

CBM-Peek in Tanzania: Community-led Eye Health

The Mwanga and Hai districts of the Kilimanjaro region span expansive landscapes. They are covered by fields of sunflowers and maize and are framed by impressive mountain ranges (including the famous mountain from which the region bears its name).



Teodosia lives with her family in the foothills of the Pare Mountains. At 79, she has lived her whole life near Kisangara Village, and her home can only be accessed via a single-track dirt road up a steep incline. The walk to the tarmac road is treacherous for the able bodied, let alone persons with disabilities.

Access to health services and education about common health issues are limited. When Teodosia and her husband, Jonny, started to lose their vision, they assumed this was a result of ageing. Unfortunately, their sight-loss progressed significantly to the point where neither of them could see much more than the shadows of people passing by. They were unable to do the most basic of activities themselves. They relied on their daughter, Jessca, to maintain the family subsistence farm. Even their three-year-old granddaughter, Daniele, bore some of the burden, leading her grandparents from the shade of the tree to the washroom or to bed.

"Before my surgery I could do nothing, I became extremely weak and very depressed. Not being able to move freely was awful for my physical and mental health," Teodosia explains.



A neighbour, who had learned that local, government-run vision screening had begun nearby in the Kisangara village, offered to drive the couple to the dispensary (rural health facility). It was there, just a ten-minute drive down the road, that Teodosia and her husband found there may be a solution to their problems.

After screening, Teodosia and Jonny were referred to Kilimanjaro Christian Medical Centre (KCMC) by a government general health worker who had been trained to use Peek software.

Programme data from the CBM-Peek programme had been showing low rates of attendance at appointments by people like Teodosia, who live in rural settings and struggle to make the journey to care. As a result of this data, the local team introduced transport for those without the means to make the long journey alone. Teodosia and Jonny benefitted from transport to their referral-which was over 65 kilometres away from their home.

The CBM-Peek Community Eye Health programme, in partnership with the Government of Tanzania, is aiming to bring eye health closer to communities. The project has trained 60 government-funded

primary health workers to use Peek for screening and referral. They are also trained to treat basic eye conditions like conjunctivitis. There is now stable access to eye health within the community, which has many benefits as one screener, Pili Hemedi, explains:

"Distance to health care is a huge problem in this region. By bringing eye care permanently to the village through the dispensary, we are ensuring those who are less likely to reach care can access it. For example, on Wednesdays, we hold Reproductive and Child Health Clinics. I'm now able to screen this important demographic for eye health conditions and refer them to treatment if needed. This is exciting as women and children often miss out on proper eye health. We are ensuring they are getting the treatment they need."

By using Peek, Programme Coordinators such as Philip Bahati from KCMC are gaining a better understanding of the barriers to care. Through collaborative efforts, they are also finding solutions, as Philip explains:

"We meet regularly with government officials, CBM and Peek to go through the programme data. The results of these discussions have been transformative for our programme. What we think may work in programme design, doesn't necessarily translate into real life. Having the data at our fingertips helps us to tackle these problems."

At KCMC, Teodosia learned that she had bilateral cataracts, and was operated on within the week. Jonny was not so fortunate. His glaucoma, whilst treatable if it had been caught early, has caused irreversible blindness. It is a bittersweet representation of the need for eye health in rural communities across Tanzania.

For Teodosia however, the surgery has been life-changing: *"When I had my bandage removed for the first time, I cannot describe the joy I felt! I didn't believe that such a result could be possible."*



"When I arrived back to my village, I was overcome by seeing my beautiful granddaughter. She is gorgeous and very surprised I could see her too!"

Regaining my independence is life-changing, I am so incredibly thankful for my treatment. I can now help around the house and to look after my husband too. The biggest highlight for me, other than seeing my family again, has been to read my favourite book for the first time in three years. It is a book of prayer I used to read every day. Having this back in my life has been a true joy. Now I am the biggest ambassador for eye health in the community – I tell all my neighbours to get their eyes checked and not to be afraid of treatment."

Teodosia is one of over 88,000 people who were screened through the CBM-Peek Tanzania programme and one of almost 25,000 people who have been connected to care. Like hers, thousands of lives have been transformed. There remain thousands like her and Jonny who urgently need access to eye health.



How the eye health services were scaled in the CBM-Peek programme:

The accuracy and effectiveness of Peek software can be observed when comparing the eye health services before and after the initiation of the programme in the two targeted districts. The CBM-Peek programme launched in Tanzania in 2021. Since then, continuous improvements have led to higher uptake of services as the programme progressed (see 2021 to 2022 numbers for comparison).



Eye care services at Hai and Mwanga Districts	2019	2020	2021	2022
	Before Peek		After Peek	
Number of healthcare workers trained to use Peek	0	0	52	56
Number of healthcare facilities enabled to perform eye screening	2	2	26	26
Number of people screened per year	2,614	2,243	13,077	75,886
Number of people provided with medicines	1,196	1,164	5,103	16,412
Number of people provided with spectacles	78	39	850	2,008
Patients referred to specialist hospitals	92	81	4,500	6,242

How the programme was improved using data from Peek software:

Data helped to uncover many barriers to care. These were discussed with multiple stakeholders, including local communities, to find solutions. With changes implemented the programme became more efficient and equitable.

Area	Problem	Intervention	Result
Coverage of screening	Programme team was struggling to encourage people to come for screening.	The team began screening in mosques, churches and other community centres using Peek.	Reach improved from 2,000 people per month to over 12,000 people per month.
Adherence to care	Patients from rural areas were struggling to travel to receive treatment.	The team introduced free transport to help patients reach care where needed.	Adherence to appointments post screening improved from 54% to 65%.
Better use of resources	Before Peek, overstretched hospital staff from KCMC travelled to conduct screening and basic treatment.	The team trained government health workers to screen and treat basic conditions.	70% of cases were managed locally, allowing specialist staff to focus on more advanced care.
Increase equity of care	Patients couldn't afford glasses.	The team advocated for government subsidies for those who could not afford it.	Spectacle uptake rose from 70% of those prescribed glasses receiving them to 100%.



70%

of cases were managed locally after the team trained government health workers, allowing specialist staff to focus on more advanced care.

100%

patients received prescribed spectacles after the team advocated for government subsidies.

Cecilia Uisso, CBM Tanzania, and Samson Chacha, Kilimanjaro Christian Medical Centre visiting a patient's farm.