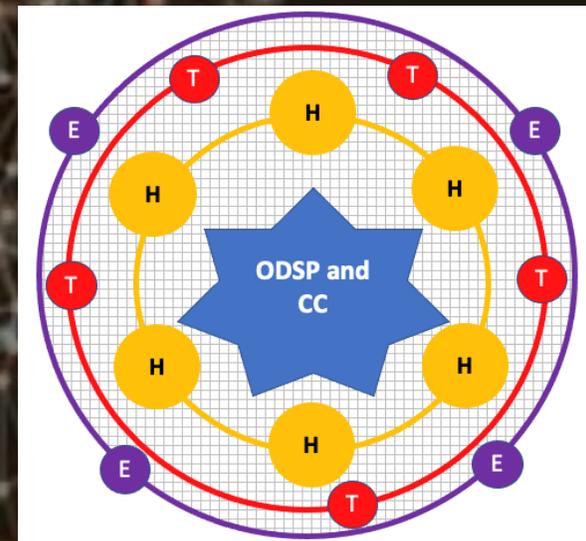


# Dr Judy Gichoya

## DSI – Africa : Harnessing data science for health in Africa

Data Scholar – NIBIB / FIC  
Emory University

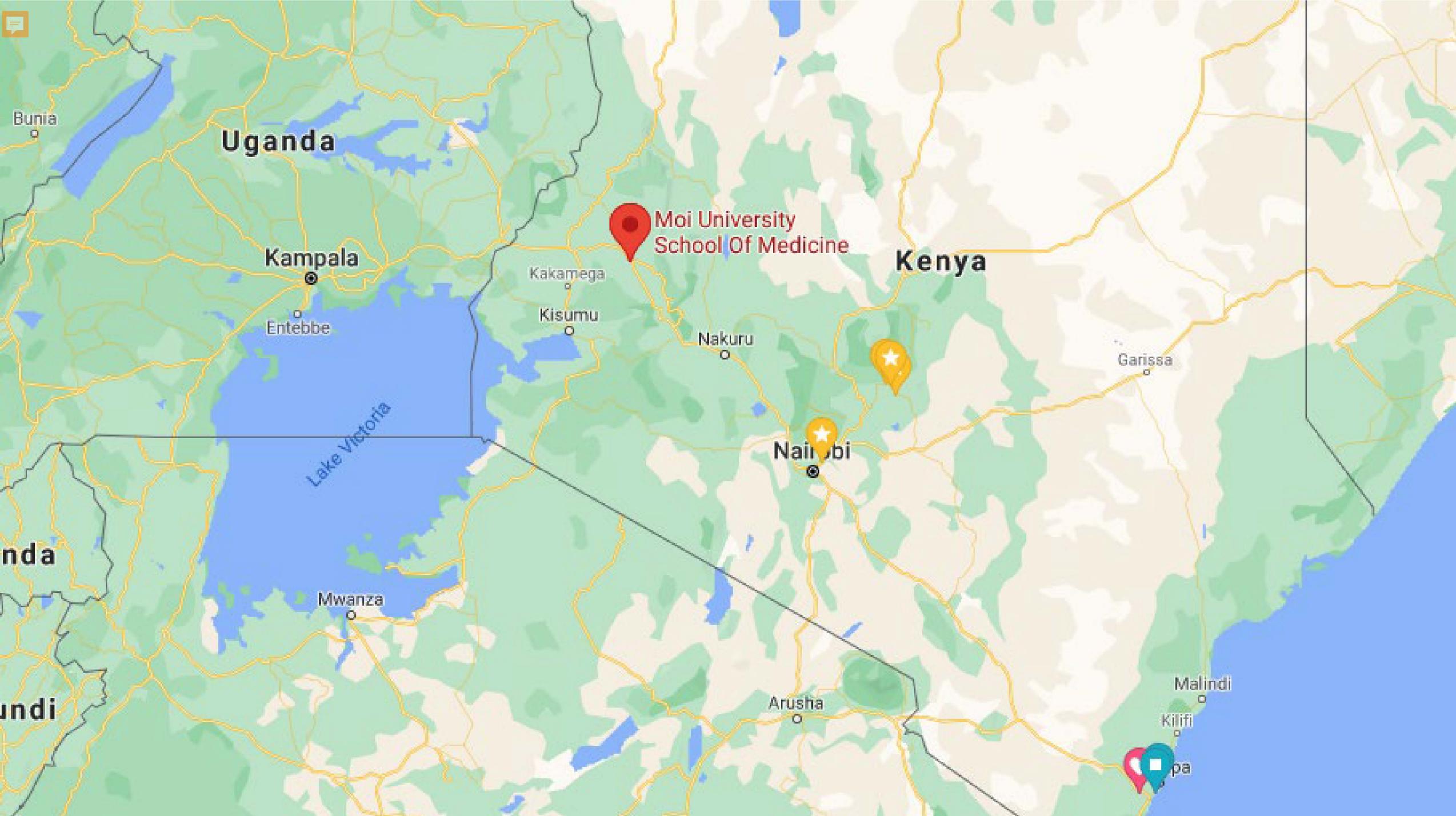




**Program Overview:** Harnessing Data Science for Health Discovery and Innovation in Africa (DS-I Africa)



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Uganda

Kampala

Entebbe

Lake Victoria

Mwanza

Moi University  
School Of Medicine

Kakamega

Kisumu

Nakuru

Nairobi

Arusha

Kenya

Garissa

Malindi

Kilifi

pa



<https://medicine.iu.edu/magazine/joe-mamlin-ampath-global-healthJoe>

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“If we had [HIV medicines for Africa] today, we could not distribute them. We could not administer the program because we do