

**November 15, 2011, Moscow, Russian Federation**

# **MDR-TB in the World**

## **MDR-TB data and DR TB surveillance in the Russian Federation and Globally**

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WHO  
Office in the Russian Federation



# Multi-drug resistant tuberculosis

- ... **any treatment**, especially poor control and unsuccessful treatment, leads to **growth of drug resistance TB**
- ...**DR TB surveillance** – one of the more methodologically **comprehensive part of TB monitoring**
- ... most countries **have not both financial and technical opportunities** to provide the effective and quality **DR TB survey or surveillance**
- ... Currently MDR/XDR TB surveillance is the **key element of any NTP**



# MDR TB global estimation and notification

"M/XDR-TB: 2010 Global Report on Surveillance and Response, WHO"  
"WHO PROGRESS REPORT 2011"

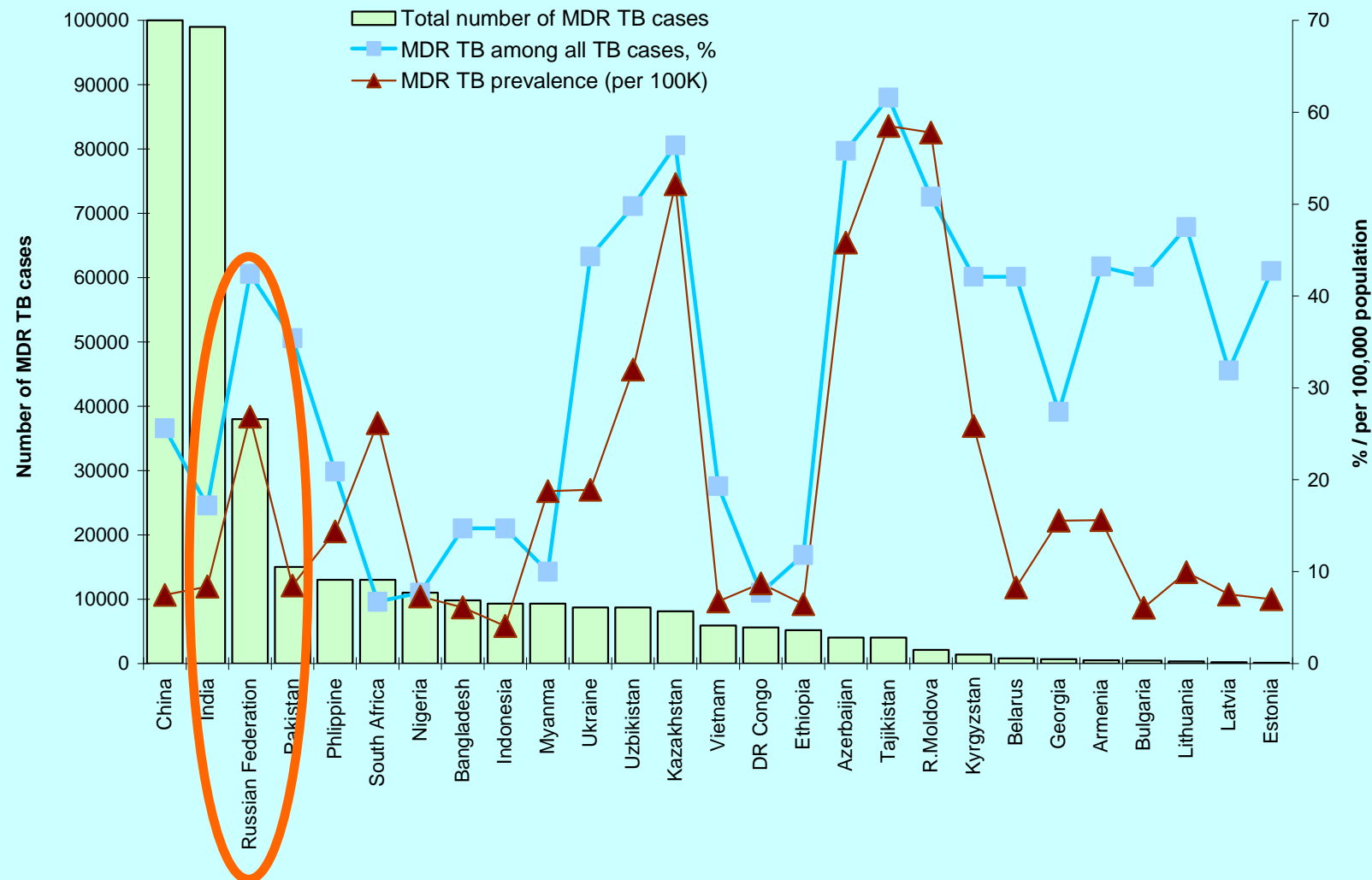
- WHO estimation (2010) - **650 000** MDR TB cases globally among **all estimated prevalent TB cases**,
  - **86%** estimated MDR TB cases are in **27** MDR TB High Burden countries, including **15** countries from WHO European Region, with Russian Federation, 13 former USSR countries and Bulgaria among them
  - Almost **50%** of MDR-TB cases worldwide are estimated to occur in China and India, and **8.6%** - in the Russian Federation
- WHO estimation (2010 г.) - **290 000** MDR TB cases globally among **notified TB cases**
- **53 000** (~18%) were **registered and notified** MDR TB cases
- **45 000** (~16%) were **registered on treatment**



# MDR TB in the Russian Federation estimation and notification

- WHO estimation, MDR-TB cases, Russian Federation
  - 38 000 (30 000–45 000) among incident total TB cases (2008)
  - 31 000 (24 000–38 000) among TB cases notified in 2010
- MDR TB notification: Russian Federation , 2010
  - 39 759 MDR TB patients in the follow up register at the end of the year (incl. prison)
  - 13 692 MDR TB cases were registered (incl. 6 218 among new TB cases)

