



Challenges and Opportunities in Achieving Equity in Global Kidney Health

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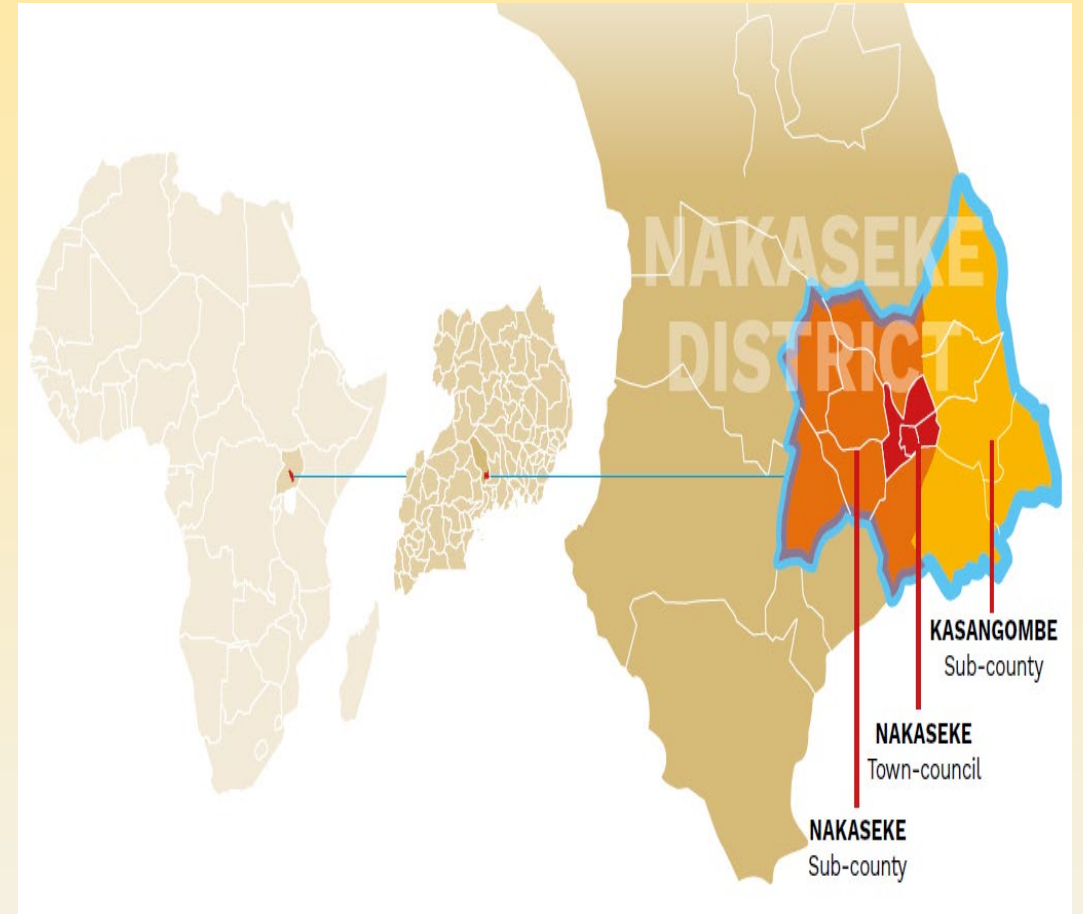
Potential conflicts of interest declaration

The content of the following speech is the result of efforts to achieve the maximum degree of impartiality and independence.

As a speaker, I hereby affirm that there are **no conflicts of interest** concerning the content of the following speech that are the result of employment, an advisory function or financial contributions for research projects, lectures or any other activity.

Talk Outline

- What is equity for health (Kidney health)?
- Global Burden of Kidney disease
- Global challenges of CKD
 - Global, SSA, Uganda
- Opportunities in achieving equity in NCDs including (Kidney Health)-Balamu Model
- Uganda Kidney Foundation



What is social inequality? What is equity?

Social inequality occurs when resources in a given society are distributed unevenly, typically through norms of allocation, that engender specific patterns along lines of socially defined categories of persons.

Equity is fairness and justice



Determinants of Health

Economic Stability	Neighborhood and Physical environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health Coverage
Income	Transportation	Language		Support system	Provider availability
Expenses	Safety	Early Childhood education	Access to health options	Community engagement	Provider Linguistic and cultural competency
Debt	Playgrounds	Vocation Training		Discrimination	Quality of Care
Medical bills	Walkability	Higher Education		Stress	
Support	Zip code/ Geography				



Health outcomes

Mortality, Morbidity, Life expectancy, Health care expenditures, Health status, Functional limitations

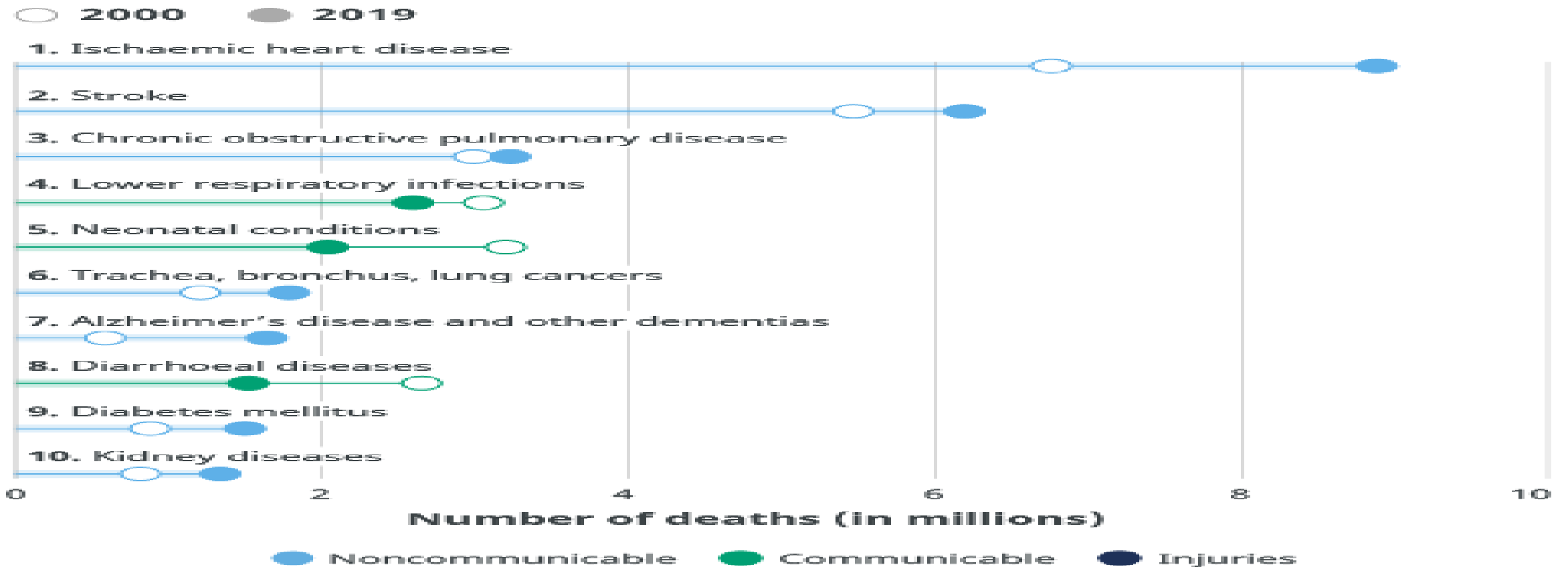


Your ZIP Code Matters More Than Your Genetic Code!