not have the doctors, we do not have the roads, we do not have the cold chain... [Africans] do not know what watches and clocks are. They do not use western means for telling time. They use the sun. These drugs have to be administered during a certain sequence of time during the day and when you say take it at 10:00, people will say what do you mean by 10:00?” [1].

[http://commdocs.house.gov/committees/intlrel/hfa72978.000/hfa72978\\_0.HTM](http://commdocs.house.gov/committees/intlrel/hfa72978.000/hfa72978_0.HTM)



# Informatics 101



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# OpenMRS Implementations and Active Patients

● Total implementation sites ● Total active patients



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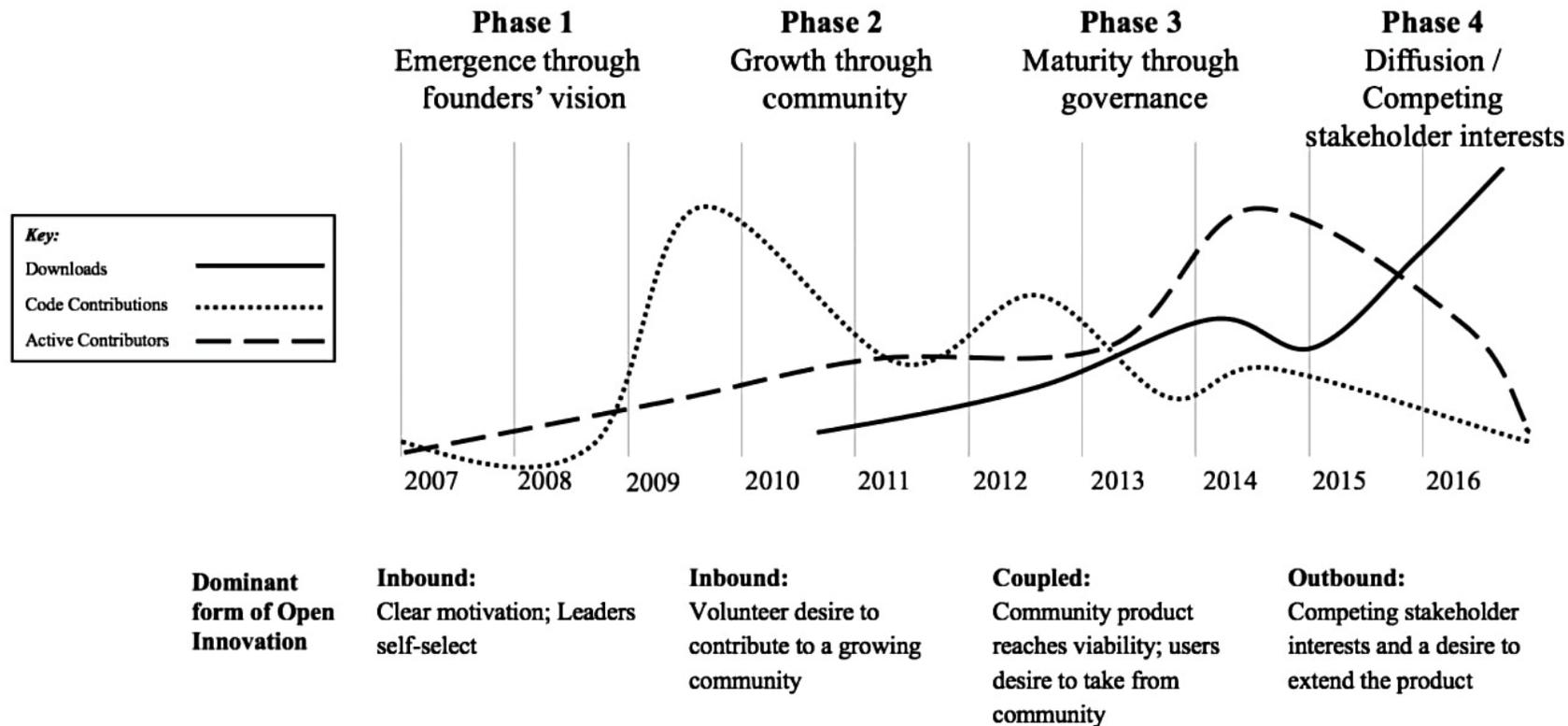