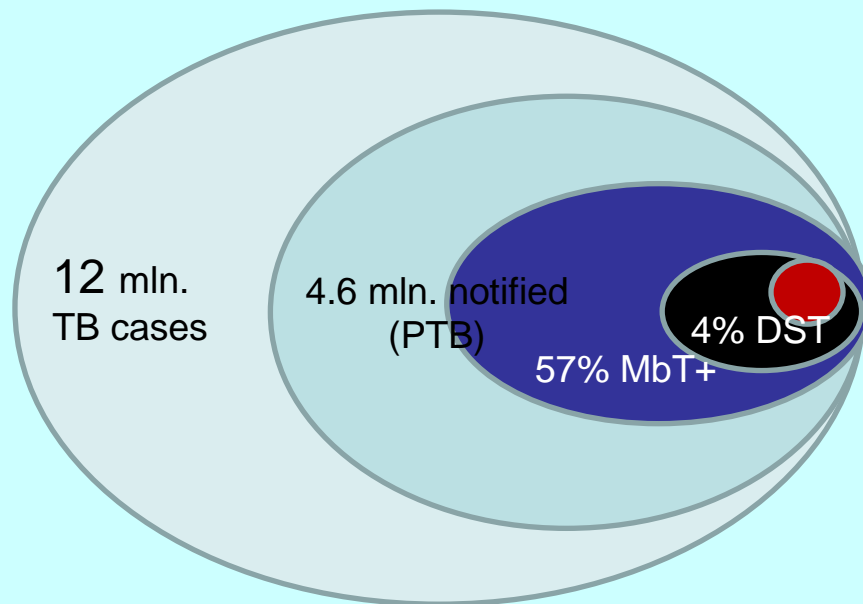
# MDR among new and re-treatment TB cases in 27 MDR TB High Burden countries WHO estimate, 2008



# MDR TB: What we can see in the reports?

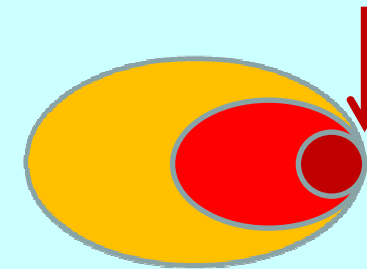
(WHO Global TB Report , 2011)

## New TB cases and MDR TB

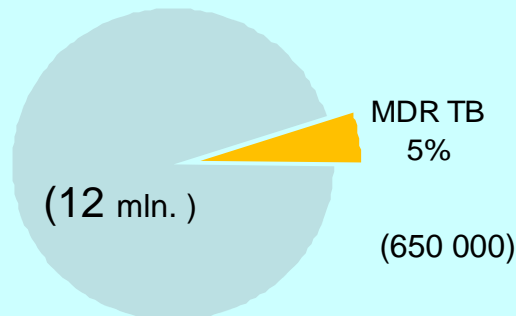


650 000 – WHO estimation for all TB cases  
290 000 – WHO estimation for notified TB cases  
53 000 - notified MDR TB cases

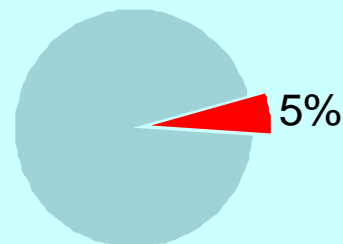
## MDR TB



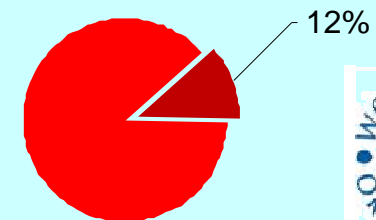
WHO estimation.  
MDR TB cases among  
estimated new TB cases



WHO estimation.  
MDR TB cases among notified  
new TB cases



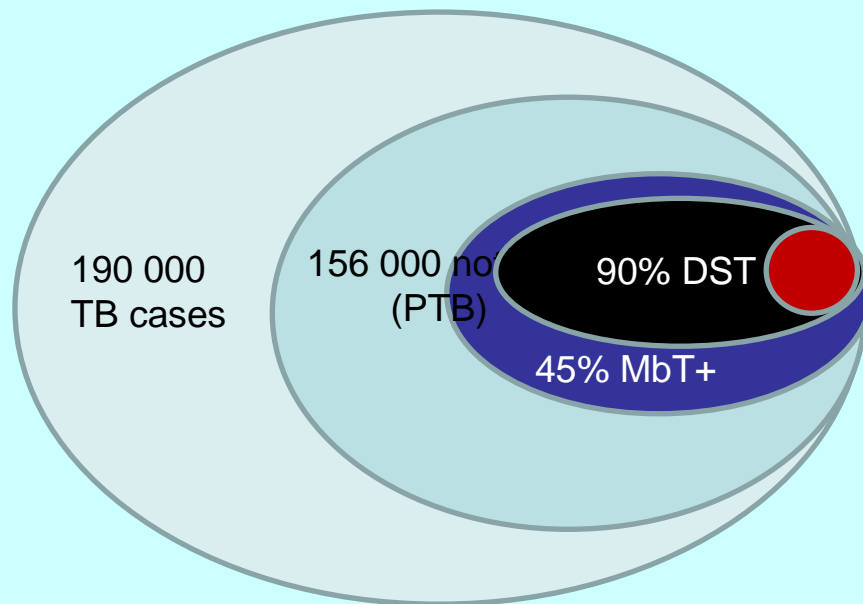
Registered MDR TB cases to  
estimated MDR TB cases



# MDR TB: What we can see in the reports?

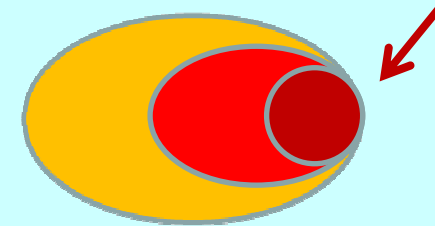
(Russian Federation, 2009 - 2010)

## New TB cases and MDR TB

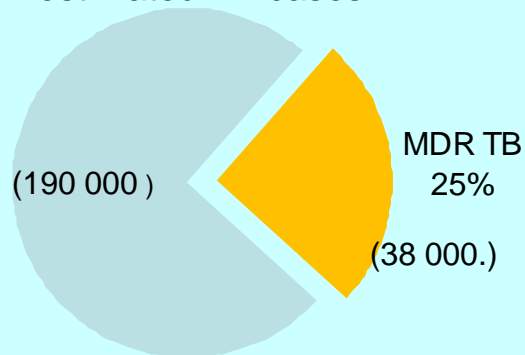


## MDR TB

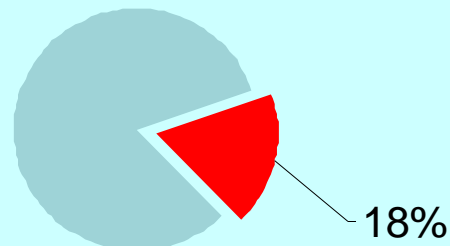
38 000 – WHO estimation for all TB cases  
 31 000 – WHO estimation for notified TB cases  
 14 000 notified MDR TB cases (more 30 000 in the follow up register)



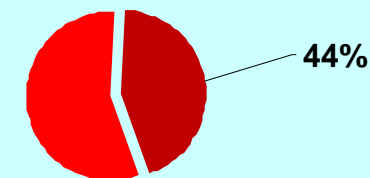
WHO estimation.  
 MDR TB cases among  
 estimated TB cases



