

# Lessons from Mass Drug Administration for the Elimination of Lymphatic Filariasis (LF) in an Urban Setting in Haiti

Abstract  
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## Background

The world is increasingly urbanized as 54% of the world's population lives in urban areas, including 57% of the population in Haiti. Urbanization has far-reaching health consequences, as these highly mobile and heterogeneous populations have varying experiences and perceptions of the health system. As lymphatic filariasis (LF) is endemic throughout Haiti, the Haiti National Program to Eliminate LF has a goal to eliminate LF as a public health problem by 2020 through mass drug administration (MDA) among other activities. To achieve elimination, at least five rounds of MDA with  $\geq 65\%$  coverage must be completed for the population at risk. High coverage rates are necessary for MDA to be effective in reducing LF prevalence to a level at which transmission is no longer sustainable. Peri-urban settings in Haiti typically require additional rounds of MDA.

## Methods

Two communes were selected, the peri-urban Croix-des-Bouquets and rural Thomazeau in the West department, for a Knowledge, Attitudes and Practice (KAP)/coverage survey. A two-stage 30-cluster sample was used to ensure random selection of smaller areas and to select individuals randomly from these areas. Data collection took 7 days and analyzed with STATA version 14. Historical MDA data was used to examine trends in MDA coverage over time and to compare nationally-reported MDA coverage with actual coverage from the survey.

## Results

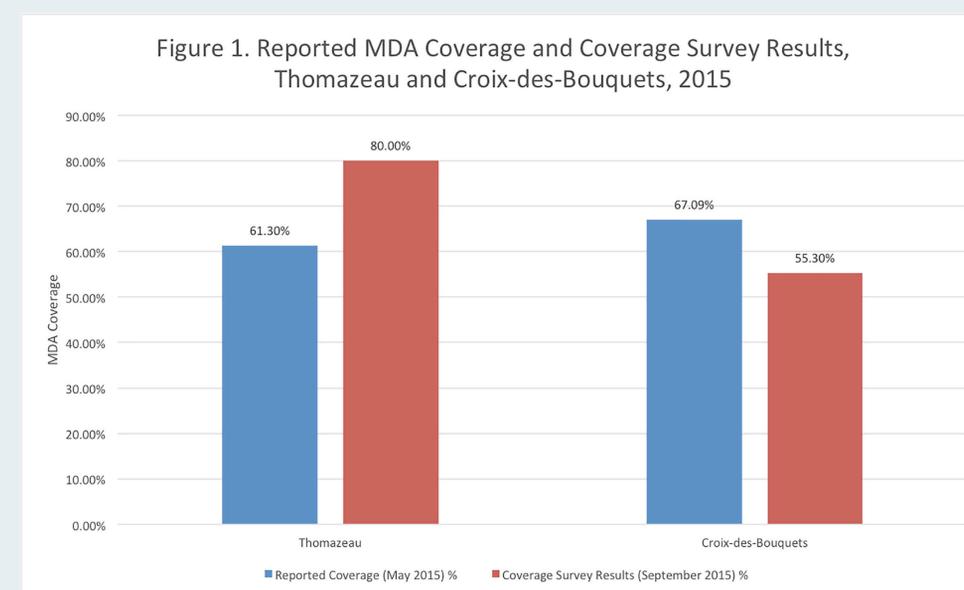
Table 1 displays the demographic characteristics of the survey respondents.

**Table 1. Descriptive Statistics for Coverage Survey**

|                          | Thomazeau          | Croix-des-Bouquets   | Total              |
|--------------------------|--------------------|----------------------|--------------------|
| <b>Gender</b>            |                    |                      |                    |
| <b>Male, n (%)</b>       | 424 (45.84)        | 520 (47.10)          | 944 (46.53)        |
| <b>Female, n (%)</b>     | 501 (54.16)        | 584 (52.90)          | 1,085 (53.47)      |
| <b>Total</b>             | <b>925 (44.59)</b> | <b>1,104 (54.41)</b> | <b>2,029 (100)</b> |
| <b>Age, mean (range)</b> | 25.82 (1-93)       | 26.3 (1-88)          |                    |

The survey coverage for Croix-des-Bouquets was 53.3% compared to reported coverage of 67.09%; 80% for Thomazeau (61.3% reported coverage). Historical MDA coverage ranged from 67.09-77.04% in Croix-des-Bouquets and from 59.95-91.76% in Thomazeau.

**Figure 1. Reported MDA Coverage and Coverage Survey Results**



**Table 2. Reported MDA Coverage in Croix-des-Bouquets and Thomazeau, 2012-2015.**

| Commune                   | 2012   | 2013 | 2014   | 2015   |
|---------------------------|--------|------|--------|--------|
| <b>Croix-des-Bouquets</b> | 77.04% | *    | 70.04% | 67.09% |
| <b>Thomazeau</b>          | 59.95% | *    | 91.76% | 61.3%  |

\*Note that due to funding constraints, MDA did not occur in these communes in 2013.

## Discussion

For both communes, reported coverage differed significantly from actual coverage in 2015. In Thomazeau, survey coverage (80.00%) was higher than reported coverage (61.30%), whereas in Croix-des-Bouquets, the opposite trend was observed, with actual coverage (55.30%) being lower than reported coverage (67.09%). Two likely reasons are, firstly, that accurate population denominator figures are not available, since a national census has not been carried out since 2003. Therefore population denominators are estimated by applying a constant growth percentage (3%) each year for each commune. Secondly population estimates have varied significantly because of high rates of population movement and displacement following the 2010 earthquake. Reported coverage peaked in 2014 in Thomazeau (91.76%) due to an increase in the number of distribution posts, and declined in 2015 due to significant security concerns in four localities and heavy rains. Therefore programming decisions to assess and improve coverage can only be made on the strength of all of the data elements. The peri-urban nature of Croix-des-Bouquets may influence how and why respondents participate in MDA. Croix-des-Bouquets is of interest as Haiti nears LF elimination, since success relies on high coverage urban MDAs. Additionally, general mistrust of the health system and fatigue from participating in projects supported by international aid may contribute to low coverage rates. Operating in urban and peri-urban settings poses unique challenges to health projects. Therefore there is a need to employ different and innovative strategies in these settings as compared to rural settings to achieve population coverage.

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