



FSBI CTRI RAMN

Russian Ministry of Health



Epidemiology of Tuberculosis and HIV Co-infection in the Russian Federation Challenges and Solutions

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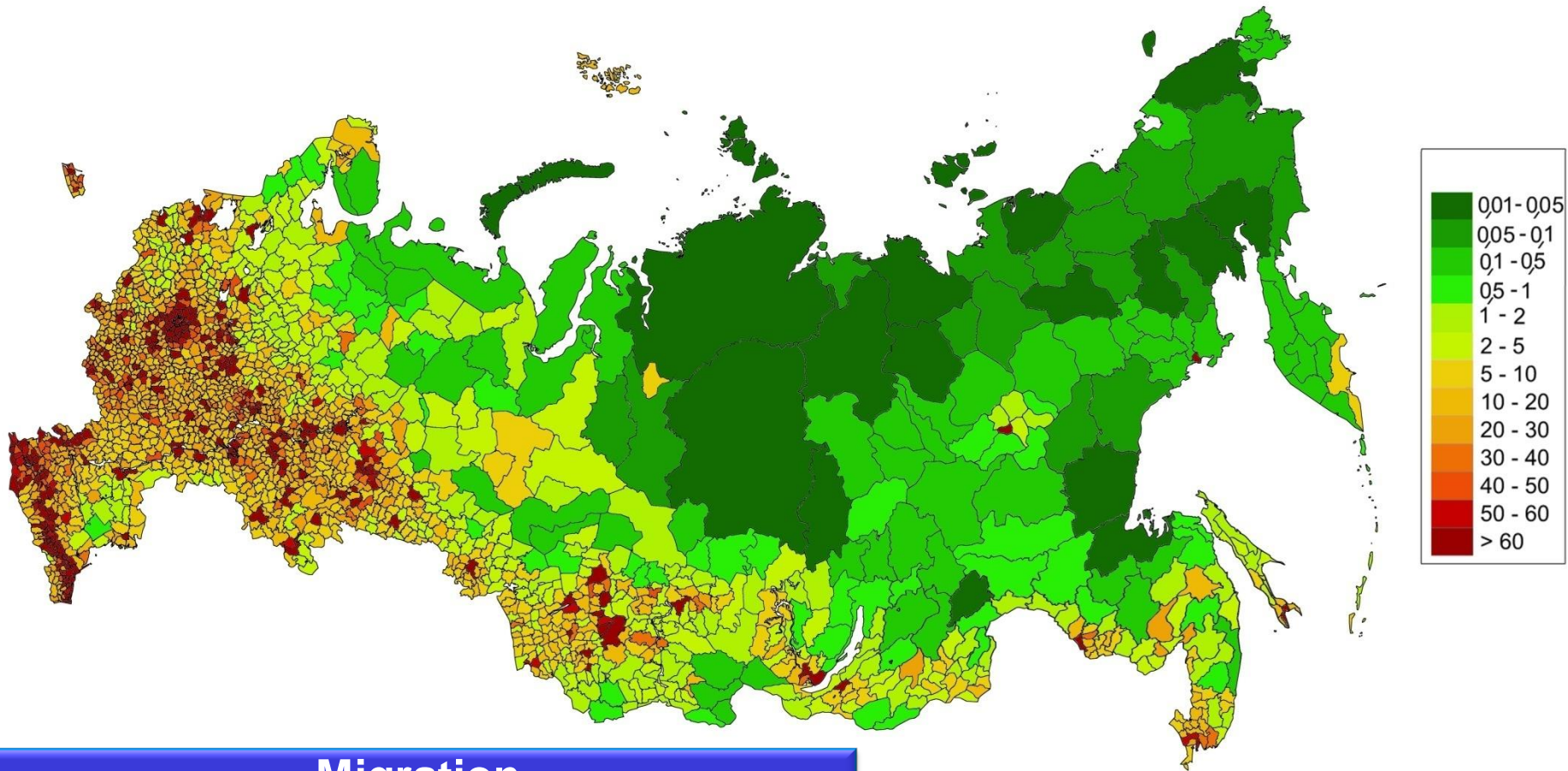
67th World Health Assembly



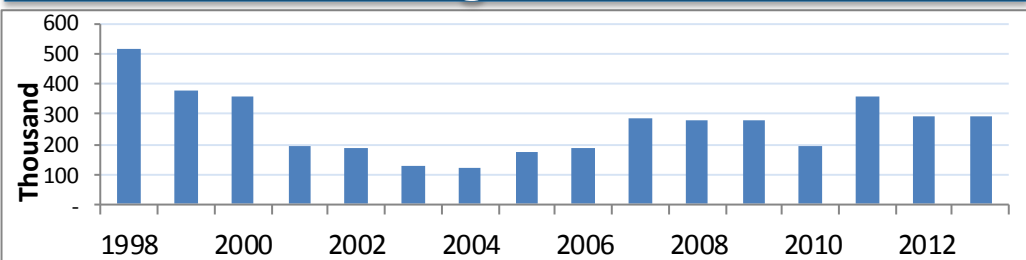
POST-2015 GLOBAL TUBERCULOSIS STRATEGY FRAMEWORK

VISION	A world free of tuberculosis – zero deaths, disease and suffering due to tuberculosis
GOAL	End the global tuberculosis epidemic
MILESTONES FOR 2025	<ul style="list-style-type: none">• – 75% reduction in tuberculosis deaths (compared with 2015);• – 50% reduction in tuberculosis incidence rate (compared with 2015)• (less than 55 tuberculosis cases per 100 000 population)• – No affected families facing catastrophic costs due to tuberculosis
TARGETS FOR 2035	<ul style="list-style-type: none">• – 95% reduction in tuberculosis deaths (compared with 2015)• – 90% reduction in tuberculosis incidence rate (compared with 2015)• (less than 10 tuberculosis cases per 100 000 population)• – No affected families facing catastrophic costs due to tuberculosis

Population of RF

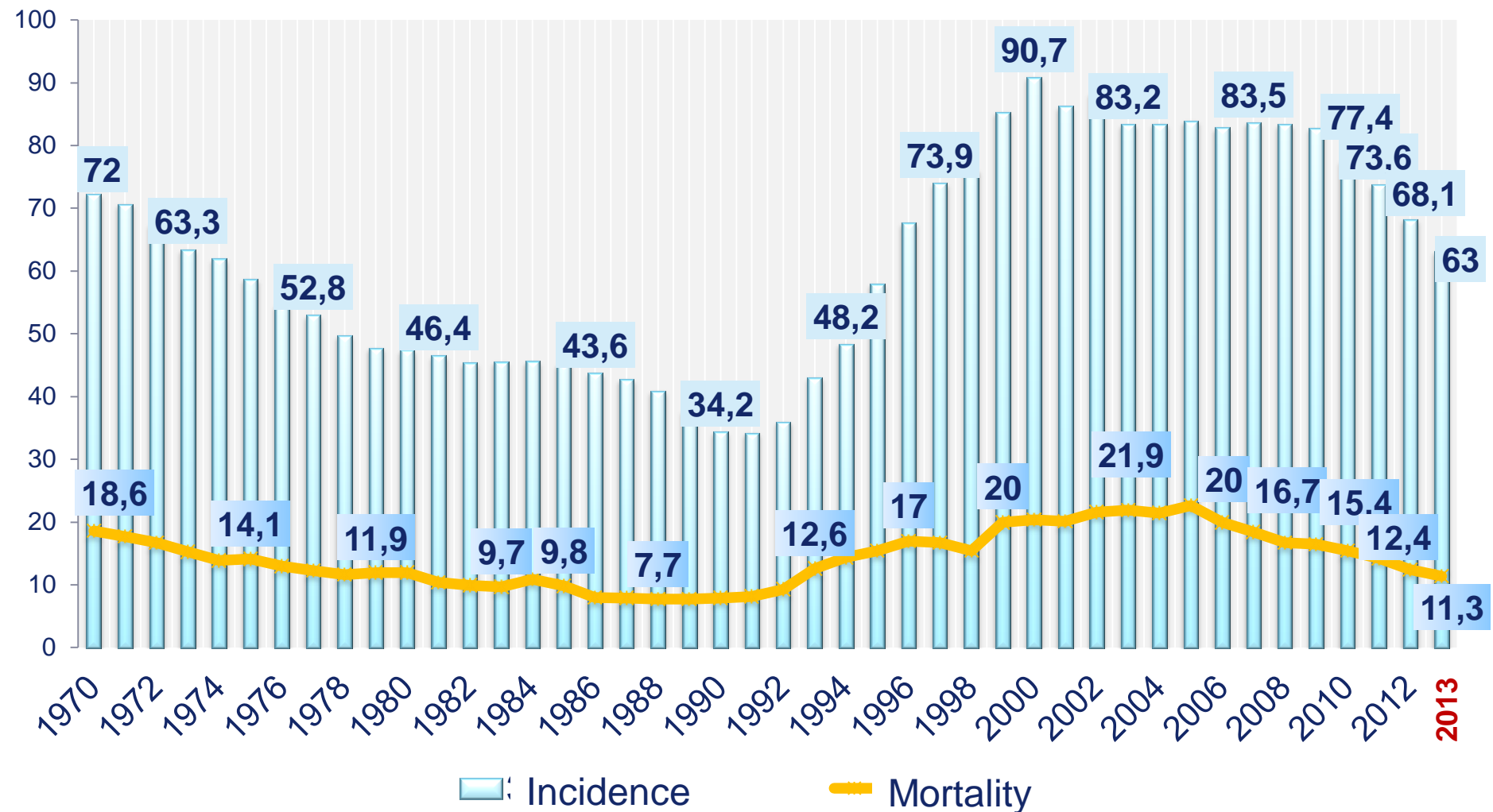


Migration



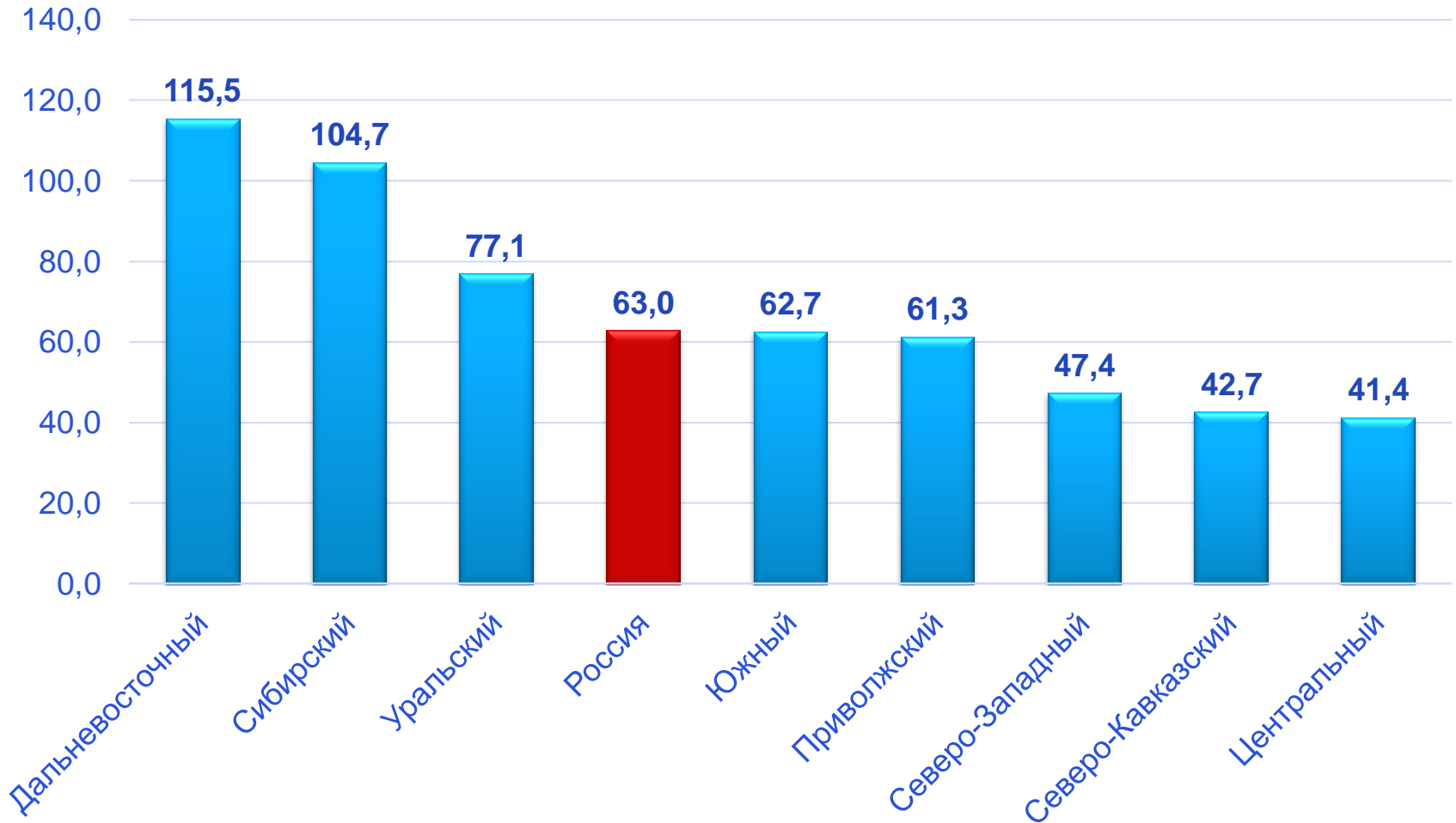
Total population in 2013 –
143 347 059

TB incidence and Mortality Rates in the RF (per 100 000 population)