WHO estimation.  
 MDR TB cases among notified  
 new TB cases



Registered MDR TB cases to  
 estimated MDR TB cases

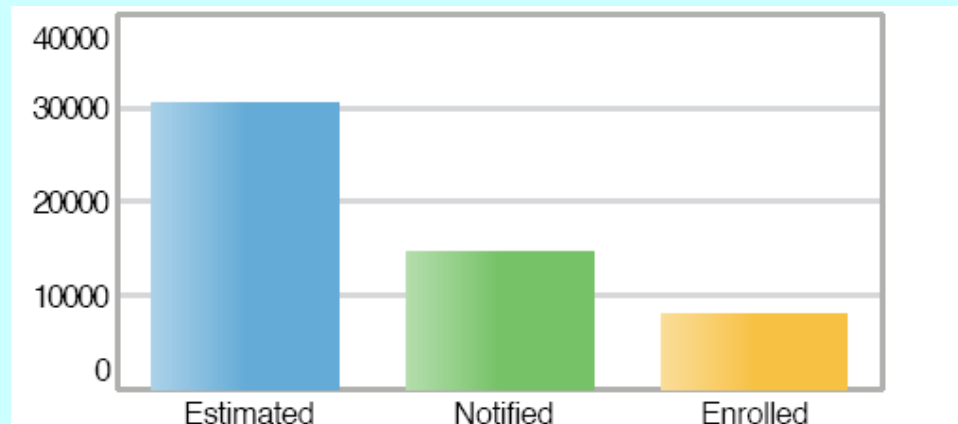


# MDR TB in the Russian Federation and Globally, DR TB surveillance

- MDR TB surveillance systems effectiveness:
  - Globally: ~4% new ss+ PTB cases tested by DST
  - Russia: ~90% new cu+ PTB cases covered by DST
  - Globally: registered not more 12% of WHO estimation for new TB cases
  - Russia: DR routine surveillance system registered not less a quarter of WHO estimation for new TB cases

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Russia: Estimated MDR-TB cases among notified pulmonary TB, notified cases and cases started on treatment (as reported to WHO) 2009



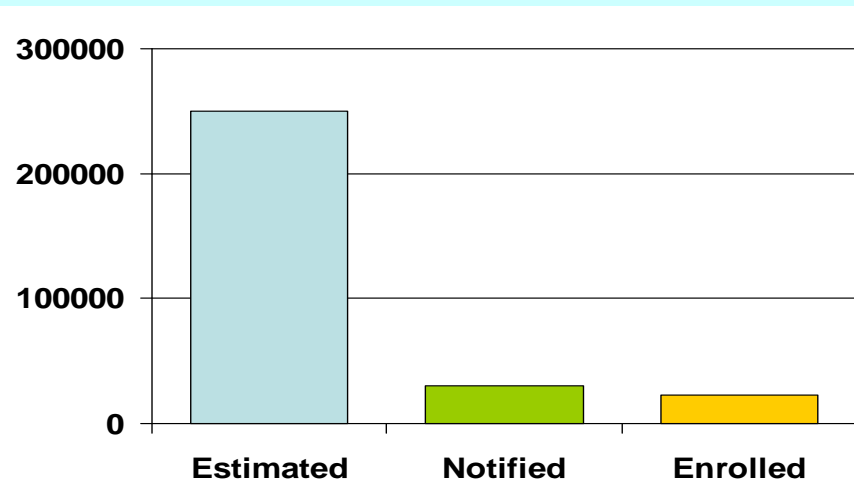


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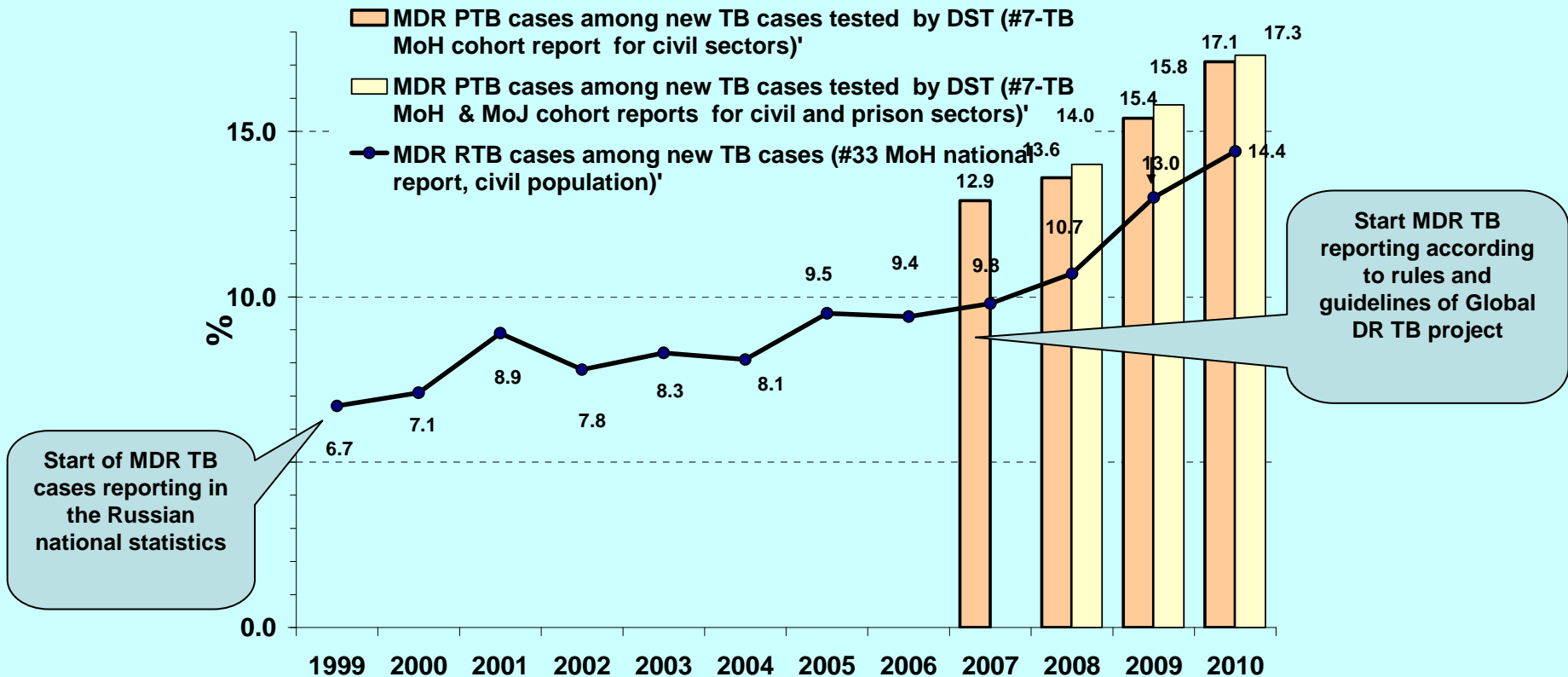
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Global: Estimated MDR-TB cases among notified pulmonary TB, notified cases and cases started on treatment (as reported to WHO) 2009



