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## Mazava Project shines light on blindness in Madagascar

Author(s): [David Hutton](#)



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### Key Takeaways

- HelpMeSee's Mazava Project trains GPs in Madagascar to perform cataract surgeries, addressing severe visual impairment due to cataracts.
- The project uses a comprehensive training system, including simulation-based practice and live surgery, to certify proficiency in MSICS.

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*HelpMeSee's Mazava Project trains general practitioners in Madagascar to perform cataract surgeries, addressing the country's high rate of avoidable blindness. Trainees gain proficiency through simulation-based learning and live surgeries, improving access to eye care in remote areas.*

Avoidable vision loss is a growing problem in low-income countries, and HelpMeSee is advancing its mission to restore vision for people worldwide living with severe visual impairment and blindness due to cataracts.

Statistics from the World Health Organization and the Global Burden of Disease study indicate that more than 100 million individuals in developing countries have blindness or visual impairment due to cataracts. In most cases, the problem stems from a lack of access to care.<sup>1</sup>



*With its ability to provide the feel of a human eye in training, the HelpMeSee simulation-based training program helps trainees enhance their surgical skills and add confidence. (Image credit: HelpMeSee)*

Jean-Marie André, MD, medical officer for Africa at HelpMeSee is leading training initiatives in Madagascar.

André has more than 40 years of experience in anterior segment surgery and joined HelpMeSee as a medical officer in 2013. Previously, he worked with the West African Health Organization to train local medical professionals in manual small-incision cataract surgery (MSICS).

When the project started in Madagascar, André noted there were only 25 surgeons in the country, which has a population of more than 28 million people. More importantly, only 5 surgeons were located in remote areas away from large towns. He also noted that Madagascar has one of the lowest cataract surgery rates in the world, with 350 surgeries per 1 million people.

The issue was documented in findings from a Rapid Assessment of Avoidable Blindness study conducted by Madagascar's Ministry of Public Health, which found that 200,000 residents have blindness due to untreated bilateral cataract.

According to André, HelpMeSee, Madagascar's Ministry of Public Health, and the Polyclinic d'Ilafy Hospital in Antananarivo, Madagascar, have jointly launched the Mazava Project.



*Patient Marie Henriette, center, is pictured with her family in Madagascar before her cataract surgery operation at the Vision Institute in Ambatomaro, Madagascar. (Image credit: HelpMeSee)*

With a name that means *bright* in Malagasy, the Mazava Project is focused on reducing the prevalence and impact of cataract blindness. Madagascar's Ministry of Public Health selects general practitioners (GPs) to be trained as cataract surgeons. HelpMeSee then trains them using a training system that includes an e-book, practice on a simulator guided by

an experienced instructor, and certification in MSICS.

A live surgery transition, which leads them to proficiency, is conducted at the University of Antananarivo Public Hospital in Madagascar under the supervision of Professor Léa Raobela. Once certified for live surgery by the university, they are sent back to Madagascar's Ministry of Public Health, which assigns them as cataract surgeons in their original remote locations.

To be eligible to be a trainee in the Mazava Project, candidates must meet the following criteria:

- GP
- Civil servant in Madagascar's Ministry of Public Health
- Younger than 40 years
- Already established in a peripheral location (away from the capital)
- Able to pass the dexterity and psychomotor skills test on the HelpMeSee simulator
- Able to pass the ophthalmological knowledge test at the University of Antananarivo under the supervision of professor and ophthalmologist Léa Raobela

"We train these physicians to be proficient in the practice of ophthalmic surgery," André said, adding that they are awarded a diploma at the end of the course to certify their new skills in the MSICS procedure.

Although the focus is on cataract surgery, André said the trainees are also trained to handle complications and trauma.

"In many areas of the world, if a little boy is hit in the eye with a stone, the eye is lost," André said.

Trainees such as Rico Ludovic Mpanasoa can respond quickly to save a patient's eye, relying on skills they learned in the HelpMeSee Simulation-Based Eye Surgery Training Program. They are also trained to detect other conditions, such as retinal disease and glaucoma.

"They spent 2 years training at the university in the basics of ophthalmology," he said. "They have a strong foundation in ophthalmology."



*Dr Rico Ludovic Mpanasoa is pictured with patient Marie Henriette following her successful cataract surgery operation at the Vision Institute in Ambatomaro in Madagascar. Dr. Rico trained with HelpMeSee at the Polyclinic d'Ilfafy hospital in Antananarivo, Madagascar. (Image credit: HelpMeSee)*

So far, 20 Mazava Project surgeons have successfully completed their training in Madagascar and 30 additional trainees are still undergoing the process, with Rindra

Rafanomezantsoa, MD, serving as a HelpMeSee instructor. Rafanomezantsoa is an experienced cataract surgeon practicing at Joseph Ravoahangy Andrianavalona Hospital at the University of Antananarivo.

"As a trainer, the strategy used in most of our projects is to support the general practitioner in their installation so that they are efficient in the fight against cataract blindness," Rafanomezantsoa said. "This includes helping them at the start, being with them as they begin working in their

respective centers to build confidence before they are on their own."



Thanks to the generosity of HelpMeSee donors, Dr. Bezawit, seated, was able to complete her training on HelpMeSee's Eye Surgery Simulator and return home to Ethiopia, where she is operating on live patients, restoring their sight. (Image credit: HelpMeSee)

Rafanomezantsoa noted that trainers are always available for the newly trained surgeons, offering guidance and discussing specific cases as needed.

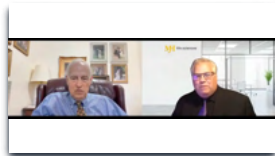
"We are ready to welcome them for refresher sessions at the HelpMeSee simulation center or at the training center where I work for live surgeries if they feel the need," he said.

André added that trainers also conduct regular evaluations to ensure the surgeons maintain and hone their surgical skills.

#### Reference

1. Pesudovs K, Lansingh VC, Kempen JH, et al. Global estimates on the number of people blind or visually impaired by cataract: a meta-analysis from 2000 to 2020. *Eye*. 9 March 2024. doi: 10.1038/s41433-024-02961-1.

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