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# Write Code, Save Lives: How a Community Uses Open Innovation to Address a Societal Challenge

Jonathan Sims ✉, Judy Gichoya ✉, Gaurab Bhardwaj ✉, Marcel Bogers ✉

First published: 23 October 2018 | <https://doi.org/10.1111/radm.12338>



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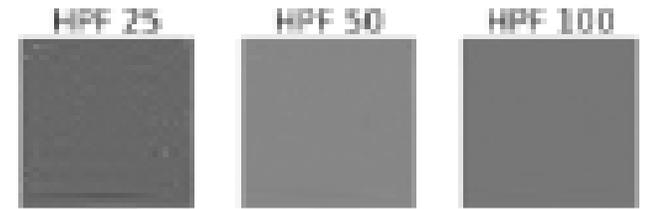
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## Backstory

# Village mentoring and hive learning: The MIT Critical Data experience

- Imon Banerjee
- Ananth Reddy Bhimireddy
- John L. Burns
- Leo Anthony Celi
- Li-Ching Chen
- Ramon Correa
- Natalie Dullerud
- Marzyeh Ghassemi
- Shih-Cheng Huang
- Po-Chih Kuo
- Haoran Zhang

- Matthew P Lungren
- Lyle Palmer
- Brandon J Price
- Saptarshi Purkayastha
- Ayis Pyrros
- Luke Oakden-Rayner
- Chima Okechukwu
- Laleh Seyyed-Kalantari
- Hari Trivedi
- Ryan Wang
- Zachary Zaiman





