

Tuberculosis trends in Uzbekistan

Master of Public Health Field Experience Report
with Project HOPE – The People-to-People Health
Foundation, INC.

Abdunabi Kuchimov
Kansas State University
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Outline

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- Results
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Scope of Work

- June 17 –August 23, 2013
- Branch Office of Project HOPE – People-to-People Health Foundation, Inc. in Uzbekistan
- USAID funded the Quality Health Care Project



Background – Project HOPE

What is Project HOPE?

Health Opportunities for People
Everywhere

International nonprofit health organization dedicated to providing long-lasting solutions to health problems and improving the quality of life of the world's most vulnerable people.



Background – Project HOPE

History

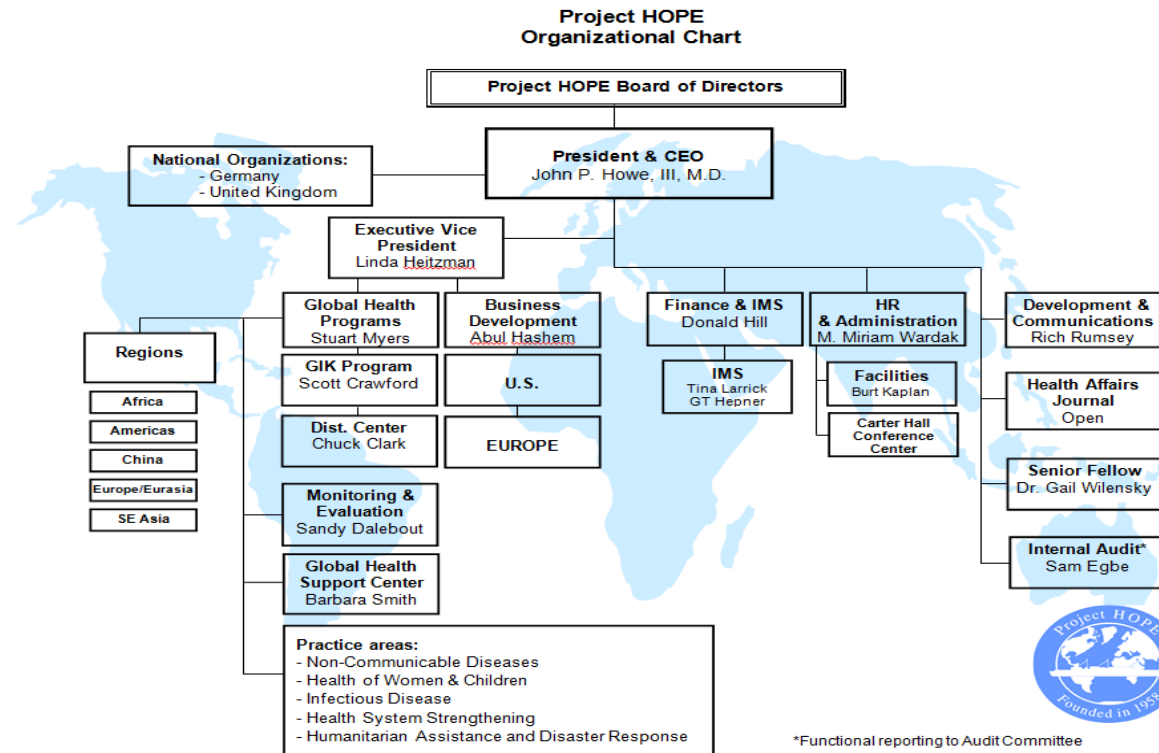
- Founded in 1958 by William B. Walsh, MD
- S.S. HOPE-11 Voyages
- Became land-based operation in 1974

Background – Project HOPE

Mission

“to achieve sustainable advances in health care around the world by implementing health education programs and providing humanitarian assistance in areas of need”

Background – Project HOPE



Background – Project HOPE

Global Health Programs (2013)

52 programs

31 countries

5 practice areas

- Infectious Diseases
- Non Communicable Diseases
- Women's & Children's Health
- Humanitarian Assistance/Disaster Response
- Health Systems Strengthening

Albania
Bosnia and Herzegovina
Cambodia
China
Czech Republic
Dominican Republic
Egypt
Haiti
Honduras
Hungary
India
Indonesia
Kazakhstan
Kosovo
Kyrgyzstan
Macedonia
Malawi
Mexico
Mozambique
Namibia
Nicaragua
Peru
Poland
Romania
South Africa
Tajikistan
Tanzania
Turkmenistan
Ukraine
USA
Uzbekistan

Background – Project HOPE

Operations in Uzbekistan:

2009-2014: USAID funded Dialogue on HIV and TB Project

Purpose : reduce the spread of HIV and tuberculosis in Uzbekistan through improving health behaviors among most-at-risk populations (MARPs)

Target populations:

- People who inject drugs;
- Sex workers;
- People living with HIV/AIDS.

Background – Project HOPE

Operations in Uzbekistan: Active grants

2010-2014: USAID funded Quality Health Care Project

Purpose: improve the health status of population of Uzbekistan by building the capacity of public health systems and empowering communities to respond to health needs, particularly for tuberculosis and HIV/AIDS

Target populations:

- TB patients;
- General population;
- Health workers.

