

Policy Brief

Policy procedure for children and adolescents with Type 1 diabetes in the East African Region.



Photo Credit: Jacques Nkinzingabo

(Two type 1 diabetic patients aged 18 and 14 from the same family with their insulin ampules and syringes in Rwanda)

What is Type 1 Diabetes?

Type 1 diabetes mellitus (T1DM) is a life-long condition affecting children, youth, adults, and the elderly worldwide with more than 100,000 patients within Sub-Saharan Africa. Type 1 Diabetes is commonly referred to as insulin-dependent diabetes mellitus. The disease affects the body's ability to control glucose and other fuels that are due to the destruction of insulin-producing cells in the pancreas (pancreatic islet beta cells). Without insulin, people with type 1 diabetes cannot utilize glucose and other body fuels and many die within months if not weeks after developing symptoms. In rural Mozambique, the life expectancy for a child with T1DM in the early 2000s was only 7 months & hardly 1% of them survived after 6 years after diagnosis compared with 98% in the USA.

Will Type 1 Diabetes become the New Measles?

According to WHO, measles is one of the seven deadliest child diseases, but over

time, preventive measures like vaccines & public health campaigns countered this trend. T1DM is the new measles but preventive measures are a challenge, in that there's no reliable epidemiological data, accessible solutions at the primary healthcare level, and suitable health infrastructure which makes T1DM life-threatening. Therefore, the only option is early diagnosis, improving eating diet, consistent treatment, and using all essential monitoring devices to avoid uncontrollable glycemia, its complications & premature death.

T1DM is still highly misunderstood, misdiagnosed as meningitis or cerebral malaria, and a widely unknown disorder by most medical experts within the East African region. The Changing Diabetes in Children project implemented within Africa discovered that most patients that went to public health facilities at the primary healthcare level will be very lucky to find an expert that knows the symptoms of T1DM and prescribe an appropriate solution for the patient. In rural settings, the disease is sometimes associated with witchcraft

or poison, or an advanced form of HIV that indicates a lack of knowledge by health workers and the general population. In the East African region, all 7 African member states had more children and adolescents with diabetes than adults showing the rising tide of diabetes among younger populations.

The policy brief reviewed existing literature, published in medical journals from 2004 to 2022, profit & non-profit actors' websites, project reports from national diabetes associations within East Africa together with the international diabetes Federation, the World Diabetes Foundation, public health university projects within East Africa & Sub-Saharan Africa and media outlets.

What is the healthcare infrastructure within East Africa?

The findings indicate the structures that are enabling the delivery of services for T1DM patients. They include;

Government or Public healthcare.

Within the East African region, governments play a significant role in enabling access to health care. However, the infrastructure for type 1 diabetes care is readily available in urban areas, unlike the peri-urban and rural areas. Care is common in the level 4 to level 6 health facilities that are composed of regional and government speciality hospitals in all East African member states. Most of these have a diabetologist or endocrinologist, equipment, and medical supplies but they can't provide the supplies consistently throughout the year. However, knowledge gaps, misdiagnosis, lack of pediatric endocrinologists in countries like Burundi, and lack of equipment & supplies continue to plague the already fragile healthcare systems.

Private non-profit making facilities (PNFP).

PNFPs like diabetes associations, youth alliances, civil society organizations, & non-governmental clinics have played a huge role across the region with advocacy, care provision, running pilot studies, & easing access to care for patients with T1DM living in rural, peri-urban, & urban centres. Some entities deliver insulin & free syringes to patients but the challenge with these approaches is sustainability. Most projects are meant to magnify gaps for government to take long-term actions.

Private healthcare facilities.

Private health facilities exist to cover the gaps not filled by the existing government infrastructure, but all this comes at an additional cost to the patient and limited access for most rural people due to a lack of information.

What do young people with type 1 diabetes need to survive?

The existing literature shows a child needs to have psychosocial support from parents/guardians, peer support or people around him/her, insulin, syringes, access to food, glucose monitoring facilities, aggressive follow-up by health facilities, reliable transport to access care anytime, & accommodation & feeding costs for the time spent at health facilities. Most costly to T1DM parents/caretakers when PNFPs don't support them.

New approaches and recommendations worthy of East African Nations' exploration.

• Sourcing new & unique ways of funding the government budget.