LEADING CAUSES OF DEATH GLOBALLY

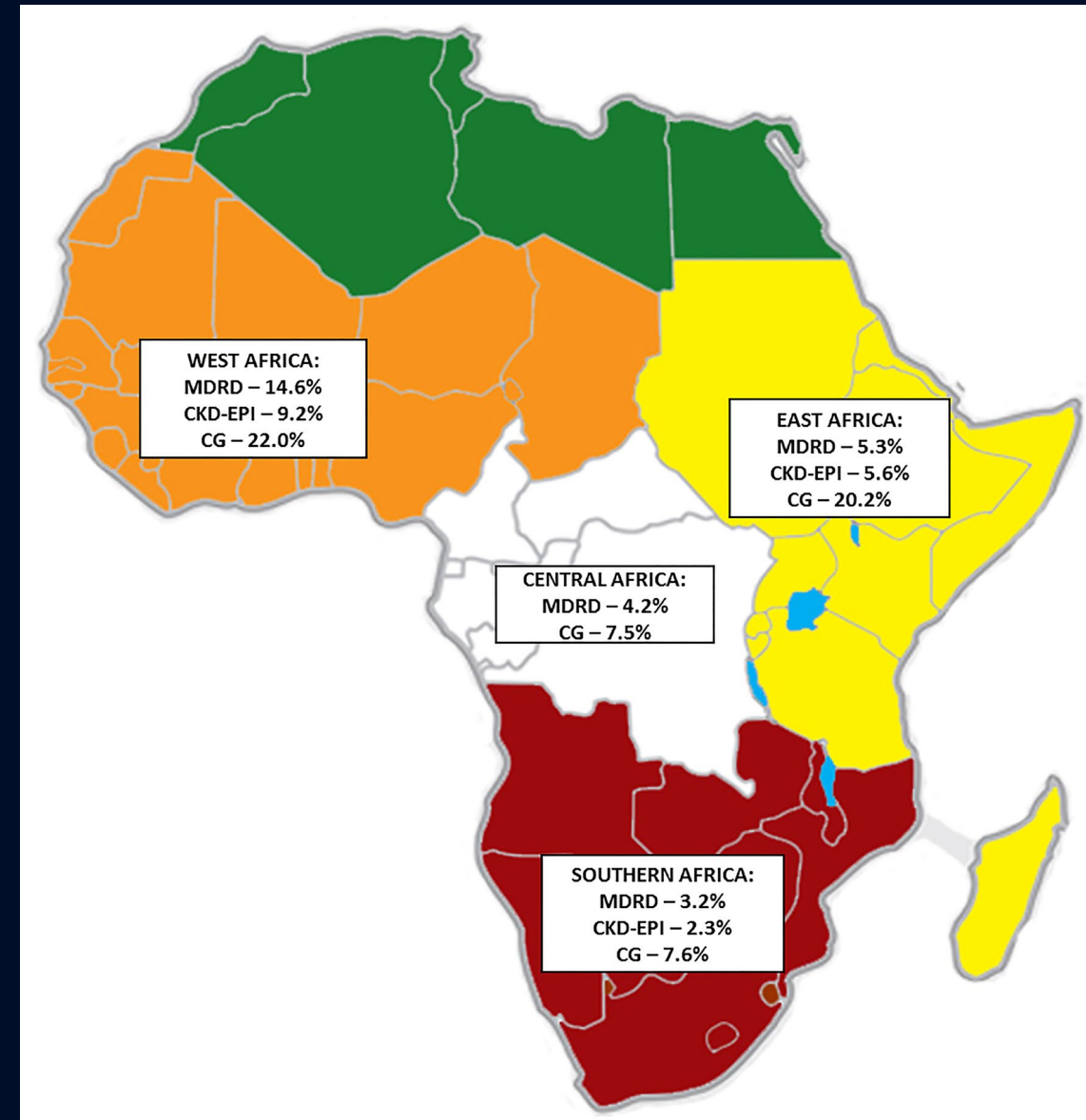
Leading causes of death globally



Source: WHO Global Health Estimates.

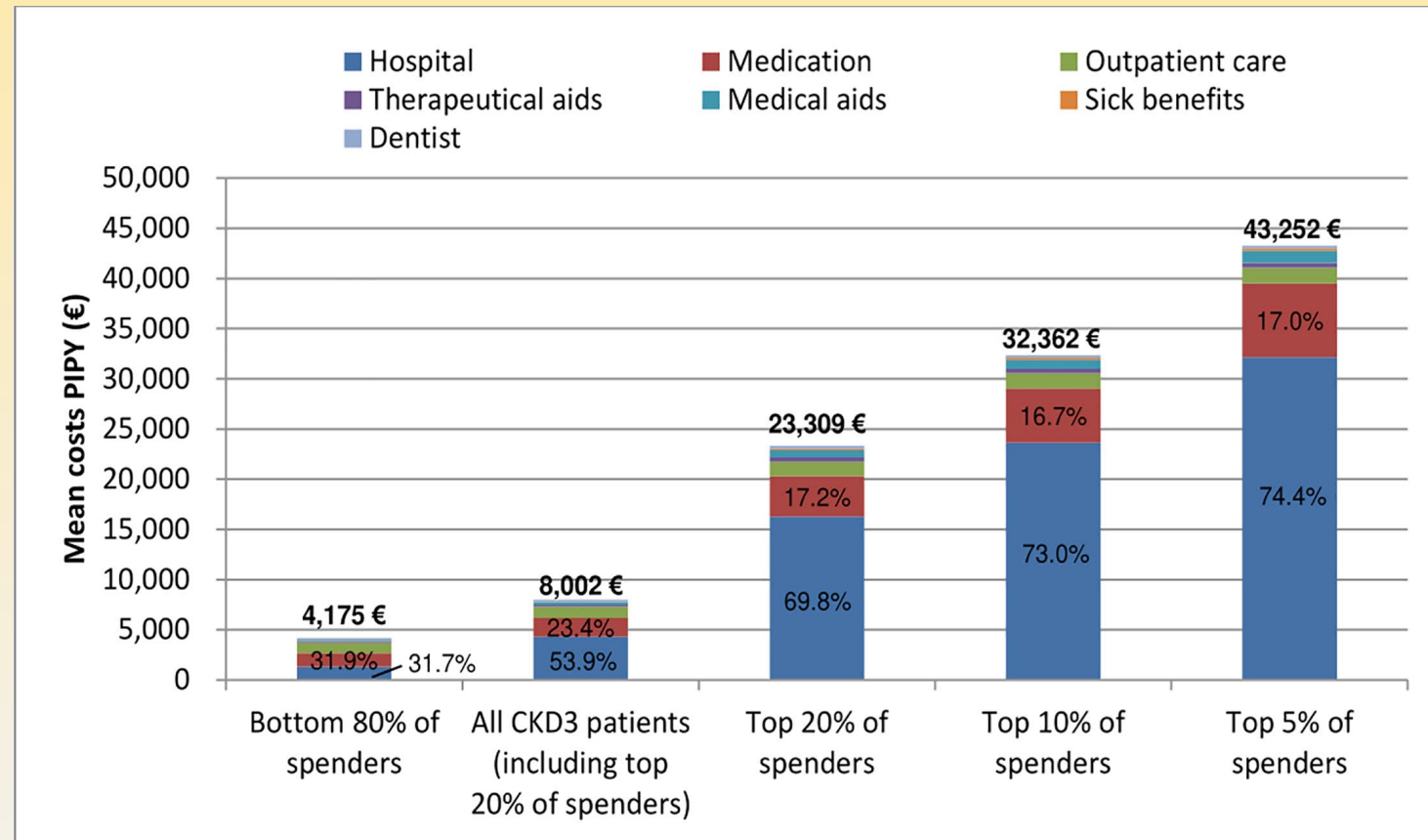
Burden of CKD in the world and SSA

- **>800 million** people are estimated to have CKD in the worldwide (Kovesdy CP, 2022)
- **One in 10 people has kidney Dx**
- **13% of Adults** in SSA have some form of kidney disease (Stanifer, 2014)
- **50% of adults** living with CKD do not know they have it.