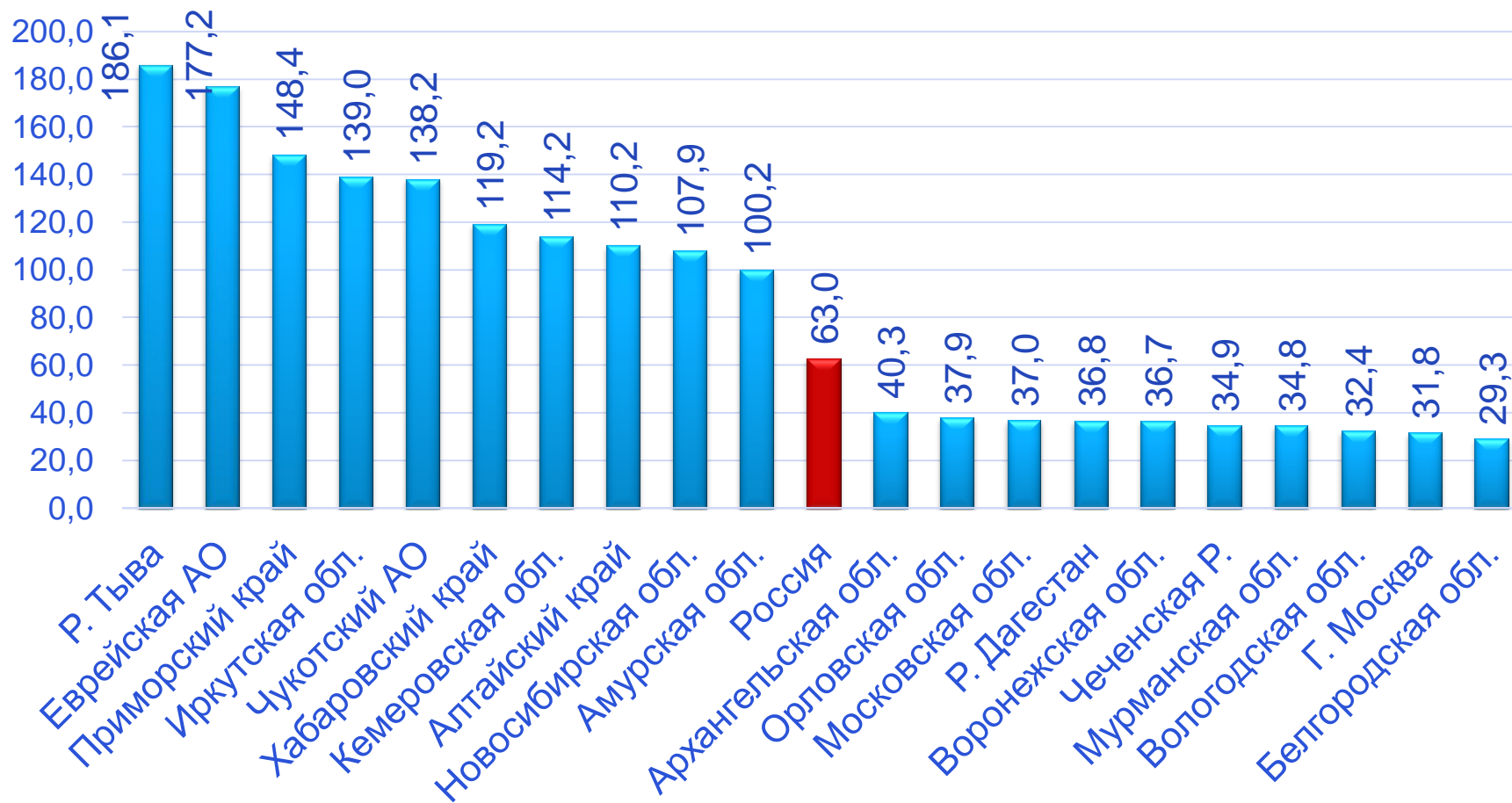


Source: Form № 8, Rosstat

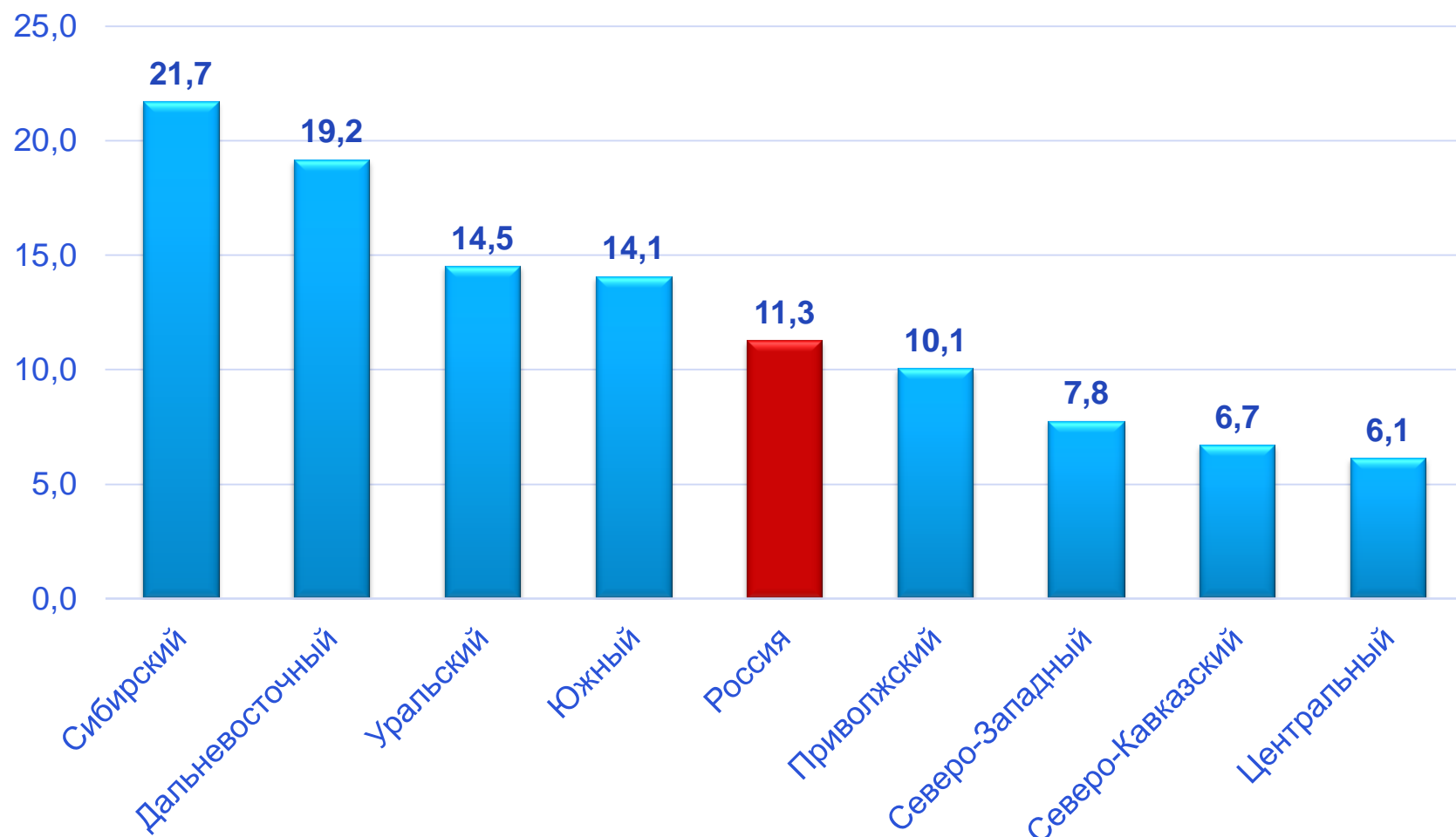
TB Incidence by Federal Districts of the Russian Federation in 2013 (per 100 000 population)



TB Incidence by Federal Entities of the Russian Federation in 2013 (per 100 000 population)

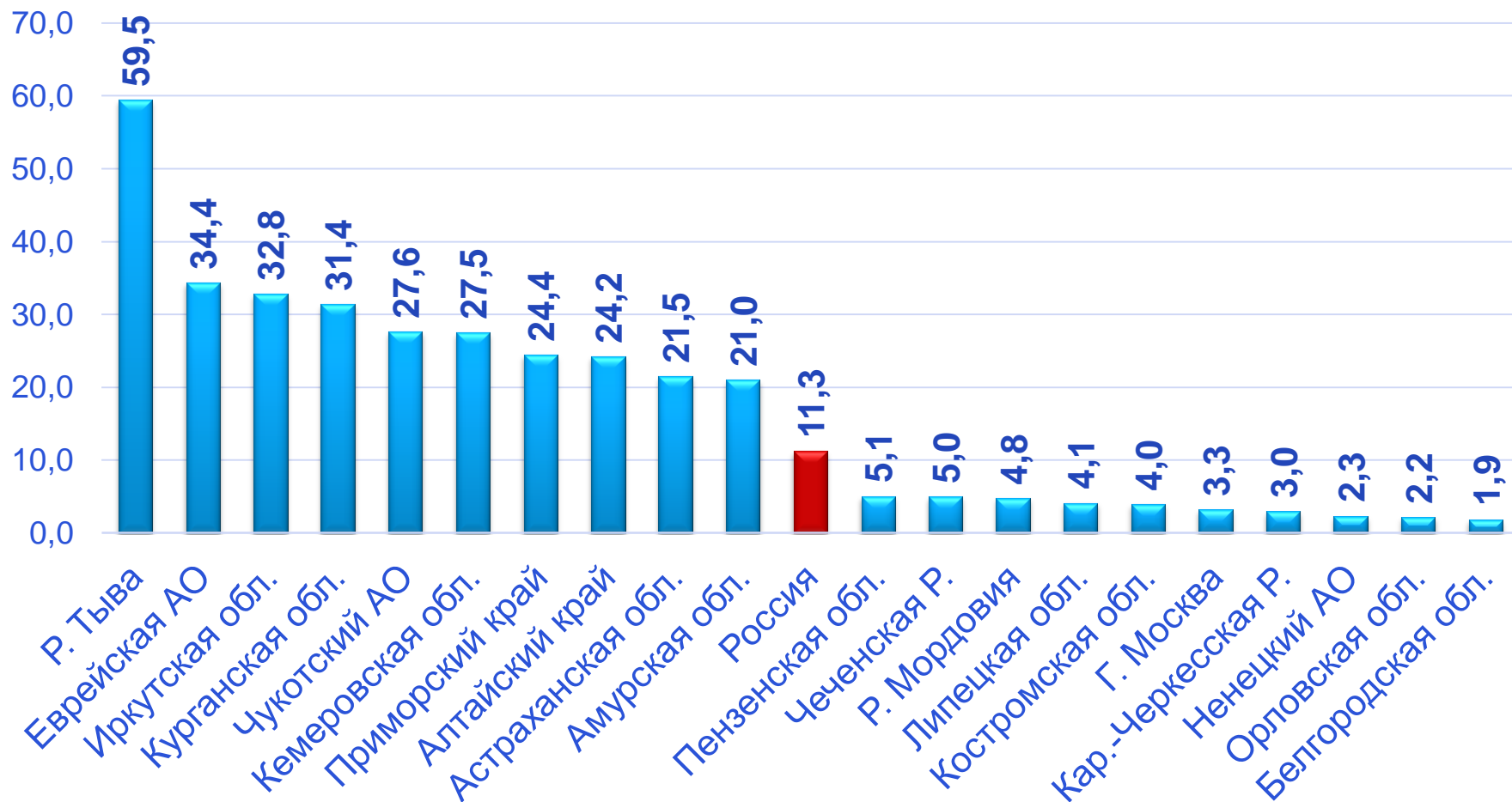


TB Mortality Rates by Federal Districts of the Russian Federation in 2013 (per 100 000 population)

