

# Ensuring sustainable funding of blood services in LMIC through cost recovery alone: Experience from Namibia

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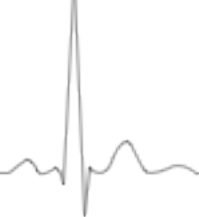
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# Background

- Blood Transfusion Services all over the world are either standalone organizations operating as non-profit entities or as part of government under the Department of Health.
- Blood Services in most LMIC operate as a government department resulting:
  - In being poorly funded as governments prioritise diseases like HIV, TB, malaria and non-communicable diseases over the funding of blood transfusion
  - Some of these countries have no budget allocated for blood transfusion services
  - Currency fluctuations make the cost of providing adequate and safe blood more expensive beyond the ability of many these countries



# Impact of external donor funding in LMIC

- From 2000 to 2015, US\$2.1 billion of international funding was directed towards transfusion capacity in SSA.
- The funding received improved the availability and safety of blood.
- External funding ceased or was severely reduced in most countries:
  - Resulting in many benefiting countries reverting back to square one
  - This raises serious doubts on the ability of these countries to sustain or extend the progress made during the years of receiving donor funding.

Weimer et al., 2019; *Transfusion*, 59(1), 412–427.

Smit Sibinga & Abdella, 2019; *Transfusion*, 1–3. <https://doi.org/10.1111/trf.15224>



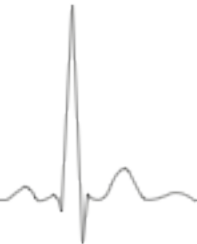
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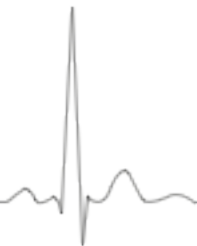
# PEPFAR funding to NAMBTS

- We received funding of about US\$10.4 million between 2004 – 2014 which contributed 6 - 44% of annual income
- This funding was utilised to increase the availability of blood and improve blood safety.
  - This allowed NAMBTS to implement ID-NAT which was costly, taking up 28% of operating expenditure
- PEPFAR funding was gradually reduced since 2011 and completely ceased in 2015.
- Funding is now through cost recovery alone:
  - Blood product prices had to be increased gradually to cover the deficit left by the withdrawal of donor funding



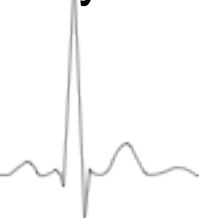
# Cost recovery funding model

- The Model is based on the recovery of the following costs; blood collection, testing, manufacturing of blood components, distribution and compatibility testing.
  - While the blood itself remains free.
- NAMBTS is currently funded successfully through cost recovery system alone.
  - Recipients of blood are billed indirectly or directly for receiving blood components
  - The government pays for state patients who consume 85% while private patients use their health insurance to pay for blood.



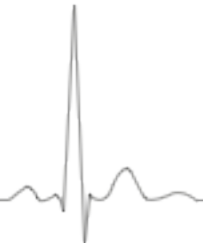
# How to ensure sustainable funding through cost recovery alone

- All value chain processes of the blood services should be costed accurately
- Cost recovery target fees should be accurately determined from actual production fees of blood components
- Cost recovery fees set should include a small surplus margin needed to accumulate a small reserve
- Recipients of blood should be able to pay for the blood whether directly or indirectly
- Efforts to be made to ensure recipients pay for blood products and services on time
  - Blood services should have sufficient reserves to buffer delays in payment.
- Good financial management systems should be in place to ensure efficiency



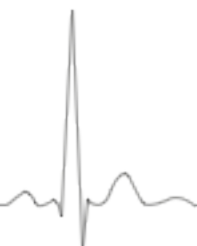
# Was NAMBTS financially sustainable after PEPFAR

- A financial sustainability study of NAMBTS was performed looking at the years 2000 to 2019.
- Operations were costed based on 2019 expenditure.
- The following were key findings from the costing exercise:
  - Expenditure grew at a faster rate than growth of revenue
  - Production cost of RCC was higher than cost recovery fees charged since 2011.
  - In 2019, the fees charged for RCC were 16.2% lower than their break even price.
  - Platelets and the FFPs were supplied at a cost above their break even price, generating a surplus.
  - But this surplus were not sufficient to cover the deficit from the RCC.