Background - Uzbekistan



Area: 447,400 km²

Population: 28,661,637
urban - 36%
rural - 64%

0-14 years - 26.5%

Life expectancy at birth:
male: 70 years
female: 76 years

Independence from the Soviet Union:
September 1, 1991

Background - Uzbekistan

Economy

- Mostly oriented towards services and agriculture;
- World's fifth largest cotton exporter;
- One of the large producers of gold and oil and a major producer of chemicals and machinery in the region

Background - Uzbekistan

Top Ten Causes of Death

1	Coronary Heart Disease	32.6%
2	Stroke	14.7%
3	Hypertension	9.4%
4	Influenza & Pneumonia	4.5%
5	Liver Disease	4.3%
6	Tuberculosis	3.1%
7	Low Birth Weight	2.7%
8	Diabetes Mellitus	2.6%
9	Kidney Disease	2%
10	Road Traffic Accidents	1.8%

Background - Tuberculosis

- TB is an infectious disease caused by the bacillus *Mycobacterium tuberculosis* that can affect anyone at any age
- TB usually affects the lungs (**pulmonary TB**) but it can also affect other organs, such as the bones, kidneys, or spine (**extrapulmonary TB**)

Background - Tuberculosis

- TB is the second leading cause of death due to a single infectious agent, after the human immunodeficiency virus (HIV)
- In 2012, 8.6 million people fell ill with TB and 1.3 million died from this disease globally
- Over 95% of TB deaths occur in low- and middle-income countries
- TB is a leading killer of people living with HIV causing one fifth of all deaths
- Multi-drug resistant TB (MDR-TB) is present in virtually all countries surveyed

Background - Tuberculosis

- **Uzbekistan is among:**
 - 18 high TB priority countries in the WHO European Region
(the 18 countries account for 85% of the tuberculosis cases in the European Region: (Bulgaria, Romania, Turkey and all 15 former soviet countries))
 - 27 high MDR-TB burden countries in the world
(countries with at least 4,000 cases of MDR TB each year, and/or at least 10% of newly registered TB cases are of MDR TB)
- **In 2012, 22,000 people fell ill with TB and 600 died from this disease in Uzbekistan**

Background - Tuberculosis

Transmission

- TB is spread person to person through the air
- M. tuberculosis may be expelled when people with lung TB:
 - Coughs
 - Sneezes
 - Speaks
- People nearby may breathe in these bacteria and become infected



Background - Tuberculosis

- About one-third of the world's population has latent TB
 - people have been infected by TB bacteria but are not ill yet
 - cannot transmit the disease
- People infected with TB bacteria have 10% risk of developing active TB during their lifetime
- Persons with weak immune systems have a much greater risk of developing active disease:
 - people living with HIV and infected with TB are 30 times more likely to develop active TB than people without HIV

Background - Tuberculosis

Common symptoms

- persistent cough for two weeks or more
- chest pain
- weakness
- weight loss
- fever and
- night sweats

Diagnosis

- sputum smear microscopy
- bacteriologic (culture) method
- rapid molecular test

Background - Tuberculosis

Treatment

TB is a curable disease!

Active, drug-sensitive TB

Six-month course of four first-line anti-TB drugs

Multidrug-resistant TB

is a form of TB caused by bacteria that do not respond to, at least, isoniazid and rifampicin, the two most powerful, first-line anti-TB drugs

- Up to two years of treatment using second-line drugs
- More costly
- Can produce severe side effects

Background - Tuberculosis

Ongoing efforts:

- DOTS Strategy has been expended to the whole country
- State TB Control Program for the period 2010–2015 is accepted
- A nationwide anti-TB drug resistance survey was carried out in 2010-2011
- 2 reference and 5 regional bacteriological labs were established

Next steps:

- Procurement of the first line drugs
- A new State TB Control Program for the period 2015–2020
- Scale up the new rapid molecular test in diagnosing TB and the presence of rifampicin resistance

Goals and Objectives

Goals

- Apply the theories and concepts learned in the classroom in a real-world setting;
- Investigate tuberculosis trends in Uzbekistan.

Goals and Objectives

Objectives

- Learn more about challenges in data analysis and results interpretation;
- Gain an experience and skills in dealing with possible challenges in data analyses and results interpretation;
- Improve data comparison skills;
- Reinforce the knowledge and skills gained during the studies in Kansas State University.

Activities performed

Participated in various meetings such as:

- Tashkent, June 27, 2013 - TB partners meeting
- Parkent district, July 17, 2013 – Patients' support group meeting
- Tashkent, July 30, 2013 – USAID Implementing Partners meeting
- Tashkent, August 6, 2013 - HIV/AIDS Partners Forum

Activities performed

Involved in various project activities and events:

- participated in development of quarterly work plan and reports for the Quality Health Care Project
- participated in the process of preparing of cost extension documents for the Dialogue on HIV and TB Project
- engaged in preparation of sub-contract requesting funds for development of TB Information, Education and Communication (IEC) materials and procurement of incentives (food packages) for patients in TB treatment
- involved in monitoring of the humanitarian aid donated by Project HOPE

Activities performed

Involved in various project activities and events (continued):

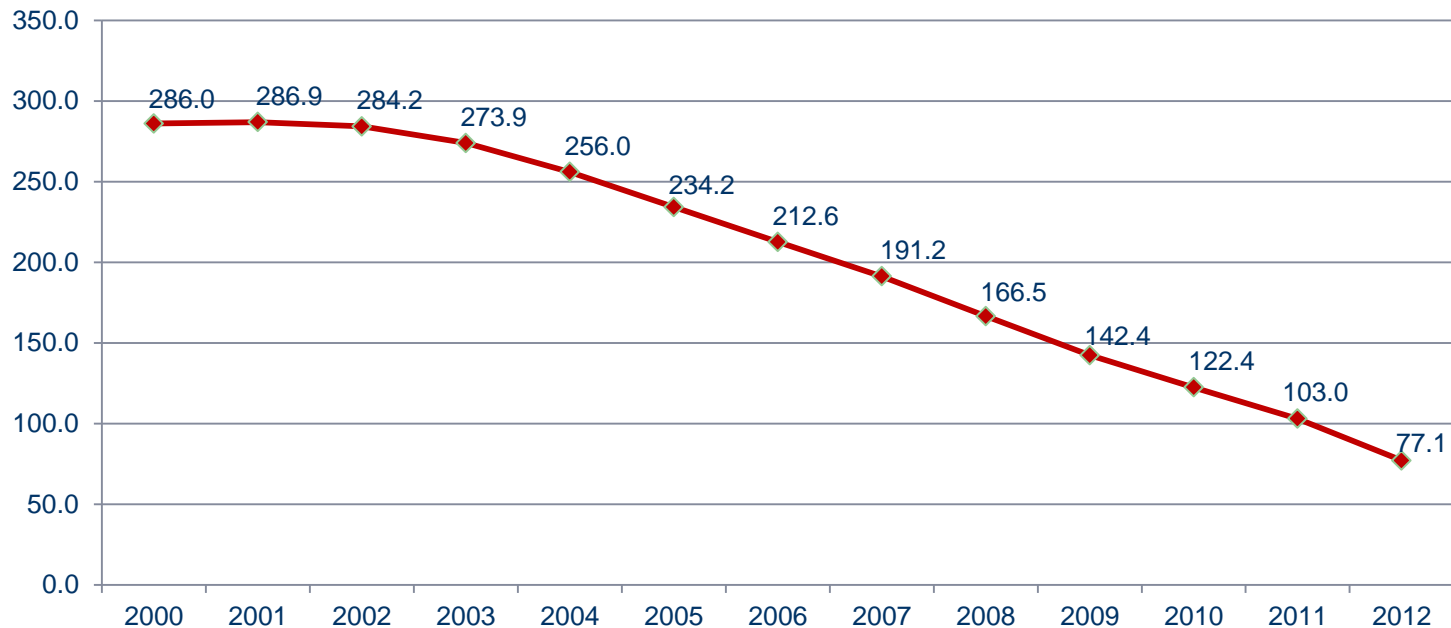
- carried out an extensive research of existing scholarly articles and reports in the field of TB
- reviewed publicly available best TB control practices
- investigated tuberculosis trends in Uzbekistan

