Toronto Public Health

TB Prevention and Control In Toronto – An overview and Video DOT Demonstration

Presentation to the Toronto Board of Health

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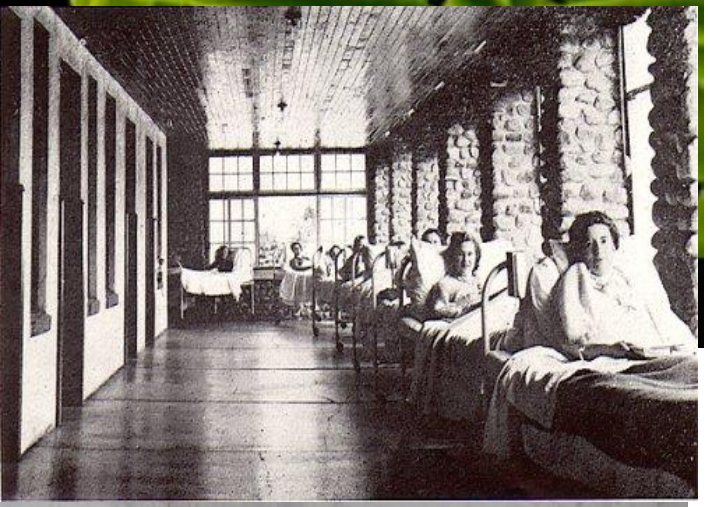
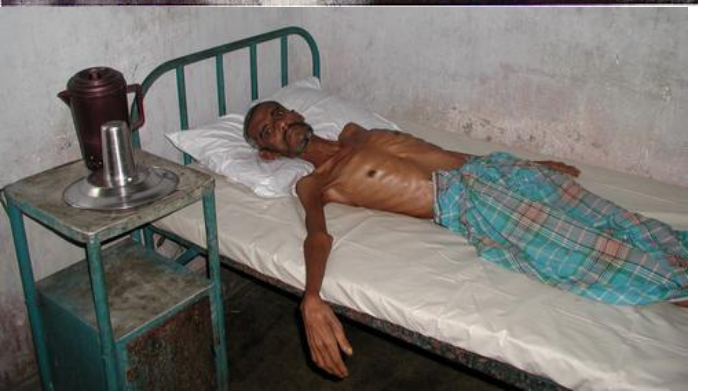
TB - An introduction





