

COST ANALYSIS

Syphilis tests in Mozambique and Bolivia

Case study



Health Economic Impact Studies for Translation

UNIVERSITY of WASHINGTON

Objectives of this session

- 1 The problem
- 2 Framework and definition
- 3 Measuring costs
- 4 Informing decision-making

The problem: How to increase syphilis testing?

Syphilis is very dangerous for pregnant women and newborns. Prevalence is high and treatment inexpensive but testing is low.

- Standard tests require labs (venous blood) and two visits
- Rapid tests use only fingersticks and give answers after 15 mn but they are more expensive tests.

Would rapid tests be affordable in low-resource countries?

Framework: Which costs are we talking about?

In both countries: syphilis testing as part of existing antenatal care.

Main **actors**: the government, suppliers, clients (beneficiaries)

- Pilots
- Partial analysis
- Client of the study is the Ministry of Health

1. Measuring costs: Identifying ingredients

Personnel, facilities, equipments and materials, client inputs, administration and overhead

Sources:

- Described in the case study

2. Measuring costs: Valuing ingredients

- Full cost of personnel: salary and fringe benefits (technicians and supervisors)
- Value of durable ingredients (labs, fridges, centrifuge)
- Training
- No provisions for user costs in this
- Capital and recurrent costs

Screening and coverage

How many women were screened in Bolivia?

$$8,900 + 2,718 = \mathbf{11,618}$$

Of these women, what percent were screened in urban maternity hospitals?

$$8900 / 11,618 = \mathbf{77\%}$$

How many (and what percent) were treated with a single dose of penicillin based on the results of the ICS test?

In urban hospitals: $417 / 8900 = 4.69\%$

In rural facilities: $121 / 2,718 = 4.45\%$

Overall in Bolivia $(417 + 121) / 11,618 = \mathbf{4.63\%}$

Which led to higher false positives compared to the gold standard?

	RPR	ICS
Bolivia	1-243/317= 23%	1-295/417= 29%
Mozambique	1-456/704= 35% 35%	1-503/709= 29%

Incremental costs

*What is the incremental cost per woman **screened** for introducing ICS tests in facilities with laboratories and without laboratories in Bolivia?*

Facilities with laboratories: 1.91 US\$

Facilities without laboratories: 2.84 US\$

*What is the incremental cost per woman **treated** for introducing ICS tests in facilities with laboratories and without laboratories in Mozambique?*

Facilities with laboratories: 13.45 US\$

Facilities without laboratories: 14.76 US\$

Incremental costs

What is the main driver of costs for introducing the ICS rapid test? How does this compare to the RPR test? How do cost profiles vary for the ICS test strip in facilities with and without labs?

Supplies (i.e. the tests) except in Bolivia rural clinics where start-up costs accounted for nearly half of the costs.

RPR tests have a higher share of staff costs (because of the laboratory work involved).

Recommendations

- The ICS test is an affordable screening option in **rural** health facilities in both countries. Alternatives such as building laboratories or transporting blood were not considered feasible.
- In Mozambique, significant disease will be averted at a cost of approx. US\$ 1.00 per woman screened and \$ 15.00 per woman treated. In Bolivia, these costs are respectively US\$ 2.85 and \$64.00 but these costs would be significantly lower if the cheaper test was used.
- Also savings on women's time.

Thanks!

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Case study slides courtesy of the World Bank Human Development Network



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