Materials and Methods

- Descriptive analysis of surveillance data for 2000-2012
- Data was extracted from the WHO's global TB database
- Tables and charts were constructed using Microsoft Excel 2010

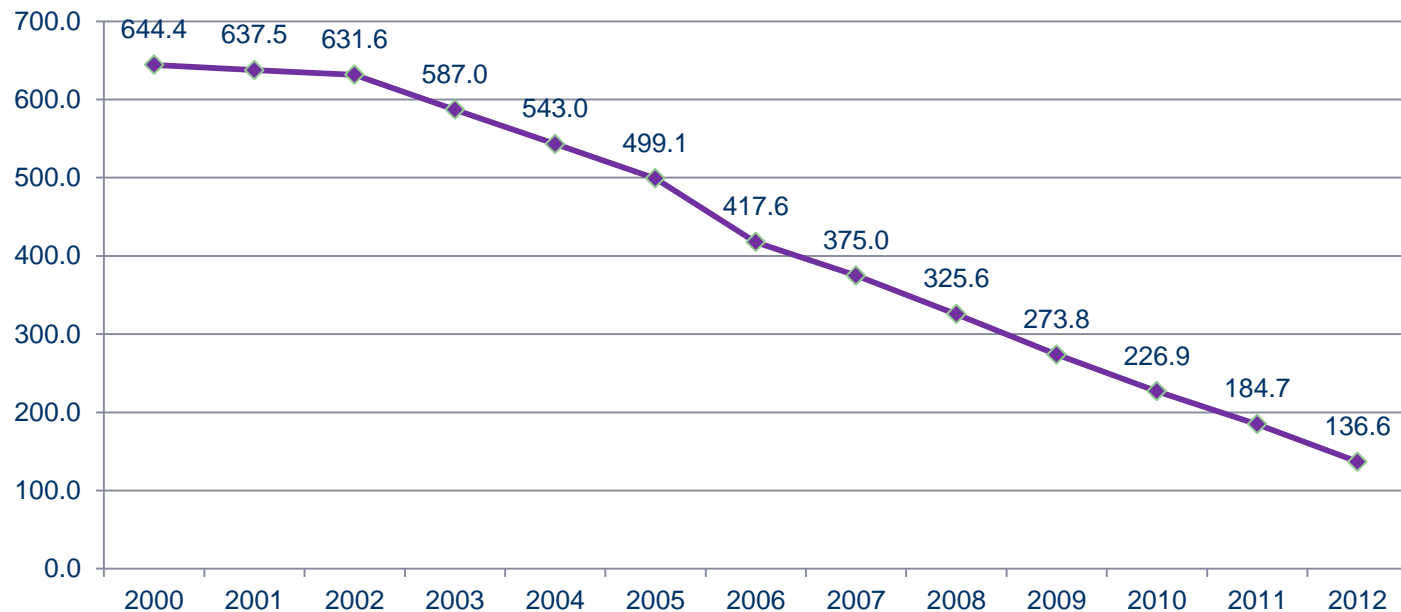
Results

Estimated TB incidence per 100,000 population per year, Uzbekistan, 2000-2012



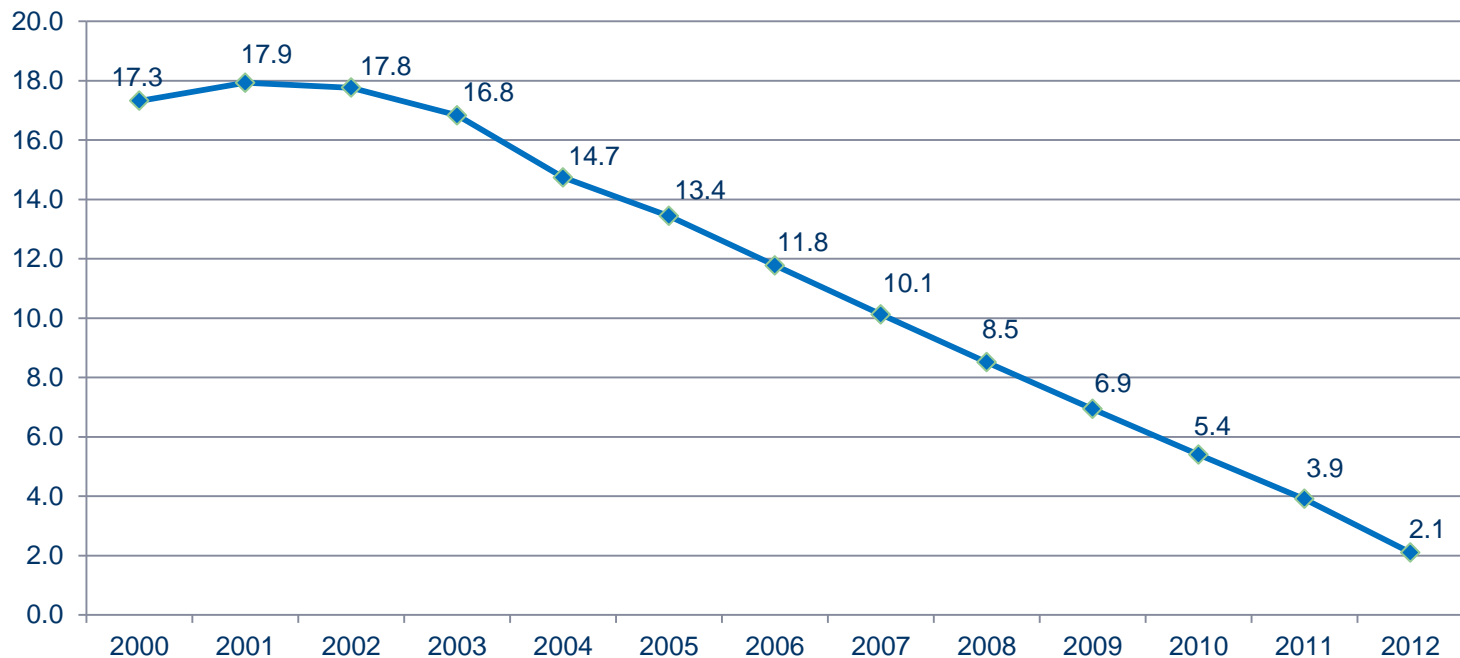
