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Supporting treatment of childhood malnutrition in Zanzibar

D-tree International's eNUT



Malnutrition is a disease that threatens the lives of children, especially in developing countries. It is a serious health problem in Zanzibar, where nearly 12% of children suffer from acute malnutrition (1). Acute malnutrition is an entirely treatable condition, but when it becomes severe acute malnutrition (SAM, defined by very low weight for height) it is a life-threatening condition requiring urgent treatment. Sadly, the limited data available in Zanzibar up to 2009 show that 20–30% of children who were admitted with SAM died despite receiving treatment. If children with SAM are treated according to the WHO–UNICEF standard treatment guidelines, case-fatality rates can be reduced to as low as 5% (2). However, implementing the guidelines can be challenging as the process depends on information from health records, which are often incomplete or difficult to interpret.

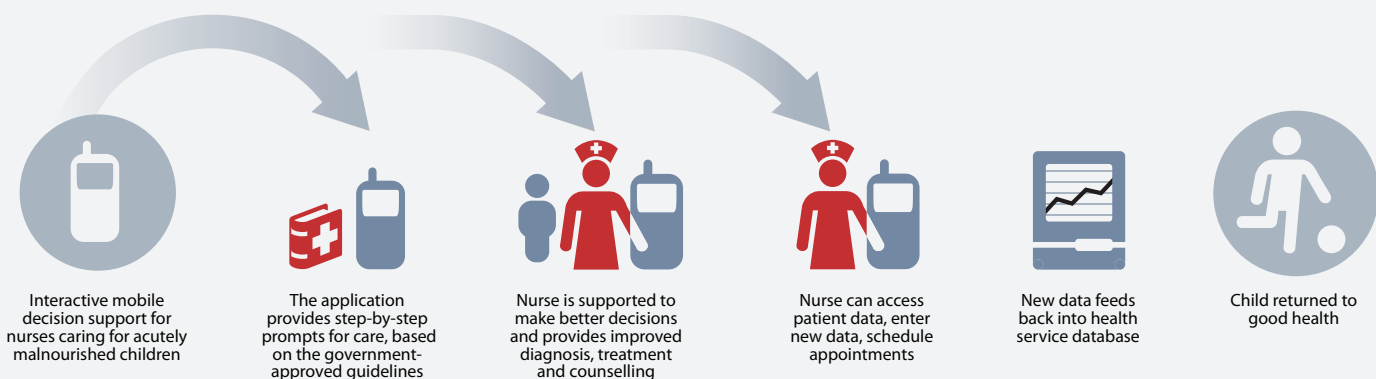
The nutrition software, eNUT, streamlines the management of information and supports the decision-making needs of health workers, helping them to implement the national guidelines for providing effective treatment to children suffering from malnutrition.

How eNUT works

The eNUT software provides an interactive mobile version of the government-approved treatment guidelines for acutely malnourished children. Used by government health workers (primarily nurses), the application takes them step-by-step through the guidelines using data from past and current visits to assess the child's progress and determine the next steps for effective treatment. The software captures the data that the nurse enters during the patient visit, providing the health service administrators with real-time access to programme data. The software runs on the Android™ operating system and combines on-device electronic medical records with protocol execution, using a password-protected login procedure for data security. Information is drawn from several major parts of the electronic protocol to contribute to the patient record, including: screening and registration, physical examinations, treatment, counselling for the caregiver and appointment scheduling. eNUT was developed by D-tree International, a non-profit organization dedicated to improving health care for the world's poor through the use of innovative technology.

Supporting national public health programming

The Government of Zanzibar is working to eradicate malnutrition as a national public health problem, and thus reduce overall morbidity and mortality in the population, especially among young children. Towards this goal, the Government is collaborating with UNICEF to develop a comprehensive programme for the identification and treatment of malnourished children in the community, using standards of care that have been developed for Zanzibar. eNUT provides an innovative delivery mechanism and decision support for these national standards of care. eNUT is an integral component of Zanzibar's national nutrition programme (although not yet fully operational throughout the country) and is fully supported by the Ministry of Health and Social Welfare.



Partnerships for support and sustainability

To achieve long-term impact, D-tree is building a broad base of support for the project with a variety of partners. Zanzibar's Ministry of Health and Social Welfare (MHSW) serves as the primary partner, having embraced the project as part of the national nutrition programme. Staff, supplies and drugs needed to treat children – as well as supervisory and logistical support for clinics where children are treated – are all provided by the MHSW. D-tree's private-sector partner, Zantel, is currently supporting the project with reduced fees for data transfers and technical support, helping to keep programme costs low. In addition, Edesia, the manufacturer of the ready-to-use therapeutic food (RUTF) 'Plumpy'Nut', ensures adequate supplies of RUTF and assists with procurement and logistics. As part of their support for malnutrition programmes in Zanzibar, UNICEF will continue to support eNUT by contributing funding to scale up the project and providing technical assistance to the MHSW. D-tree continues to explore opportunities for creative financing strategies, including leveraging tourist dollars to help finance the project.

IWG catalytic grant for mHealth programme scale-up

D-tree International was awarded a grant to scale up the use of eNUT in Zanzibar by the United Nations Innovation Working Group's (IWG's) catalytic grant competition for maternal, newborn and child mobile health (mHealth), managed by the mHealth Alliance. eNUT was successful in the grant competition because it employs an effective delivery strategy for an evidence-based child health intervention, combined with creative financing strategies to promote sustainability – elements that are critical for mHealth tools to contribute to Millennium Development Goals 4 and 5.¹ Through IWG, D-tree International is receiving assistance from WHO RHR to optimize scale-up of eNUT while also contributing to the mHealth evidence base and best practices on implementation and scale-up.

¹ MDG 4 is to reduce child mortality; MDG 5 is to improve maternal health (www.unmillenniumproject.org/goals/gti.htm)

References:

1. *Tanzania Demographic and Health Survey 2010*. Dar es Salaam, Tanzania, National Bureau of Statistics and ICF Macro, 2011.
2. Collins S et al. Management of severe acute malnutrition in children. *The Lancet*, 2006, 368:1992–2000.

Credits:

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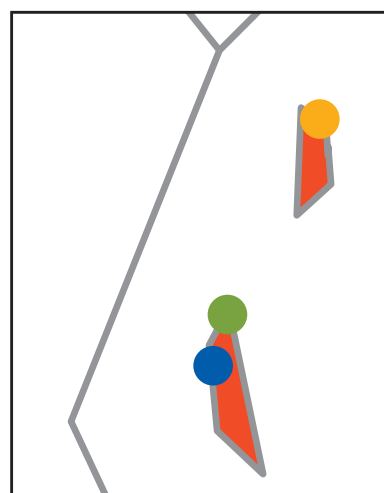
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Zanzibar, United Republic of Tanzania



Number of facilities



Number of health workers



Number of malnourished children reached

All numbers are those reached by end of 2012.

Pemba Island Micheweni

6 facilities, 18 health workers, 53 malnourished children reached

Unguja Island North A

5 facilities, 20 health workers, 145 malnourished children reached

Town West

1 facility, 5 health workers, 30 malnourished children reached