



Tuberculosis patients with unknown HIV status in the Netherlands

Analysing underreporting and lack of testing

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Conclusion

- Our study showed that HIV test results from TB patients with unknown HIV status were frequently known by the MPHSSs.
- However, there were also missed opportunities for offering HIV tests to TB patient at risk for HIV, like patients born in Sub-Saharan Africa.
- HIV testing and registration zTB/HIV co-infection are to be improved, potentially through establishment of a collaborative TB/HIV surveillance system and training of medical specialists.

Background

- The epidemics of tuberculosis (TB) and human immunodeficiency virus (HIV) are closely linked, e.g. HIV infection is the main risk factor for progression from latent TB infection to TB disease.
- Although (inter)national guidelines recommend HIV screening for all TB patients, the proportion of TB patients with known HIV status has levelled off to only 50-60% in the Netherlands Tuberculosis Register (NTR) over the past years.

Objective

- To ascertain whether HIV testing was truly not done and to assess factors associated with an unknown HIV status.

Methods

- Data from all TB patients notified in the NTR in 2015 were included.
- We sent a letter to all 23 departments of Municipal Public Health Services (MPHSSs) of all their notified TB patients without an HIV test result and asked them to review the patient records.
- Factors associated with an unknown HIV status in the NTR were assessed using logistic regression analysis.

Results

- In 2015, 865 patients were notified with TB. At baseline, 525 TB patients in the NTR had a known HIV status recorded (60.7%). After our intervention, 609 patients (70.4%) had a known HIV status.
- The percentage of patients with a known HIV status, only including the participating MPHSSs, increased from 64.2% to 79.0%.
- In multivariate analysis, factors associated with having an unknown HIV status were: female sex (OR 1.49, 95% CI 1.11-2.00), children aged 0-14 years (OR 3.76, 95% CI 1.86-7.64) and persons \geq 65 years (2.84, 95% CI 1.79-4.50), being born in Sub-Saharan Africa (OR 0.48, 95% CI 0.31-0.74, compared to born in the Netherlands), and culture confirmation of TB (OR 1.68, 95% CI 1.15-2.45).

Table 1. HIV test status among TB patients at baseline and after the requested update.

| HIV tested | HIV status baseline NTR [#] | | Total [#] n (%) | HIV status after baseline MPHSS [#] | | Total [#] n (%) |
|--------------------------|--------------------------------------|----------------------|-----------------------------|--|----------------------|-----------------------------|
| | HIV known n (%) | HIV unknown n (%) | | HIV known n (%) | HIV unknown n (%) | |
| Yes | 525* | 36 (10.6) | 561 (64.9) | 609* | 28 (10.9) | 637 (73.6) |
| No | | 83 (24.4) | 83 (9.6) | | 115 (44.9) | 115 (13.3) |
| Refused | | 5 (6.0) | | | 8 (7.0) | |
| Not refused | | 52 (62.7) | | | 83 (72.2) | |
| Unknown | | 26 (31.3) | | | 24 (44.1) | |
| Unknown | | 221 (65.0) | 221 (25.5) | | 113 (44.1) | 113 (13.1) |
| Total[*] | 525 (60.7) | 340 (39.3) | 865 (100.0) | 609 (70.4) | 256 (29.6) | 865 (100.0) |

* 36 patients were HIV-positive

column percentage

* row percentage

TB = tuberculosis; HIV = human immunodeficiency virus; NTR = Netherlands Tuberculosis Register; MPHSS = Municipal Public Health Service

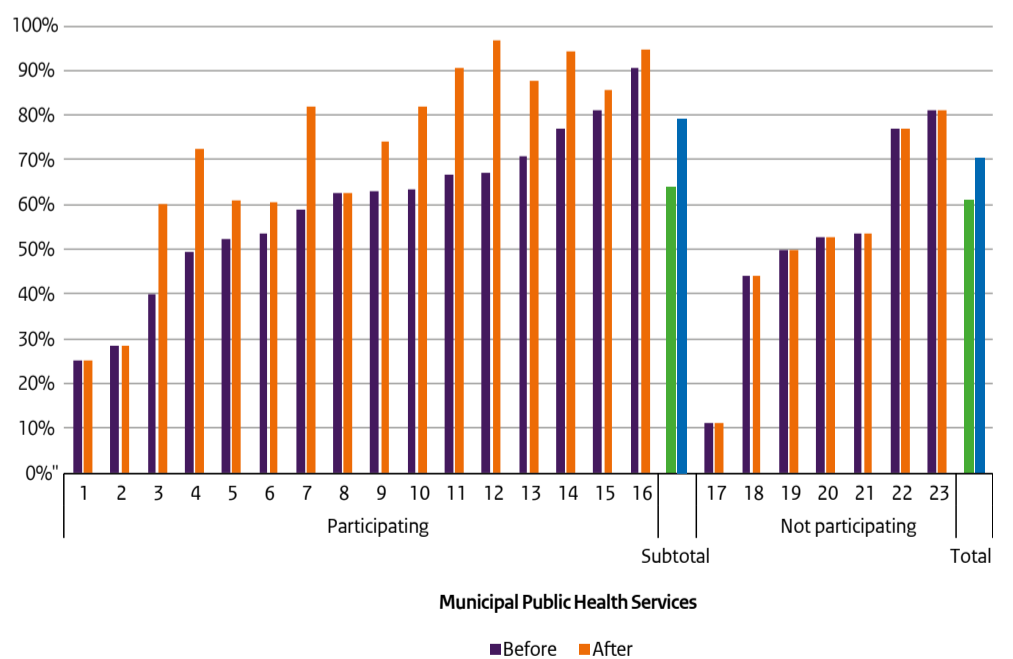


Figure 1. Percentage of known HIV statuses per Municipal Public Health Services (MPHSSs) at baseline and after the requested update.

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