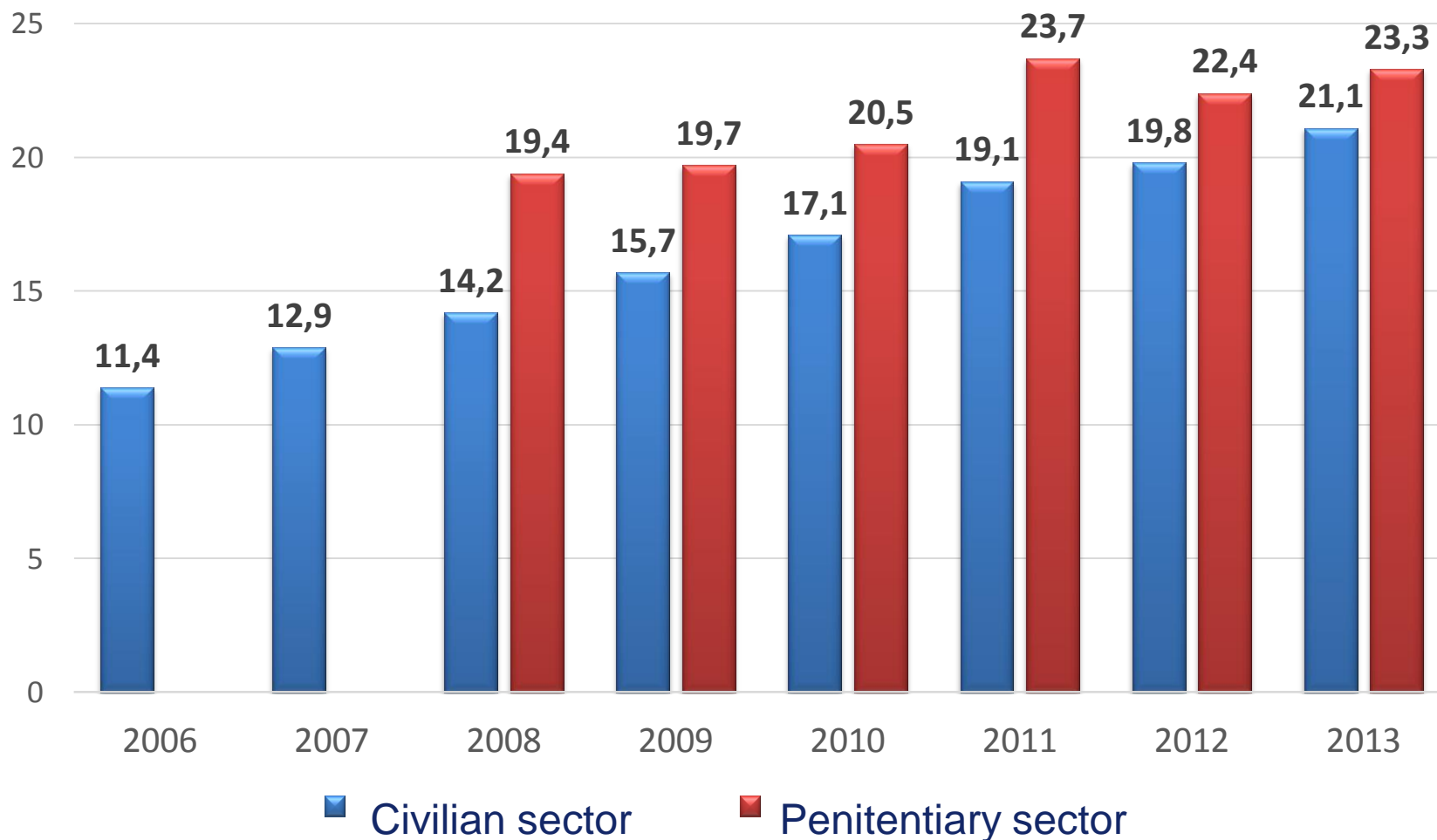


As reported by Rosstat <http://www.gks.ru/>

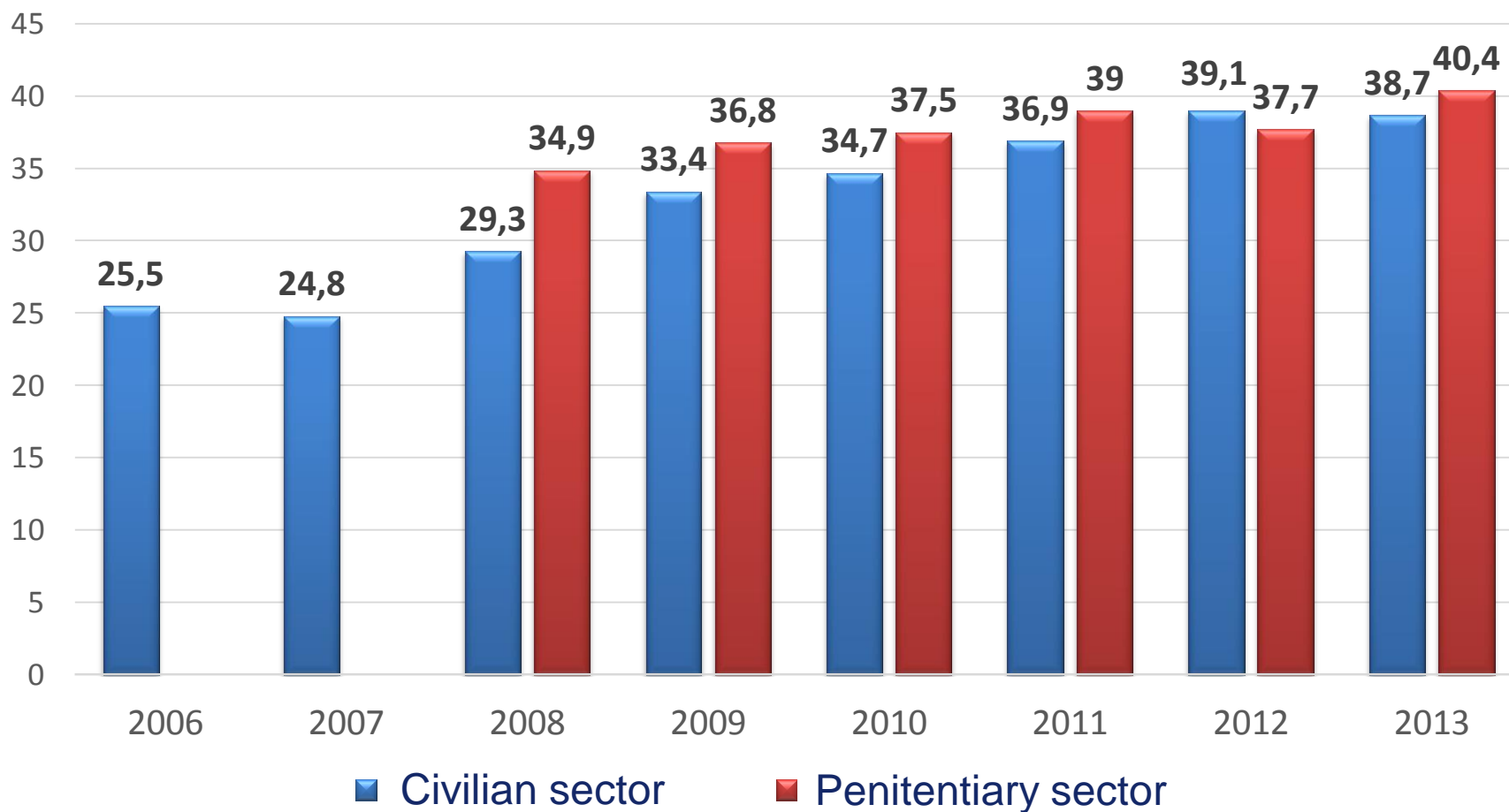
TB Mortality Rates by Federal Entities of the Russian Federation in 2013 (per 100 000 population)



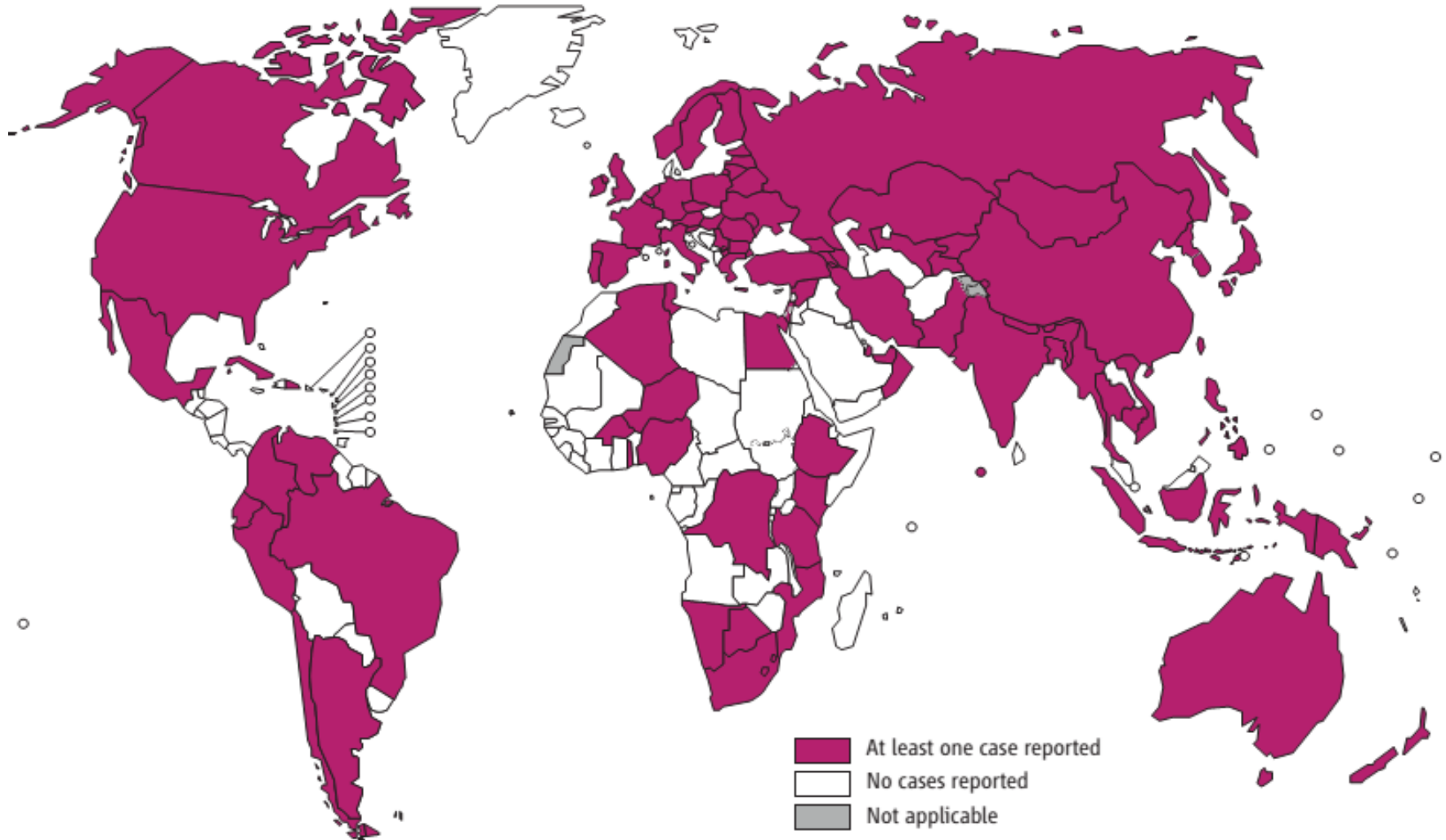
Percentage of New Pulmonary MDR-TB cases in the RF, 2006-2013



Percentage of Pulmonary MDR-TB Cases of all Relapse Cases, 2006-2013

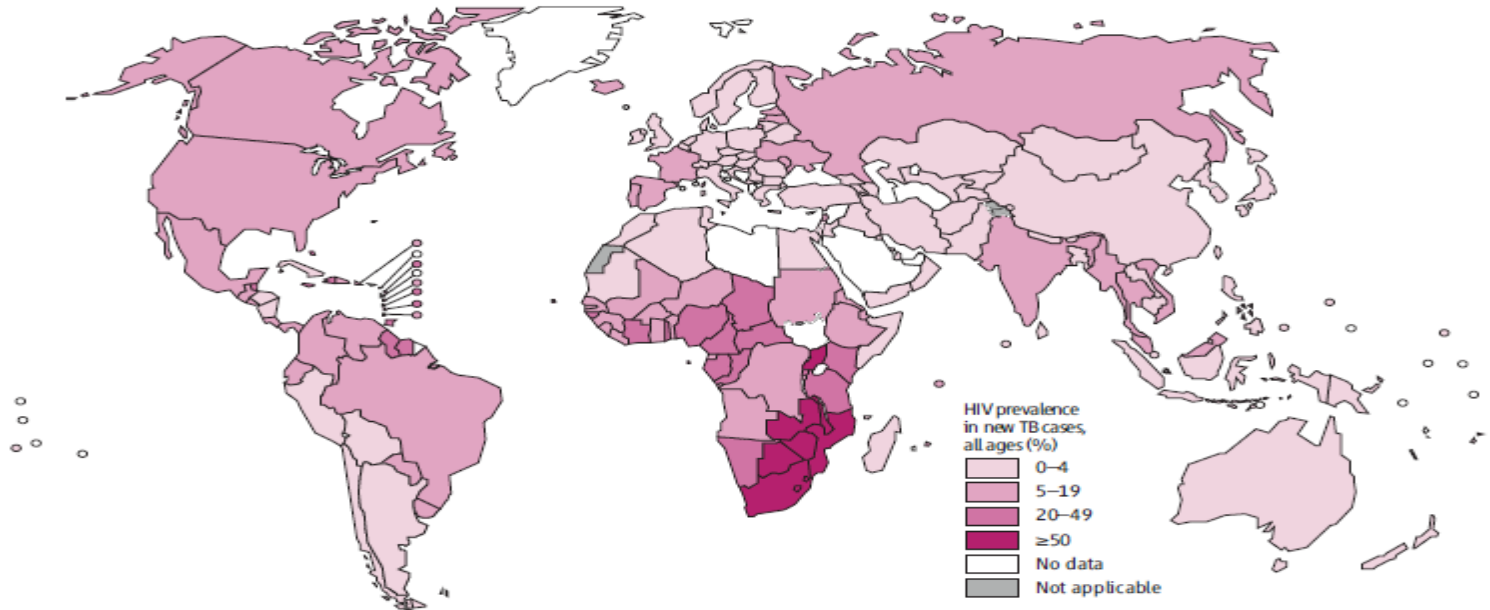


Countries That Had reported At Least One XDR-TB Case By the End of 2012



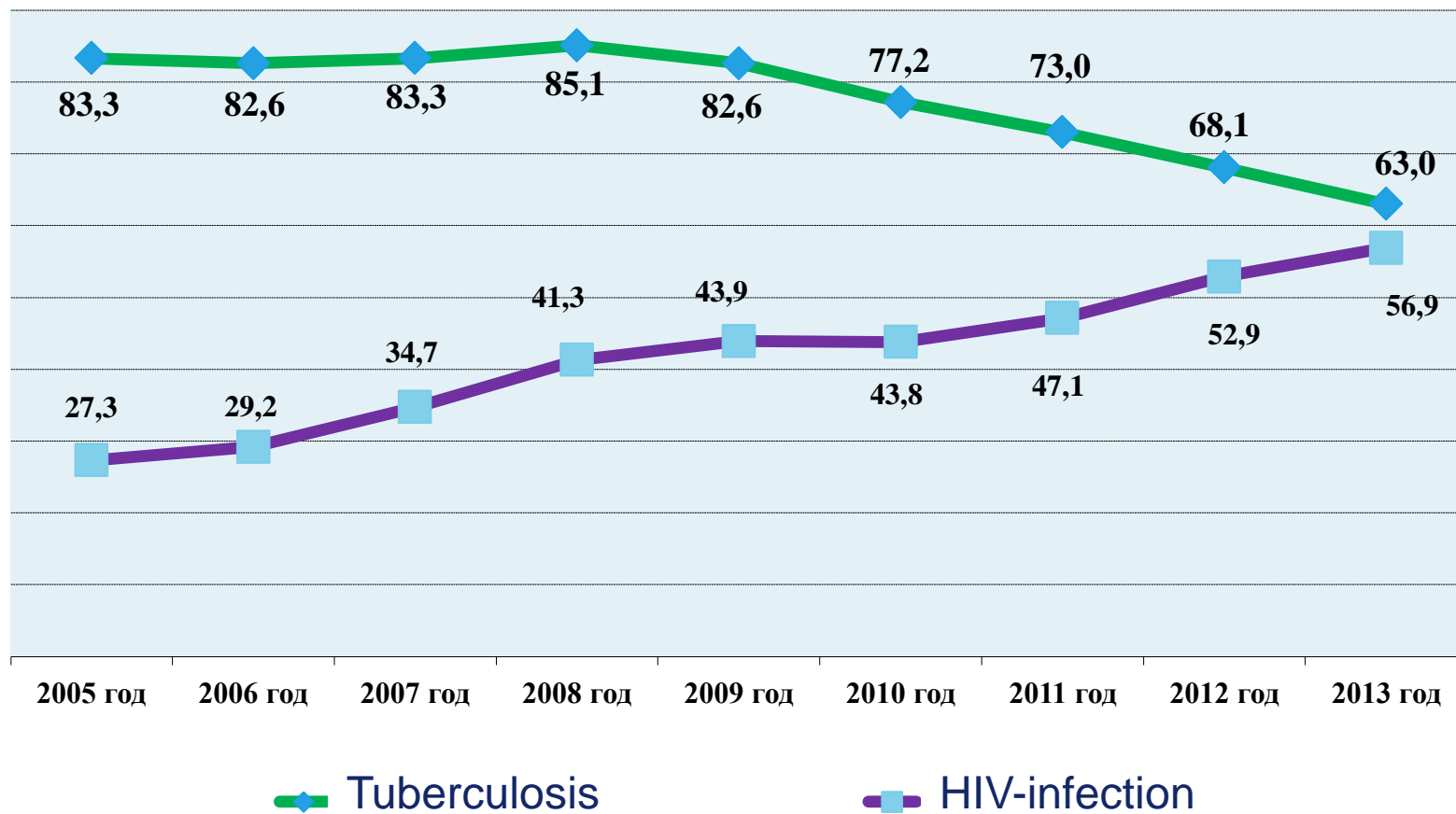
Tuberculosis and HIV infection in the World

