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## Case studies describing cost analyses that supported evidence informed decision – going beyond the ICER

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# Case studies describing cost analyses that supported evidence-informed decision-making for the South African National Essential Medicines List – going beyond the ICER

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## The South African Medical Research Council

recognizes the catastrophic and persisting consequences of colonialism and apartheid, including land dispossession and the intentional imposition of educational and health inequities.

Acknowledging the SAMRC's historical role and silence during apartheid, we commit our capacities and resources to the continued promotion of justice and dignity in health research in South Africa.



## Personal Declaration

I have no actual or potential conflict of interest in relation to this presentation

## Funding

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# Background

## Universal Health coverage with constrained resources balances high medication costs vs perceived essential health system needs

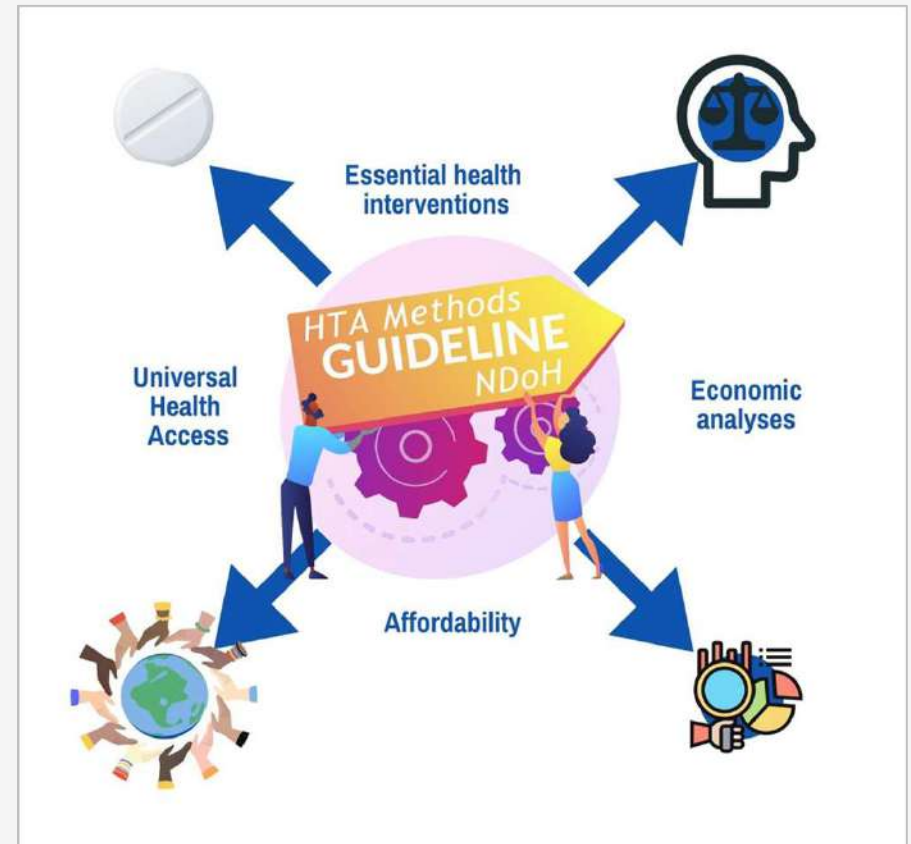
- Priority-setting and rationing (implicit or explicit) is needed
- Multiple criteria decision analysis in a systematic evidence-informed accountable manner should guide national decisions for selection of country-specific essential medicines
- Incorporating the health technology assessment (HTA) approach may assist evidence-informed decision-making



**Our study presents case studies of different approaches to include economic evidence into decisions for South Africa and the impact on policy**

## Objective

To review the impact of *ad hoc* economic analyses on the selection and improved access of South African essential medicines that informed decisions & recommendations made by the National Essential Medicines List Committee (NEMLC)