Results

Estimated TB prevalence per 100,000 population,
Uzbekistan, 2000-2012



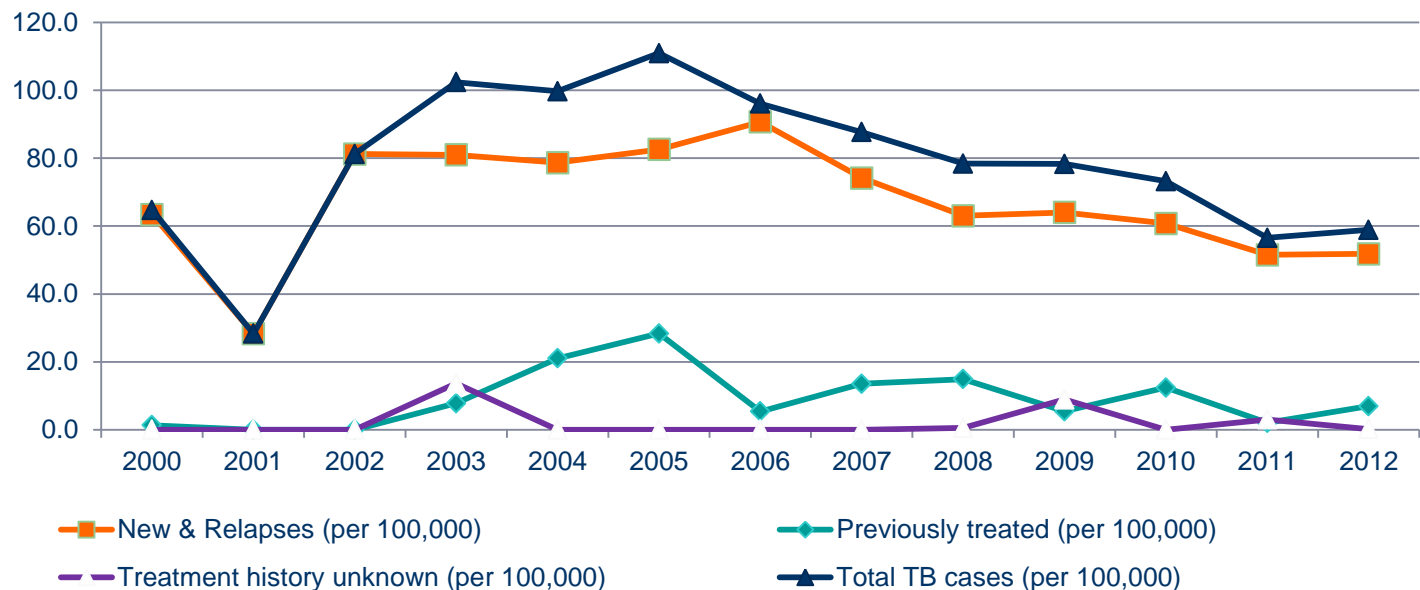
Results

Estimated TB mortality per 100,000 population per year,
Uzbekistan, 2000-2012



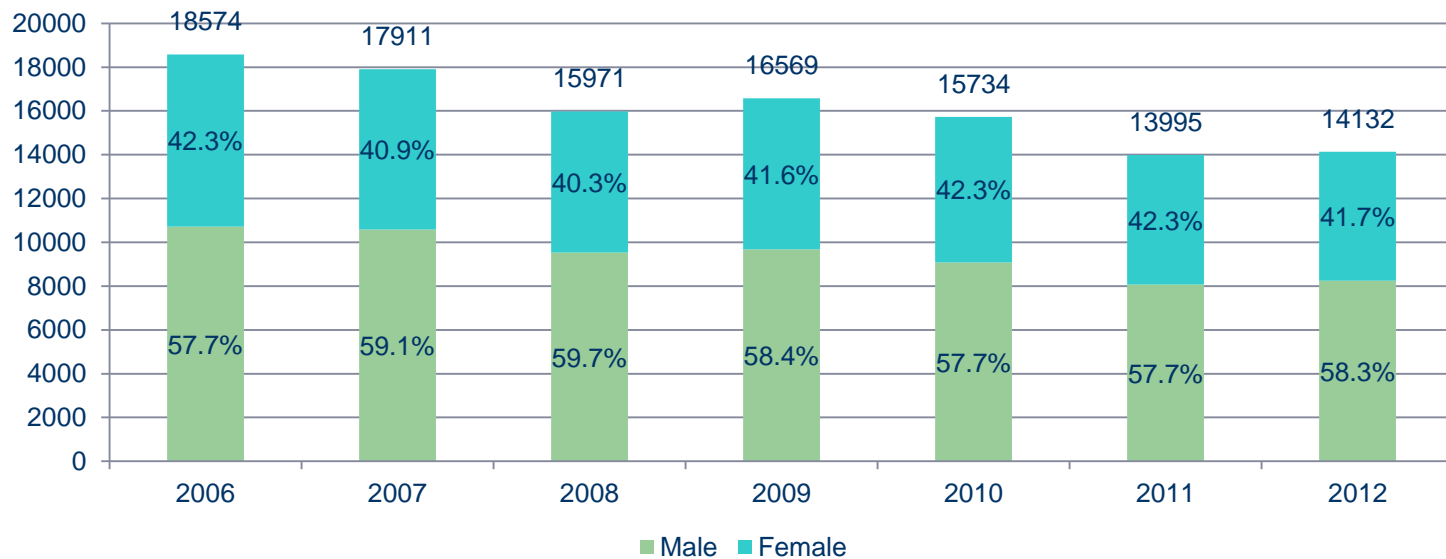
Results

TB notification rates per 100,000 population by previous treatment history, Uzbekistan, 2000-2012