Estimated HIV prevalence in new TB cases, 2012

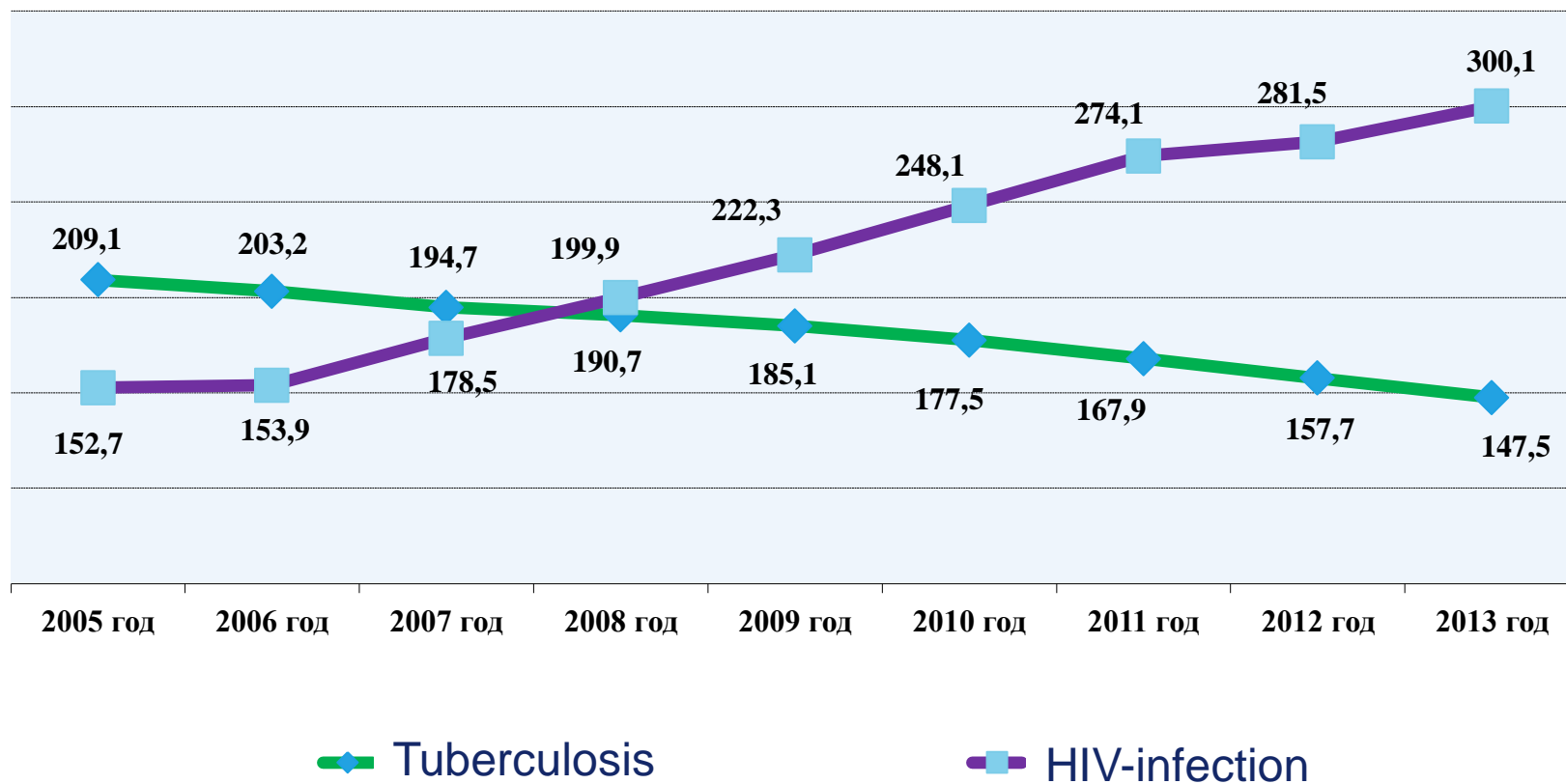


- ◆ TB is one of the leading causes of death in HIV-infected people worldwide. One fourth of HIV-positive individuals die from TB.
- ◆ About 1/3 of 34 million HIV+ individuals worldwide are infected with TB.
- ◆ HIV infection is the most potent factor causing progression of latent TB infection to active TB disease.
- ◆ IN HIV+ individuals the rates of progression to active TB disease are 20-30 times higher.
- ◆ Around 10% of people infected with TB actually develop the disease in their lifetimes, in HIV-infected individuals this risk increase up to 5-10% within a year.

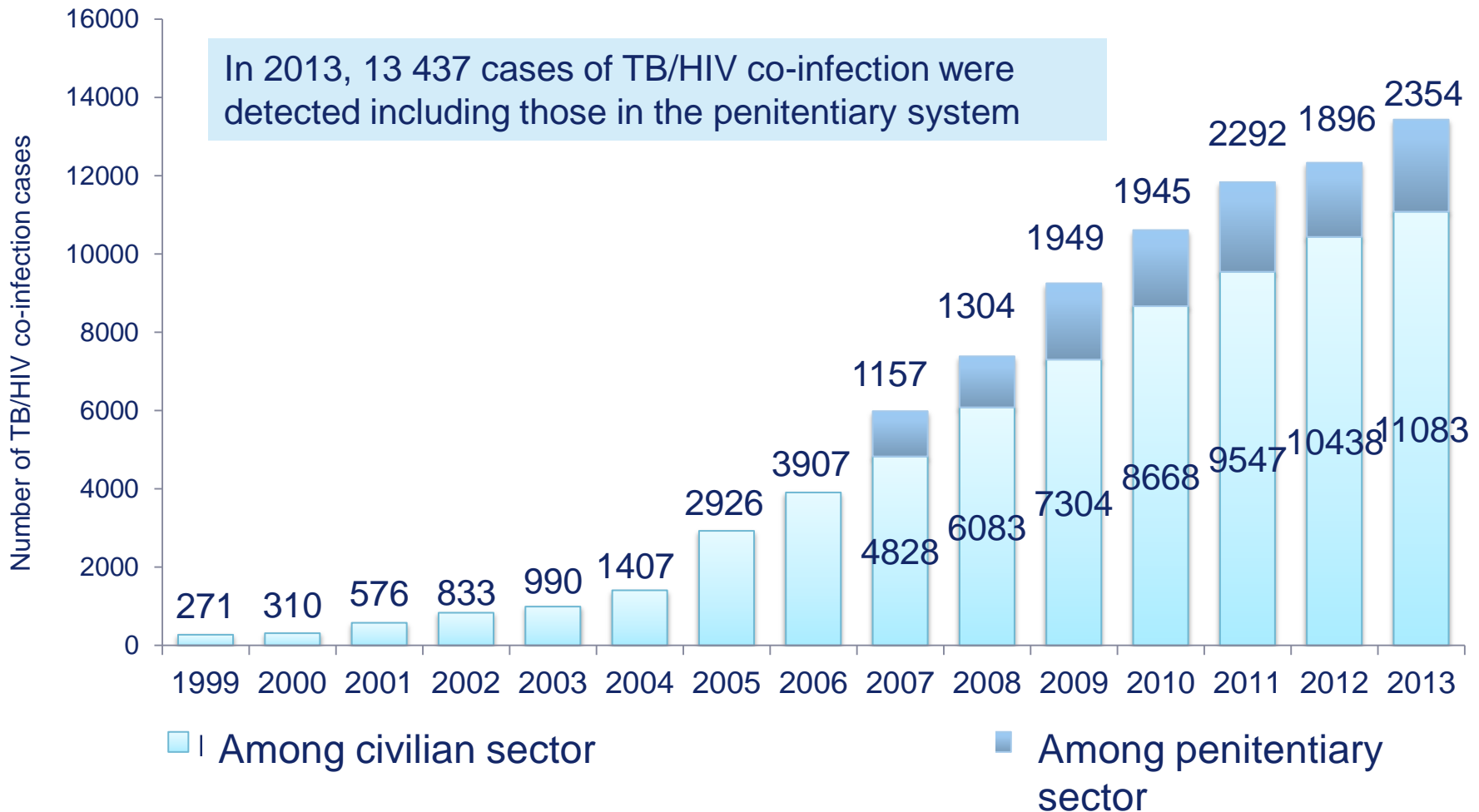
Incidence of Tuberculosis and HIV-infection in the Russian Federation (per 100 000 population)



Prevalence of Tuberculosis and HIV Infection, Russian Federation (per 100 000 population)

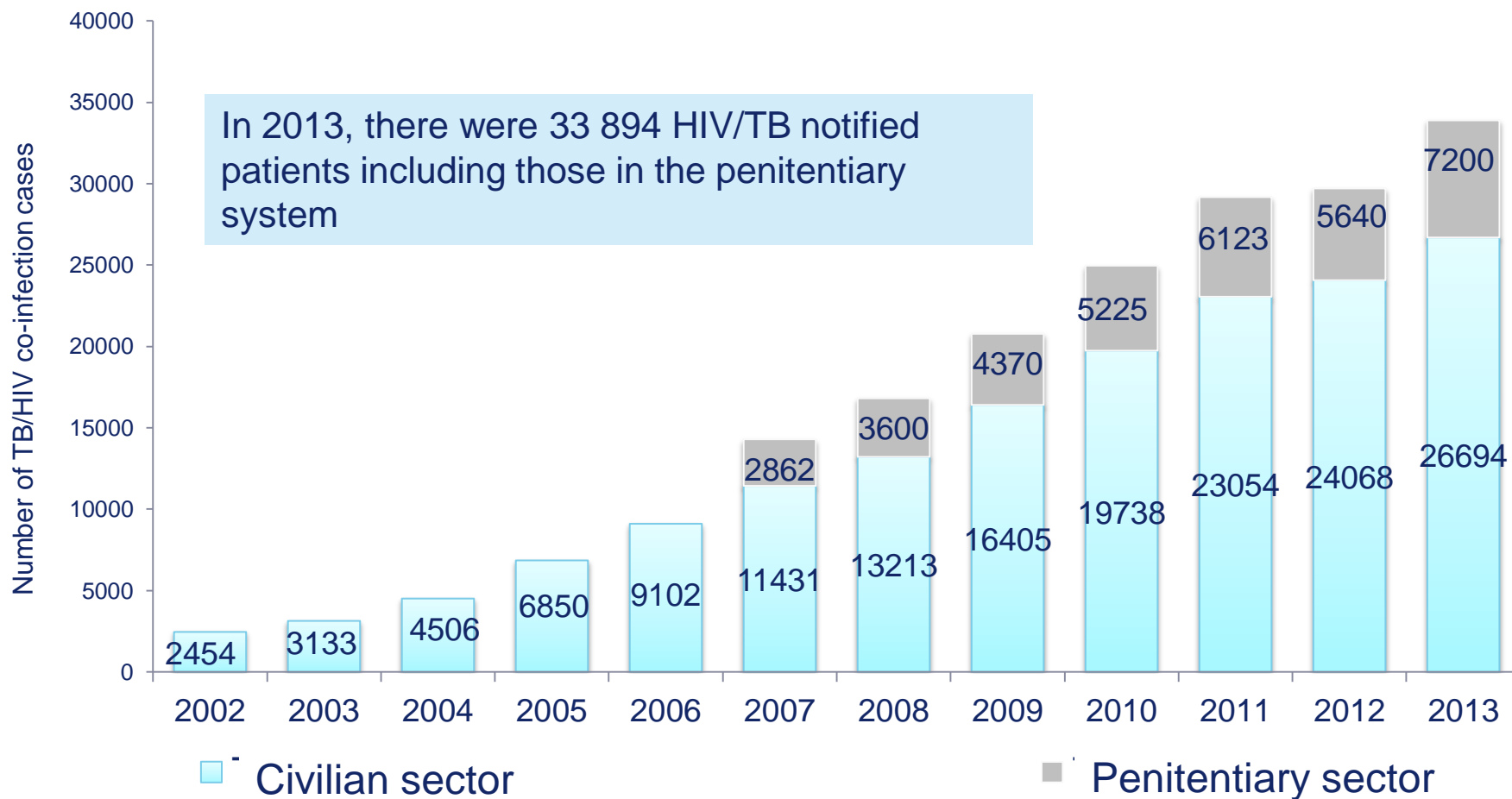


New TB/HIV co-infection cases in the Russian Federation, 1999-2013 (Including Data from the Penitentiary System since 2007)