# Method

## Retrospective collective case study approach

### Case selection

- › Purposefully selected cases
  - Reference pricing*
  - Cost minimisation*
  - Cost-effectiveness & WTP*
  - Cost-benefit*

### Data analysis

- › Positivist approach + deductive logical reasoning
- › Objective descriptive analysis + authors' reflections on lessons learnt

### Data collection

- › Secondary published data:
  - NDoH data, NEMLC reports, documents*
  - News/ media reports*
- › Data extracted/organised in data matrix

### Case reports

- › Narrative reports
  - Objective*
  - Context*
  - Economic analysis*
  - Key findings*
  - Implications*

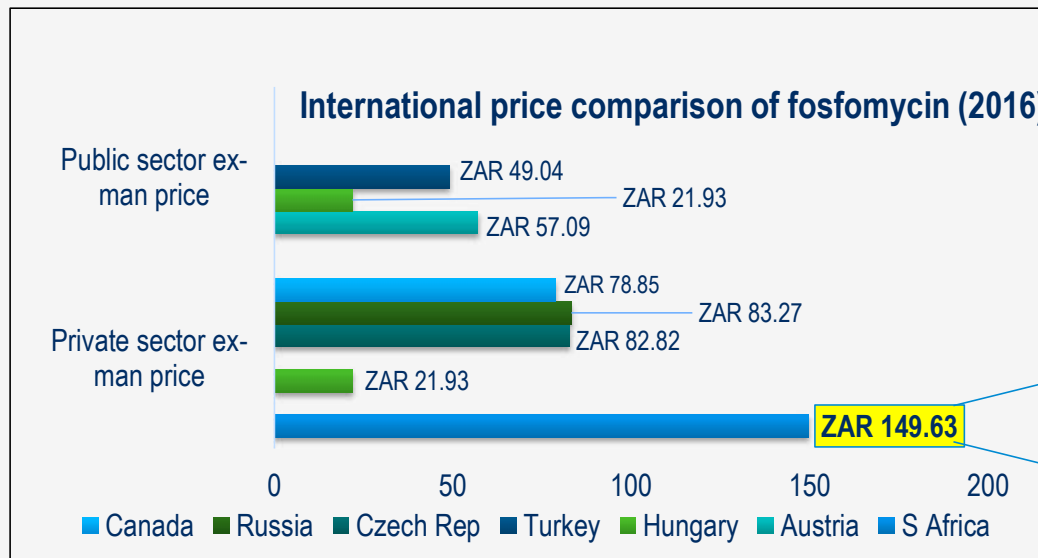
### Essential medicines



# Results

## 1 International reference pricing of fosfomycin for CA-UTI in pregnant women

- 2016:



- **Decision:** Non-EML & review indicator of price
- **Market awareness:** NEMLC report published
- **Implementation:** Included on public sector tender with reference price

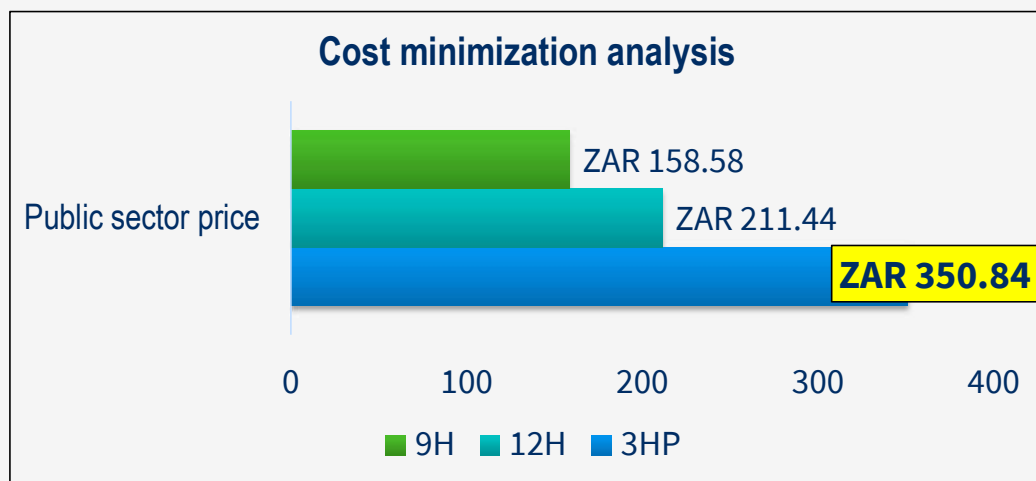
- 2017: Public sector price reduction by 37% - (ZAR 94.05)

