Validating Lot Quality Assurance Sampling for Monitoring Condom Availability in Swaziland

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BACKGROUND

Population Services International routinely monitors the availability of condoms that are distributed under its social marketing interventions, most frequently using the Lot Quality Assurance Sampling technique. The validity of LQAS as a monitoring tool, particularly for immunization programs, has been demonstrated in the past, but to date this has not been done for HIV prevention programs where condom availability is a key component.

METHODS

• In 2009, a census of all retail outlets was conducted in Swaziland, allowing PSI to accurately determine the geographic coverage of condoms.
• In order to test the validity of LQAS, the method was applied to test district coverage and national average coverage, defined as the proportion of enumeration areas with at least one condom outlet.
• Two random samples (probability proportional to size) of 19 census enumeration areas were drawn in each of 8 supervision areas (4 districts, 2 urban and 2 rural).
• Simulations were run at two target levels (40% and 35%, chosen based on the census) and findings were compared with the census results.

RESULTS

• At a target level of 40%, the first simulation resulted in 5 out of 8 supervision areas being correctly classified while in the second simulation 4 were correctly classified. All incorrectly classified cases were overestimating coverage;
• However, in both simulations, all areas were correctly classified when using a 35% target;
• Estimated national averages (39.7% and 41.9%, respectively) were in line with the true coverage rate (40.1%).
• Estimates of market penetration of condoms were equally close to the results from the outlet census.

DEFINITIONS

• Coverage: geographic or “availability” coverage is the proportion of geographic areas, such as census enumeration areas (EAs) or villages, in which a product is available according to predefined minimum standards. In this study, condom coverage was defined as the proportion of EAs in which at least one outlet usually sells condoms.
• Penetration: a market penetration rate measures the proportion of outlets in which a product is usually available.

CONCLUSIONS

• The method of classifying as ‘met’ or ‘not met’ seems sensitive to changes in benchmark targets; a realistic coverage target is essential and caution should be taken when interpreting LQAS results
• Being based on a small sample of areas, using LQAS is cheaper and faster to implement than traditional distribution surveys, and its accuracy remains acceptable for program managers to identify areas that are performing below standard.

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