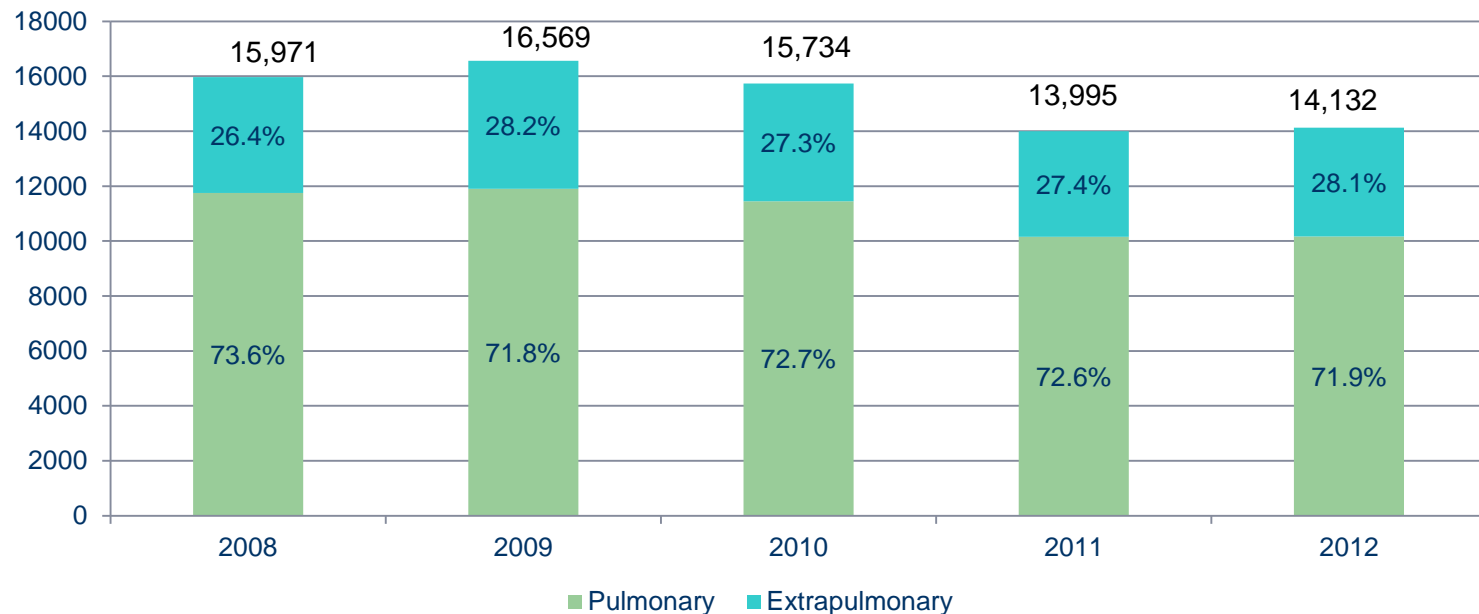
Results

New TB cases – notification rates by sex, Uzbekistan, 2006-2012



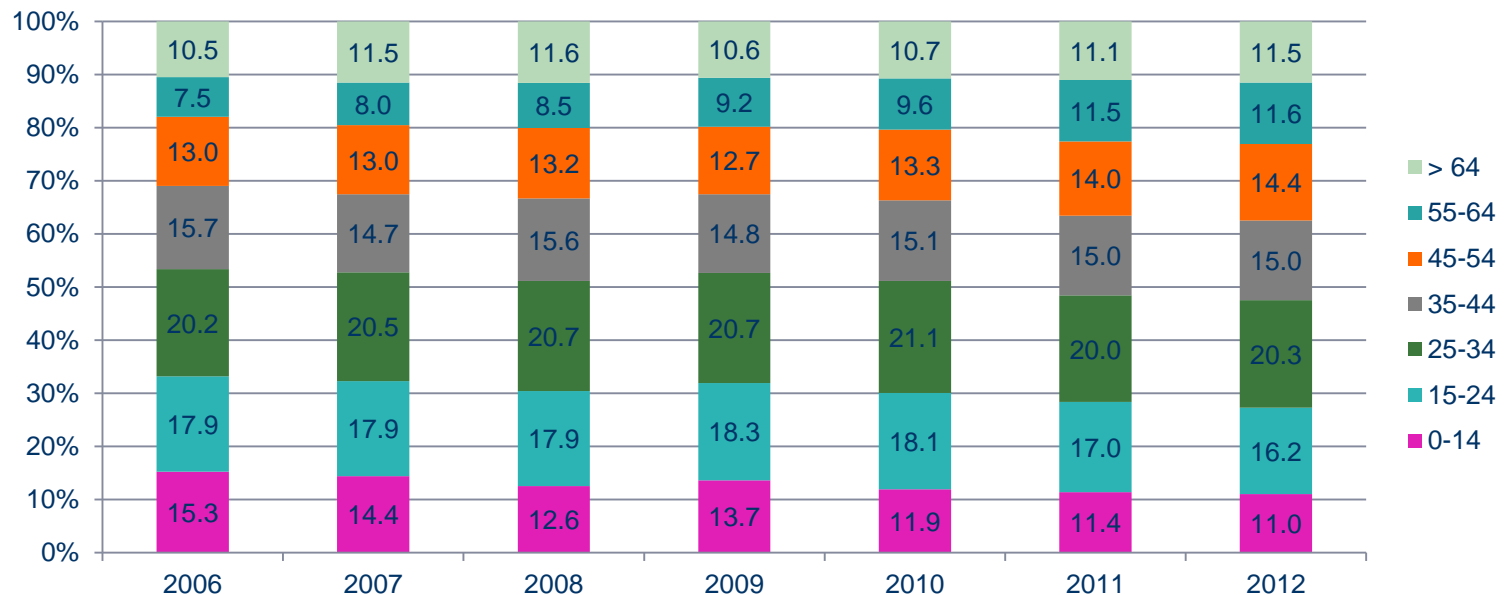
Results

