



INTRODUCTION

- The Nelson Mandela Bay Health District (NMBHD) in South Africa is a high-burden tuberculosis (TB) setting
- TB incidence rate of 1155/100 000 and a 11.5% defaulter rate in 2010/11
- STOP TB Strategy emphasizes the need for Directly Observed Treatment (DOT)
- South Africa has a legislative requirement (National Health Act, 61 of 2003) for local politicians (elected ward councillors) to serve on clinic health committees
- There is a potential need for decision support tools, e.g. maps generated during an innovative multi-faceted intervention to improve TB treatment adherence

INTERVENTION

The **aim of the study** was to produce maps from a Geographical Information Systems (GIS) database created for the above TB intervention study.

The **objectives** were to produce maps of:

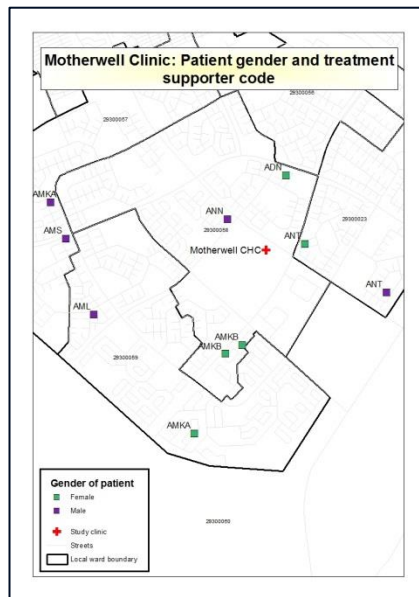
- Location of TB patients
- TB treatment supporters
- Two-month sputum results
- TB patients at risk of non-adherence
- Progress towards TB treatment completion (cure)

The **methods** were to use digital local government ward boundaries, streets and study clinics as GIS base maps. Patient addresses were extracted from enrolment registers and geo-coded using Google Maps and municipal GIS data sets

RESULTS

Map 1

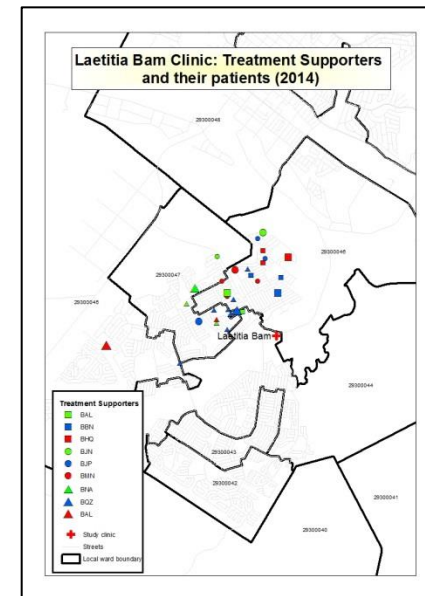
- Distribution of TB cases registered at study site for the pilot intervention



- Gender of patients are depicted; mapping age and co-morbid conditions also possible
- Case-specific treatment support can be facilitated by the elected ward councillors and the clinic committee

Map 2

- Patient-centred TB patient care means a choice of a treatment supporter
- Map depicts the number of TB patients assigned to a treatment supporter

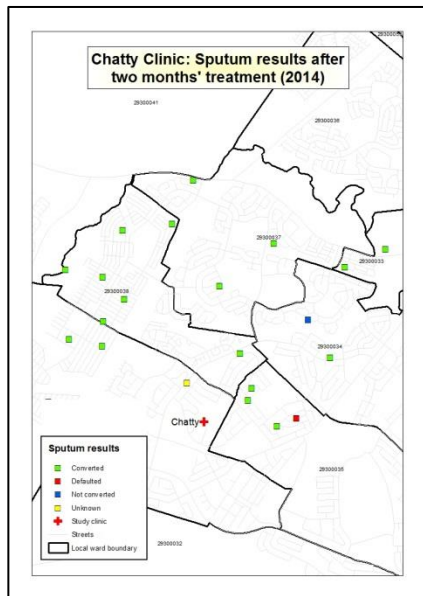


- Correlation between monitoring of treatment support and treatment adherence; distance from TB patient



Map 3

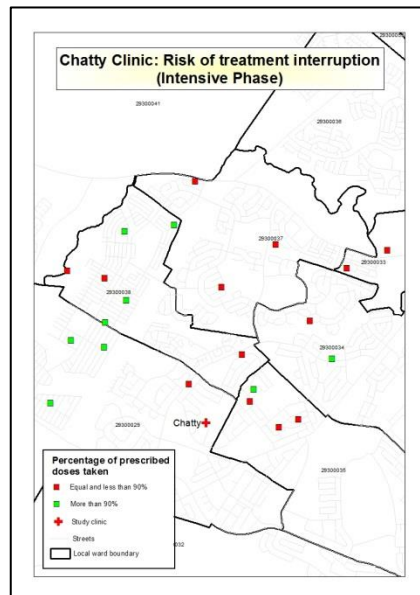
- Sputum conversion is a process indicator for the likelihood of cure