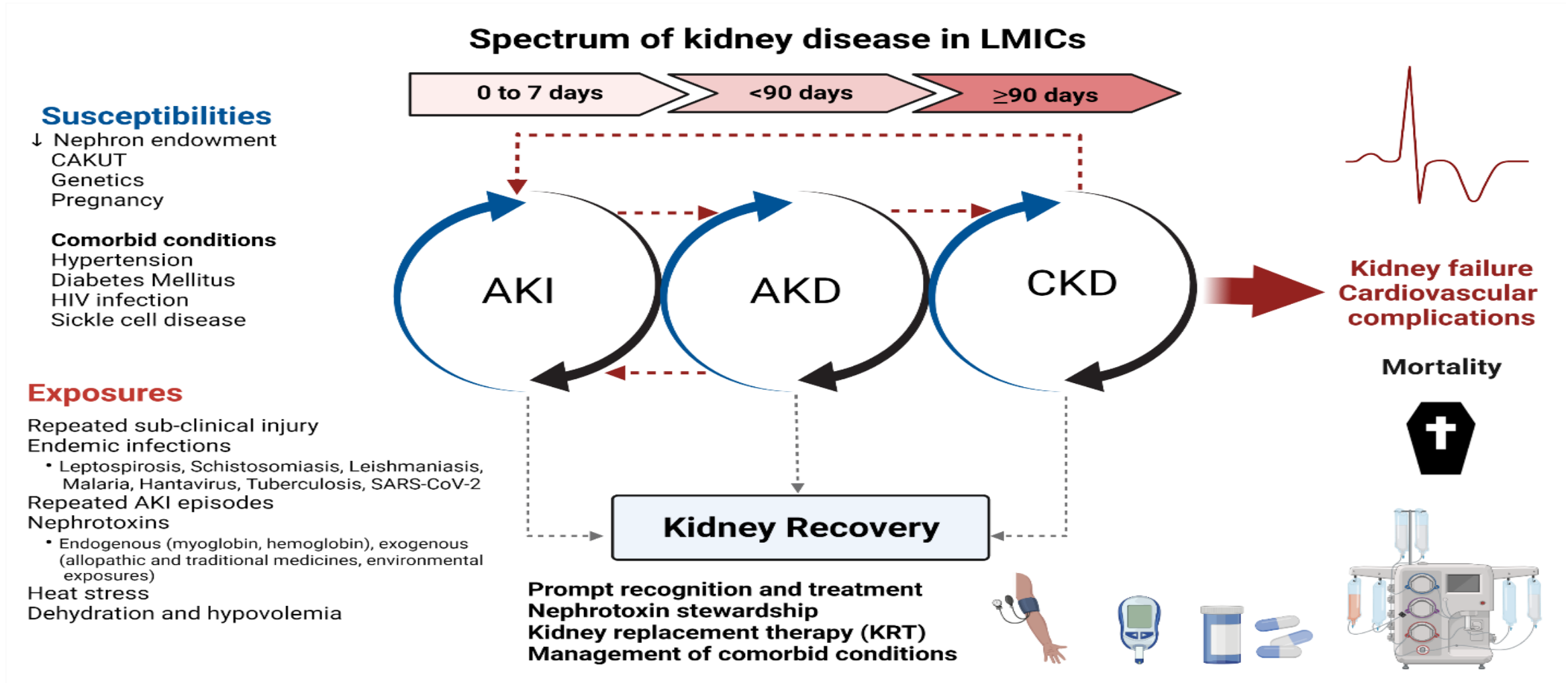


Cost Drivers of CKD in Germany

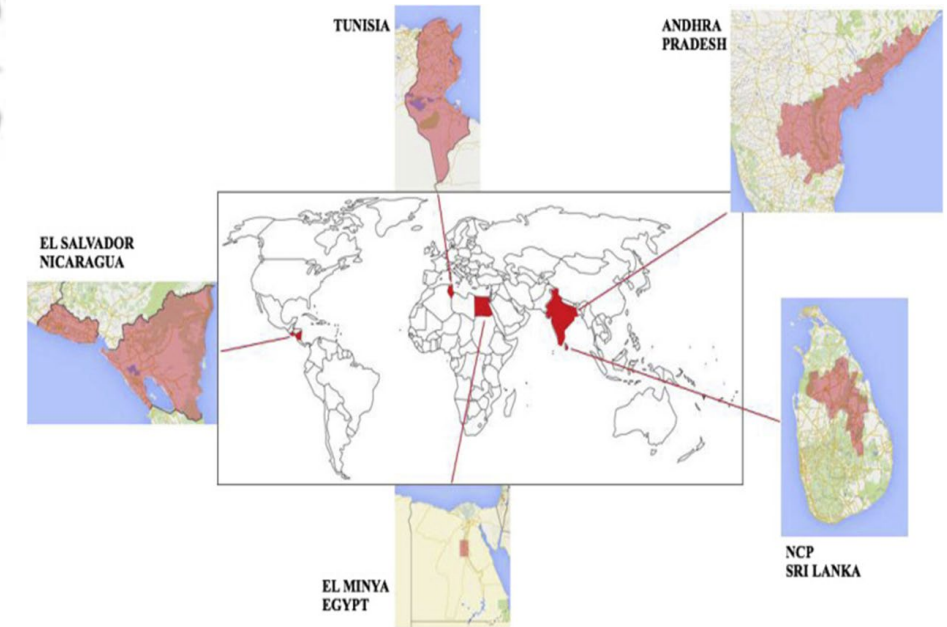
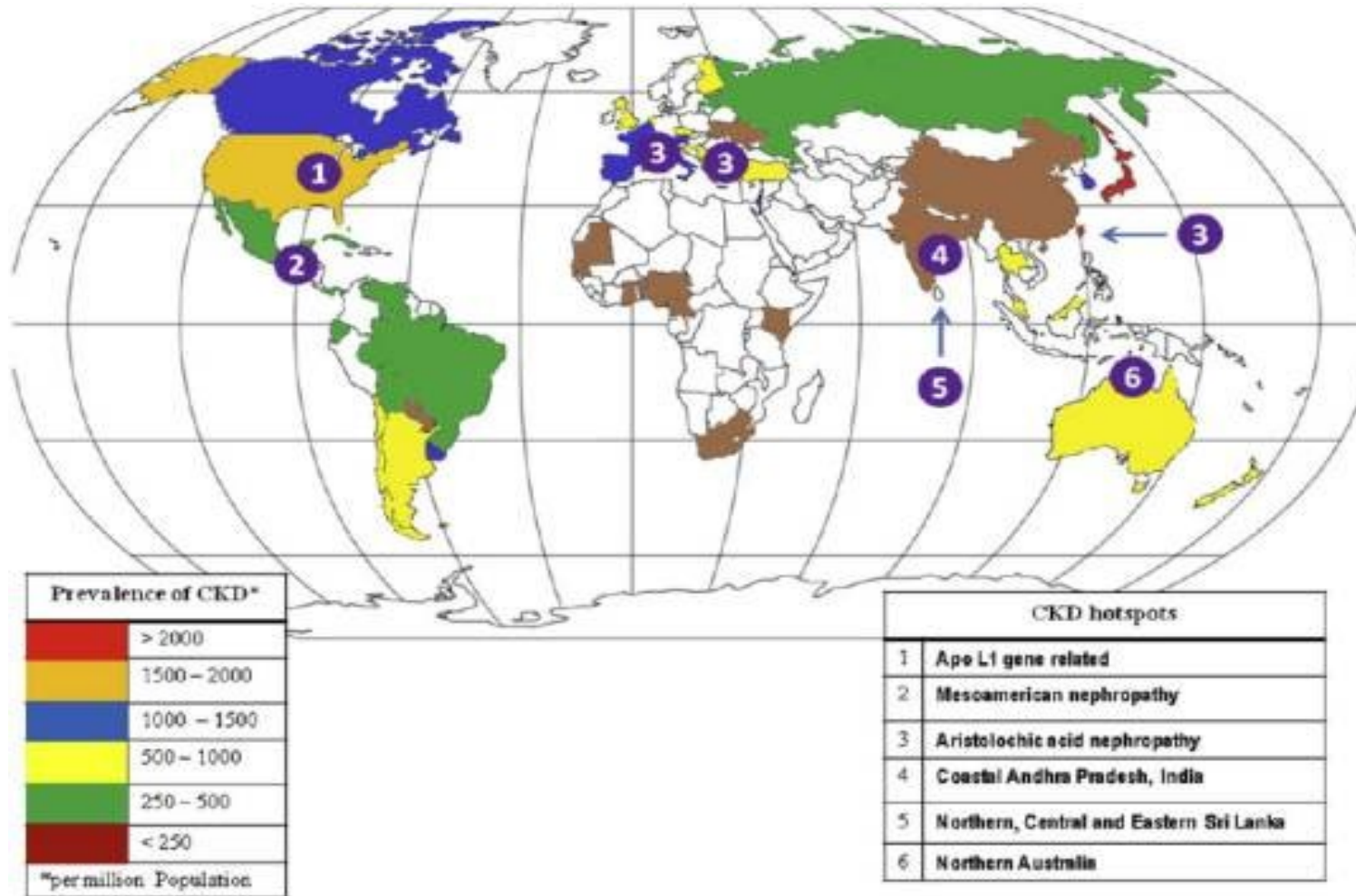
- Study of 3,687,015 insurees
- Average annual expenditure of €2,876 cf with € 44,374 on dialysis
- Major drivers- hospitalization, -medications -dialysis



