

## **New MRI to debut in African nation of Malawi; will save lives, advance malaria research**

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Michigan State University physician Terrie Taylor studies cerebral malaria in Malawi where the vast majority of malaria patients are children. And, in order to get a closer look at the damage malaria does to a child, Taylor and colleagues study the child's brain, something that, up until now, could only be done in an autopsy.

However, that will change this summer when a new magnetic resonance imaging unit – the first MRI machine ever to come to Malawi – will be put into operation. This will not only let physicians assess malaria damage before a child has died, but will help to diagnose a wide range of illnesses that affect the local population.

"This will help in so many ways," Taylor said. "We will use it for the research we do, we'll be able to use it for everyday patients that come through the hospital, and it will help to attract and retain more doctors to Malawi."

The MRI unit arrived in Malawi in April. It will be housed at the Queen Elizabeth Central Hospital in Blantyre, Malawi's largest city.

It will be officially dedicated by the minister of health on June 23 at a ceremony involving a number of MSU dignitaries.

"We are honored that the honorable Kkhumbo Kachali, Ministry of

Health, will be able to join us on this historic occasion," said William Strampel, dean of MSU's College of Osteopathic Medicine which donated more than \$400,000 for the project.

Currently there is only one radiologist who serves the entire nation of Malawi. Another benefit of the new MRI unit is that it will allow that radiologist – Sam Kampondeni – to send images to MSU where radiologists will be able to assess and evaluate them and offer a second opinion.

"With this new MRI unit we will be able to serve as many as 18 patients per day," said Kampondeni, who trained as a guest in the MSU Department of Radiology in 2007.

Not only will the MRI machine be the first in Malawi, it will also serve the neighboring countries of Mozambique and Zambia, neither of which has an MRI.

Taylor, a University Distinguished Professor of internal medicine and an osteopathic physician, spends the rainy season – January through June – working at the Queen Elizabeth Central Hospital, treating malaria patients and conducting research on a disease that kills as many as 2 million children in sub-Saharan Africa every year.

So far, one of the most significant findings from Taylor's study is that about one-quarter of the children who were thought to have cerebral malaria turned out, on autopsy, to have died of infections, diseases or conditions that were completely unrelated to malaria.

"This calls into question a lot of the work that's been done on severe malaria to date," she said. "The studies might have included patients who were not suffering from malaria at all, because the researchers were using case definitions that lacked precision."

Taylor's autopsy study was funded by a grant from the National Institutes of Health. The NIH is also providing funding for the MRI project, including funds to cover some of the operating costs as well as the high-speed Internet connection.

It was through the efforts of James Potchen, an MSU University Distinguished Professor of radiology and chairperson of the department, that General Electric donated the MRI unit to the hospital. The department also supported the costs of training Kampondeni to interpret magnetic resonance images.

Combined with transportation costs and the various hardware, software and other MRI necessities, the total value of the donation was more than \$1.3 million.

The largest part of the MRI machine – a compact car-sized magnet weighing in at 20 tons – arrived in Blantyre in April after what could have been a harrowing journey.

The machine was assembled in China and, beginning March 15, transported to the South African port of Durban by sea. After its arrival on the continent, the precious cargo was hauled by truck to its final destination, traveling through Botswana and Zambia to avoid civil unrest in Zimbabwe.

Source: Michigan State University

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