# Multi-drug tuberculosis in the Russian Federation

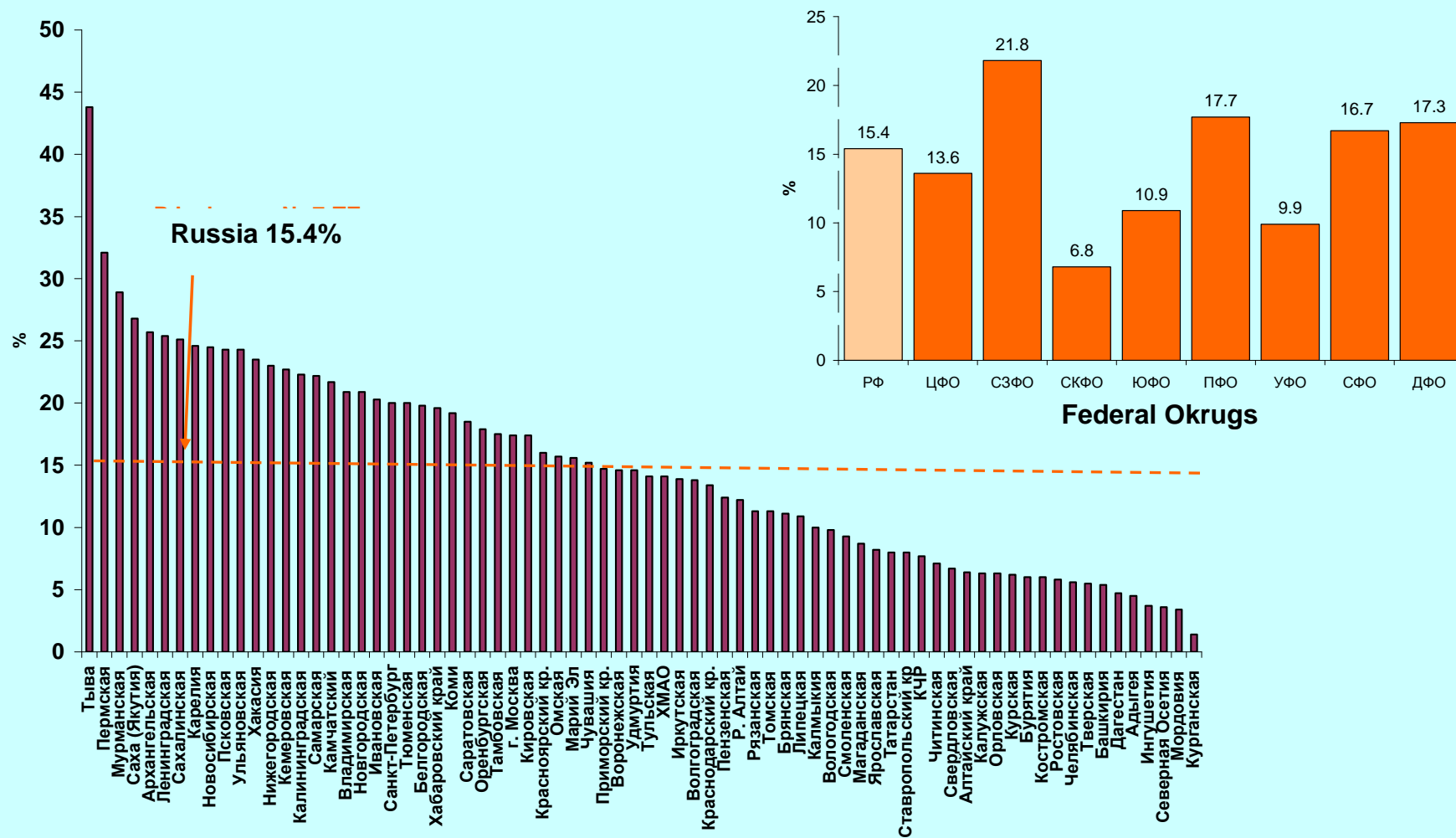
## new TB cases



report form №33 based on respiratory TB data  
report form #7-TB based on pulmonary TB cases DST tested on

# MDR TB in subjects of the Russian Federation

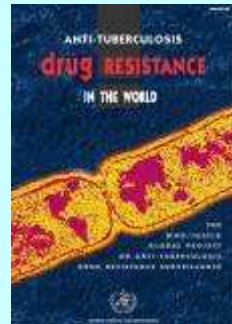
(MDR TB among new PTB cases tested by DST, 2009)



# Global Project on anti-TB drug resistance surveillance



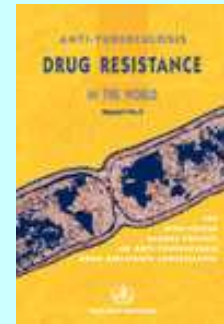
Global Project launched  
SRLN launched



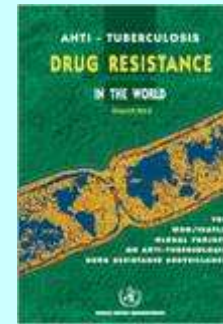
1st global DRS report



2nd global DRS report



3rd global DRS report



4th global DRS report



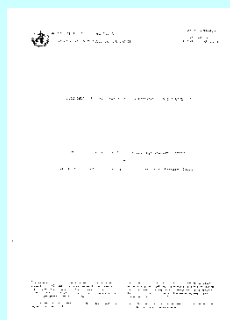
M/XDR-TB report



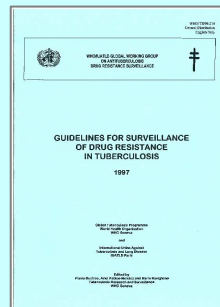
WHO progress Report

1994 1997 2000 2003 2004 2008 2009 2010 2011

1st ed. DRS guidelines



2nd ed. DRS guidelines



3rd ed. DRS guidelines



4th ed. DRS guidelines



# **“M/XDR-TB: 2010 Global Report on Surveillance and Response, WHO”**

- 114 countries from 1994
- 42 countries submitted data from continuous routine DR TB surveillance systems
- 72 countries submitted data from periodical surveys
- Other countries – mathematical model

Global DR Report 2010 include detailed data from continuous national and sub-national DR TB surveillance systems, which meet WHO criteria for DR TB surveillance systems (representativeness and DST accuracy criteria)