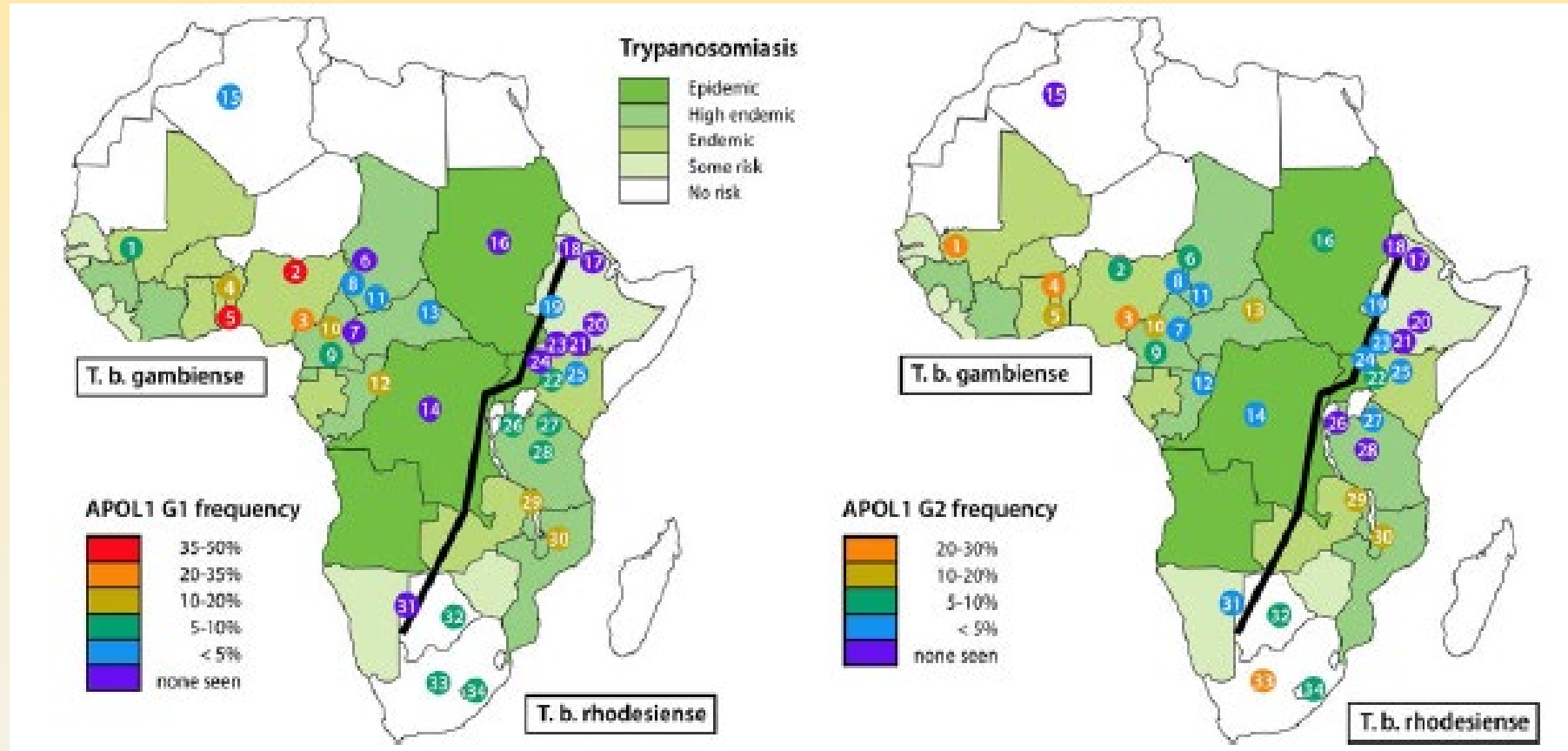
Kidney disease in LMIC



Chronic Kidney Disease of Unknown etiology-CKDu

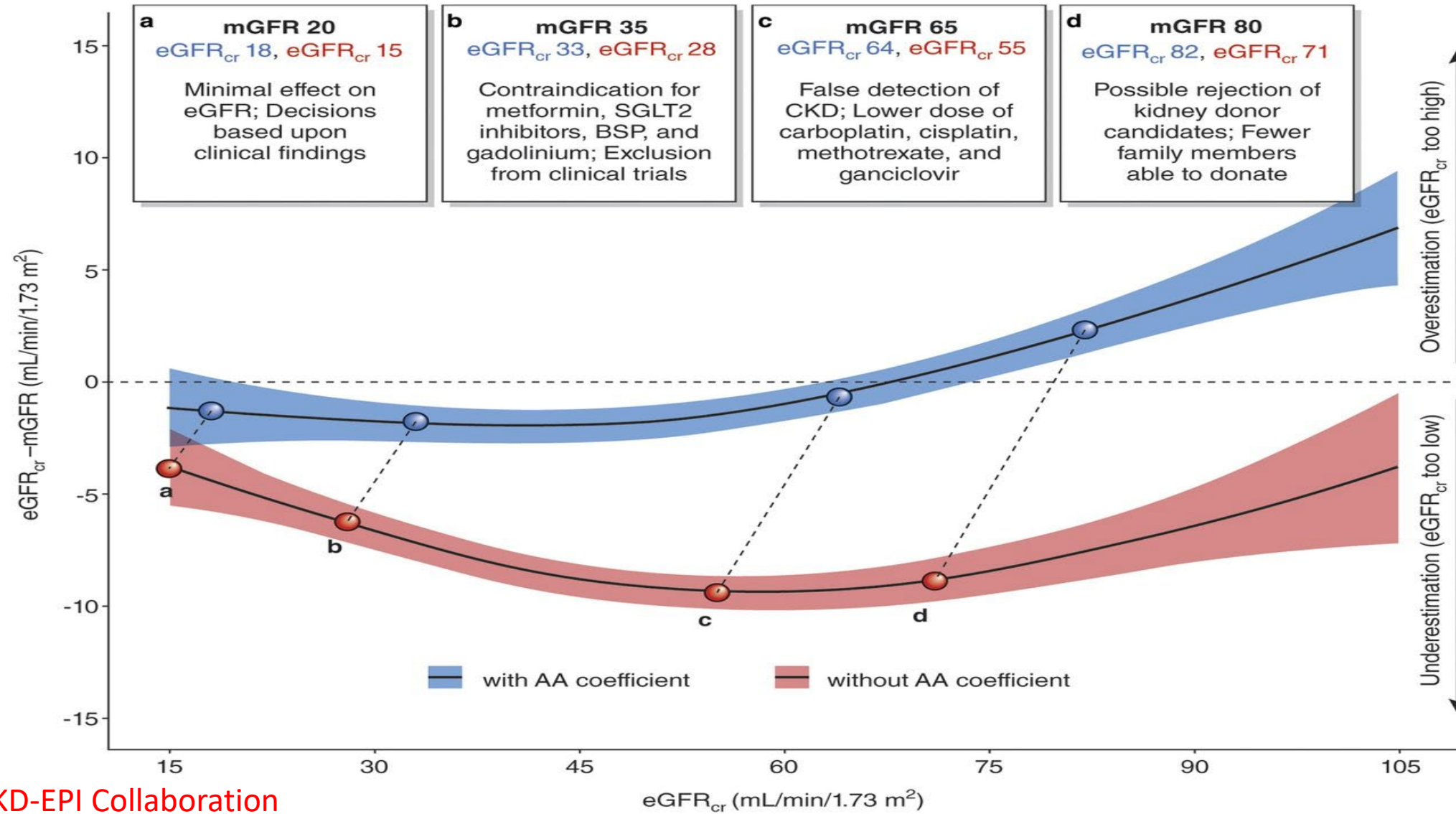


APOL1 and Kidney disease in Africa

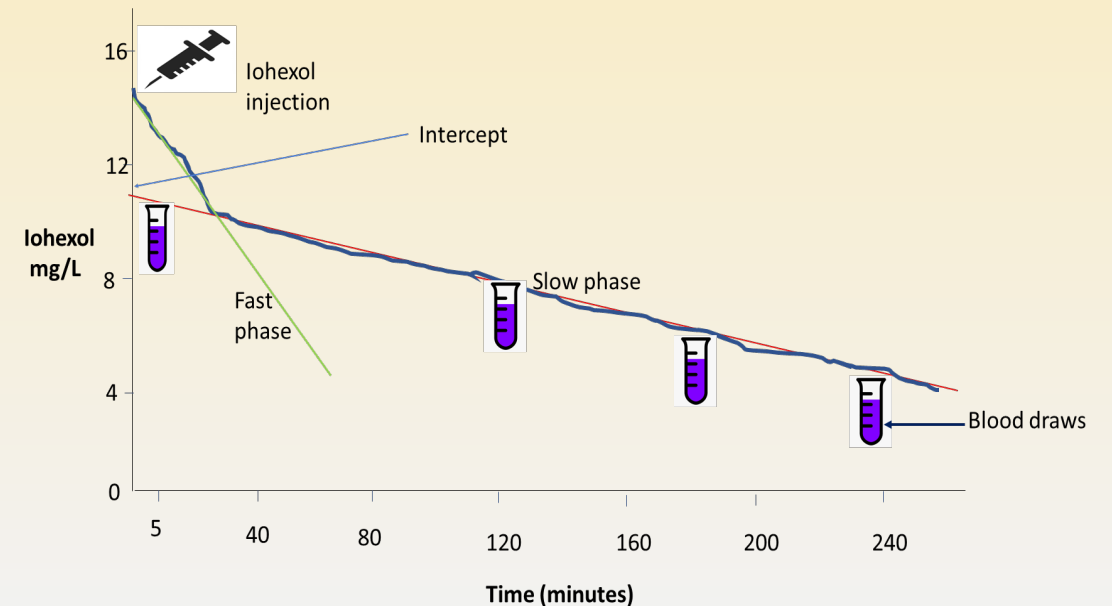
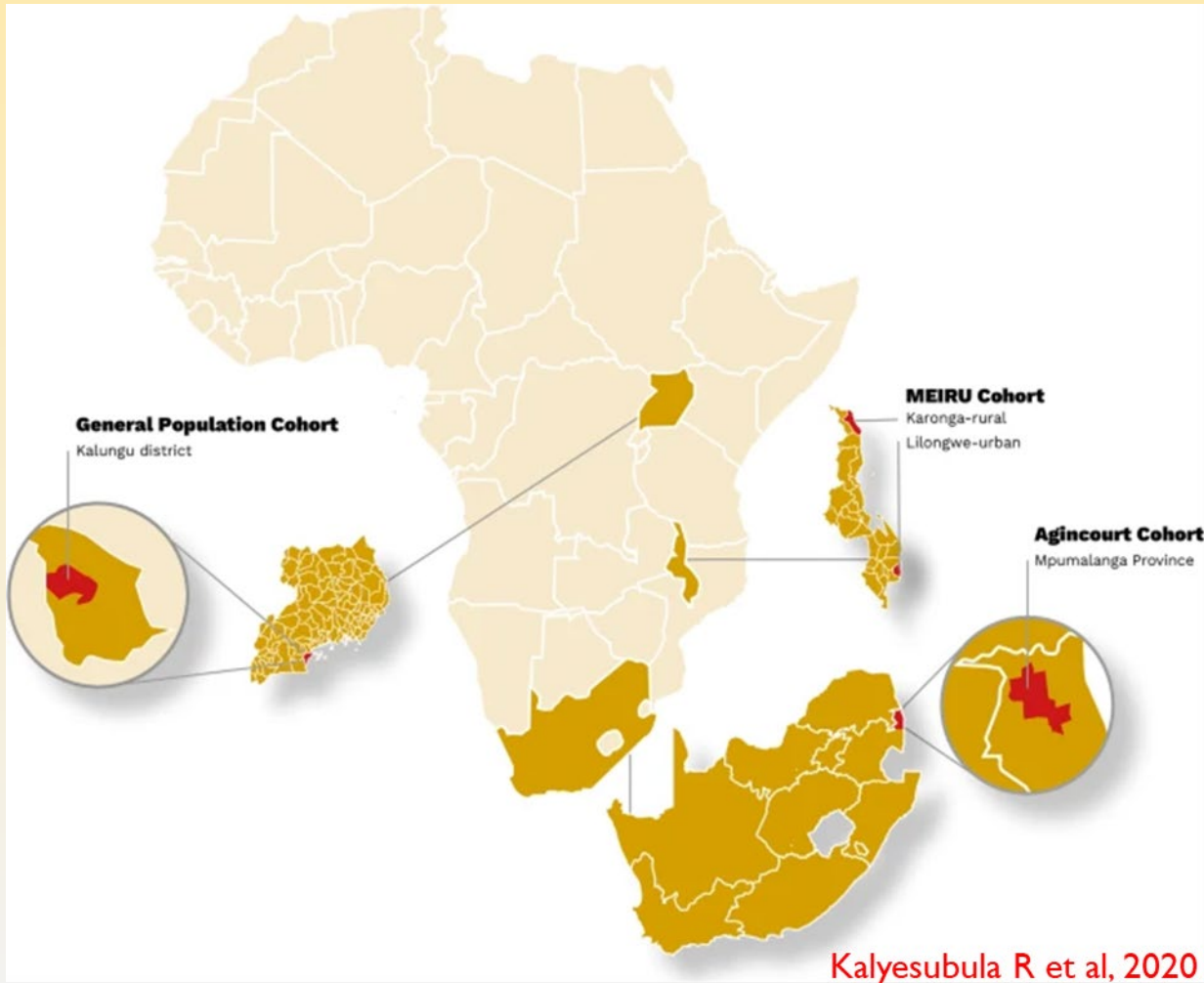


