



RenAIICare

Affordable and Sustainable
Dialysis for ALL

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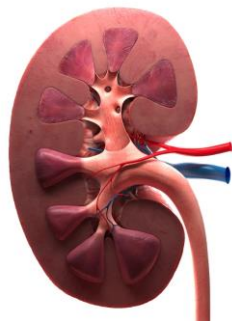
April 1st, 2025

Context

- Kidney Disease (KD) has a global prevalence around 11%¹
- Chronic Kidney Disease touches more than 850 Mio people
- CKD is the 7th leading cause of death, might be the 5th by 2040



Dialysis Unit in Dalal Jamm Hospital, Dakar, 2025



Kidneys are the filters of the body

- Remove waste products
- Correct fluid, electrolytes and pH imbalance
- Keep bones healthy via vitamin D
- Control blood pressure
- Initiate RBC production

Acute Kidney Injury (AKI)

- Sudden decline in GFR
- Various causes (dehydration, nephrotoxin, crushed member...)
- May be rapidly reversible if treated
- May lead to CKD progression and kidney failure if not treated

Chronic Kidney Disease (CKD)

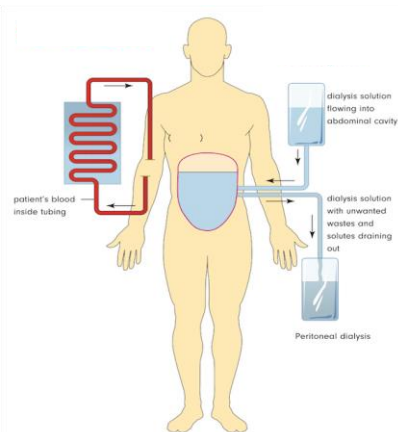
- Progressive and irreversible syndrome of reduction in renal capacity (5 stages)
- Asymptomatic in the early stages
- Decrease in Renal function > 3 months
- Final stage called End-Stage Renal Disease (ESRD)

Two types of KRT

- Kidney transplant
- Dialysis

Two types of dialysis

- Hemodialysis (HD)
- Peritoneal Dialysis (PD)



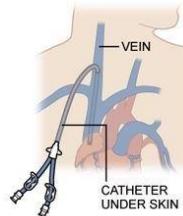
How Dialysis Works

In-center hemodialysis is the most common blood-cleansing therapy used by Americans with kidney failure. Patients typically are treated three times a week for three-to-four-hour sessions. Bloodlines can be attached to either a catheter or fistula.

CONNECTION TYPES

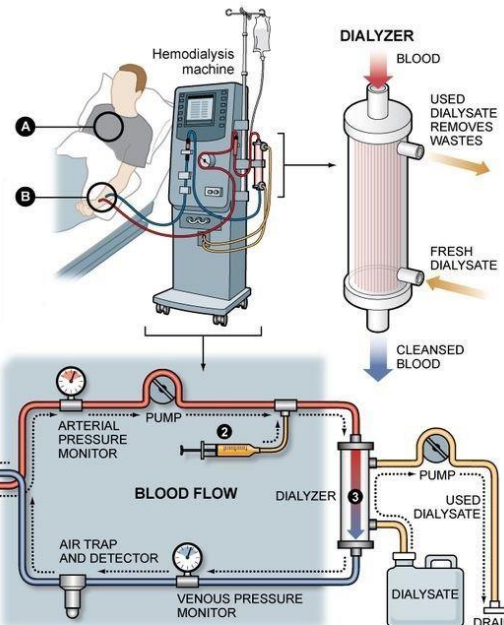
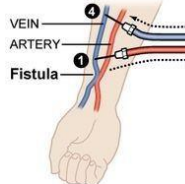
A Catheter