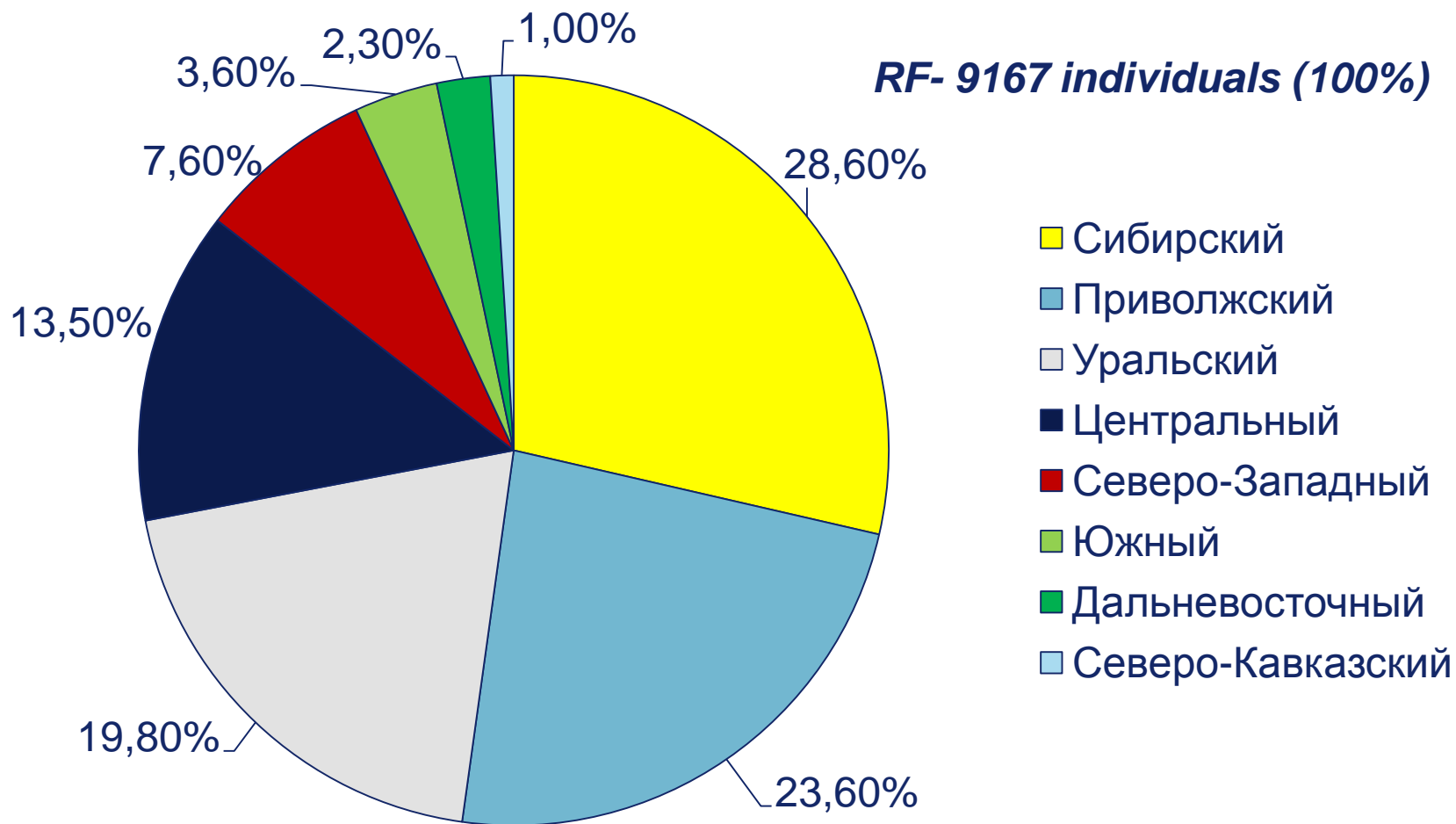
Source: Form № 61

Number of Notified Active Cases of Tuberculosis and HIV co-infection, 2002-2013 (including data from the penitentiary system since 2007)

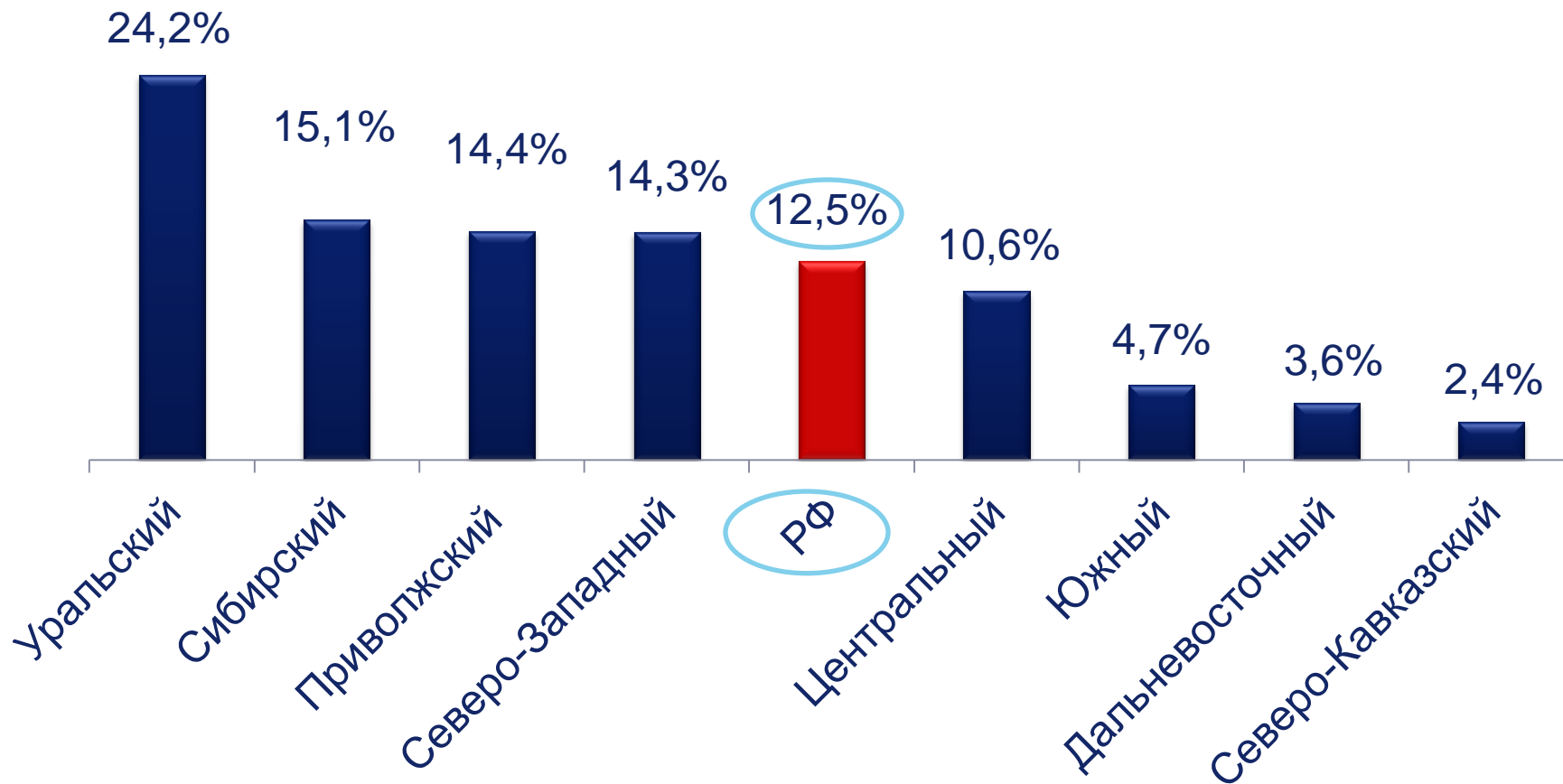


Source: Form № 61

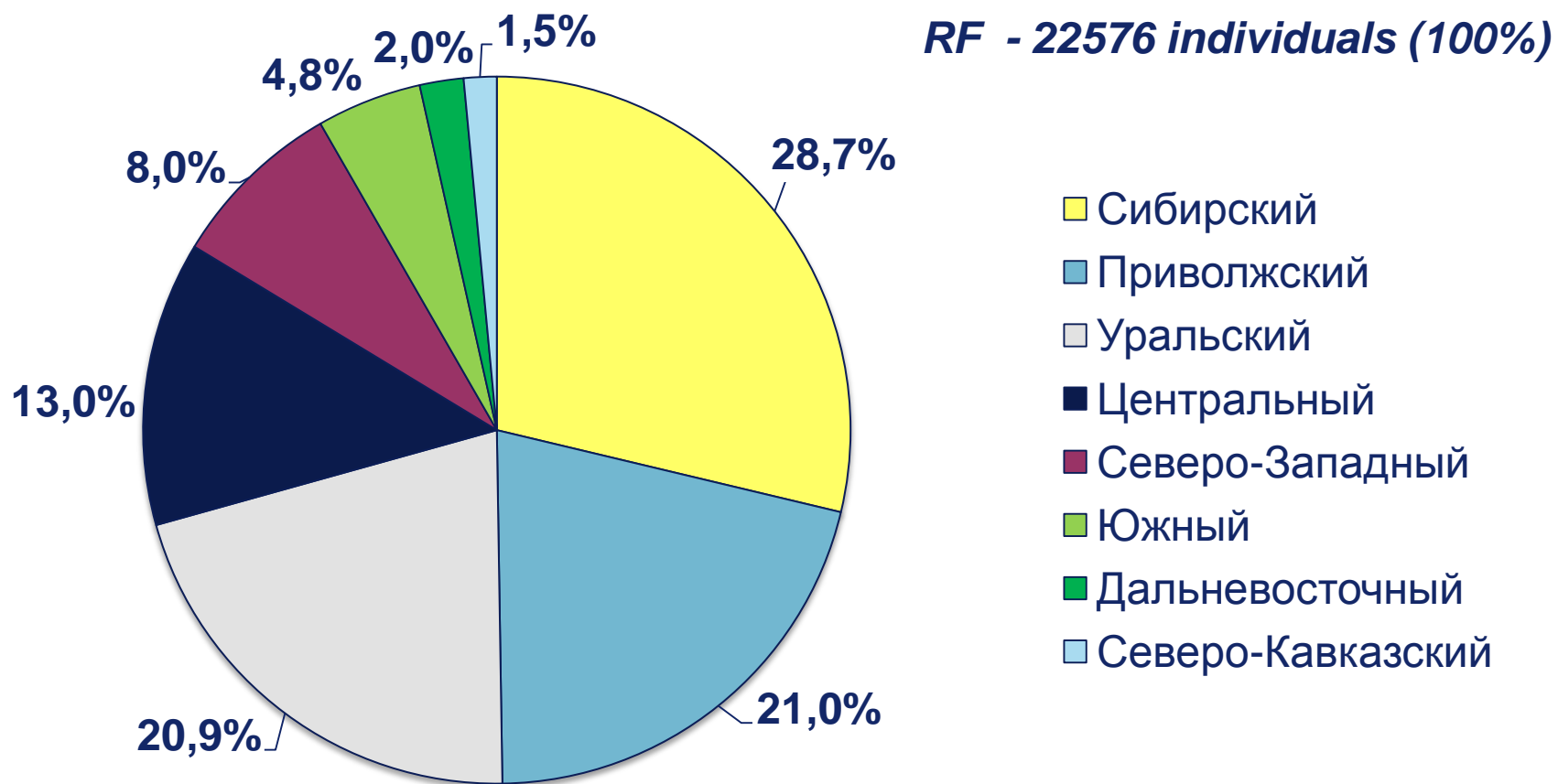
Distribution of the Number of New HIV/TB Cases by Federal Districts of the Russian Federation in 2013



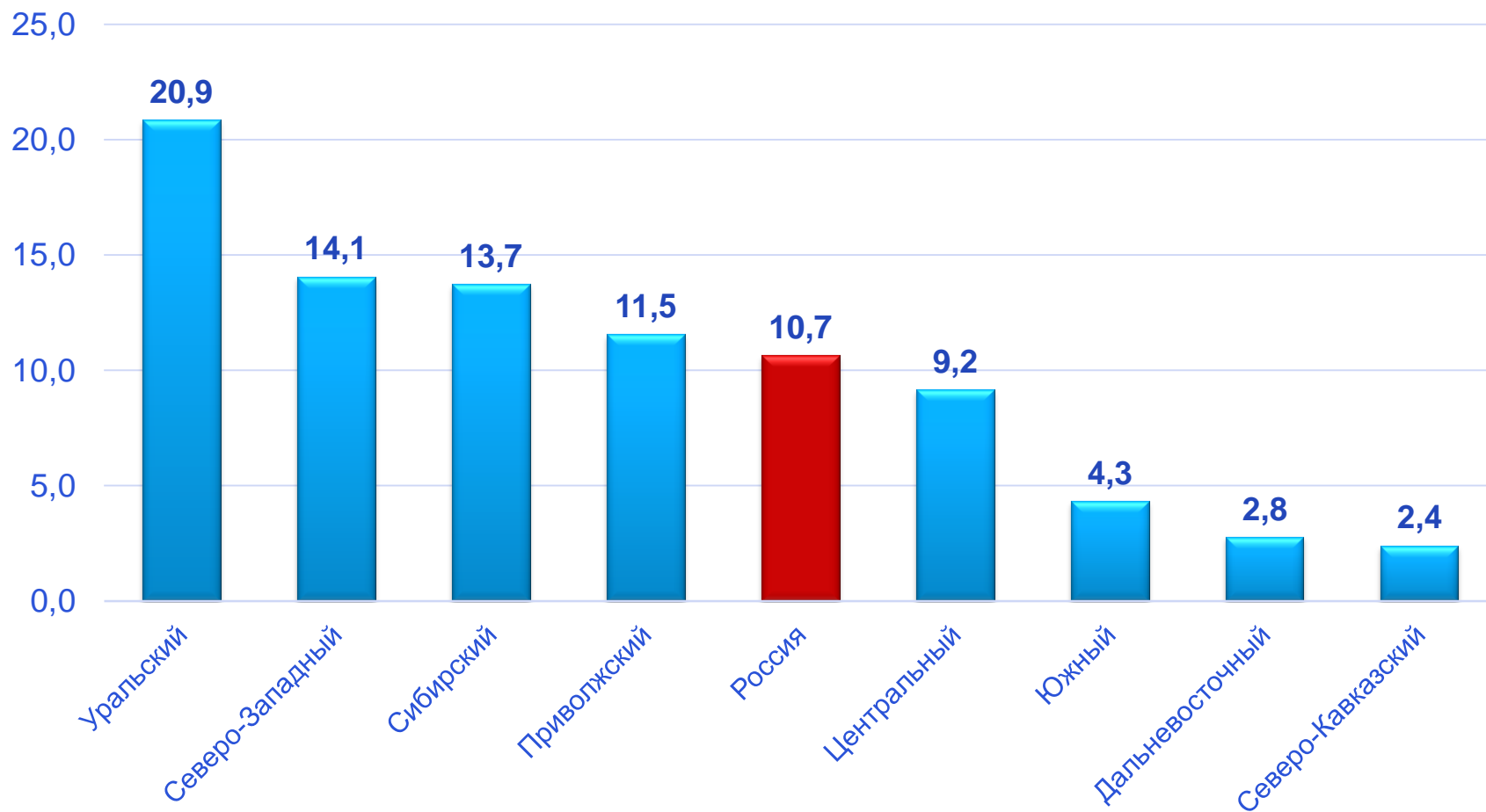
Percentage of New HIV/TB Cases Among All New Notified TB Cases by Federal Districts, 2013