Genovese G, 2010; Freedman BI, 2019; Kasembeli A.N, 2015; Ekulu P.M, 2019

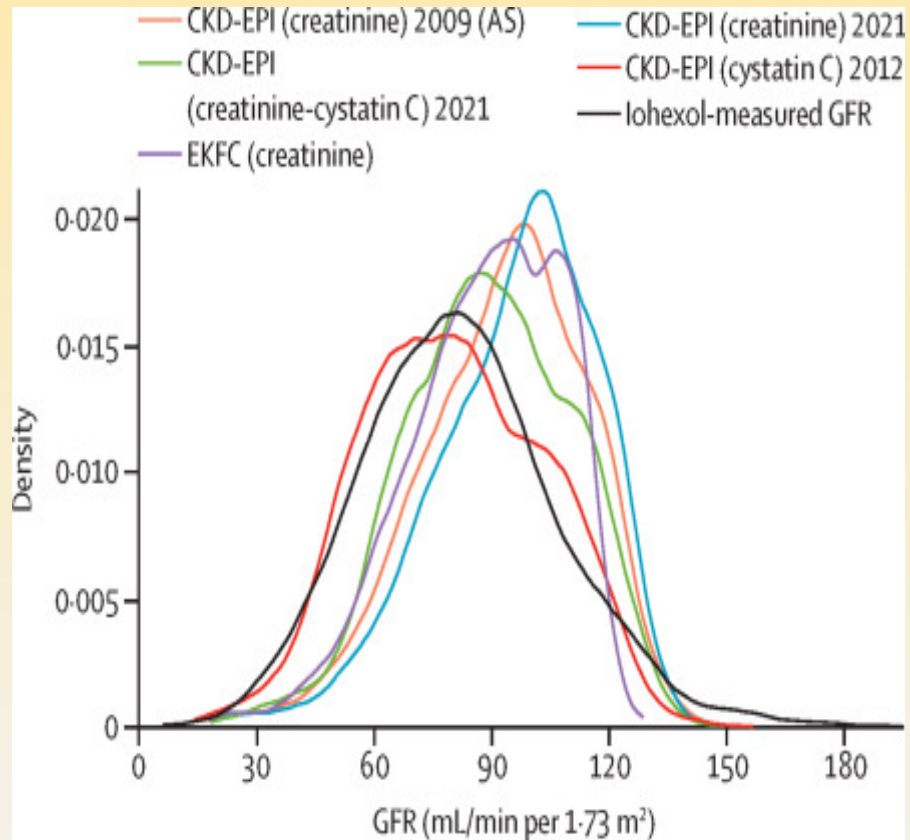
Accuracy of GFR assessment affects care among blacks



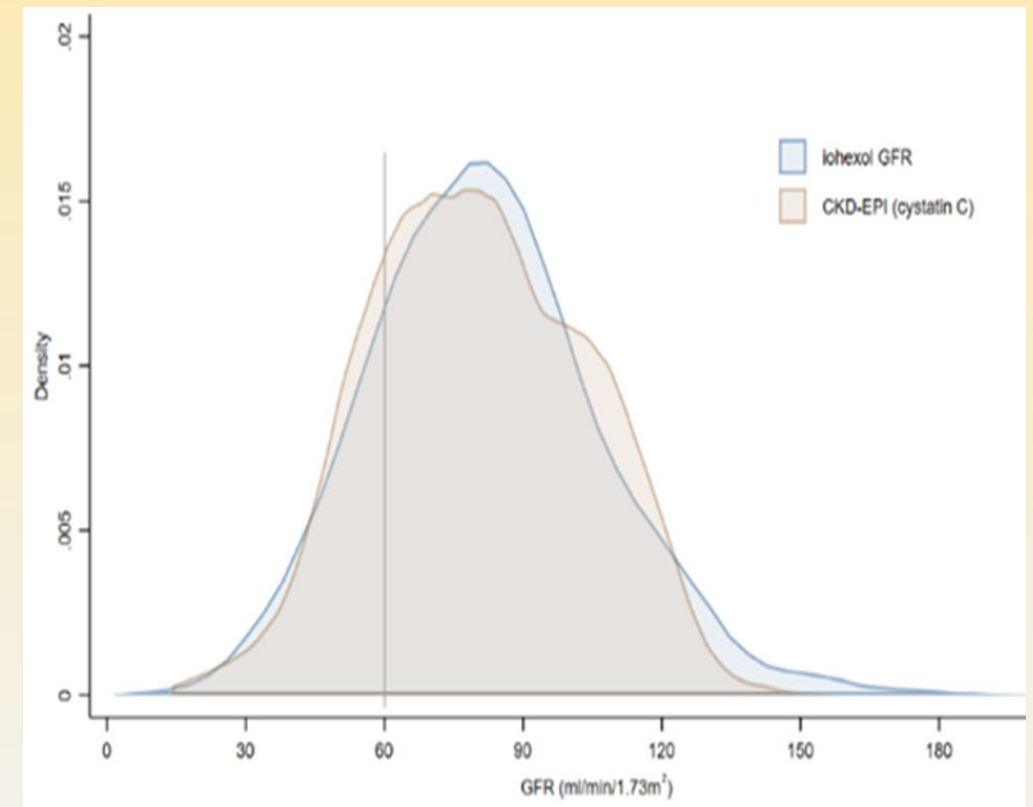
THE ARK study-measuring GFR in SSA



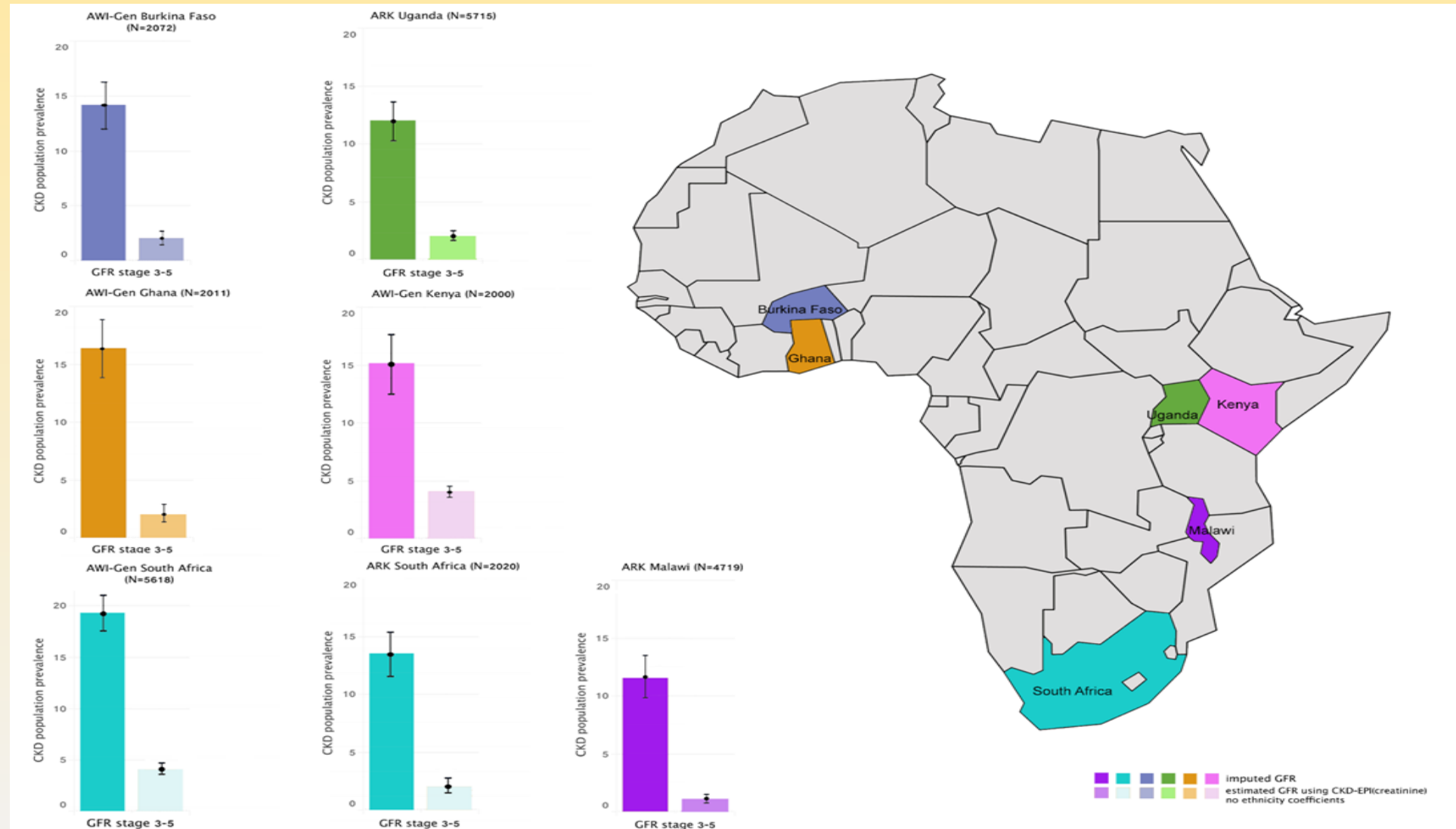
Creatinine based equations underestimate CKD in SSA



What about Cystatin C?