Percentages of new TB cases by site of disease, Uzbekistan, 2008-2012



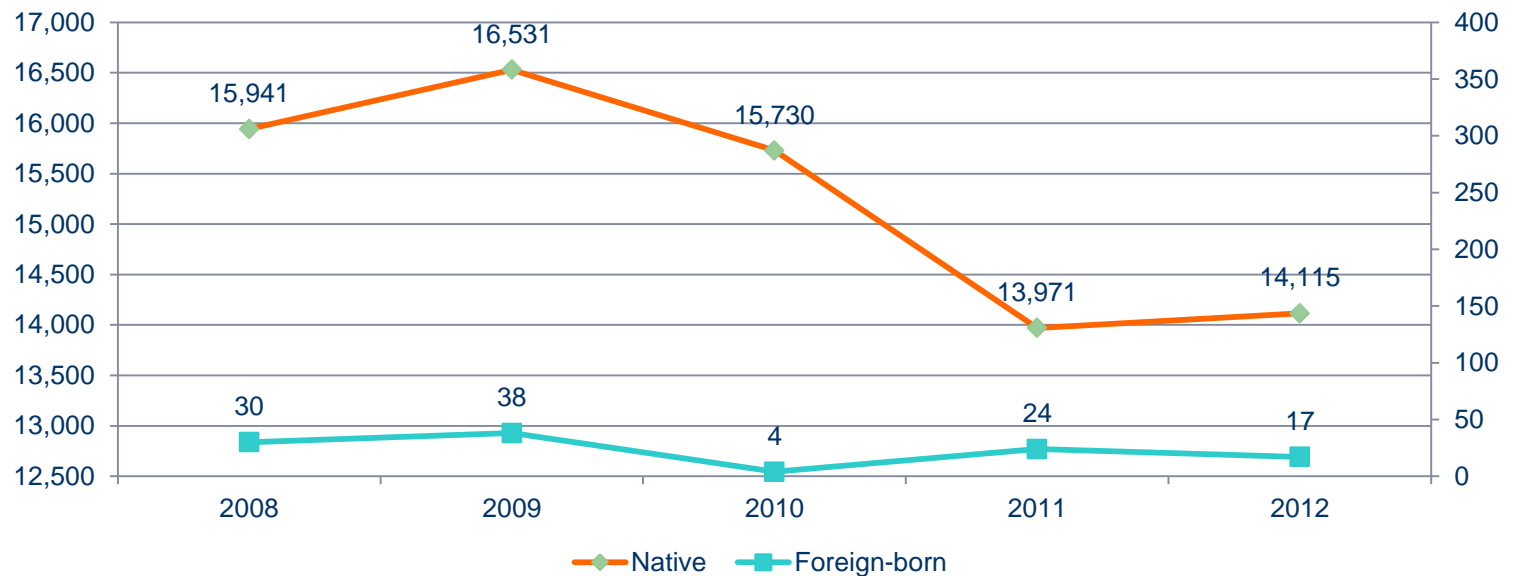
Results

New TB cases – notification rates (per 100000 population) by age group, Uzbekistan, 2006-2012