The presence of few donor agencies with funds to manage the rising tide of T1DM leaves low-income countries within the EA region at risk of stretched healthcare infrastructure. Mexico has

placed a tax on g sweet beverages. The proceeds go towards NCDs like T1DM.

• Formation of a consortium.

Uganda, Kenya, Tanzania, Rwanda, Burundi, DRC & South Sudan, as low-income countries, could benefit from pooling resources and expertise to improve the health of T1DM patients.

• Introduce insurance schemes.

East African states will benefit from implementing subsidized insurance schemes that reduce out-of-pocket expenditures from uncertain medical costs used to manage T1DM.

• Increase budgetary allocation for diabetes & other NCDs.

The government can curtail premature death by optimizing T1DM services and funding health facilities at all levels. The funds will train staff, and community health workers, purchase equipment & supplies and maintain patient needs at the primary health facility level.

• Monitoring T1DM & other NCDs.

Establish a robust database that monitors national & regional NCDs indicators with dissemination to relevant stakeholders.

• Increase collaboration with PNFPs.

As a private player with social interests, they support the fragile healthcare system through the provision of services across the cascade of care and extend their contribution to social support & protection and resource mobilization & utilization.

• Refresher training for health workers.

Primary & secondary health service providers need refresher training to re-equip and re-tool them for NCDs.

Conclusion. East African leaders have leapt forward with quasi-efforts and results that have positioned their respective countries at different points of the continuum of prevention and treatment. However, the complexity of T1DM requires more concerted effort, consistent experimentation, and flexible budgets geared towards more impact.

References & Resources

1. International Insulin Foundation, Diabetes in Sub-Saharan Africa, London, International Insulin foundation, (2006)
2. Muze KC, Majaliwa ES. Type 1 diabetes care updates: Tanzania. Indian J Endocrinol Metab. 2015 Apr;19(Suppl 1):S12-3. doi:10.4103/2230-8210.155348. PMID: 25941637; PMCID: PMC4413376.

3. World Health Organization. Data & Statistics, WHO Africa, Health Topics, Diabetes; <https://www.afro.who.int/health-topics/diabetes> (Accessed on 2nd September 2022)
4. Pastakia SD, Pekny CR, Manyara SM, Fischer L. Diabetes in sub-Saharan Africa – from policy to practice to progress: targeting the existing gaps for future care for diabetes. *Diabetes Metab Syndr Obes.* 2017;10:247-263 <https://doi.org/10.2147/DMSO.S126314> According to International Diabetes Federation, 1 in 10 diabetes patients have T1DM and half of these are undiagnosed.
5. Simpson K., Diabetes in Tanzania: Insulin Supply & Availability, (2003) https://www.rcpe.ac.uk/journal/issue/journal_33_3/6_diabetes_tanzania.pdf (Accessed on 2nd September 2022)
6. Faraja S. Chiwanga, Marina A. Njelekela, Megan B. Diamond, Francis Bajunirwe, David Guwatudde, Joan Nankya-Mutyoba, Robert Kalyesubula, Clement Adebamowo, IkeOluwapo Ajayi, Todd G. Reid, Jimmy Volmink, Carien Laurence, Hans-Olov Adami, Michelle D. Holmes & Shona Dalal (2016) Urban and rural prevalence of diabetes and pre-diabetes and risk factors associated with diabetes in Tanzania and Uganda, *Global Health Action*, 9:1, DOI: 10.3402/gha.v9.31440
7. Thomas Ngwiri, Fred Were, Barbara Predieri, Paul Ngugi, Lorenzo Iughetti, " Glycemic Control in Kenya Children and adolescents with Type 1 diabetes" *International Journal of Endocrinology*, vol. 2015, Article ID 7617759 <https://doi.org/10.1155/2015/761759>
8. Hall et al.: Diabetes in Sub Saharan Africa 1999-2011: Epidemiology and public health implications. a systematic review. *BMC Public Health* 2011 11:564.
9. International Diabetes Federation, Data & Statistics, Diabetes Atlas 10th edition 2021, Africa <https://diabetesatlas.org/data/en/region/2/afr.html> (Accessed on 1st September 2022)
10. To Climb A Thousand Hills, <https://toclimbathousandhills.org/> (Accessed on 1st September 2022)