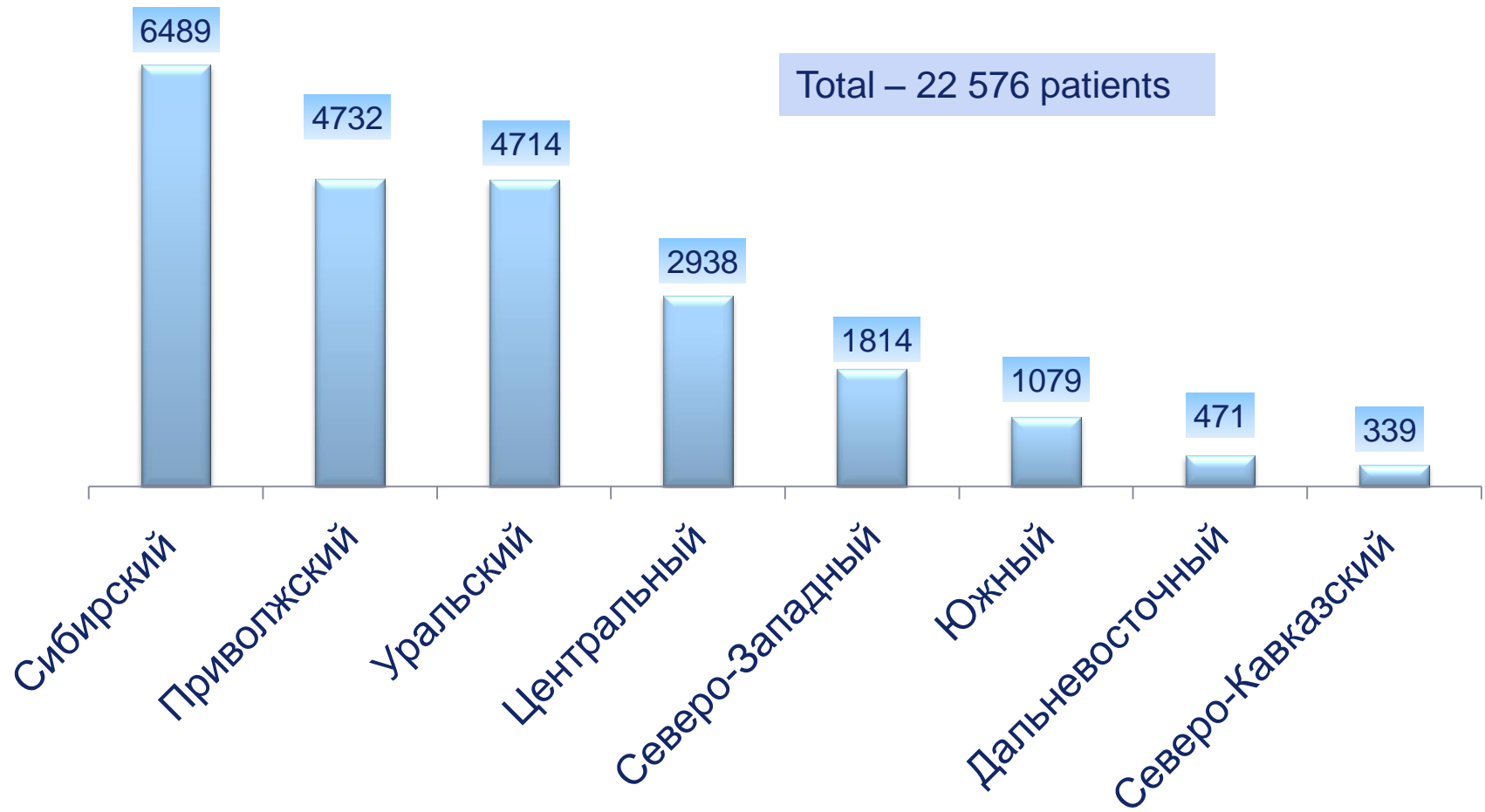
Distribution of Notified HIV/TB Cases by Federal Districts of the Russian Federation as of 31 December 2013



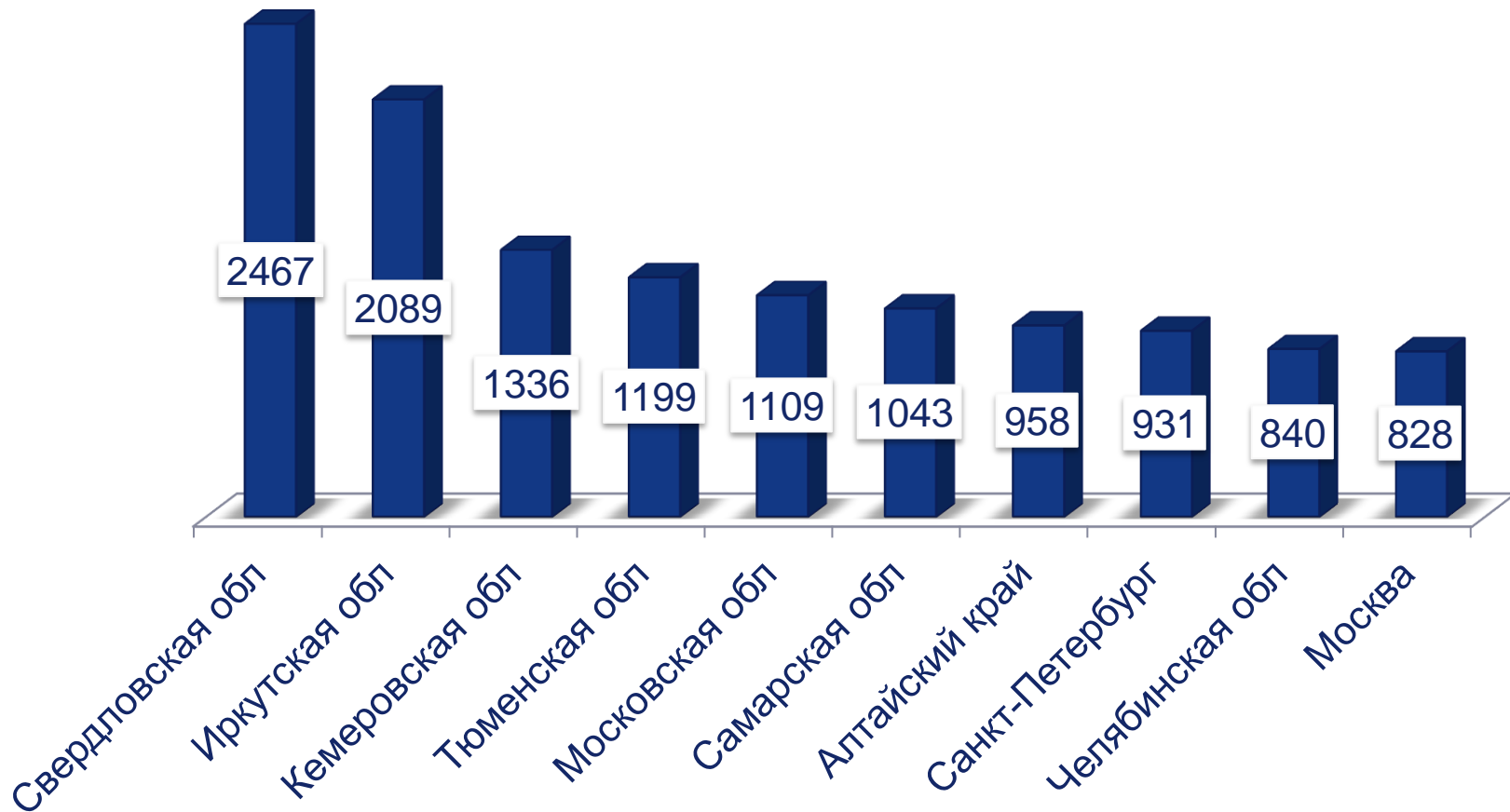
Percentage of HIV/TB Patients among All Notified TB Patients as of December 31, 2013 by Federal Districts of the Russian Federation



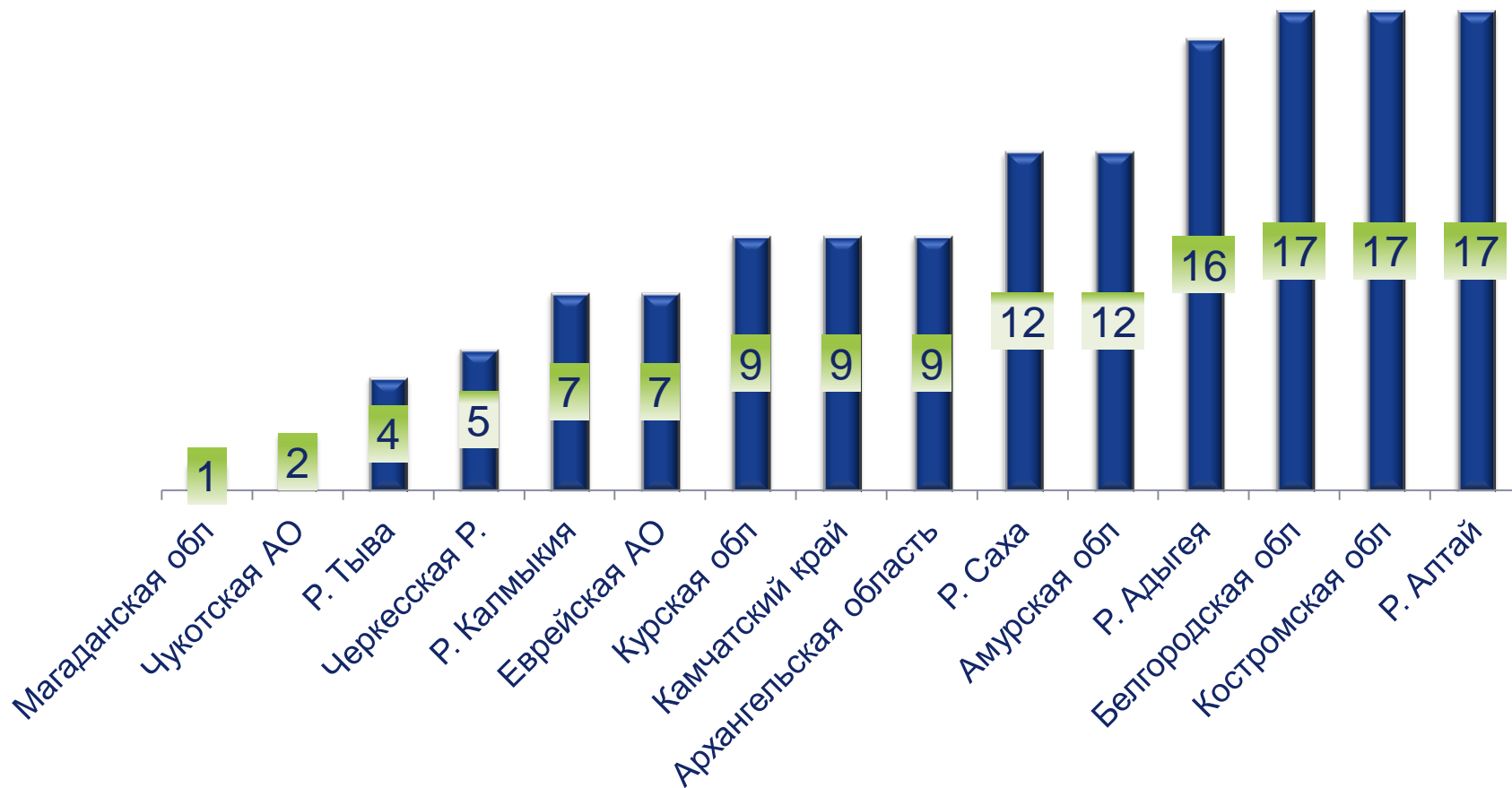
Number of Notified HIV/TB Patients as of December 31, 2013 by Federal Districts of the Russian Federation



