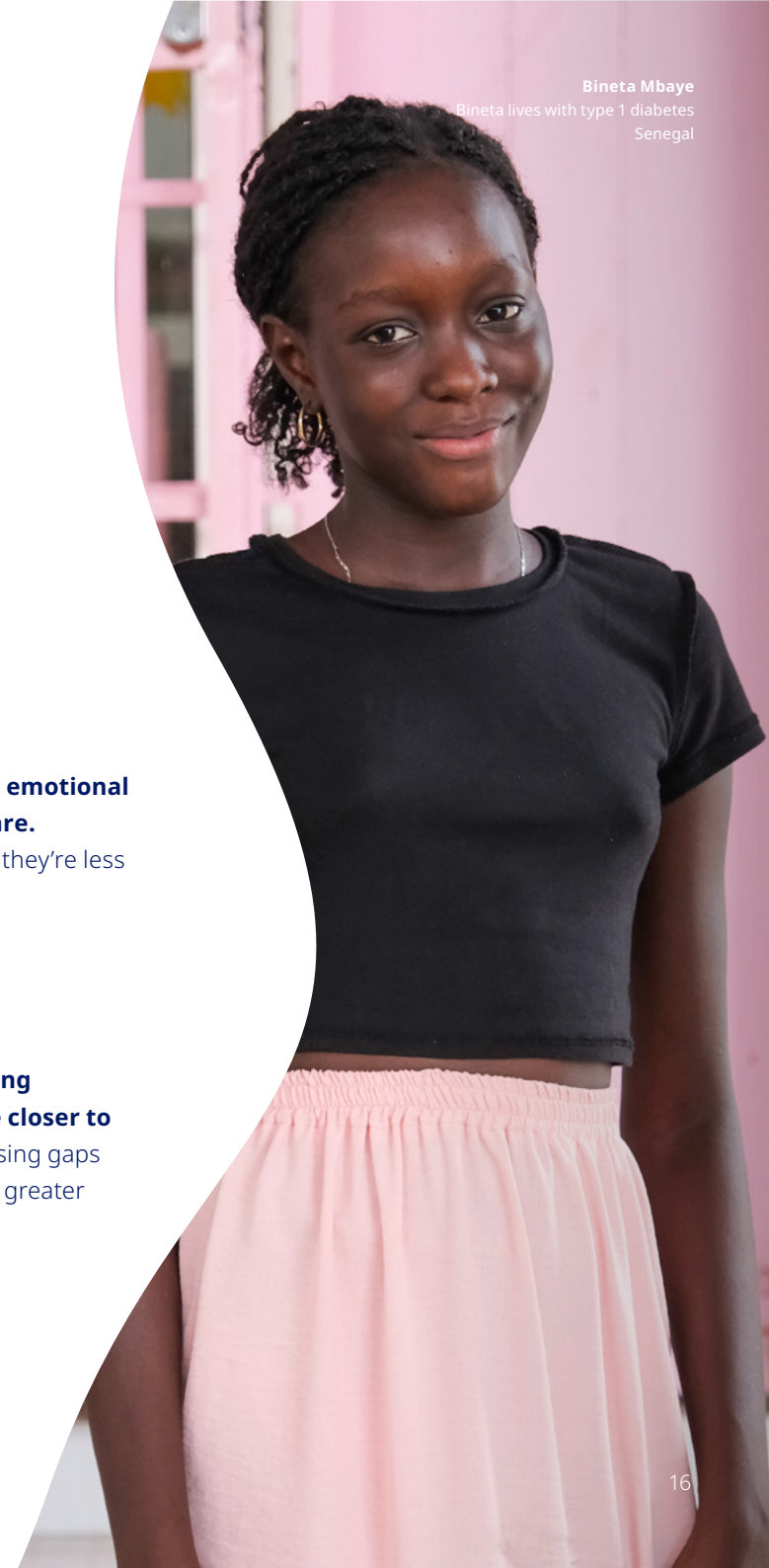
“Having dedicated educators and providing emotional support are just as important as medical care.

When children feel supported and understood, they’re less likely to feel alone or depressed.”

Bilguissa Balde, Guinea

“By taking a truly holistic approach, Changing Diabetes® in Children has helped bring care closer to where children live, improving equity and closing gaps in access. This has offered children and families greater security and hope for the future.”

Carissa Vados, Head of Diabetes Health Equity, Novo Nordisk



Partnering is key for sustainable impact

Fifteen years of Changing Diabetes® in Children have shown that sustainable type 1 diabetes care in low-resource settings depends on strong partnerships. The programme's public-private partnership model has enabled innovative and context-specific solutions, with each partner bringing in distinct expertise. Local associations and clinics are central in establishing patient-friendly systems of support. Global organisations contribute technical knowledge, training, diagnostics and essential supplies, while collaborating with academia is key to strengthening evidence generation and research capacity.

Engaging with ministries of health has also been important to building lasting impact. Their growing involvement in planning, funding and policy has supported the integration of services into national systems, with several governments now planning to embed type 1 diabetes care into supply chains, insurance schemes and universal health coverage programmes.

"Closing patient care gaps demands strong, collaborative partnerships

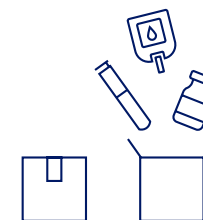
across all sectors. We need continuous investment in disease management programmes, reliable supply chains, and patient and health workforce education. These sustained efforts ensure patients can receive the care they need to thrive."