# **“M/XDR-TB: 2010 Global Report on Surveillance and Response, WHO”**

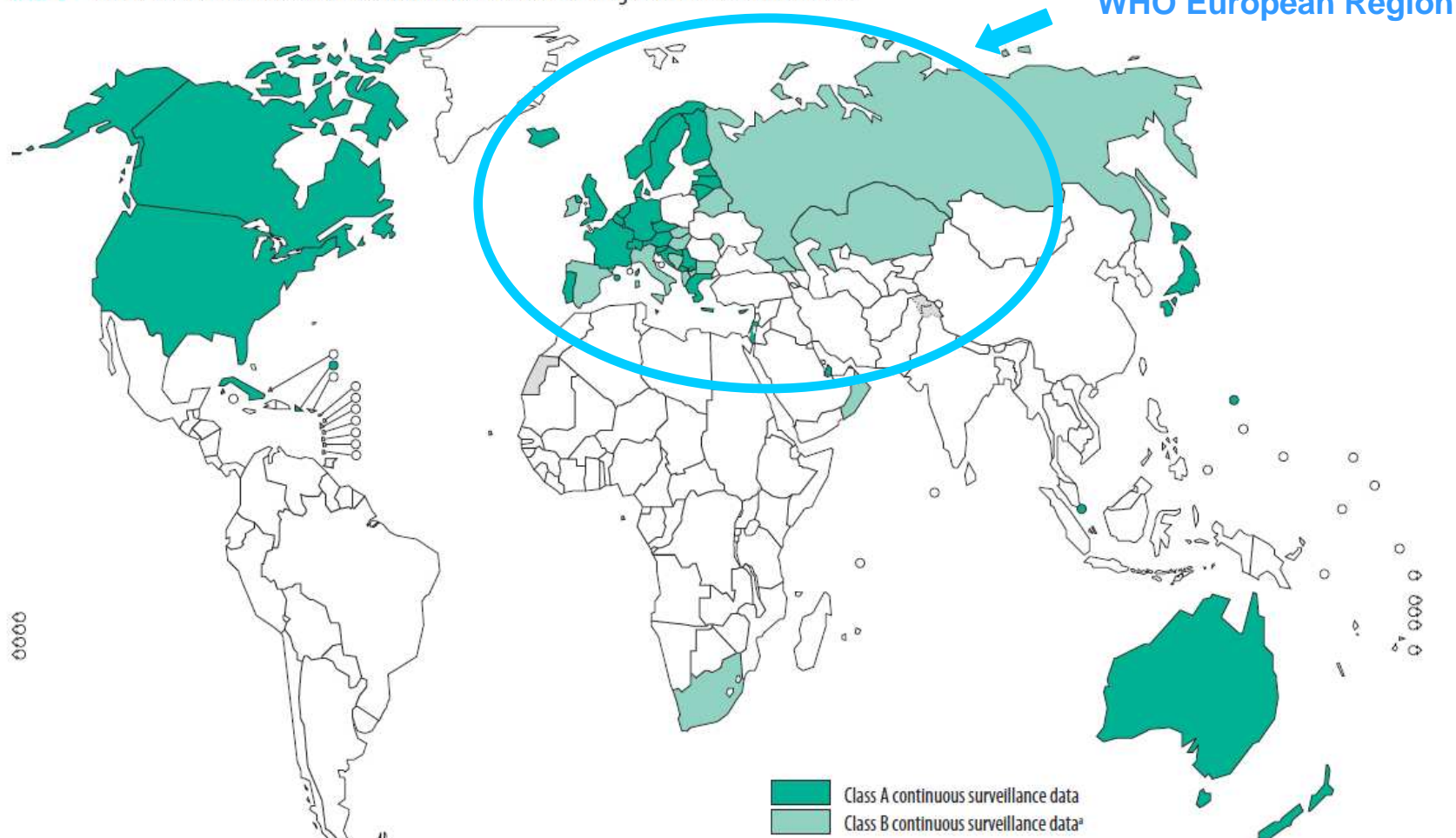
## **Criteria for classification of countries among those reporting Class A or Class B surveillance data**

- **Countries with Class A surveillance data were defined as those meeting all four of the following criteria:**
  - new case detection rate or new smear positive case detection rate over 50%
  - positive culture available in at least 50% of all notified cases
  - DST results available in at least 75% of all cases with positive culture
  - accuracy of at least 90% (95%) for isoniazid and rifampicin in the most recent DST proficiency testing exercise with a supranational reference laboratory.
    - Accepted data from 44 countries and territories, incl. 23 countries WHO EURO region and 12 subjects of Russian Federation
- **Countries with Class B surveillance data were defined as those not meeting the criteria for Class A data, but meeting the following criteria:**
  - positive culture available in at least 35% of all notified cases
  - DST results available in at least 50% of all cases with positive culture
    - Accepted data from 25 countries and territories, incl. 15 countries WHO EURO region and 2 subjects of Russian Federation



# Distribution of countries with Class A and Class B continuous drug resistance surveillance data

MAP 5 Distribution of countries with Class A and Class B continuous drug resistance surveillance data



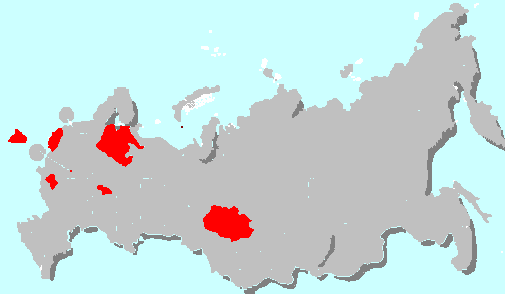
<sup>a</sup> РФ представила сведения уровня класса А по 12 субъектам