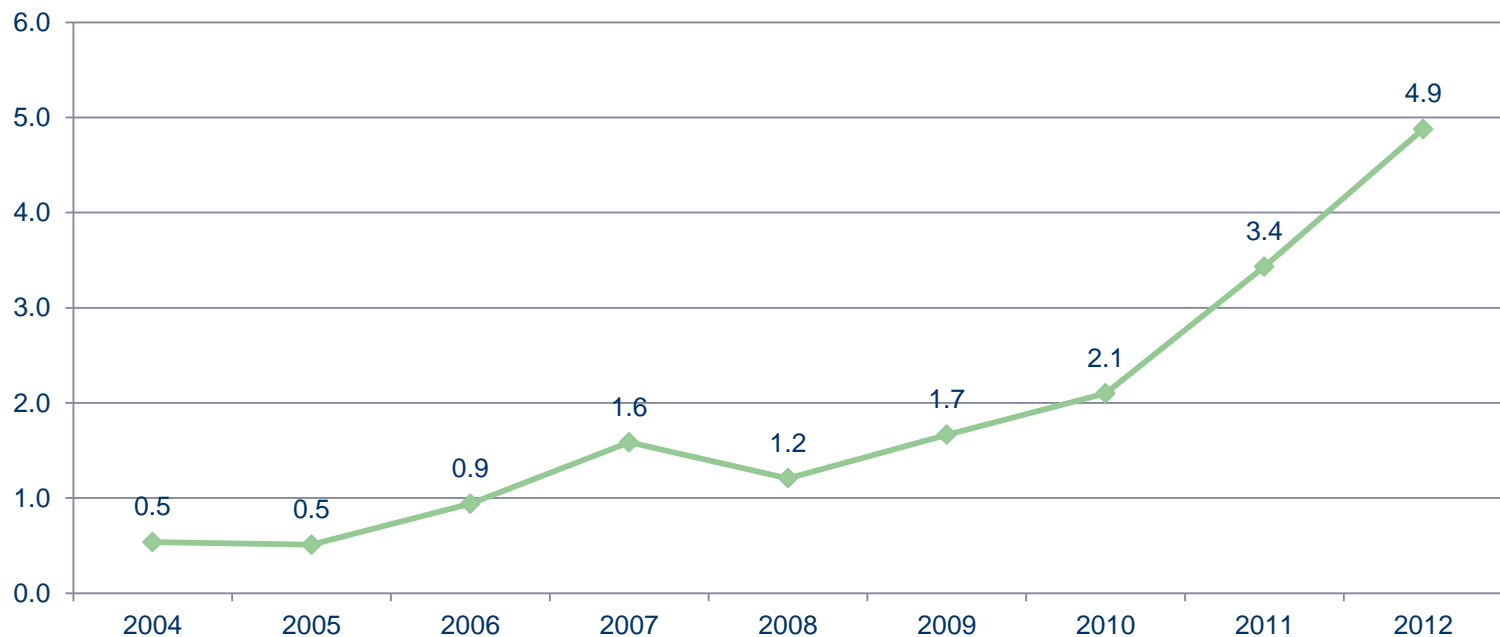
Results

Number of TB cases by geographical origin, Uzbekistan, 2008-2012



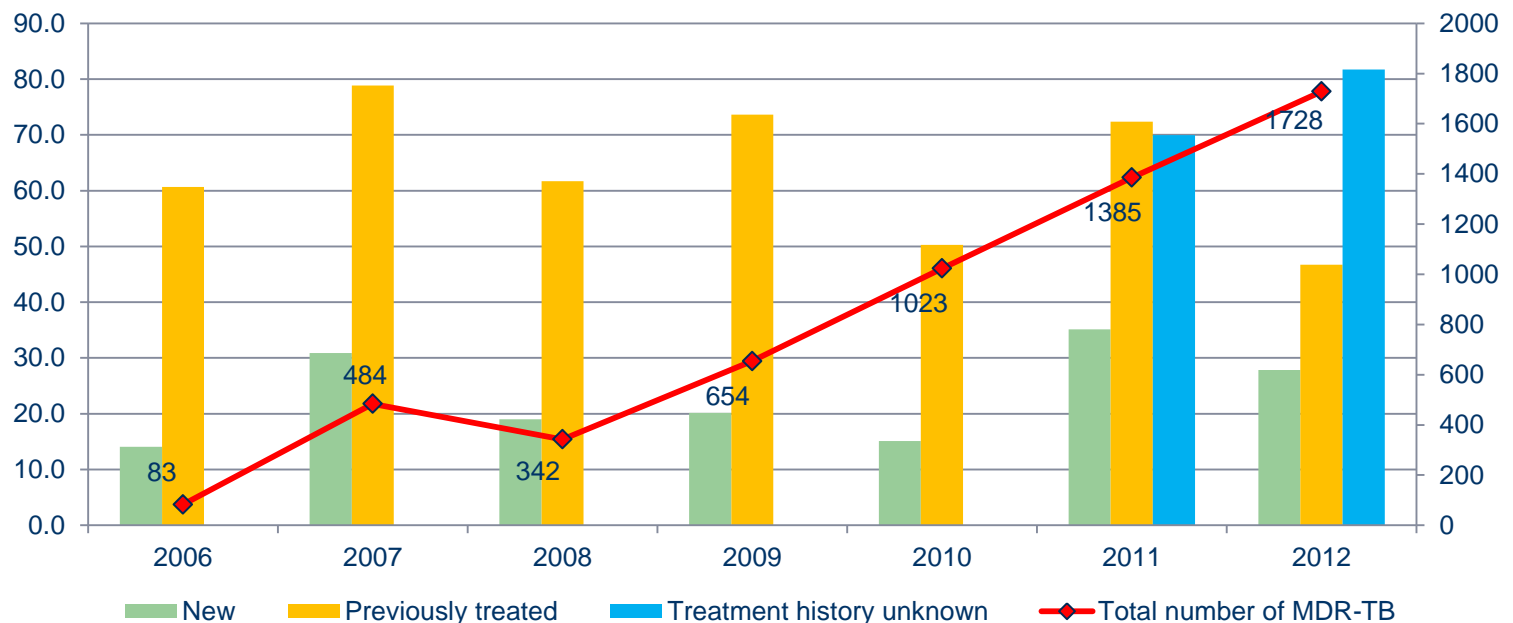
Results

Proportion of HIV positive cases among TB cases, Uzbekistan, 2004-2012



Results

Percentages of MDR among laboratory-confirmed TB cases by previous treatment history, Uzbekistan, 2006-2012