- 2023: Public sector price reduction by 57% - (ZAR 63.25)

# Results

## 2 Cost minimization analysis directed by primary evidence synthesis

- 2016, updated in 2019: mITT analysis in non-inferiority RCT showed that 3HP = 9/12H as TPT for PLHIV initiated on ART



- **Decision:** Rifapentine listed as non-EML with review indicator
- **Review indicator:** Price parity between 3HP & 12H
- **Note:** SAHPRA registration of fixed-dose HP tablet may facilitate accessibility (for review by NEMLC)

ART=antiretroviral therapy; mITT analysis=modified intention to treat analysis; PLHIV=people living with HIV; RCT=randomised controlled trial; 3HP=Isoniazid+rifapentine x3 months; 9H=isoniazid x9 months; 12H=isoniazid x12 months; TPT=tuberculosis preventive therapy

- 2022: Authors of a cost-effectiveness systematic review, '*limited, existing evidence suggests 3HP may not be cost-effective in low-income, high HIV-coinfection settings*'

# Results

## 3 Cost-effectiveness analysis with willingness-to-pay price

2018/9: Cost-effectiveness & price-threshold analysis comparing initiation treatments of cryptococcal meningitis in PLHIV showing a **mortality benefit**

- Decision-tree analysis comparing:

- 2-week course of amphotericin B/fluconazole [**SO**C], vs
- 2-week course of amphotericin B/flucytosine, vs
- 1-week course amphotericin B/flucytosine, vs
- **2-week course of oral fluconazole/flucytosine, vs**
- 1-week course amphotericin B/fluconazole

- **Key findings:** Most cost-effective **USD119/QALY** & incremental per patient cost of **USD293/year** vs current standard of care
- **Decision:** Flucytosine listed as non-EML with review indicator
- **Review indicator:** **60% price reduction & SAHPRA registration**
- **Note:** Advocacy groups motivated for access at price threshold

2023: SAHPRA registered, allowing for an expression of interest of flucytosine on the next tender (using the proposed reference price)

# Results

## 4 Cost effectiveness & budget analysis

2020/21: Bortezomib shown to be cost-effective for add-on induction treatment prior to ASCT in multiple myeloma vs less expensive conventional chemotherapies (thalidomide & dexamethasone)

### Economic analyses:

- **Scoping review** (economic evaluations)
- **Decision tree analysis**
- **Budget impact analysis**

- **Key findings:** ICER of **ZAR33784.90/QALY** = cost-effective; and cost for  $\pm$  200 transplant eligible multiple myeloma patients in the public sector treated annually with bortezomib = **ZAR1.37 to ZAR2.74 million**
- **Decision:** Bortezomid listed on EML, **restricted for 'transplant eligible multiple myeloma patients'**

Prioritisation of a define patient group in a justifiable & transparent manner

# Conclusion

## Discussion

Real-world impact observed included:

- market shaping with price reductions of interventions through benchmarking
- economic analyses with evidence syntheses supported decision-making and sourcing of affordable prices
- improved equitable access and prioritisation of interventions in a justifiable and transparent manner

## Conclusion

- A standardised HTA evaluation process, guided by a nationally accepted framework, is necessary for evidence-informed decision making
- Economic analyses should inform both cost-effectiveness and affordability, for resource optimisation

## Advocacy message

Determining both economic impact and resource use for all health interventions is key for judicious allocation of scarce resources in South Africa

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