A tube inserted into a vein in the neck, chest or leg



B Fistula

A surgically created connection of an artery to a vein



1 Blood is pumped out of a patient's catheter or fistula into the blood line.

2 Heparin, a blood thinner, is added to prevent clotting.

3 Blood flows into the dialyzer, where impurities, salt, and excess fluid are drawn into the dialysis solution.

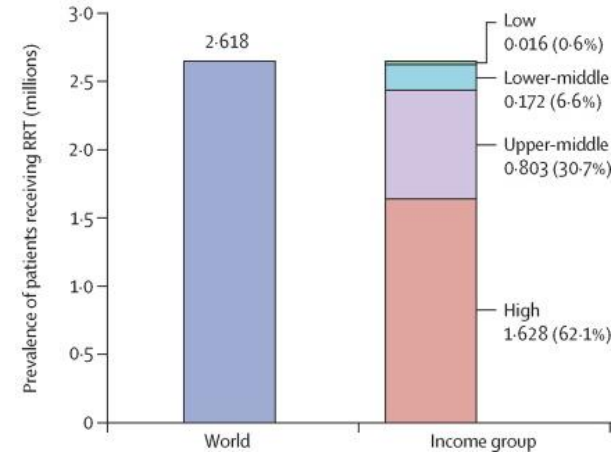
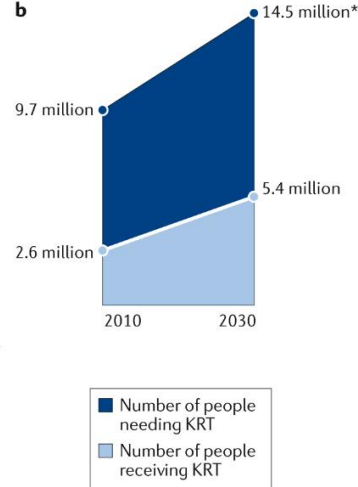
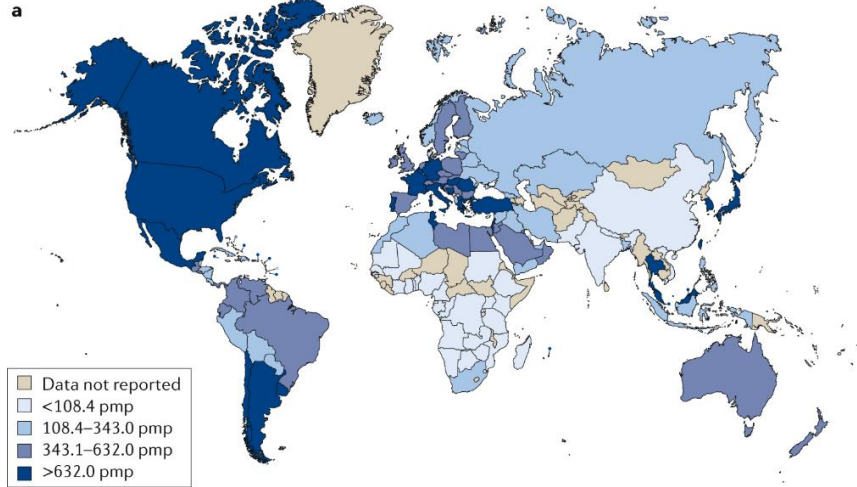
4 Cleansed blood is returned.

Graphic by Al Granberg

HD for CKD

- 4h sessions
- 3x sessions/ week

Kidney Replacement Therapies (KRT)



Various CKD prevalence reported from 4.2% to 15.8% in Africa²
 Estimated that > 70% of ESKD patients will live in LMICs by 2030³
 Estimated that the incidence rate might be 4x higher in LMICs⁴