Predicting of impaired renal function in SSA using imputed GFR compared to eGFR across Africa



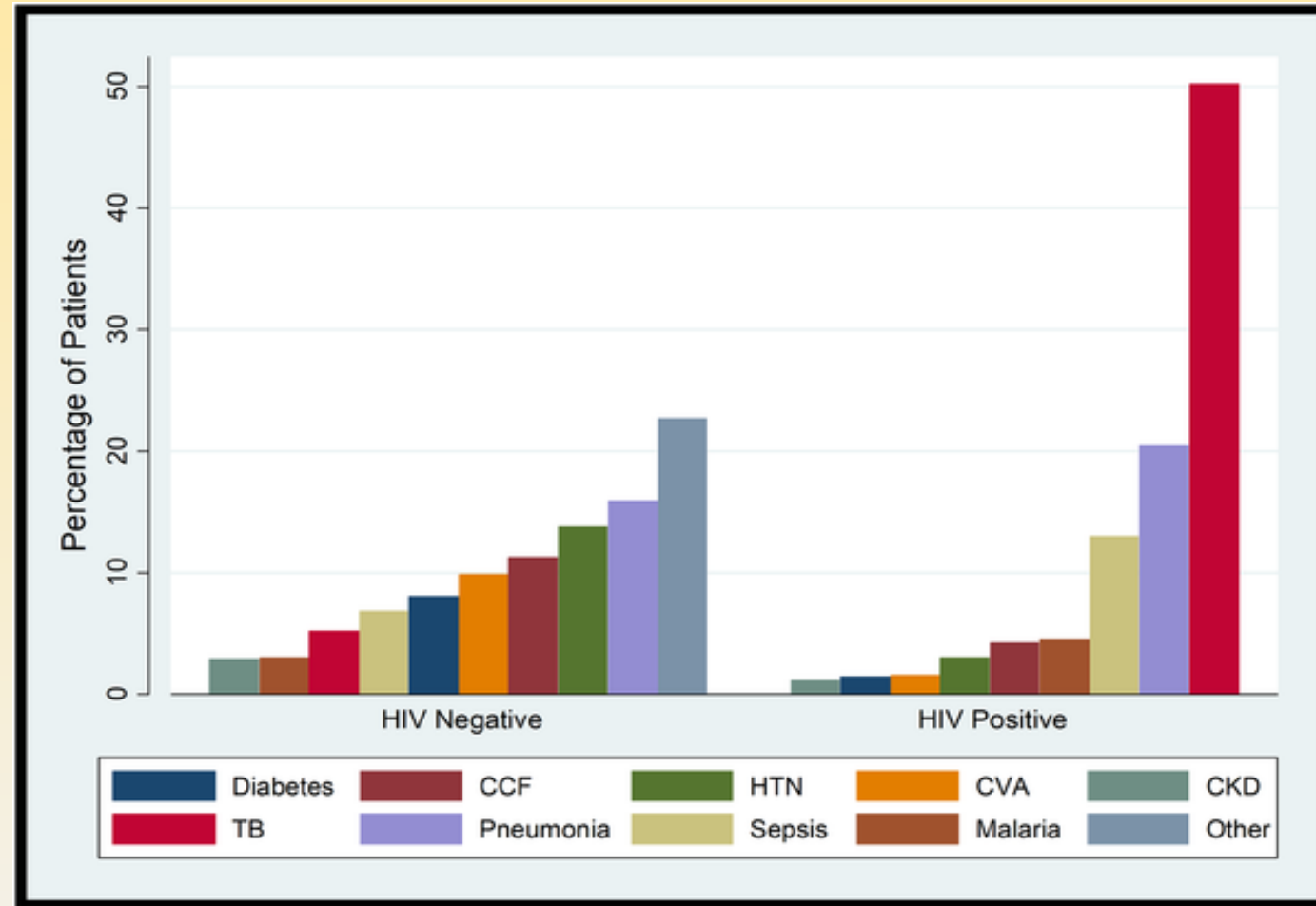
Causes of death among Hospitalized patients at Mulago Hospital by HIV-status, Kampala, Uganda,

50,624 pts were hospitalized (51.7% F) 2011-2014

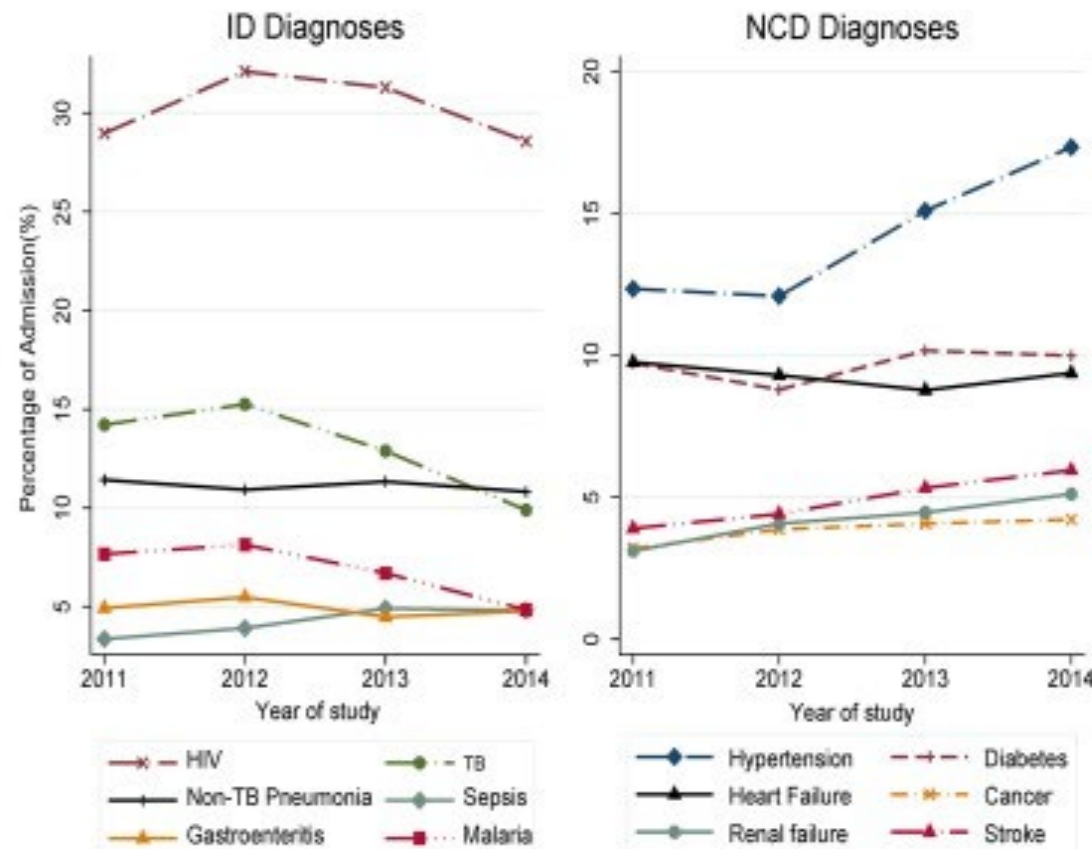
- HIV/AIDS (30%)
- HTN (14%)
- CKD, HTN, stroke and cancer on the increase

8,637 (17.1%) died

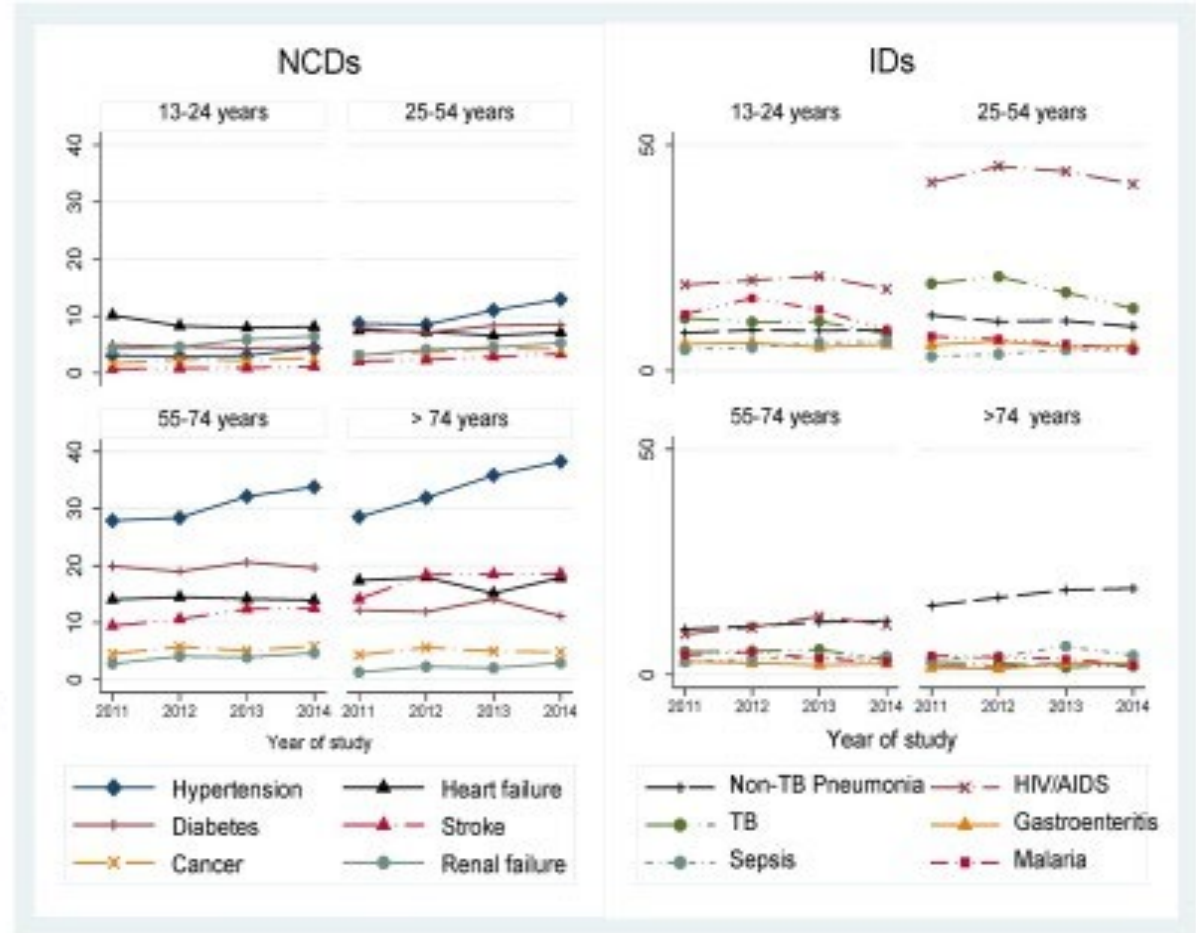
- non-TB pneumonia (28.8%),
- TB (27.1%),
- stroke (26.8%),
- cancer (26.1%)
- HIV/AIDS (25%).