# DR TB Surveillance system in the Russian Federation

4<sup>th</sup> Global DR TB Report WHO, 2008

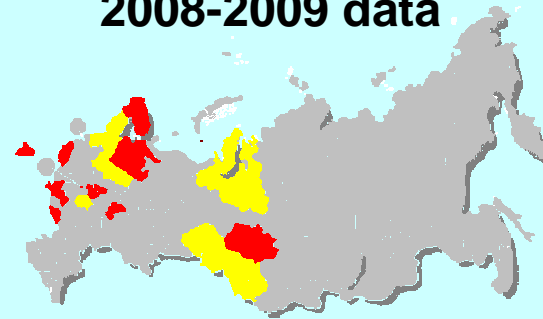
2007 data



6 territories

WHO Global Report 2010

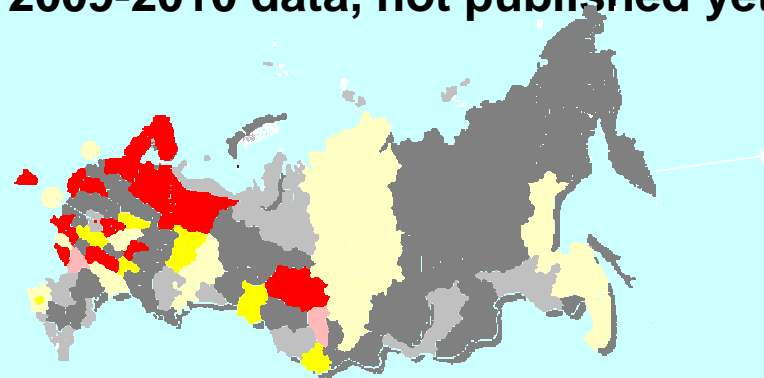
2008-2009 data



Class A: 12 territories

Class B (Russian/WHO): 8 territories

2009-2010 data, not published yet



Class A (Russian/WHO): : 18 territories

Class B (Russian/WHO): : 19 territories

Class A

Class B



# **WHO Criteria to DST accuracy**

## **EQA**

**Accuracy of at least 90% for isoniazid and rifampicin in the DST proficiency testing exercise**  
**2009**

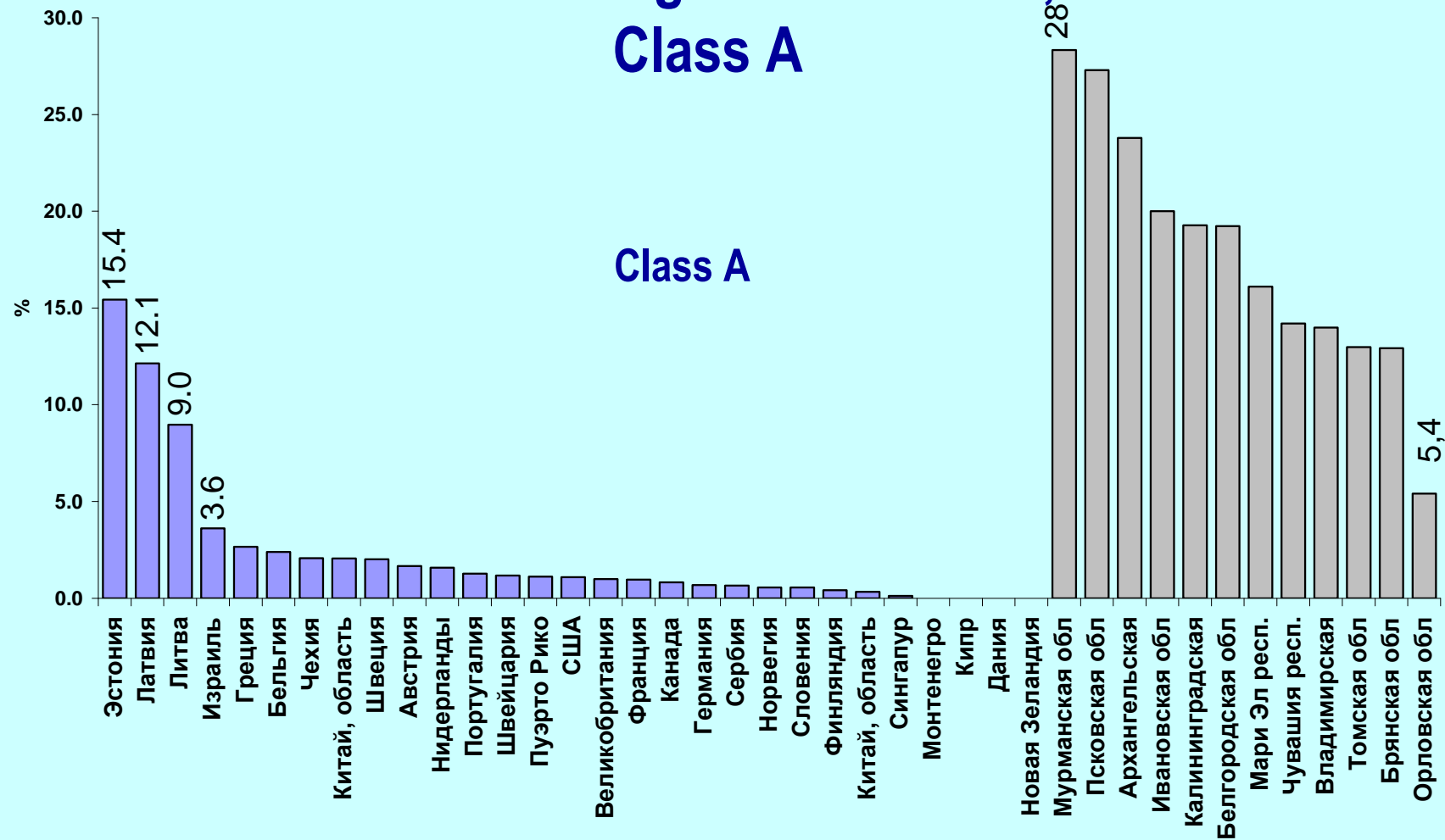
- 91.8% of 49 regional TB labs
- 63,9% of 67 district TB labs
- 65,8% of 42 prison labs

**2010**

- 56.1% of 66 regional labs
- 38.5% of 26 district labs
- 71.4% of 42 prison labs