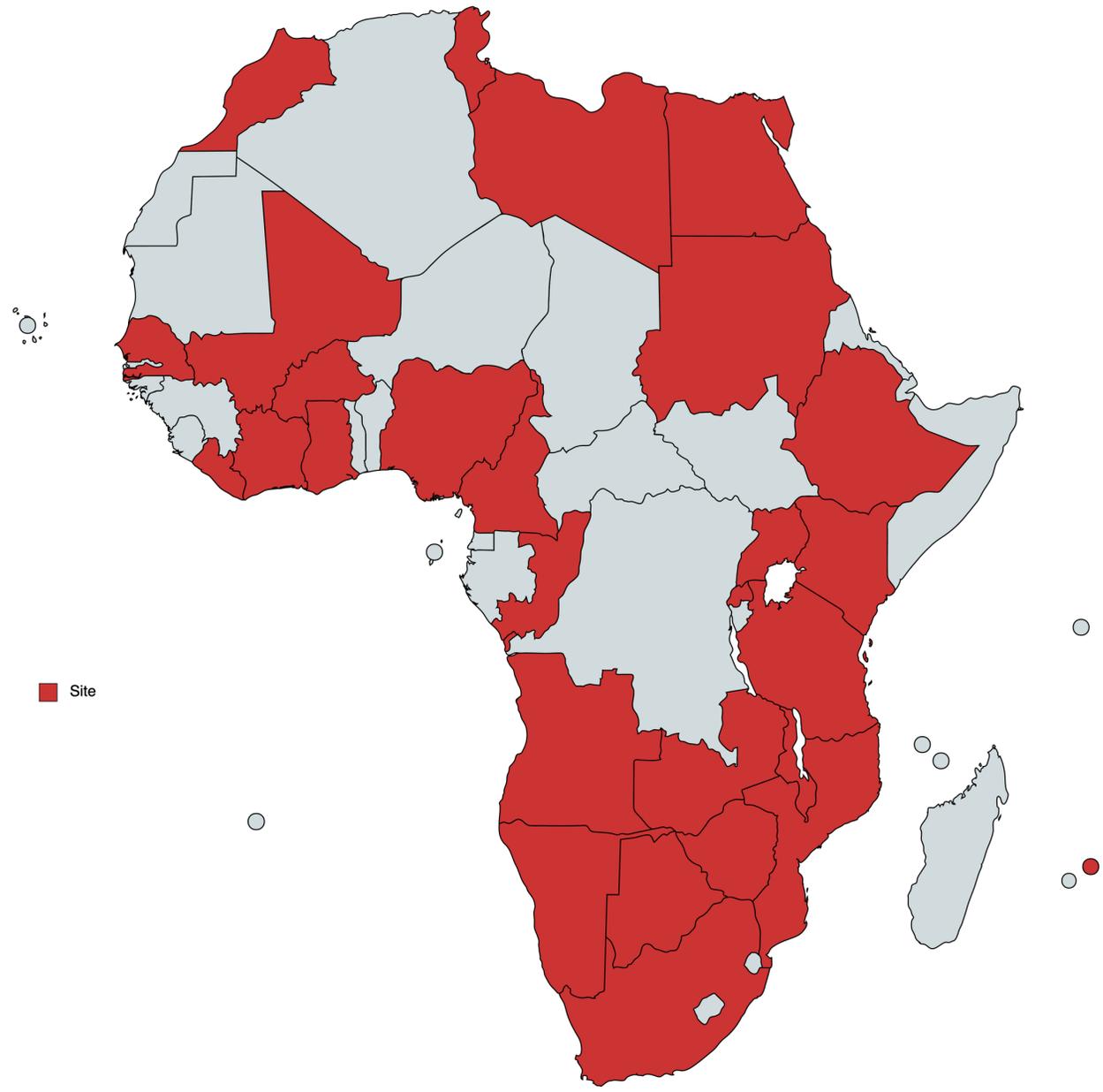
## Records linkage of electronic databases for the assessment of adverse effects of antiretroviral therapy in sub-Saharan Africa