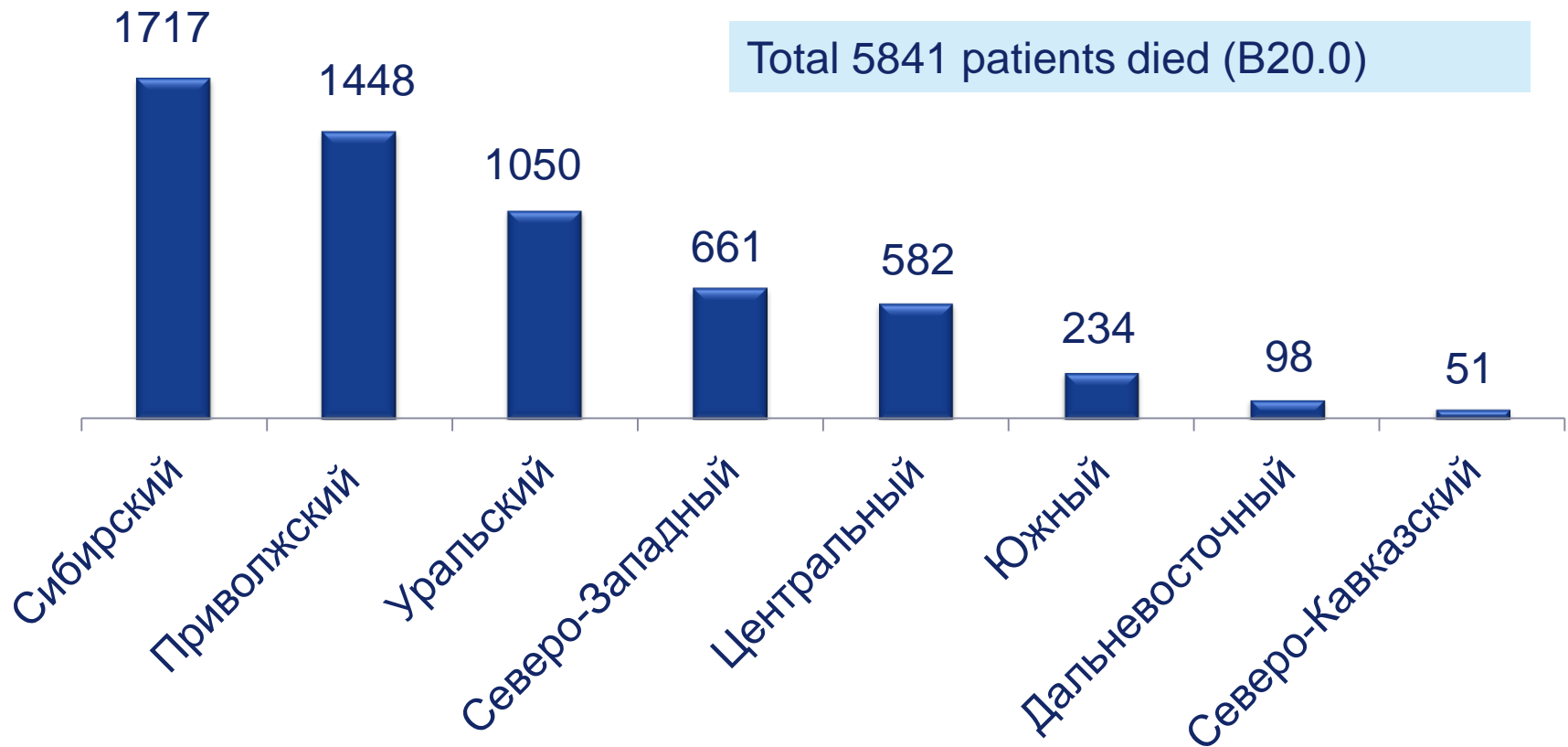
Entities of the Russian Federation with the Biggest Number of Notified HIV/TB Cases as of 31 December 2013



Entities of the Russian Federation with the Lowest Number of Notified HIV/TB Cases as of 31 December 2013

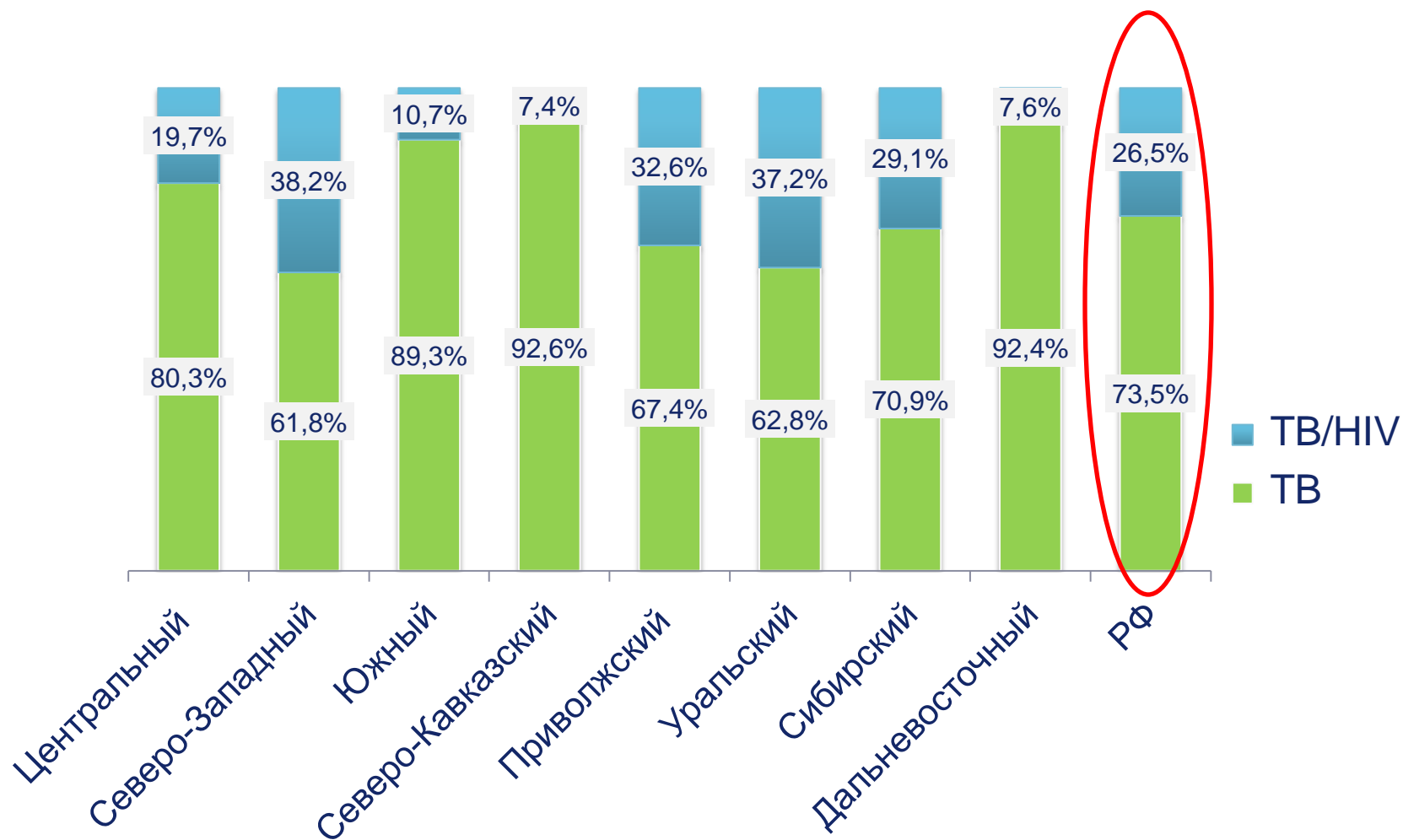


Number of Patients Who Died From HIV with Manifestations of Mycobacterial Infection (B 20.0) by Federal Districts in 2013



Source: Form № 61

Ratio of Patients Who Died From TB (A 15-19) and From HIV with Manifestations of Mycobacterial Infection (B 20.0) by Federal Districts in 2013



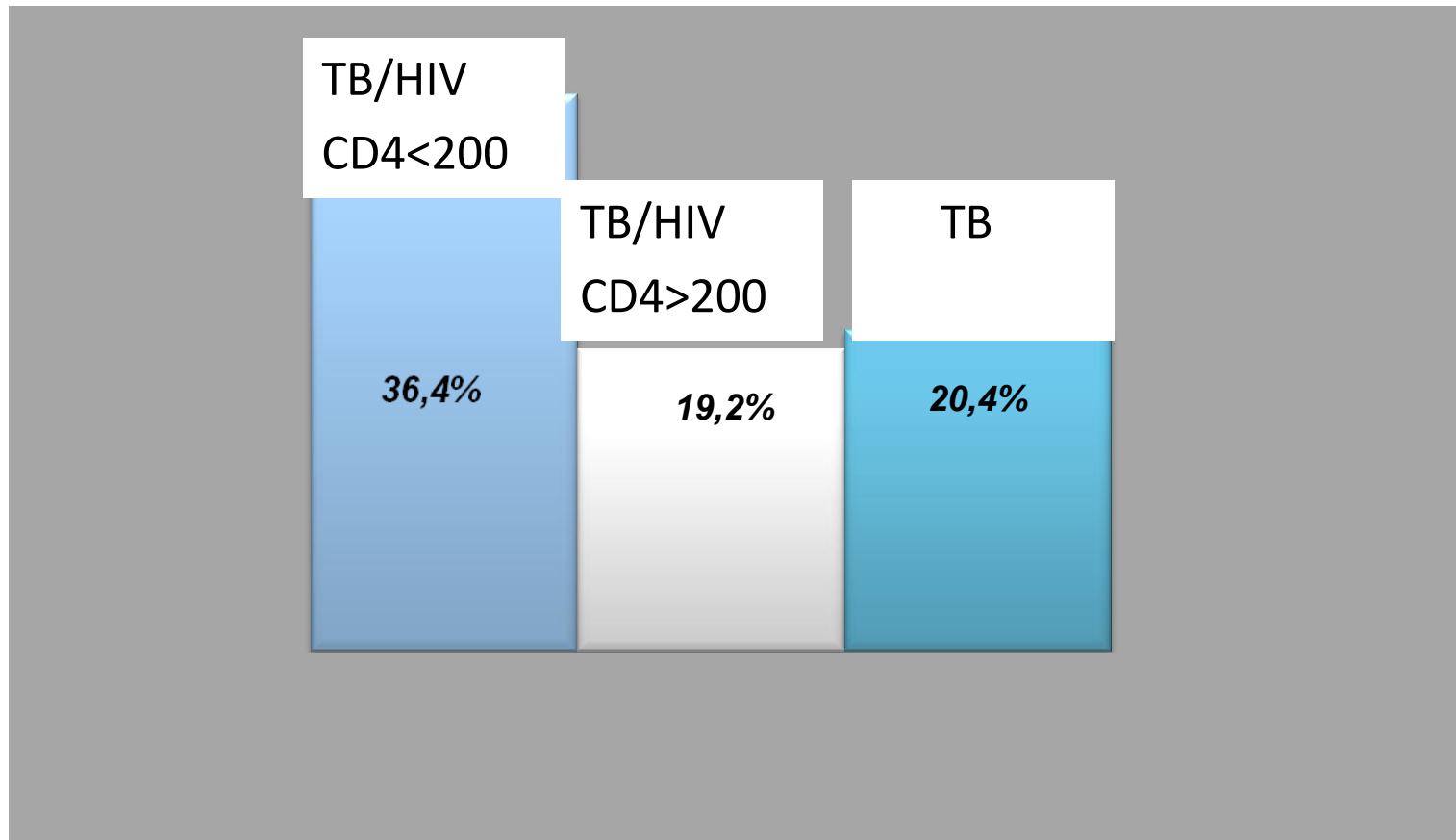
MDR TB and HIV-Infection

- ❖ High prevalence of MDR-TB among HIV-infected patients
- ❖ Challenges of MDR-TB diagnostics
 - low sensitivity of bacteriological methods of mycobacteria detection in HIV-infected individuals (~30%)***
 - long time required for common bacteriological methods of detection of MDR mycobacteria (2-3 months)***
 - low quality of bacteriological tests***



In HIV-positive individuals infected with MDR-TB the disease might progress to the lethal form before effective therapy is initiated

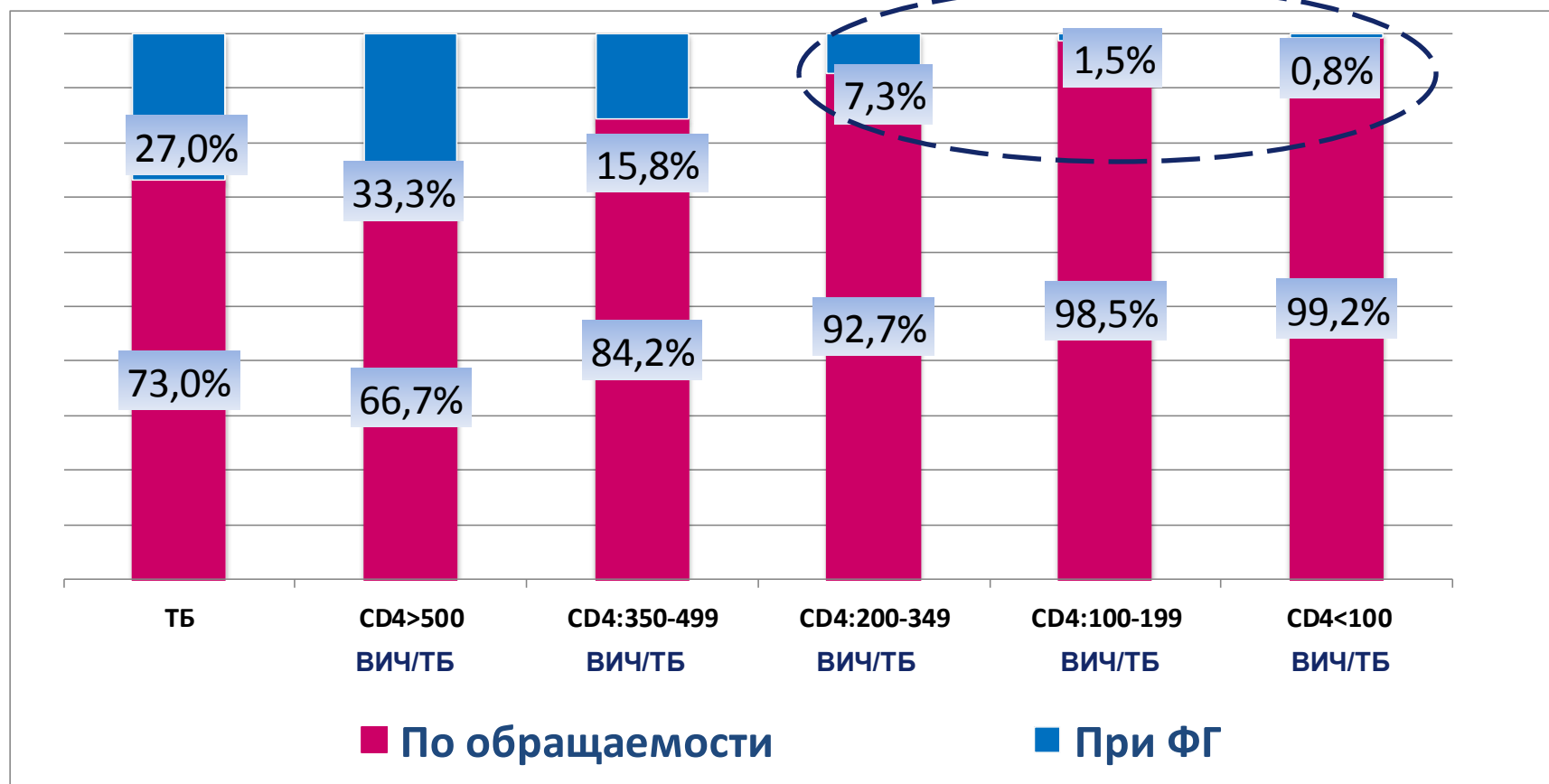
Characteristics of DR Patterns in Patients with TB and TB/HIV Depending on the Degree of Immunosuppression