Kidney disease kills people in Uganda!



Panel A



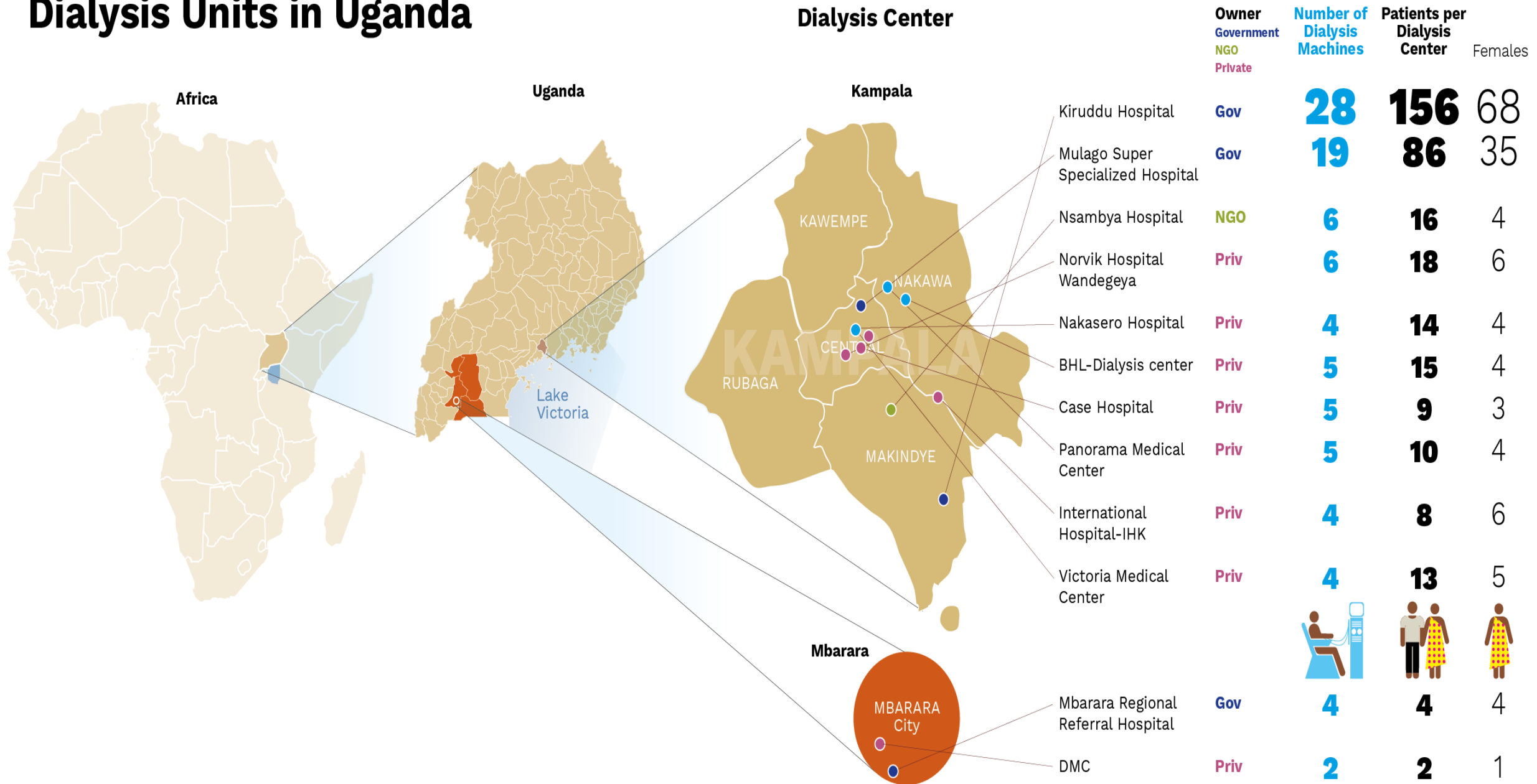
Panel B

Kidney disease is very costly!

Item	Govt subsidized cost	Private
1 st Dialysis temporary	200	350
1 st Dialysis permanent	500	900
A-V fistula	250-400	400-1,000
Weekly dialysis	90	250- 500
Iron and Epoetin	50- 100	50-100
Other drugs estimate/wk	20-50	30-60
Kidney transplant	-	20,000- 35,000\$ USD

Context: Medical officer earns 600-1,000 USD per month

Dialysis Units in Uganda



Kalyesubula et al, 2021, Kidney 360-Global perspective

Evidence based strategies to slow kidney progression

- Screening for high risk groups
- RAAS INHIBITORS
- SGLT-2 INHIBITORS
- The mineralocorticoid receptor antagonists (MRAs)-Finerenone.
- MGT OF HTN/DM and comorbidities
- Regular exercise
- Dietary habits

Most of these interventions are not readily available- too expensive

Proposed solutions for global equity for kidney health

- Capacity Building
- Collaboration
- Global and Local Research
- Inclusion
- Political will
- Advocacy
- Enhanced use of information technology
- Community engagement

Capacity Building

- Training for nephrology
- Adequate resources
- Human resource development
- Tools for use
- Education, Research and Patient care



International Society of Nephrology

ISN
FELLOWSHIP PROGRAM

THE FELLOWSHIP PROGRAM OFFERS SPECIFIC
AND HANDS-ON CLINICAL OR RESEARCH TRAINING
OPPORTUNITIES TO YOUNG KIDNEY SPECIALISTS IN THE
DEVELOPING WORLD SO THEY
CAN RETURN TO IMPROVE STANDARDS
OF CARE IN THEIR HOME COUNTRY AND
ULTIMATELY BECOME
LEADERS IN THEIR FIELD.

**"In Uganda, we only
have three practicing
nephrologists to treat over
30 million people.**

As an ISN Fellow at Yale, I learned
how to manage patients with acute
kidney injury and end stage renal
disease and published one paper in
a peer reviewed journal. I am now
Deputy Director of the renal unit at
Mulago National Referral Hospital
and the residency program at
Makerere University College of
Health Sciences, Department of
Medicine. We now hope to start an
acute peritoneal dialysis service
to supplement the four dialysis
machines at our hospital
in Kampala."

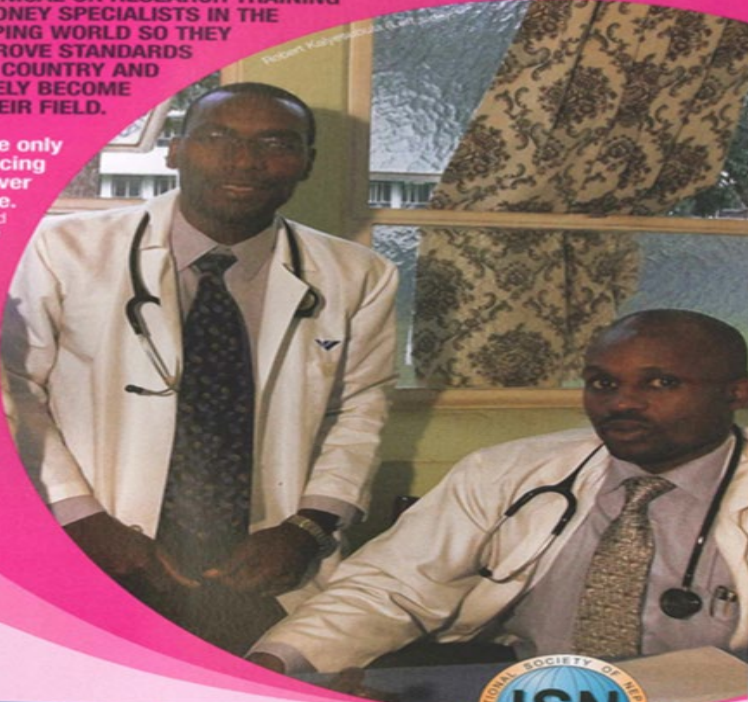
Robert Kalyesubula,
Uganda and USA

ISN Global Outreach (GO) Programs
Building kidney health equity through education, training and research

More
information
about ISN Global
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Programs:
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www.theisn.org

Advancing Nephrology around the World

ISN
INTERNATIONAL SOCIETY OF NEPHROLOGY
1960



ISN-ELP Fourteen Leaders from 12 countries



ISN-ELP IMPACT !

ELP Program

Delivery

- Group projects
- Meeting experts
- Online course-Association for Physician Leadership.
- ISN working group attachments
 - CPD

Gained skills

- Networking
- Implementation research
- Entrepreneurship
- Advocacy
- Stakeholder engagement

Impact

- Network of fellows around the globe
- New collaborations
- Joint grant applications
- Leadership within ISN , globally and regionally
- Publications
- Long-life partnerships

**Mentorship, expert
sessions, shared goals
projects**

Collaborations

- UKF
- Meeting the politicians
- Engaging international partners

ISN-ELP

KDIGO

WHO

Training Institutions

- Engaging local communities & pts
- Involving clinicians



Advocacy

- UKF
- Meeting the politicians
- Engaging international partners

ISN-ELP

KDIGO

WHO

Training Institutions

- Engaging local communities & pts
- Involving clinicians

NewVision
UGANDA'S LEADING DAILY

Mulago Hospital lowers cost for dialysis treatment by 60%

Apr 06, 2013



Uganda Kidney Foundation



- a) NGO
- b) Mission is to prevent kidney diseases and care for patients with kidney diseases in Uganda
- c) Organizes CMEs and Awareness Campaigns
- d) Celebrated World Kidney Day, every March
- e) Media campaigns on kidney dx prevention
- f) Patient Advocacy
 - Kidney msgs/books
 - TV, Radio, Out door



Local solutions-Balamu NCD Project

Integration and scaling up NCD services in Nakaseke district:
The community health-worker centered model