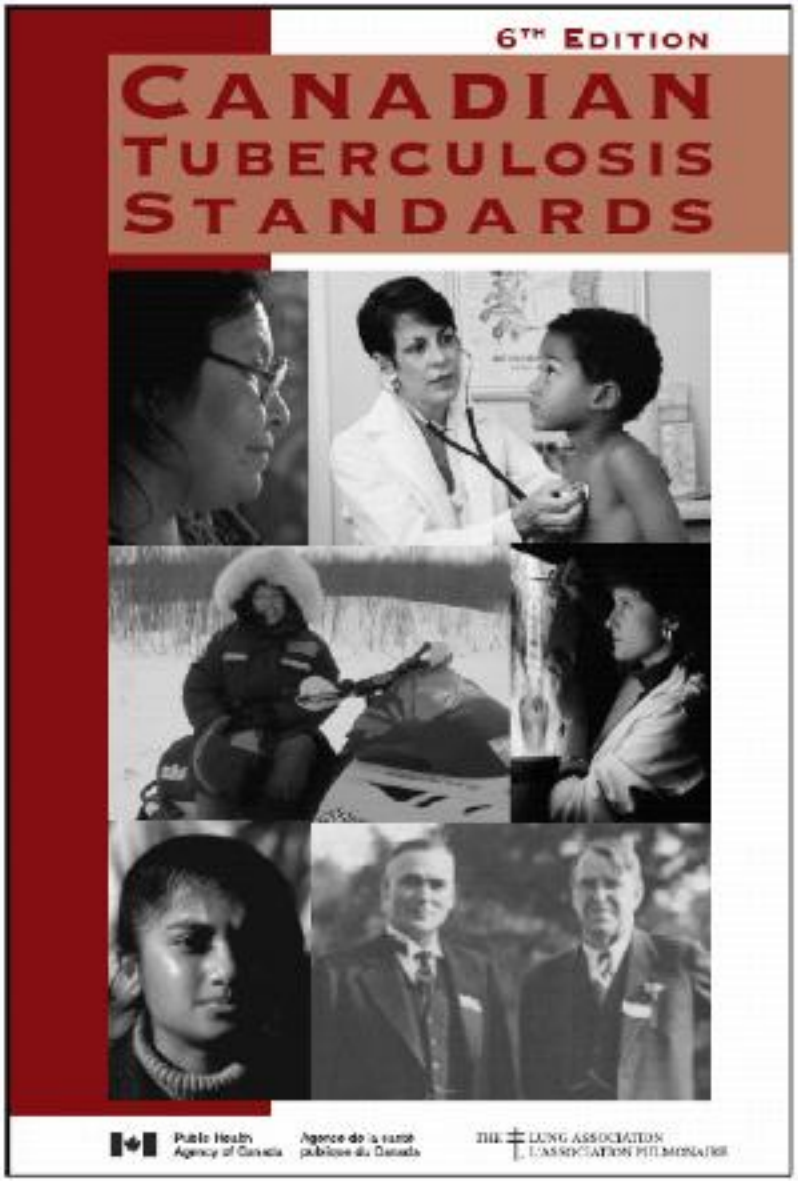
Bacterial infection, mainly in lungs

Long history- evidence of TB in humans 8000 BC

Global public health issue:
- 8.8 million new cases annually

- 1.6 million deaths each year

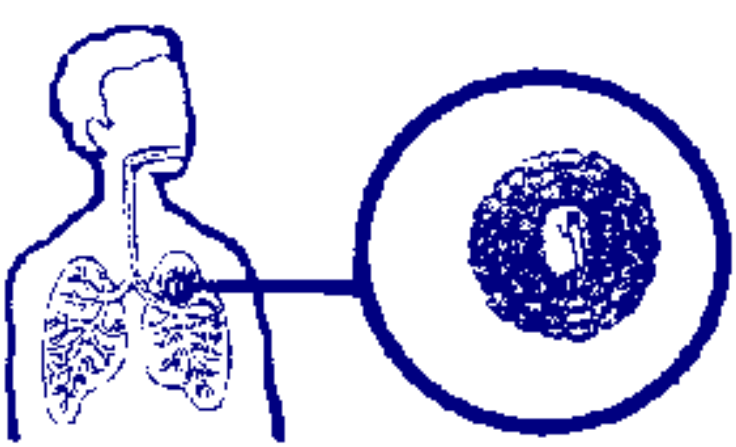
What's TB?



- Cough >3 weeks
- Fever
- Exhaustion
- Weight loss

- Without treatment, half die within 2 years
- TB in lungs infectious
- 6+ months to treat

TB Infection vs. TB Disease



TB Infection (Latent TB)	TB Disease
+ TB skin test	+/- TB skin test
Not infectious	Infectious (possibly)
No symptoms	Symptomatic (possibly)
Bacteria = Dormant	Bacteria = Multiplying
Normal Chest X-ray	Abnormal Chest X-ray (if disease in the lungs)

TB in Toronto (2010 data)

- About 300 active TB disease cases annually
  = 20% of cases in Canada
- Annual incidence rate 11/100,000
- 92% of cases are foreign born
- 8% had a drug resistant strain
- 3% with a known HIV co-infection
- 5 homeless/shelter associated cases
- 6% fatality rate