98% of people with Kidney failure do **not** receive KRT in LICs vs 30% in HICs⁵

Global Access to KRTs

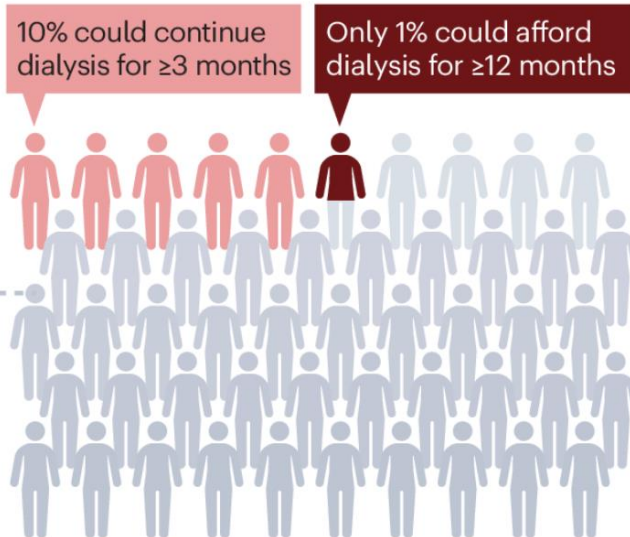
Cost

- Less than half of African countries recognized CKD as a health priority
- Public government funding for chronic HD and PD available in 14 and 6 countries out of 54
- Dialysis primarily provided by private sector
- mostly out-of-pocket expenses
- African annual cost of dialysis is estimated to be US\$ 13'500 \$ (80-90\$ per session)
- Lead to household financial depletion, treatment discontinuation and death

Availability

- Available only in urban settings

Among adult patients with incident kidney failure in sub-Saharan Africa



Kidney disease: a global health priority. *Nat Rev Nephrol* **20**, 421–423 (2024). <https://doi.org/10.1038/s41581-024-00829-x>

Challenges of HD

High consumable burden and logistics

- 120L pure water / session
- 1x10L Acetic Acid canister / session

Infrastructures (in-centre HD units)

- Water filtration installation
- Clean and tempered room
- Nursing staff

Consumables are brand locked

- Tubing
- Acetic Acid canisters



Dialysis Unit in Thiès University Hospital, 2025

Challenges of HD

Our solution
**RenAllCare
Dialyser**

A new generation dialyser

Needs only:

- 5L of pure water
- 500mL Acetic Acid

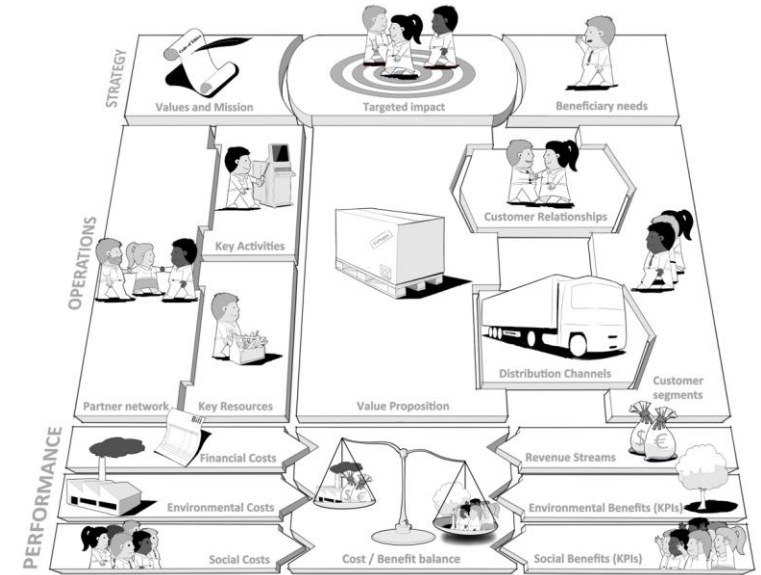
Cycle the dialysate thanks to a
sorbent filter

The sorbent filter is disposable
and need to be replaced after
each session



Find a way to:

- Sustainably deploy the technology in **Senegal**
- Ensure impact and financial income



Your job

Partners



The Francophone Society of Nephrology, Dialysis and Transplantation



The African Association of Nephrology



The Swiss Society of Nephrology



1. ISN kidney atlas :
https://www.theisn.org/wpcontent/uploads/media/ISN%20Atlas_2023%20Digital_REV_2023_10_03.pdf
2. Jadoul et al. The major global burden of chronic kidney disease. *The Lancet*. (2024)
3. Ulasli II, Awobusuyi O, Nayak S, et al. Chronic Kidney Disease Burden in Low-Resource Settings: Regional Perspectives. *Semin Nephrol*. (2022)
4. George C, Mogueo A, Okpechi I. Chronic kidney disease in low-income to middle-income countries: the case for increased screening. *BMJ Glob Health*. (2017)
5. Tang SCW, Yu X, Chen HC, et al. Dialysis Care and Dialysis Funding in Asia. *Am J Kidney Dis*. (2020)

References