To improve and expand NCD Care

- Set up 3 NCD Clinics
- Trained 20 Community Health Workers
- Screened 16,000 self reported NCDs (HTN, DM, CRD, CKD)
- Set up Pocket Doctor Booklets as part of community education



Developing research capacity and infrastructure

- Designed studies on CHW-delivered models of NCD care
- Collaborations with several partners and publications
- Designing RCT study to assess the effectiveness a multi-component CHW-delivered intervention of Blood pressure and Blood sugar control
- Mobile health interventions for NCD care
- Set up CAB
- Developing an EMR system for NCD
- POC Cystatin C - awaited



Global health faculty and students



Dr. Kalyesubula
with
NH/UVMLCOM at
Nakaseke
Hospital



Dr. Katarina Kast, a medical
student from Germany
attending to a patient at
Nakaseke hospital



Dr. Teresa Ermer, a
medical student from
Germany teaching CHWs
about NCD screening

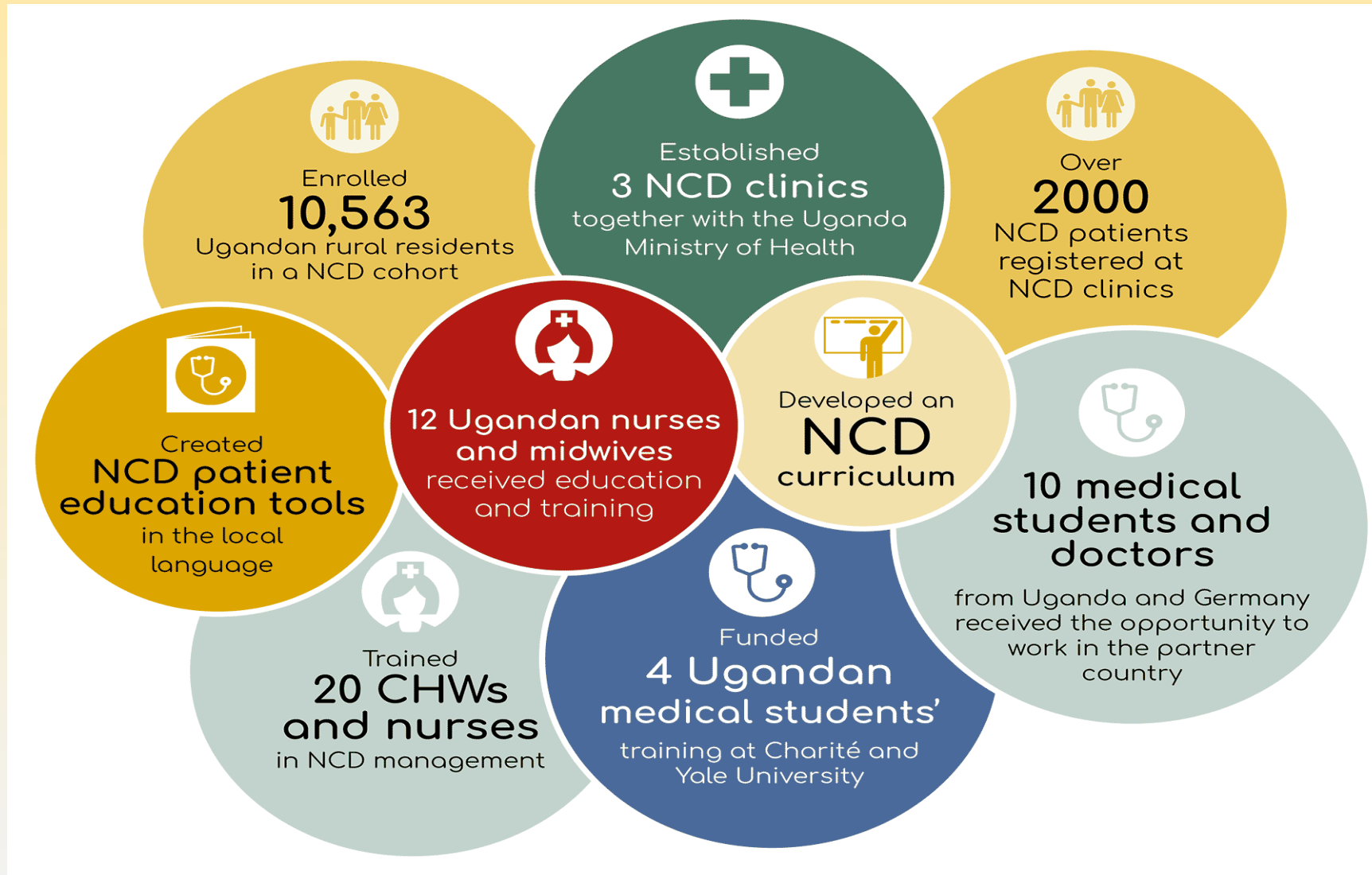


Prof Rastegar visiting
ACCESS-Nakaseke



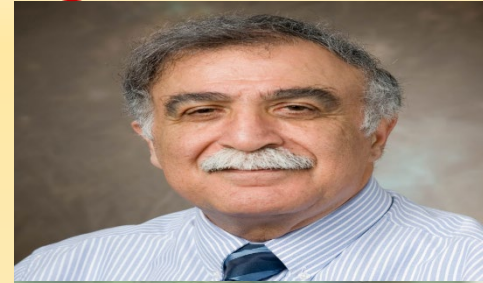
Dr. Alex Kayongo attending the
Nephrology ward at Charité
Universitaetsmedizin Berlin

Balamu Accomplishments



Mentorship is a key ingredient for global health equity!

Prof Asgah Rastegar
Nephrologist,
Yale School of Medicine



Prof. Kai-Uwe Eckardt
World Leader, Charite;
KDIGO



Prof Moses R Kamya
Makerere University

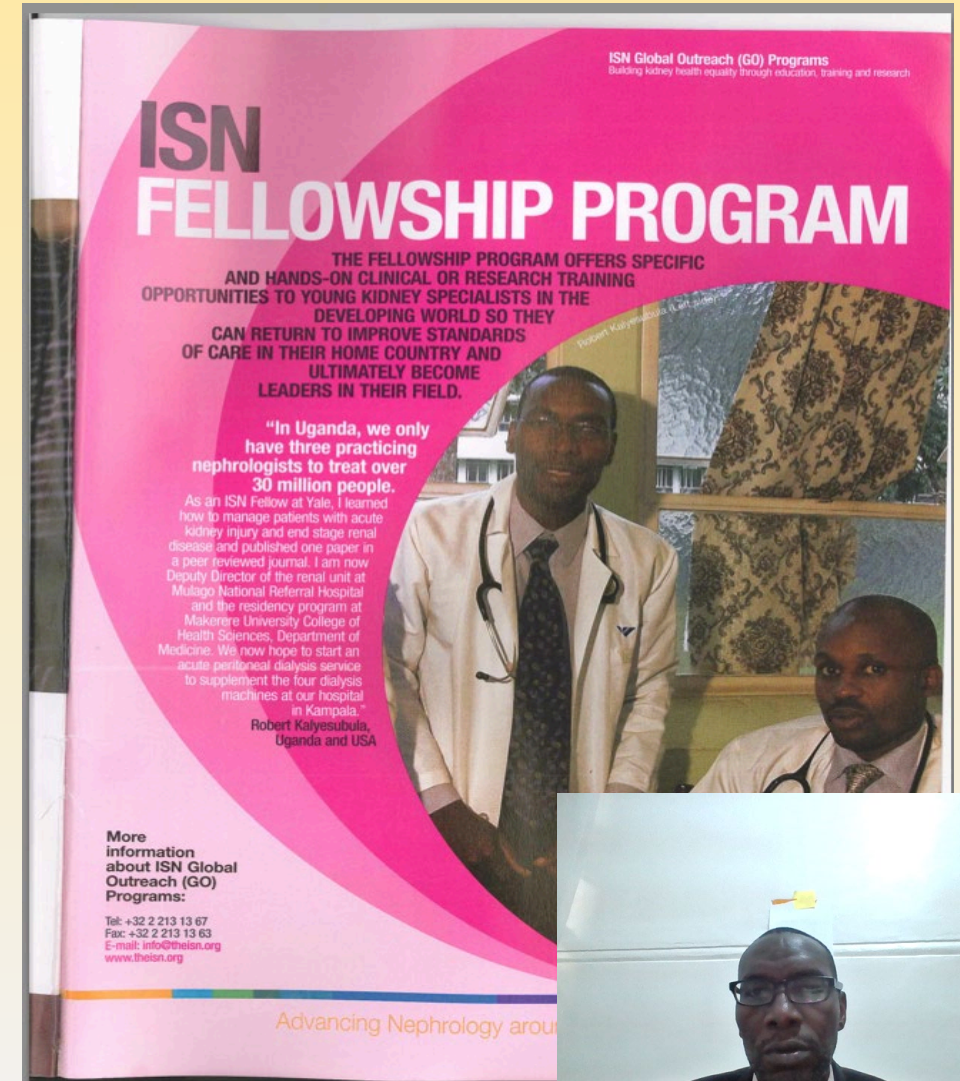


Prof Laurie Tomlinson
London School of Hygiene and
Tropical Medicine



Perspective Future

- Scale up services
- Political Support
- Train more experts
- International collaboration and Partnership Kidney care
- Introduce PD & HD centers beyond Kampala
- Set up transplant center(s)
- Local & Regional training programs
- Use technologies
- Health Insurance



Achieving better kidney health



Thank you!

- Conference organizers
- Scientific committee (Prof. Erley, Prof. Eckardt and Prof. Martin Kuhlmann)
- Prof Felix Knauf
- Else Kröner-Fresenius-Stiftung, Germany
- Charité Universitätsmedizin Berlin, Germany
- Ministry of Health Uganda
- Makerere University College of Health Sciences, Uganda
- International Society of Nephrology/ELP
- ACCESS Uganda-Balamu