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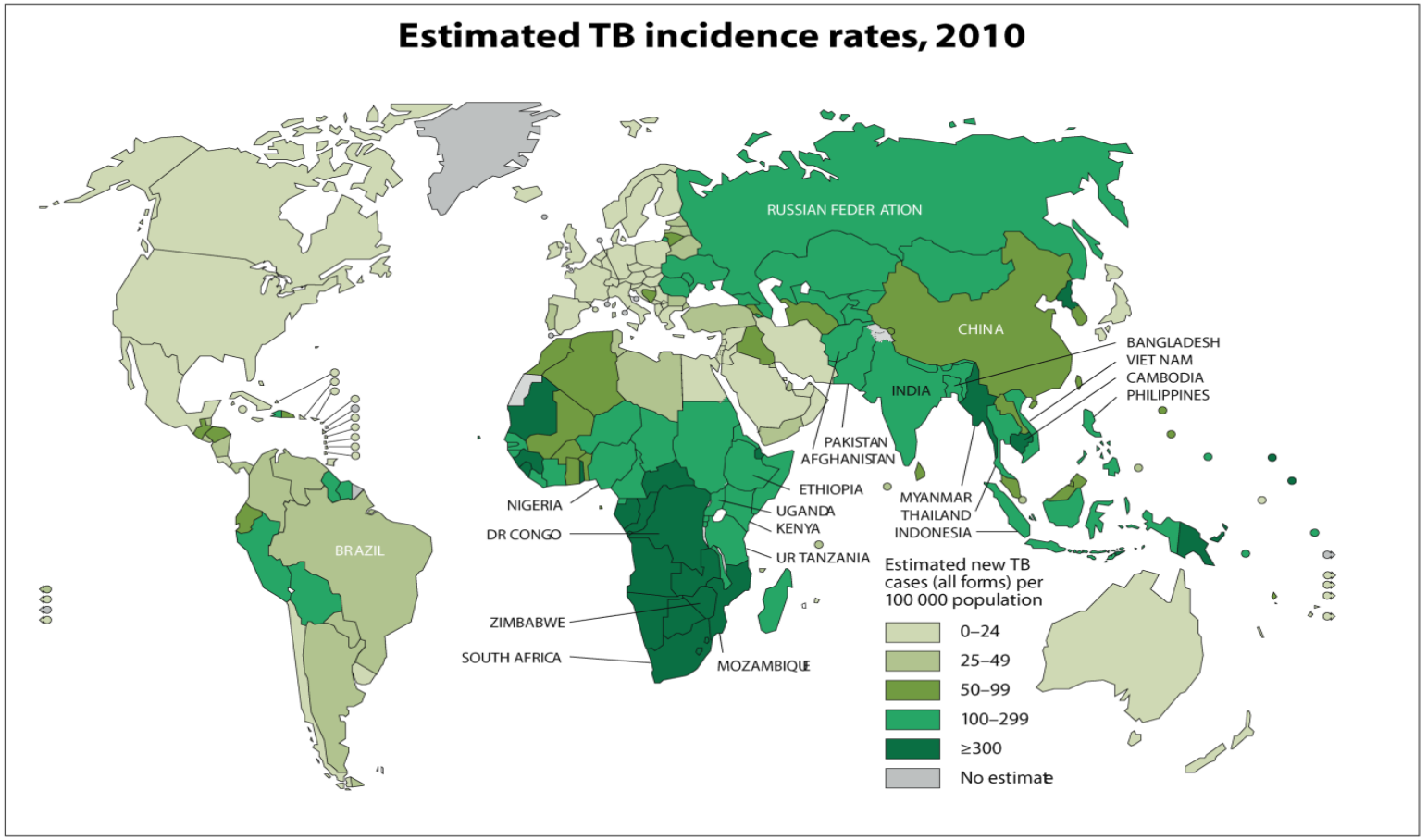
Almost All Cases were Born Outside Canada



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Source: *Global Tuberculosis Control 2011*. WHO, 2011.

World Health Organization

Public Health and TB

TB is a reportable disease under the HPPA

TPH TB Program includes:

- Case management
- Directly observed therapy (DOT)
- Contact tracing and follow-up
- TB medications are provided free through public health

Public Health Follow-up (cont'd)

- Follow-up of clients placed on Immigration Medical Surveillance by Citizenship and Immigration Canada
- Consultation on screening, diagnosis and management of TB
- Education and outreach to groups a higher risk of developing TB disease.