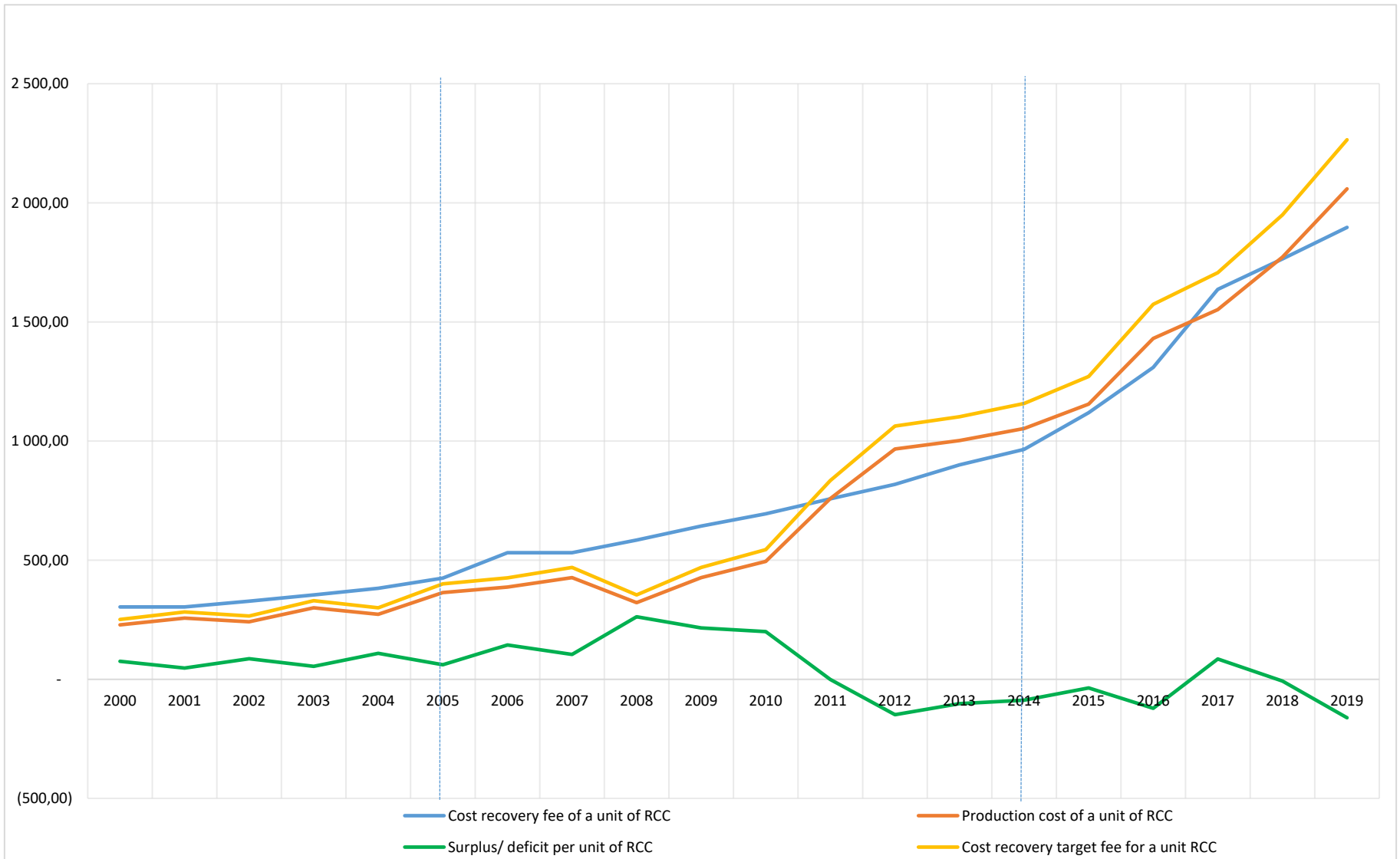
# Compound annual growth rate (CAGR) - revenue vs expenditure

