Session: Integrated Control Measures for Neglected Tropical Diseases

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Title: **Estimating Accuracy of Participant Recall Following an Integrated Mass Drug Administration for Neglected Tropical Diseases**

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Abstract: Coverage Surveys (CS) assess quality of implementation of mass drug administration (MDA) and provide feedback for ministries of health and drug donation programs. CS independently determine if individuals in targeted areas received medication during previous MDA, and rely on individuals' correct recall of medications taken. As neglected tropical disease programs integrate, multiple medications may be offered during MDA, potentially diminishing the strength of CS as a tool. We assessed individuals' ability to recall multiple medications received in integrated MDA, over time. Niger's 2012 MDA distributed ivermectin (IVM), albendazole (ALB), praziquantel (PZQ), and azithromycin (AZM) to eligible individuals. During MDA, observers accompanied distributors and created a Gold Standard Register (GSR), independent from the distributor register. All persons living in households in villages were registered, and it was noted whether or not they took medications, regardless of their eligibility. Households were systematically selected to be revisited for CS at 2, 6, or 12-months post-MDA. During CS, respondents were shown pills. During CS, surveyors and respondents were blinded to MDA register responses. Of 4423 individuals registered from 806 households at GSR, 3455 (78.1%) responded at CS. Response rate at 2, 6, and 12-months post-MDA was 84.4%, 80.7%, and 68.3%, respectively. At GSR, 93.9% (3243 of 3455) ingested one or more medications, while 93.5%, 93.5%, 88.7%, and 91.2%, ingested IVM, ALB, AZM, and PZQ respectively. At CS, 95.1% (3287 of 3455)recalled having ingested one or more medications, while 86.2%, 88.7%, 89.0%, and 82.0%, recalled ingesting IVM, ALB, AZM, and PZQ, respectively. IVM concordance (% agreement between GSR and CS) at 2, 6, and 12-months post-MDA was 82.1% (95% CI: 79.1-85.1%), 86.6% (CI 83.6-89.6%), and 80.8% (CI 77.2-84.4%), respectively. ALB concordance at 2, 6, and 12-months was 85.2% (CI 82.5-87.9%), 87.3% (CI 84.5-90.0%), and 85.0% (CI 81.8-88.3%), respectively. AZM concordance at 2, 6, and 12-months was 79.9% (CI 76.7-83.2%), 82.9% (CI 79.2-86.5%), and 82.5% (CI 79.2-85.8%), respectively. PZQ, concordance at 2, 6, and 12-months was 74.5% (CI 70.9-78.2%), 82.6% (CI 79.6-85.7%), and 80.3% (CI 77.0-83.6%), respectively. CS correctly measured overall MDA coverage, though it is less reliable for drug-specific coverage. We confirm the strength of CS as an MDA evaluation tool.