# M/XDR-TB: 2010 Global Report on Surveillance and Response, WHO

MDR TB among new TB cases, %

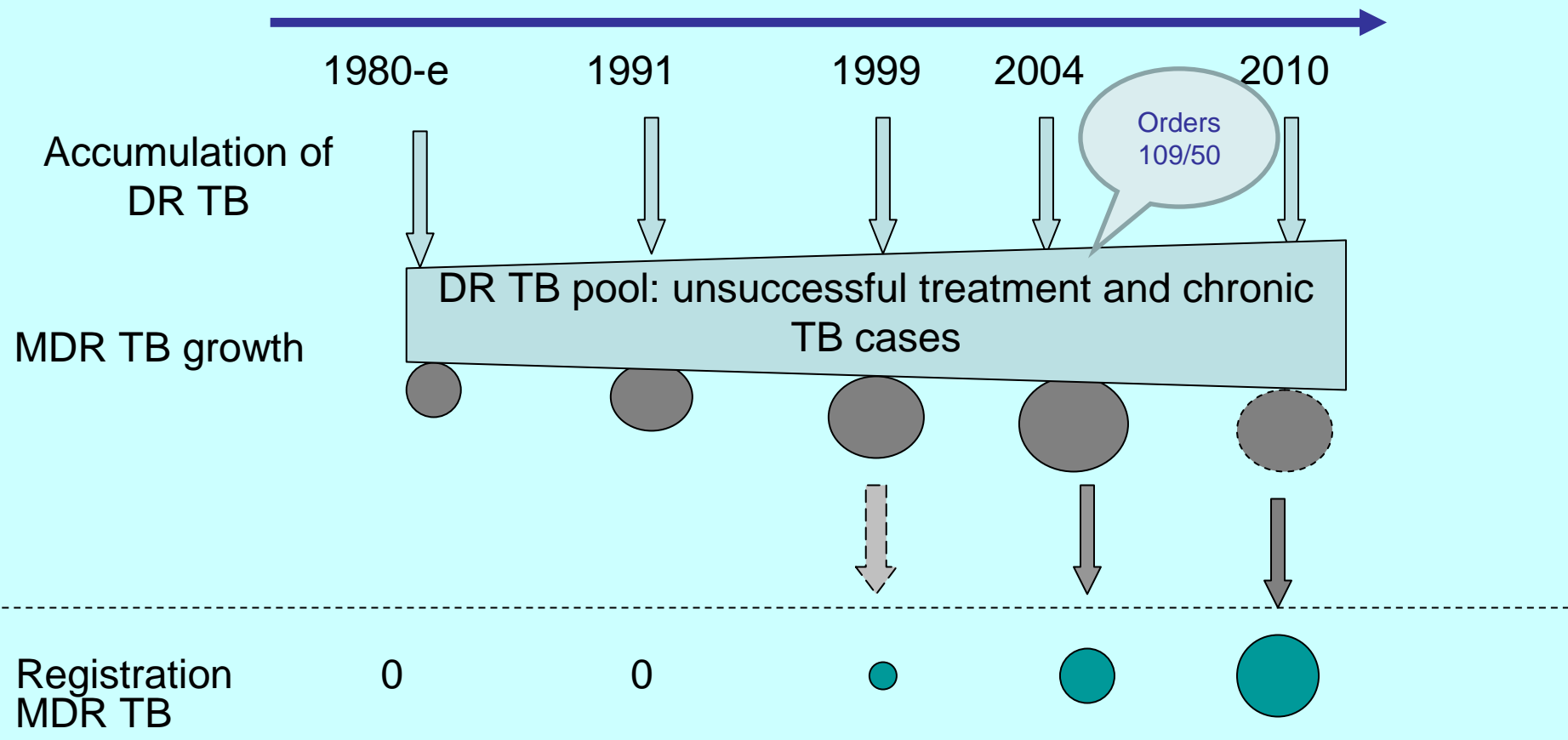


2007-2009 data



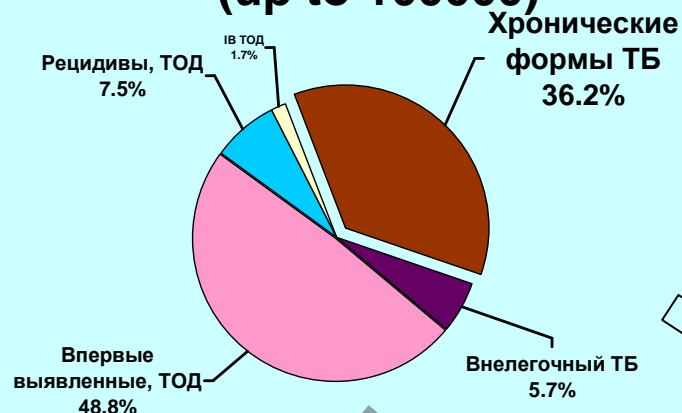
# Factors, defined MDR TB growth in the Russian Federation

preliminary analysis



# Factors, defined MDR TB growth in the Russian Federation

**35-40% Chronic cases  
(up to 100000)**



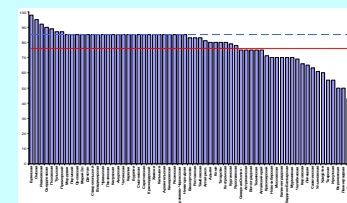
**Default rate**

Доля прервавших курс химиотерапии в когорте впервые выявленных больных с бактериовыделением (M+) 2007 года