- Pro-active examination of 'non-converted' household contacts
- Non-conversion during the intensive phase can alert to possible interruption and DR-TB
- Targeted TB outreach team deployment is possible

Map 4

- The risk of treatment interruption cannot be masked by sputum converted TB patients
- Non-optimal adherence (less than 90% of total doses taken) by TB patients can be identified
- The map can affirm exemplary adherence

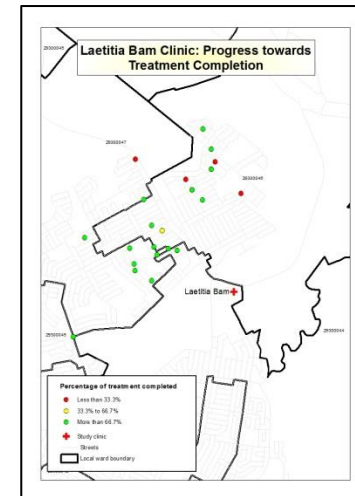


Map 5

- The map can inform the allocation or redistribution of scarce resources for treatment support
- Visits to selected households can be prioritized by outreach teams

Map 5 (continued)

- Progress towards completion can be mapped against mobile TB patients at risk for non-adherence (e.g. job-seekers, initiation candidates, holiday visits, etc.)



CONCLUSIONS

- The maps have the potential to aid decision-making by local politicians and clinic committees
- Various aspects of TB campaigns (e.g. active TB case finding) and routine TB treatment can be presented
- Mapping needs to be extended beyond the cases enrolled for the pilot multi-faceted intervention adherence study
- The utility of maps as decision-making tools for local politicians must be part of post-intervention assessments

MAPPING TB CAMPAIGNS FOR LOCAL POLITICIANS IN HIGH BURDEN SETTINGS

Adlai Davids & Ebrahim Hoosain

45th Union World Conference on Lung Health, Barcelona, Spain (28 October – 1 November 2014)



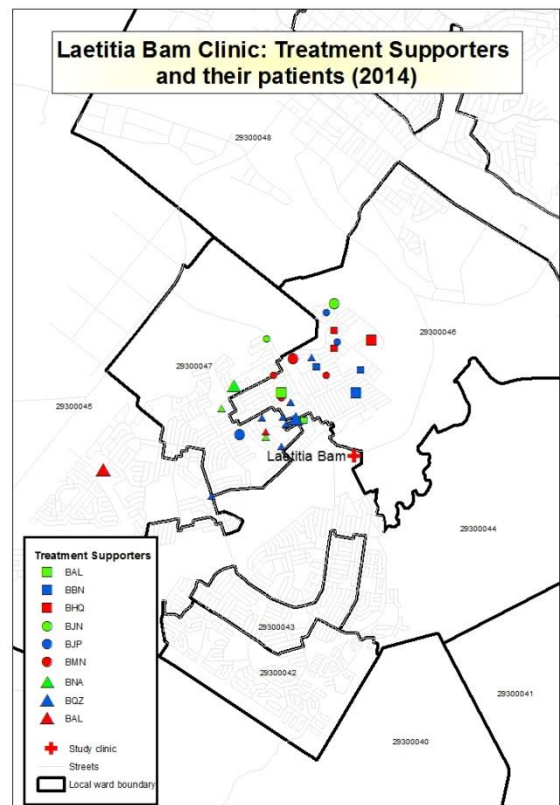
Map 2

Map 3

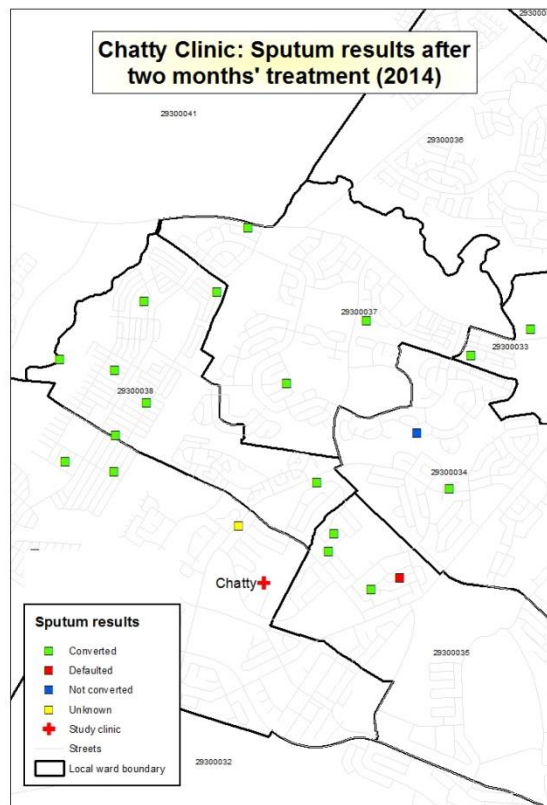
Map 4



Laetitia Bam Clinic: Treatment Supporters and their patients (2014)



Chatty Clinic: Sputum results after two months' treatment (2014)



Chatty Clinic: Risk of treatment interruption (Intensive Phase)