Stefan Seliger, Global Health of Access and Policy, Roche Diagnostics

Digital solutions and collaborative research transform care

A key learning from Changing Diabetes® in Children is that digital tools and collaborative research can transform how services and support are delivered and understood. By introducing digital national registries, designed as a user-friendly system, and the global cohort study, to promote collaborative research, the programme has shown how these initiatives can jointly close data gaps, strengthen routine care and make services more responsive to children's needs.

Strong collaboration with technology and research partners has been essential for successfully implementing these initiatives. Tools that enable real-time data reporting and analysis are helping health workers to track progress, researchers to generate evidence and policymakers to plan services with greater confidence. Looking ahead, expanding these initiatives will be key to reaching more children, empowering communities with knowledge and resources, and generating the evidence needed to guide future investments and policies in type 1 diabetes care.



"Integrating type 1 diabetes care into national systems is a complex but important step towards sustainability.

We're working to integrate Changing Diabetes® in Children into national systems and public health structures. In Malawi, for example, insulin donations are now going through the national supply chain, rather than local associations, while type 1 diabetes care is addressed by the Ministry of Health as part of the national NCD response."

Mads Loftager Mundt, Regional Team Lead Africa, World Diabetes Foundation

Partners

Novo Nordisk

Novo Nordisk is a leading global healthcare company, founded in 1923 and headquartered in Denmark. Our purpose is to drive change to defeat serious chronic diseases such as obesity and rare blood and endocrine disorders. We do so by pioneering scientific breakthroughs, expanding access to our medicines and working to prevent and ultimately cure disease.

novonordisk.com



Roche Diagnostics

Roche Diagnostics has been pioneering innovative diabetes technologies and services for more than 40 years. The company supports people with diabetes and those at risk to achieve more time in their target ranges and experience true relief from their therapy routines. Roche Diagnostics aims to transform and advance care provision and foster sustainable care structures to create patient-centred value.

roche.com/solutions/diagnostics



International Society for Pediatric and Adolescent Diabetes

The International Society for Pediatric and Adolescent Diabetes (ISPAD) is a professional organisation whose aims are to promote clinical and basic science, research, education and advocacy in childhood and adolescent diabetes. The strength of ISPAD lies in the scientific and clinical expertise in childhood and adolescent diabetes of its members. ISPAD is the only international society focusing specifically on all types of childhood diabetes.

ispad.org



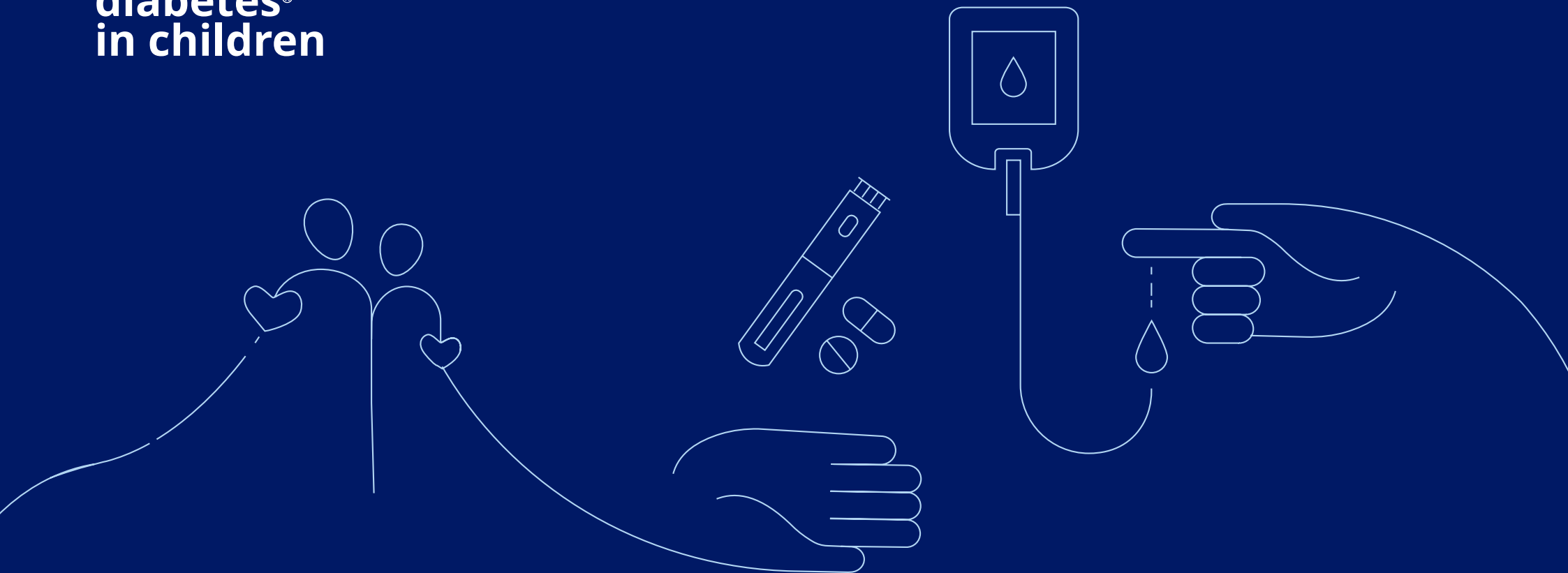
World Diabetes Foundation

The World Diabetes Foundation (WDF) is an independent, non-profit foundation based in Bagsværd, Denmark. Founded by Novo Nordisk in 2002, WDF is one of the few funding mechanisms dedicated to preventing and treating diabetes in developing countries. WDF's mission is to empower governments, civil society and other non-state actors that strive to deliver on global commitments through national and local action.

worlddiabetesfoundation.com



changing diabetes® in children



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