SITUATION

Over 50% of HIV-positive infants do not survive their second year of life. Up to 76% of these deaths are avoidable with early HIV diagnosis and initiation of life-saving treatment. Yet, only 39% of children in low- and middle-income countries have access to HIV testing services within their first two months of life. As a result, countries like Zambia are exploring ways to bolster early diagnosis of HIV for infants.

DEMAND-DRIVEN EVALUATION TO INFORM POLICY

Zambia’s Ministry of Health (MOH) recommends that new mothers be tested for HIV every 3 months until 18 months after delivery. HIV-exposed infants should be tested at 6 weeks and 6, 12, and 18 months of age. Despite these recommendations, many mothers and infants remain untested. On the other hand, coverage of childhood immunizations is high.

Zambia's MOH commissioned this evaluation to decide whether HIV testing should be integrated with routine immunization services to boost infant and maternal HIV testing rates without negatively affecting immunization rates.

Question posed by policymakers: What impact does the integration of mother and infant HIV testing services with childhood immunization services have on HIV testing rates and immunization coverage?

EVALUATION DESIGN

A three-arm clustered randomized controlled trial was used to measure the impact of two levels of integration support - the Simple and Comprehensive Interventions - on changes in the number of 1) maternal postpartum HIV tests, 2) infant HIV tests (total and 6 week visit tests using a dried bloodspot test), and 3) DPT1 doses provided.

KEY FINDING

Integrating services improved maternal HIV testing rates without negatively impacting child immunization rates. The impact on infant HIV testing was not evident.
EVALUATION OVERVIEW

**Intervention:** Integration of services was tested at two levels of support.

**Simple Intervention:** HIV test kit supplies were reinforced by evaluation staff, and district health officials reminded facility staff of current infant and maternal postpartum HIV testing guidelines.

**Comprehensive Intervention:** Simple Intervention components plus community sensitization on service integration, operational support to improve patient management at under-five services, and opt-out HIV testing for mothers and infants.

**Intervention Period:** Oct 2013 — Mar 2014

**Setting and Evaluation Sample:** This evaluation was conducted in 60 government-run health facilities providing HIV services in Choma, Livingstone, and Monze.

**Data Collection Methods:** The evaluation team visited health facilities each month to collect data from facility registers and evaluation data sheets.

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TAILORING EVALUATION DESIGN

The evaluation design was tailored to answer the policy question within the decision-makers’ constraints.

**The evaluation measured multiple outcomes to address potentially competing policy priorities.** Examining both HIV testing and immunization outcomes provided evidence on potentially positive impacts on HIV testing as well as unintended adverse outcomes on immunization.

**The evaluation used existing administrative data systems to minimize time and cost.** Independently collecting HIV testing and immunization data would have been expensive and cumbersome; following mother and infant pairs would have encountered similar challenges. Instead, the evaluation leveraged existing administrative data (with verifications) which simplified data collection and minimized costs.

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NOTES:

c. All women and HIV-exposed infants were tested for HIV with an option to decline.
d. All evaluation facilities were actively supported by Boston University’s research affiliate, the Zambian Center for Applied Health Research and Development (ZCAHRD).
e. Data were also collected from several additional administrative data sources for cross-verification.
The Simple and Comprehensive Interventions both improved maternal postpartum HIV testing rates. The Simple Intervention significantly improved HIV postpartum testing for mothers over no intervention. The Comprehensive Intervention also positively impacted maternal HIV testing rates. The magnitude of the impact on maternal HIV tests was similar between the Comprehensive and Simple Interventions.

Both interventions suggested improvements in the number of infant HIV tests provided, but the magnitude was not large enough to be certain of impact. Neither the Simple nor the Comprehensive Intervention had a clear effect on infant HIV testing rates. With only 60 facilities included in the evaluation, however, the impact of the interventions would have had to have been large in magnitude in order to be detectable. It is possible that the interventions had a more modest impact on infant HIV testing rates.

Intensification of HIV testing at the six week immunization visit did not negatively impact immunization rates. The change in monthly number of DPT1 doses per facility between baseline and the intervention period was essentially the same among intervention facilities as compared to control facilities. This confirms that mothers were not skipping their infants’ immunization visits to avoid HIV testing. The magnitude of the impact on infant DPT1 rates was similar between the Simple and Comprehensive Interventions.

ADDRESSING SUPPLY CHAIN CHALLENGES

Stock outs of HIV test kits, specifically DBS kits were a challenge. The evaluation team regularly restocked health facilities in the Simple and Comprehensive Intervention arms that were running low on infant and mother HIV tests. Infant test kits called “Dried Blood Spot Kits” (DBS kits) were most frequently restocked.

DBS kits use a different supply chain than other HIV tests and medical commodities. Interviews with staff at each level of the supply chain revealed a fixable administrative error with the DBS supply chain. DBS testing was initially introduced in large health facilities with laboratories. Therefore, DBS kits were distributed via a laboratory requisition process separate from other HIV tests.

As DBS testing expanded to all health clinics, including those without laboratories, the supply chain remained unchanged. This resulted in an ad hoc system where large facilities or district offices placed orders on behalf of small facilities and then required in-person pick-up. It also resulted in a lack of consumption data at the facility level, critical to stock forecasting. These inefficiencies account for a number of DBS test kit stock outs.

NOTES:

f. This impact was only statistically significant at < 0.05 level for 6 week maternal HIV tests.
FROM EVIDENCE TO NATIONAL POLICY

In response to the evaluation findings, Zambia’s MOH issued a memo to remind health facilities to provide HIV testing at under-five clinics. Districts have also been instructed to include under-five HIV testing as part of the district performance assessments. Finally, efforts are being focused on improving the availability of HIV testing kits to avoid stock outs.

THE 3DE APPROACH  The Demand Driven Evaluations for Decisions (3DE) initiative used impact evaluations in a demand-driven manner to generate evidence for catalyzing at-scale implementation of cost-effective policies. This initiative was funded by the United Kingdom’s Department for International Development (DFID).

Demand Driven  Questions were sourced from the Government of Zambia to ensure that evaluations would directly inform a policy decision. The 3DE team selected questions based on social impact, priority level of key decision-makers, and potential for scale-up.

Rigorous and Tailored  Rigorous impact evaluation methodologies were tailored to the policy context within time, budget, operational and decision-making constraints to generate actionable evidence that could inform a realistic scale-up scenario.

MORE INFORMATION

A full technical report is available at http://idinsight.org/impact/. Contact: Paul Wang, IDinsight (paul.wang@IDinsight.org)

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REFERENCES (FROM PAGE 1):