	CAGR of revenue	CAGR of Expenditure
CAGR for the period <b>2000 – 2019</b>	<b>14%</b>	<b>16.5%</b>
PEPFAR period <b>2004 - 2015</b>	<b>17%</b>	<b>20%</b>
After PEPFAR period, <u>before</u> turnaround strategy <b>2016 – 2019</b>	<b>15%</b>	<b>13%</b>
After PEPFAR period, <u>after</u> turnaround strategy <b>2020 – 2022</b>	<b>7%</b>	<b>-0.2%</b>



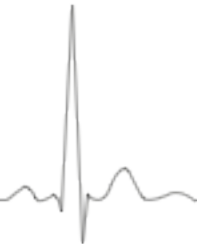


# Comparison of current cost recovery fee of RCC, its production costs and cost recovery target



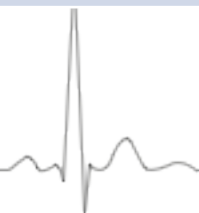
# NAMBTS implemented measures to ensure sustainable funding through cost recovery alone

- By targeting the following areas:
  - Reduction of expenditure
  - Optimisation of operations
  - Measures to improve efficiency



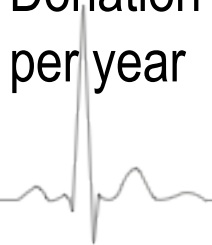
# Strategies implemented to reduce expenditure

Objective	Five year 2016-2020 average	Annual Target goal	Goal achieved (Yes/ No)
Reduce cost of ID- NAT testing by <b>reducing tests vs donation</b> (wastage of tests)	136 tests per 100 donations	120 test per 100 donations	Yes Currently at 119
Reduce cost of travelling on mobile clinics to collect blood	N\$280 per usable donation.	N\$200 per usable donation.	76% of clinics reached target.
Reduce blood wastage due to discards	Total discard rate was 7.9%	Total discard of 4.5%	Yes. Currently at 3.9%
Reduce TTI reactive donations by avoid collecting blood from high TTI risk areas.	Total TTI rate at 1.5%	Total TTI rate at 1.2%	Yes. Currently 1.1%
Increase production ratio of pooled/ apheresis platelets	Pooled/ apheresis ratio was 15/ 85%	Pooled/ apheresis ratio of 60/ 40%	Currently at 58/ 42%



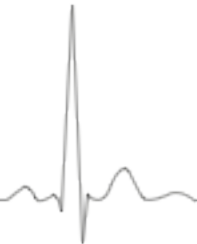
# Strategies implemented to optimize operations and improve efficiency

- Identify high yield platelet donors and increase the split ratio of apheresis platelets from 15% in 2019 to 45%.
  - Annual average split ratio currently at 57%
- Collect multiple components, after introduction of PAS 84% of plateletpheresis donation yield platelets and plasma.
- Introduction of PAS and sterility testing allow extension of platelet shelf life and reduce expiration of platelets.
- Introduction of a cost effective plasmapheresis programme, collect more plasma for fractionation, generates more income.
  - Currently about 2750 litres of plasma are collected annually.
- Implement measures to increase donations from repeat donors
  - Donation frequency of repeat donors increased from 1.8 to 2.1 donations per year



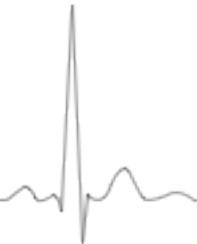
# Improved financial sustainability

- Tightening budget control
- Implement measures to improve cash flow by improving relations with the MoHSS finance division resulting in outstanding amounts being reduced from 120 to 60 days
- Improved inventory management