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Challenges of TB Treatment and Follow-up

- Many are primary breadwinners / caregivers
- Recent immigrants – settlement and income issues
- Stigma and fear
- Language issues
- Lack of health coverage – delayed diagnosis and cost
- Treatment requires 6-24 months of medication daily, with potential for significant side effects

Directly Observed Therapy (DOT)

- Poor adherence to prescribed TB treatment is the most common cause of treatment failure

- DOT involves a nurse or TB home visitor observing the client swallowing each dose of their TB medication on most days of the week

Directly Observed Therapy (DOT)

- The World Health Organization and the Canadian TB Standards state that DOT is the most effective way to monitor adherence to therapy.

- The MOHLTC TB Protocol requires public health units to have a mechanism in place to provide DOT.

Directly Observed Therapy (DOT)

Some of the challenges to keeping all clients on DOT:

- Cannot accommodate all requests for the most popular time for DOT 7 am – 9 am
- Client returning to work and does not wish to have nurse visit them at work or other location for privacy reasons
- Geographic distances and traffic density limit the number of clients one DOT staff can see in a day

Video DOT (VDOT)

- Easy to use
- Secure (encryption)
- Requires broadband internet access
- Videophones at client's home and at TPH office
- Suitable for medically stable and adherent clients

Census of Client' s Eligibility for VDOT

~30% are eligible for VDOT

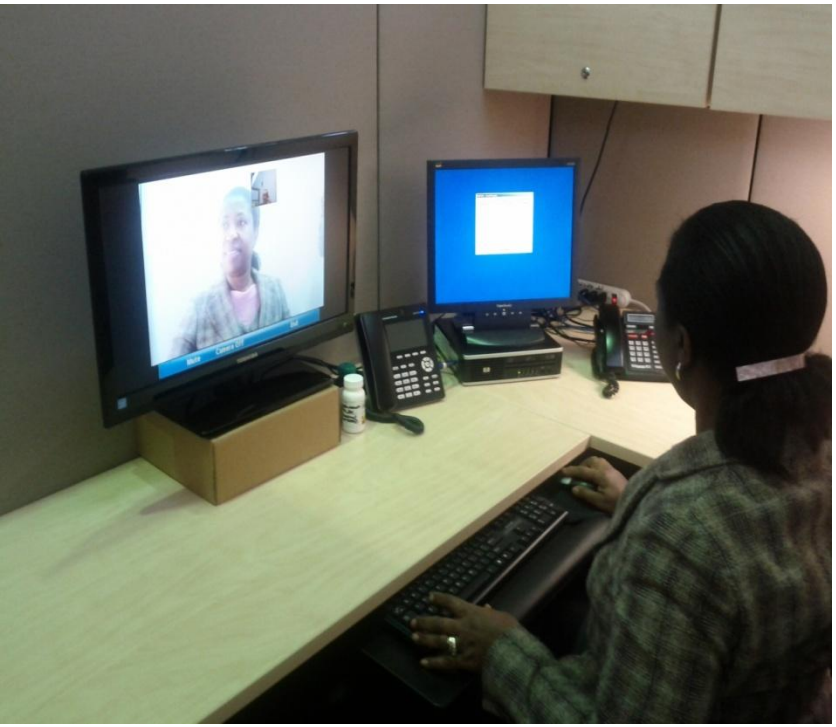
It is projected that 50-70 clients would be eligible for VDOT at any one time

The primary factor preventing eligibility:

Lack of high-speed internet connection

Less than half (48%) met this criterion

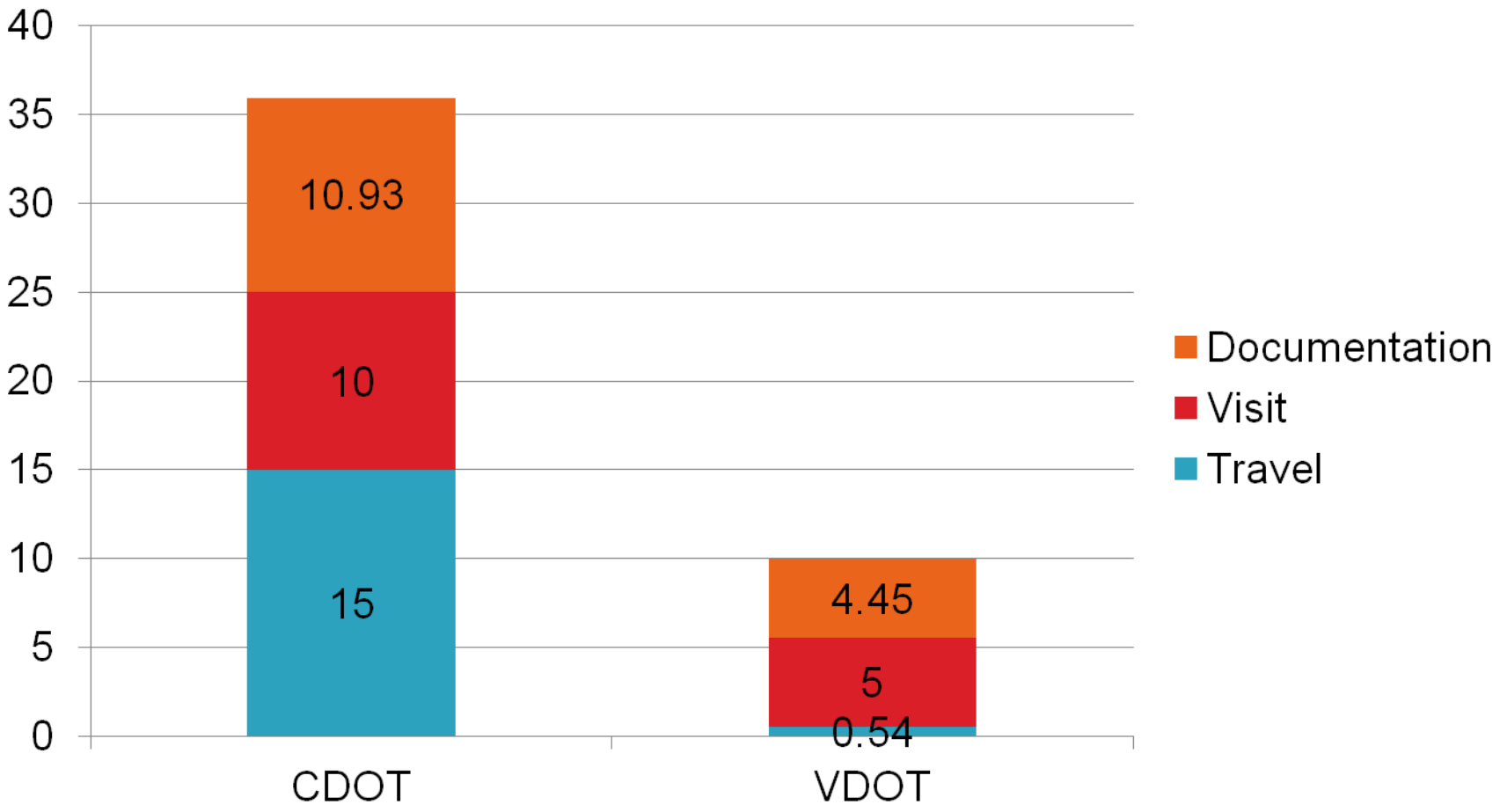
Video DOT (VDOT) Pilot - Fall 2011



- 13 clients, 2 nurses
- 10 weeks
- 5 weeks community DOT (n=278 visits)
- then 5 weeks VDOT (n=266 visits)

Results of VDOT Pilot - 2011

Average minutes per visit



Results of VDOT Pilot - 2011

Client and Staff feedback:

Benefits for clients: fast, flexible, and private

- Miss the personal contact of in-person visits
- Similar visit compliance rates on community DOT (CDOT) and VDOT (both ~98-99%)

Benefits for TPH: flexibility in scheduling both clients and staff

- Clients' physical status is more difficult to assess over the videophone; greater reliance on clients' participation in treatment
- Need to improve the sound and picture quality of the video transmission

Results of VDOT Pilot - 2011

Conclusion of the Evaluation:

- VDOT is a useful and cost –effective method of delivering DOT to carefully selected clients.