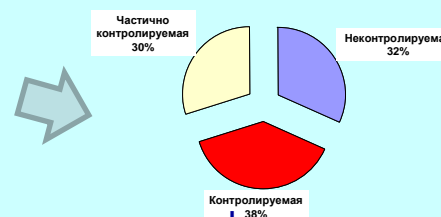
**Standardized regimen of therapy**

Доля ВВ больных, получающих стандартные режимы ХТ



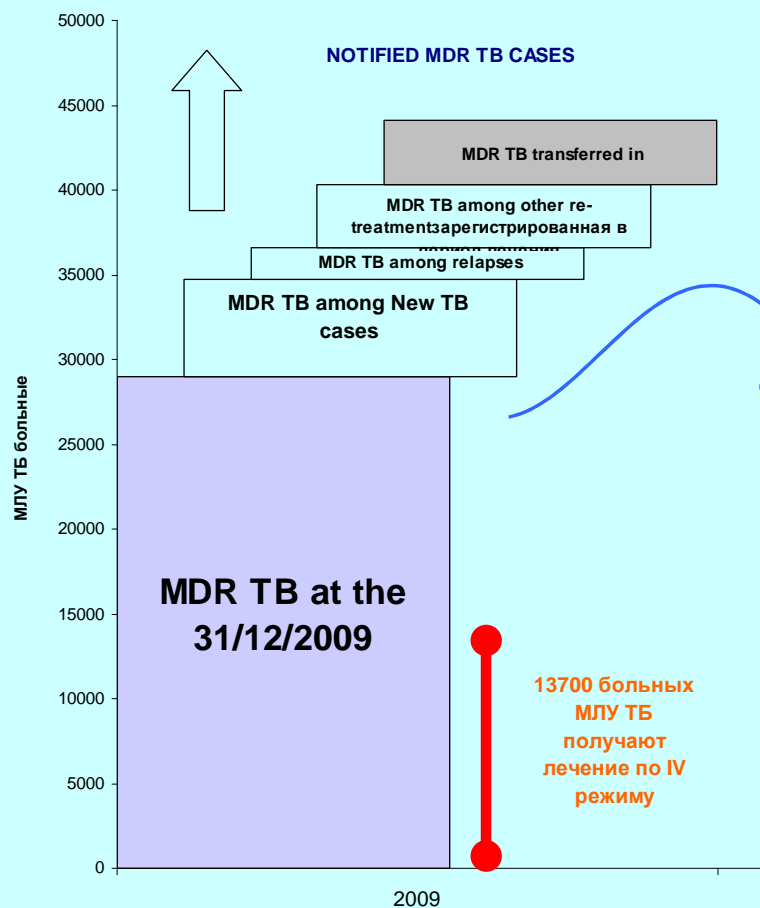
**Control of drug intake**

Обеспечение химиотерапии под непосредственным наблюдением, 2007-2008

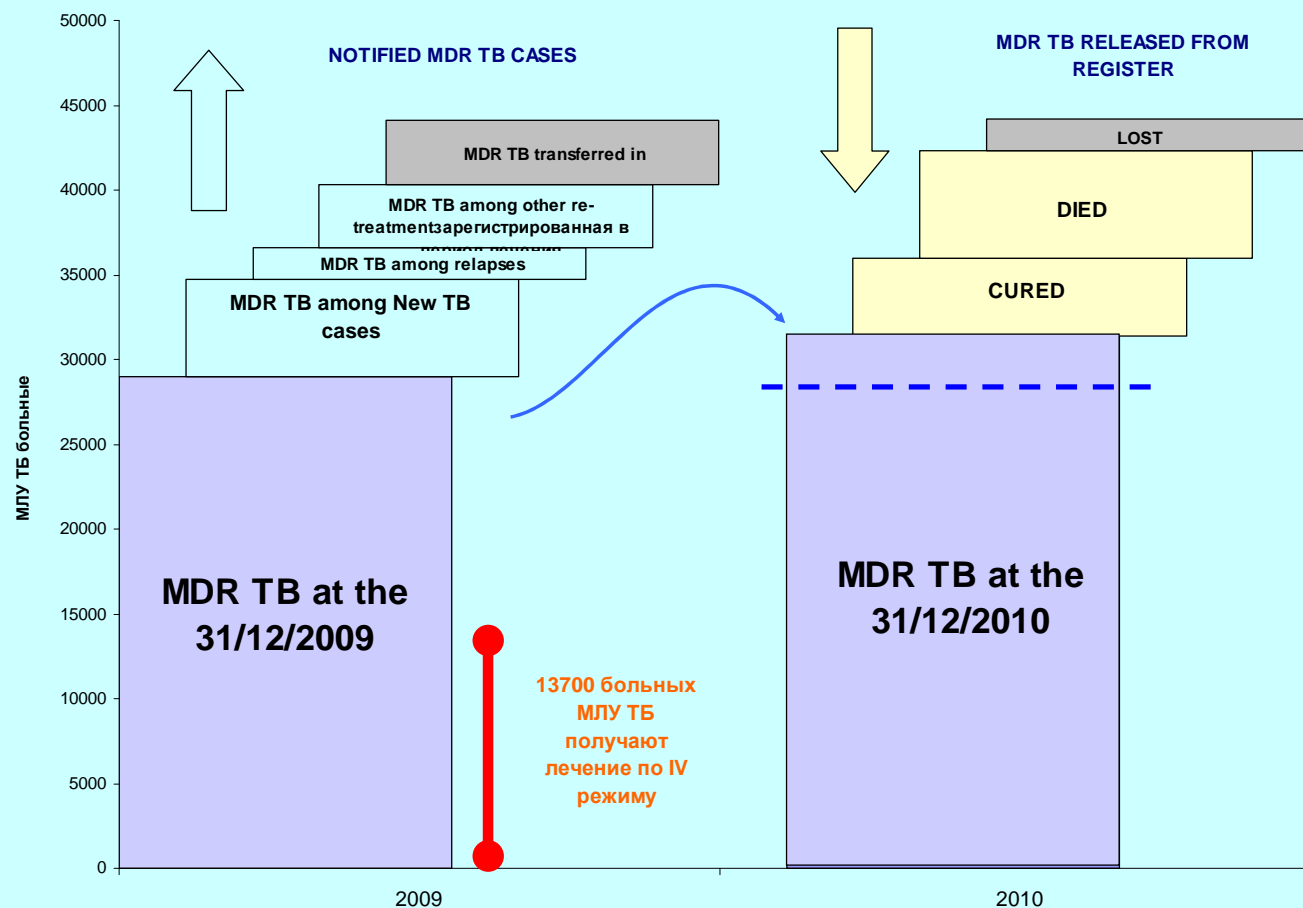


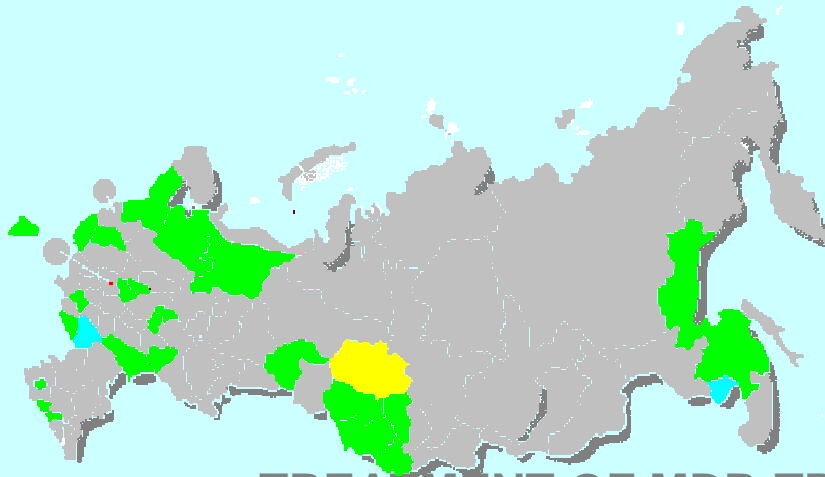
организация лечения данные отчетных форм и независимого мониторинга

# MDR TB patients in the regional follow up registers



# MDR TB patients in the regional follow up registers





# GLC Projects in the Russian Federation

- TREATMENT OF MDR-TB PATIENTS WITHIN THE PROJECTS
- 27 regional projects and 3 projects in Federal TB Research Institutes are implementing their DOTS Plus projects.
- Since 1st of September 2007 till 1st of June 2010 – 6.548 MDR-TB patients were enrolled for treatment (not. incl. Tomsk):
- In 2007 - 2 Russian GLC approved projects enrolled 190 patients (only in civil sector);
- In 2008 - 18 Russian GLC approved projects enrolled 1.352 patients (both civil and prison sectors);
- In 2009 - 26 Russian GLC approved projects enrolled 3.330 patients (both civil and prison sectors);
- In 2010 - 29 Russian GLC approved projects enrolled 1.676 patients (both civil and prison sectors).
- 5,527 (84.4%) in civil sector and 1021 (15.6%) in prison sector

# Analytical Review

## “TB in the Russian Federation”



- 5 Analytical Reviews (2004, 2006, 2007, 2008, 2009) on Russian and English were published, Analytical review 2010 is in press



# Priorities

- DR TB surveillance
- Drug administration
- TB infection control
- MDR TB patients involvement in appropriate treatment
- MDR TB treatment effectiveness

**Thank you!**