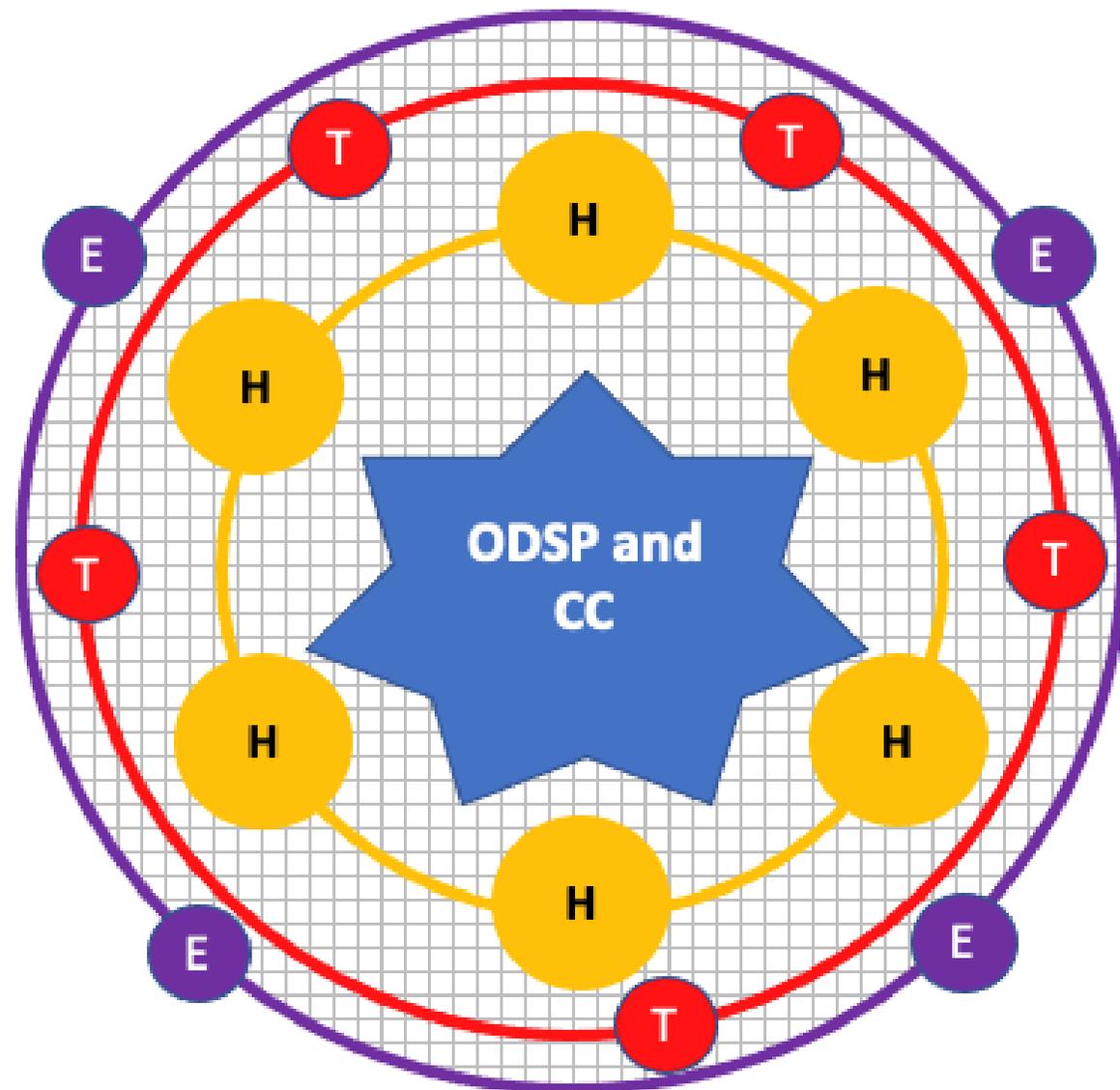
**Purpose:** In 2009, the Ministry of Health and Social Services in Namibia decided to conduct a confirmatory assessment of the risk of anemia associated with zidovudine (AZT)-based highly active antiretroviral therapy (HAART) using records contained in three electronic databases. These records did not share a unique identifying number. The first step was to apply probabilistic record linkage methods to link records in the three databases.

**Methods:** Records of persons, aged 19-65 years, newly initiated on HAART between January 2007 and June 2008, were selected from a pharmacy electronic dispensing tool (EDT) and linked to an electronic medical records database (ePMS) and a laboratory database (MEDITECH). Using the paper-based clinical record as the gold standard, we measured the sensitivity of the starting HAART regimen, that is, proportion of AZT users in the clinical record correctly identified in electronic record, and specificity of severe anemia, that is, proportion of non-cases of severe anemia in the clinical records correctly identified in the electronic record. Kappa and intraclass correlation coefficients were used to determine reliability.

**Results:** A total of 12 358 records were selected from EDT. Seventy-six percent and 58% of EDT records were linked to ePMS and MEDITECH, respectively. The sensitivity of the starting HAART regimen was 98%, whereas specificity of severe anemia was 100%. The reliability scores for variables including weight, hemoglobin, and CD4 counts were moderate to perfect and ranged from 0.59 to 0.99.

