**Collecting health facility and patient medicine information through telephone interviews in Kenya: A validation study**

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**Background**: High cell phone ownership in low- and middle-income countries presents an opportunity for efficient data collection through telephone interviews both for surveys and regular surveillance.

**Objective:** This study aims to validate a method for collecting information on health facility and patient medicines through telephone interviews. We also explore perceptions of data collectors and respondents on the method.

**Methods:** Data on the availability and prices of medicines at 137 health facilities and 639 patients with non-communicable diseases were collected in September 2016 via in-person interviews during which respondent’s telephone numbers were also collected. Medicine price and availability data was collected monthly through structured telephone interviews with 122 health facilities and 130 patients between December 2016 and December 2017. An unannounced in-person interview was conducted with respondents to validate the telephone interview within 24 hours of the phone-based interview. A bottom up itemization costing approach was used to estimate costs from the perspective of researchers. In-depth interviews were conducted with data collectors and a 15% subsample of telephone surveillance respondents. Agreement between data collected over the phone and data collected in-person was estimated. Qualitative data was analyzed thematically using NVivo 11 QSR.

**Findings:** The mean response rate for telephone interviews with health facilities was 88.2%. For households the mean response rate was 94.5%. Telephone interviews with facilities and households took 30.3 minutes and 12.8 minutes, respectively, compared to 14.1 minutes and 8.5 minutes for in-person interviews, respectively. Medicines availability data showed a statistically significant agreement between data collected through telephone and in-person interviews at health facilities (kappa=0.9019; CI 0.8848 - 0.9189) and households (kappa=0.4931, CI: 0.3877 - 0.5984). The correlation of price of medicines from telephone and in-person interviews was statistically significant at health facilities (r=0.9; p<0.0001) and households (r=0.52, p<0.0001). The cost per phone interview at health facilities and households were $19.28 and $16.86 respectively, compared to $186.20 for baseline in-person interview. Participants identified the ability to physically confirm responses for in-person data collection to be an advantage and poor road networks and the high level of effort involved in travel as disadvantages. Telephone interviews were regarded as taking less resources including cost and time.

**Conclusion:** This study demonstrated high response rates and high validity for telephone data collection. In countries with high cell phone penetration the many advantages of telephone data collection should be considered in designing studies on medicine price and availability and other health system performance indicators.