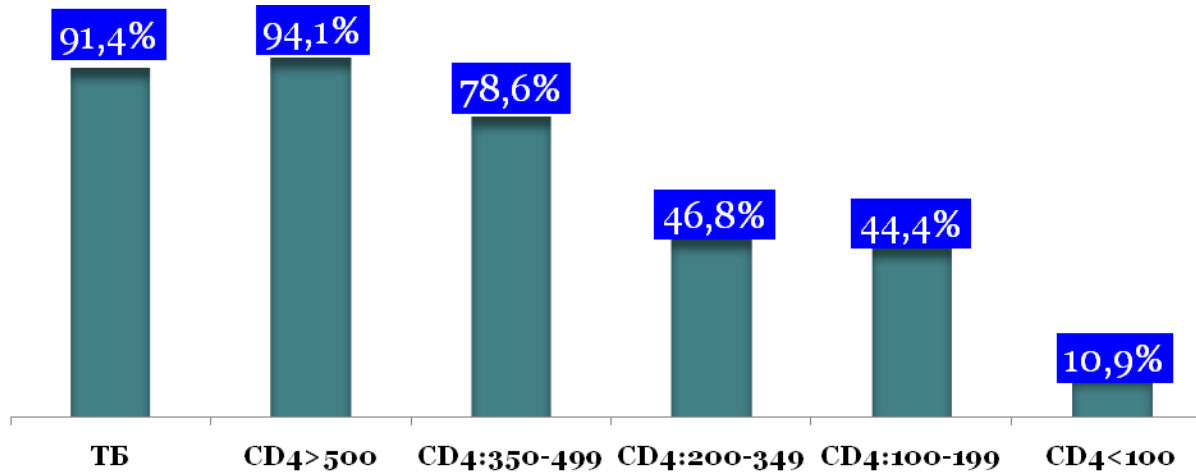
Detection of TB in HIV-infected patients

- ❖ **Planned chest X-ray (twice a year)**
 - ❖ **Tuberculin skin test/Diaskin-test (once a year)**
- } *Active*
-
- ❖ **By screening of clinical symptoms**
(cough, fever, sweats, body weight loss)
 - ❖ **Self-presentation of patients**
- } *Passive*

Role of Screening Chest X-Ray Depending on the Degree of Initial Immunosuppression

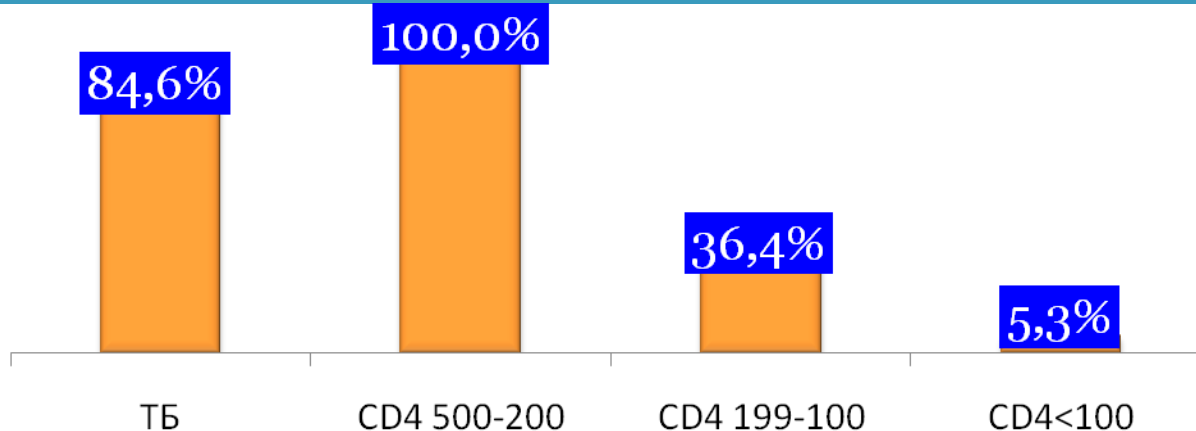


Frequency of Positive Mantoux Skin Tests with 2 TE in Patients with HIV/TB and TB



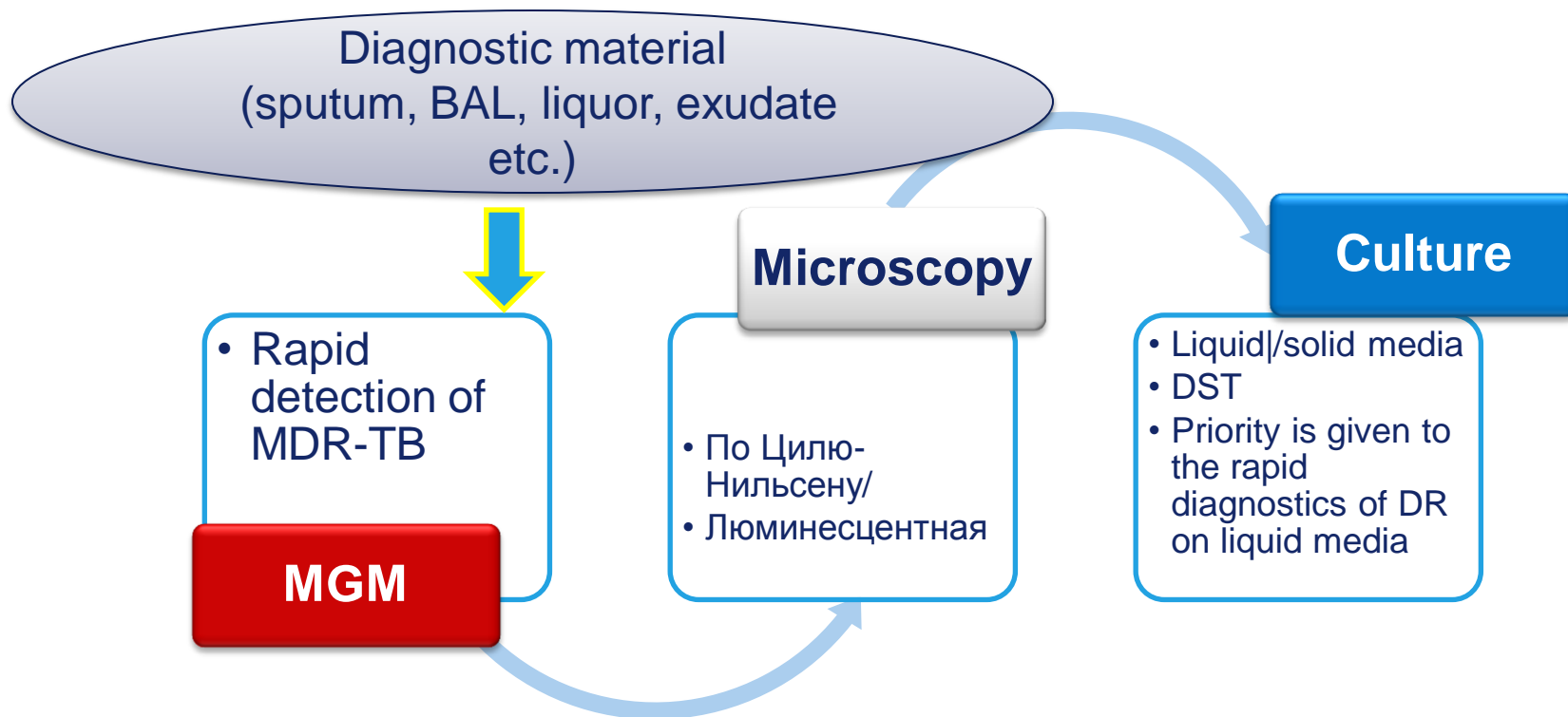
*Zimina V.N.,
Batyrov F.A., 2011*

Frequency of Positive Diaskin-Test® in patients with HIV/TB and TB



*Kalinkin A.V.
Abstract of the thesis for
the degree candidate of
med. science 2010*

Algorithm for etiological TB diagnostics in HIV-infected patients



Sputum or any other diagnostic material examination in patients with TB-HIV must include MGM tests to allow detection of an agent and identification of DR at least to rifampicin.

Concept of etiological diagnostics of TB and DR-TB

- ❖ TB detection by means of molecular-genetic and bacteriological methods.
- ❖ DST for all patients: new and previously treated.
- ❖ Introduction of molecular-genetic and rapid methods of culture on liquid media in all regional laboratories.
- ❖ **Priority use of molecular-genetic methods for the diagnostics of DR in patients with high risk of MDR-TB and HIV-infected patients.**

Concept of etiological diagnostics of TB and DR-TB

Access to a comprehensive evaluation of patients regardless of geographical specifics of their places of residence and social status.

Procedures for care delivery to TB patients (Executive order # 932H of November 15, 2012)

REGULATIONS FOR ACTIVITY ARRANGEMENTS

TB care unit for HIV-infected patients

A unit is to be established for provision of primary specialized care to patients with TB-HIV co-infection.

Functions of the unit

- ❑ Follow-up of patients with TB-HIV co-infection;
- ❑ Management of DOT in patients with TB-HIV co-infection ;
- ❑ Epidemiological analysis of TB –HIV co-infection epidemiology in the population of the catchment area;
- ❑ Monitoring and analysis of:
 - Performance of preventive activities among persons with family contacts of TB-HIV patients;
 - Performance of the healthcare facilities in the field of vaccination of children born from mothers with TB including TB-HIV co-infection;
 - Isolation of newborns from mothers with TB including TB-HIV (for 2 months after TB vaccinations);
 - Follow-up of individuals in close family contacts with TB-HIV patients, performance of preventive and health-improving activities for this population group;
- ❑ **Provision of managerial, methodological and consultative assistance to the Center for prevention and control of AIDS and infectious diseases in the field of care delivery to patients with TB-HIV co-infection;**
- ❑ **Managerial and methodological support of TB activities which are being performed among HIV-infected patients;**
- ❑ Other functions in accordance with the legislation of the Russian Federation.

TB-HIV prevention activities in the Russian Federation

- ❖ Interaction of TB service and AIDS Centers
- ❖ Preventive TB treatment of patients with HIV-infection
- ❖ TB detection in HIV-infected individuals
- ❖ HIV testing in all TB patients (in 2013 - 82.7% of all TB patients were tested for HIV)
- ❖ Multidisciplinary approach to management of patients with TB-HIV
- ❖ Treatment of TB-HIV patients based on the general principles of TB treatment considering drug-to -drug interaction

Activities on TB detection among HIV-infected

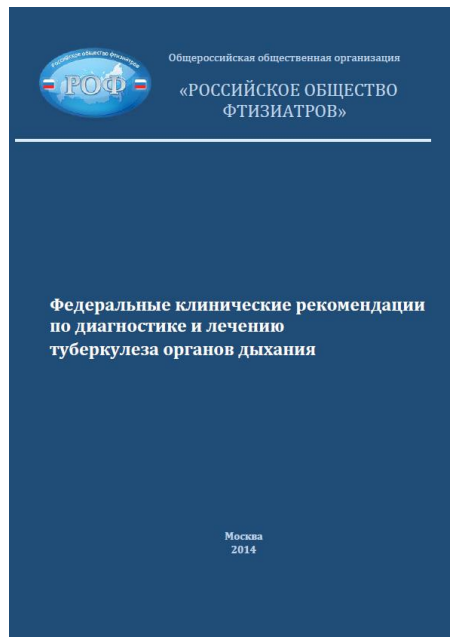
- ❖ Development and introduction of modern recommendations on TB detection among HIV-infected patients.
- ❖ Training of the medical staff of TB facilities and AIDS centers on modern methods of TB detection and diagnostics in HIV-infected individuals.
- ❖ Training of the medical staff of non-TB facilities on TB detection and diagnostics.
- ❖ Maintaining TB alertness: provision of TB detection and diagnostic algorithms to the district general practitioners and family doctors.

In the not-tuberculosis medical organizations

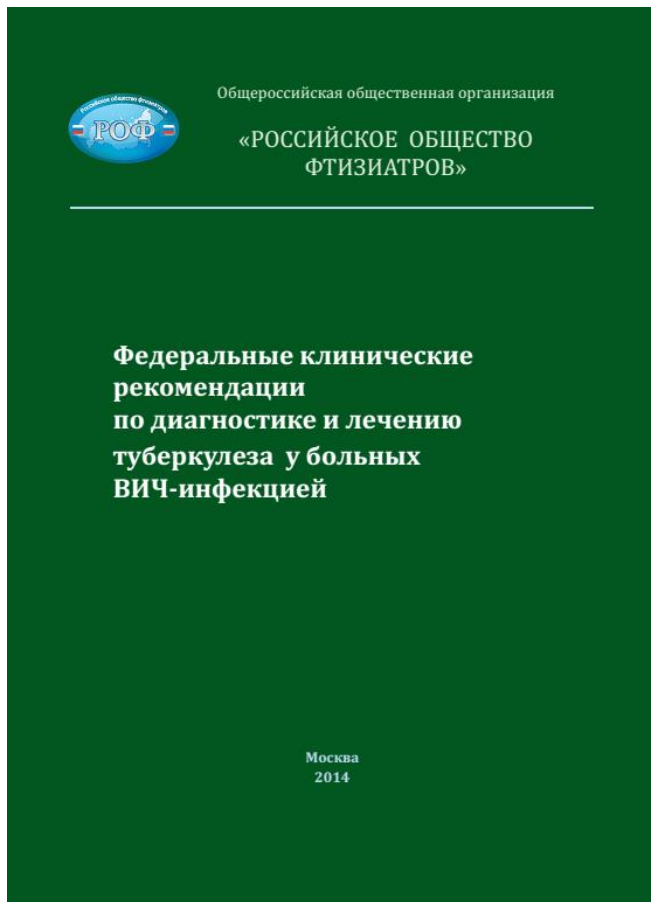
Evaluate TB suspects with the use of rapid molecular-genetic methods of TB and DR-TB detection.

Russian Society of Phthisiologists (RSP)

Federal Law No. 323 "On the fundamentals of health protection in the Russian Federation" p.2 article 76:
«clinical recommendations(protocols)... developed and approved by healthcare professional non-commercial organisations»



Russian Society of Phthisiologists (RSP) together with the Federal AIDS Center developed



Federal Clinical Recommendations (protocols) for the diagnostics and treatment of TB in HIV-infected individuals

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Thank you for your attention!