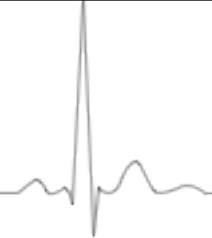
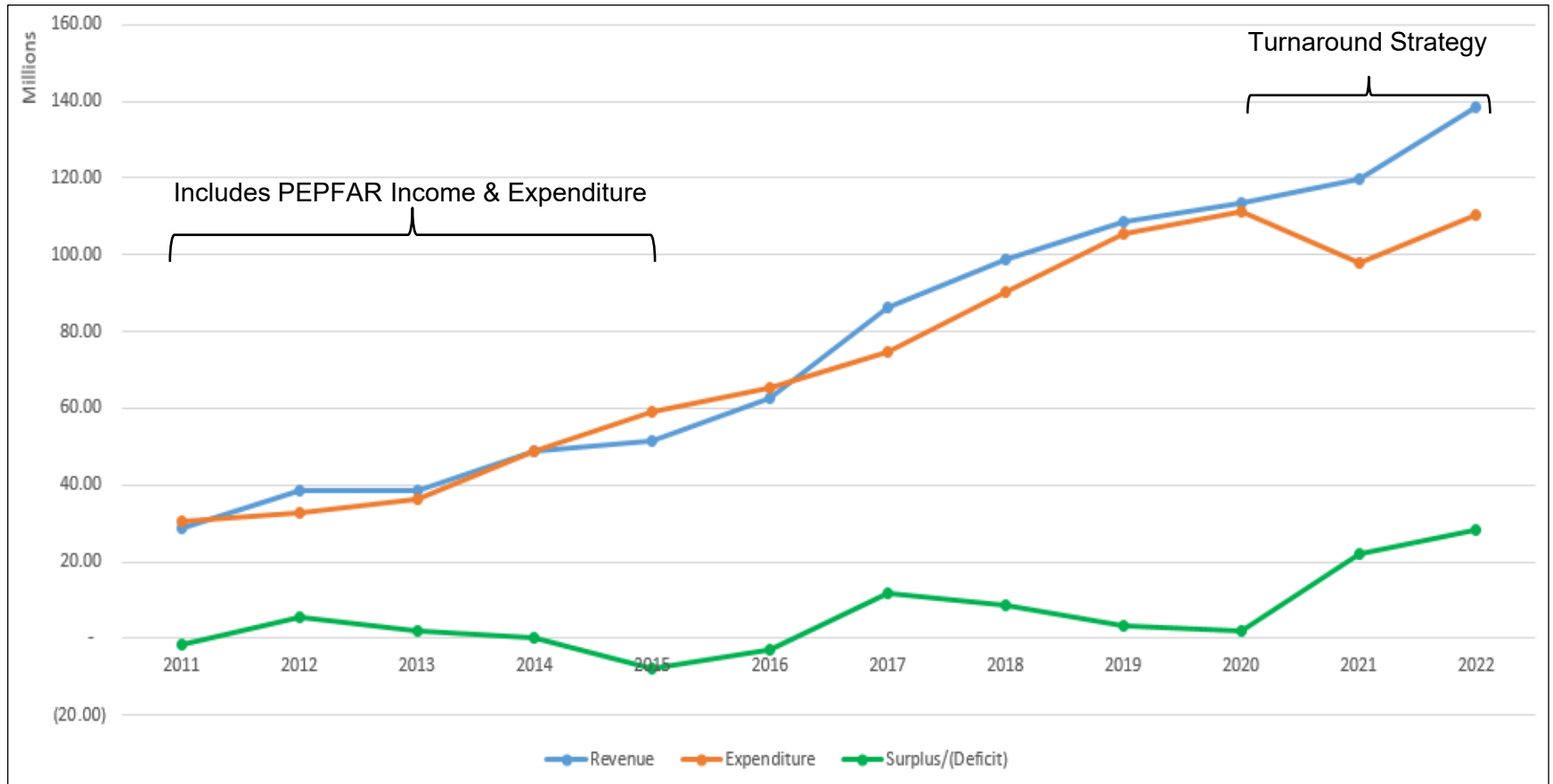


# Outcome of measures implemented

- During the 2021 financial year
  - Expenditure decreased by **12.2%**
  - Revenue increased by **5.5%**.
  - Surplus margin increased from 1.8% in 2020 to **18.3%** in 2021
- During the 2022 financial year
  - Expenditure increased by **13%**
  - Revenue increased by **15.9%**.
  - Surplus margin for 2022 alone was **20.3%**
- Average financial reserves as a proportion of annual revenue increased from 5% in 2020 to **26%** in 2022.



# Comparison of revenue, expenditure and surplus/ deficit for years 2011 to 2022.



# Conclusion

- By implementing strategies like:
  - Reduction of expenditure,
  - Optimise and improve operational efficiency,
  - Improve financial controls.
- It is possible to achieve financial sustainability of blood services in LMIC through cost recovery alone.