VDOT – Current status

- Approximately 25 clients receiving service on VDOT currently
- Plan to expand to 50 - 70 clients on VDOT
- Will continue to monitor client adherence and satisfaction, eligibility, technical issues and cost savings over time.
- Looking for ways to improve access

Questions?

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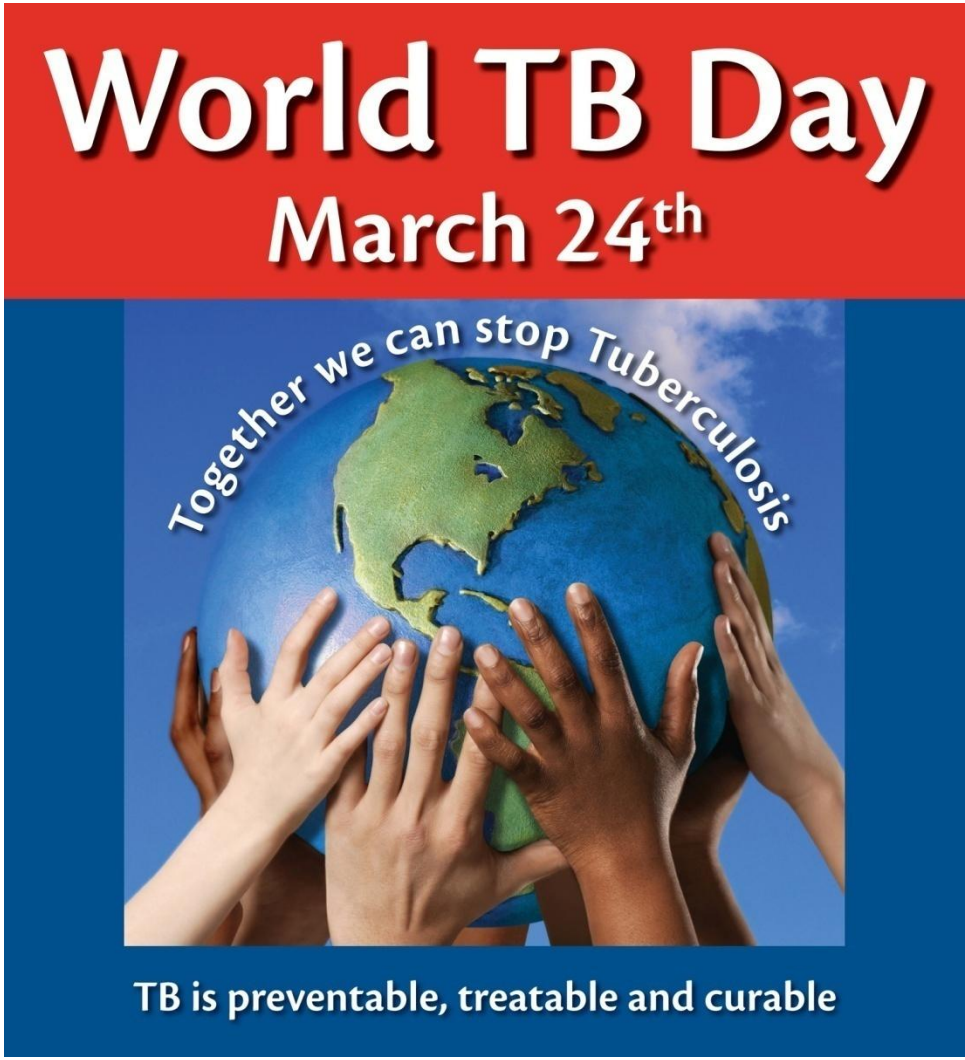

Results of VDOT Pilot – Client Satisfaction