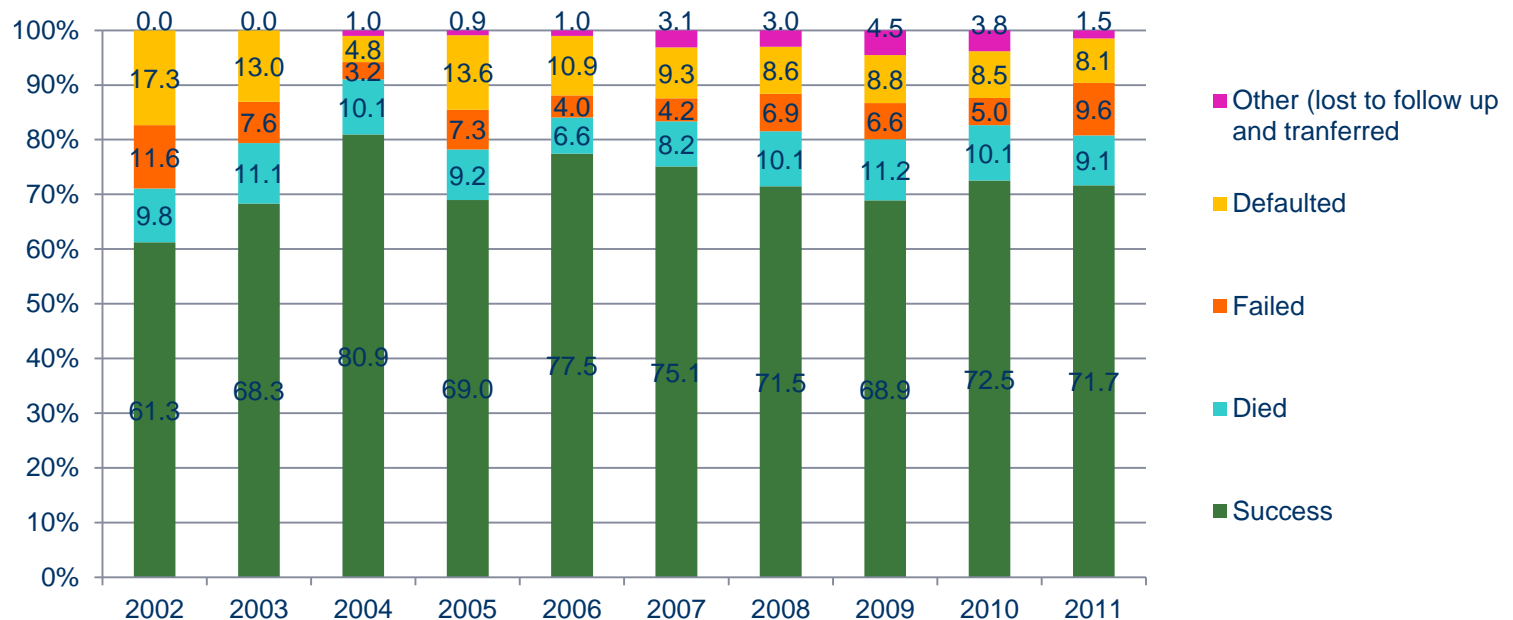
Results

Treatment outcome, new laboratory-confirmed pulmonary TB cases, Uzbekistan, 2000-2011



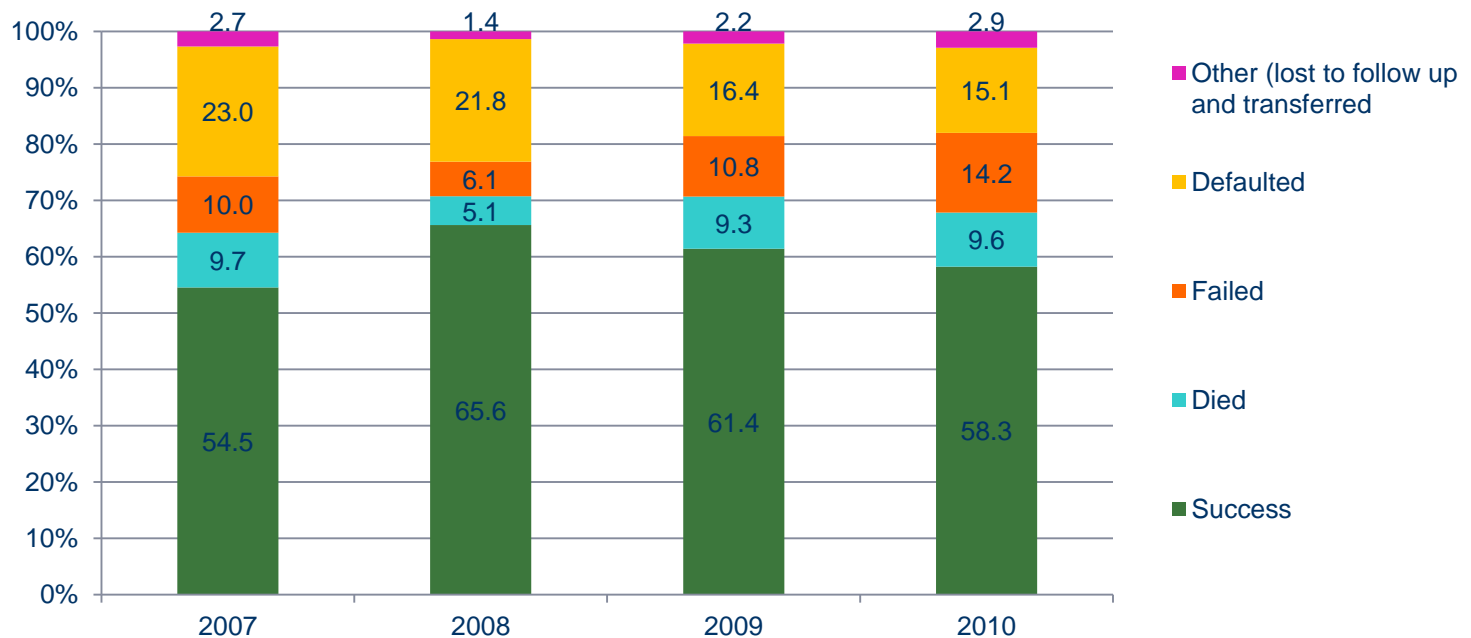
Results

Treatment outcome, previously treated laboratory-confirmed pulmonary TB cases, Uzbekistan, 2002-2011



Results

Treatment outcome after 24 months of MDR-TB cases, Uzbekistan, 2007-2010



Conclusion

- The burden of TB had gradually decreased
- Notification rate of previously treated TB cases has noticeable increased during the reporting period
- Pulmonary TB remains the main form of TB in Uzbekistan
- The age group 25-34 constituted the highest prevalence between 2006 and 2012
- The proportion of MDR-TB among new TB cases tested for DST has doubled from 2006 to 2012
- The National TB Program is on the right track to achieve the Millennium Development Goals for 2015

Recommendations

- Continuously and closely cooperate with WHO's STOP TB Team;
- Strengthen country TB surveillance system;
- Identify and address the social determinants of TB and MDR-TB;
- Scale up the best practices and patient-centred ambulatory care

Thank you!

Any questions?