**Conclusion:** Probabilistic record linkage methods were effective for records linkage in this sub-Saharan African setting.



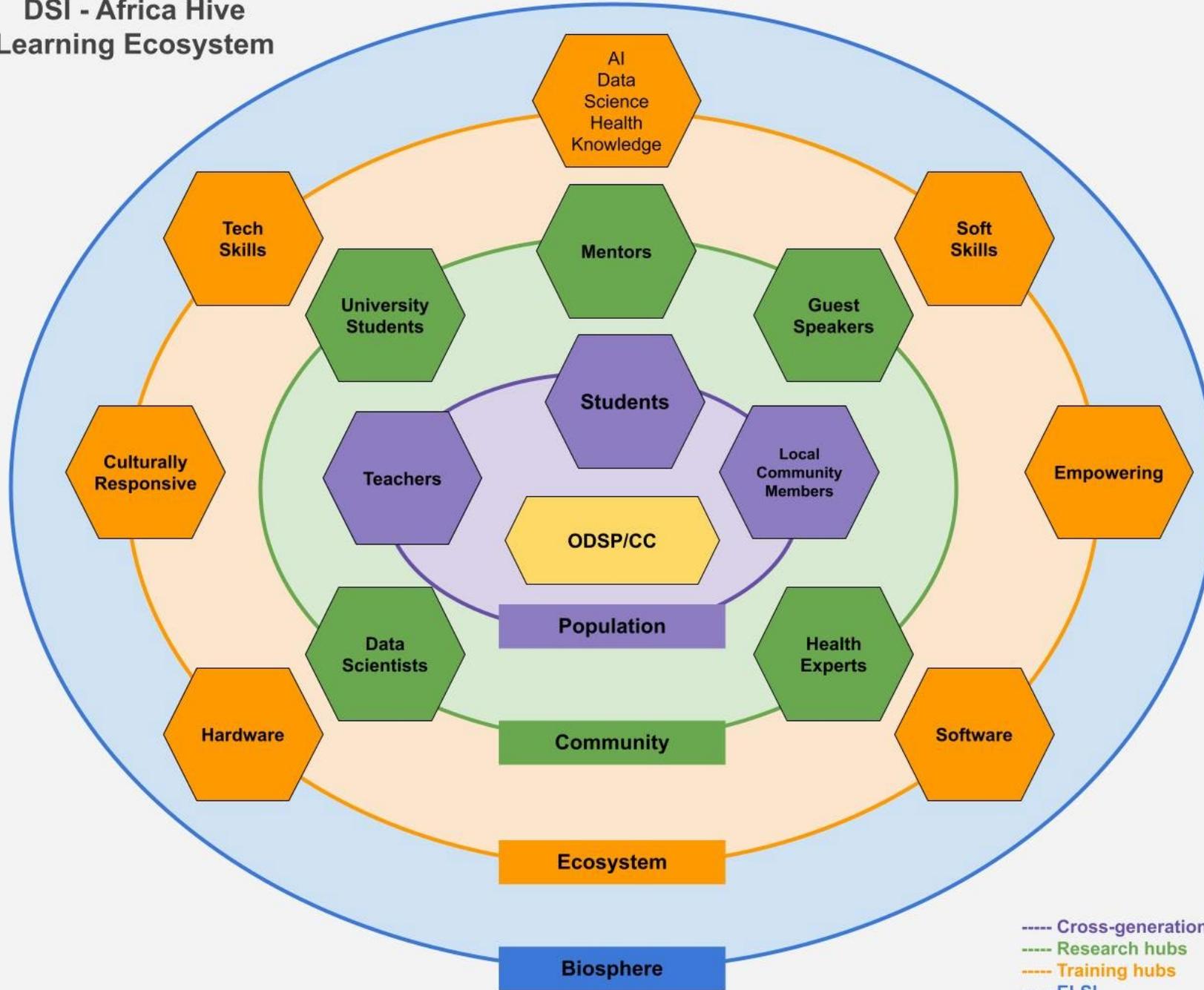


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# DSI - Africa Hive Learning Ecosystem



“Networking is our obligation”





# Innovation





Thank you  
[judywawira@emory.edu](mailto:judywawira@emory.edu)

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