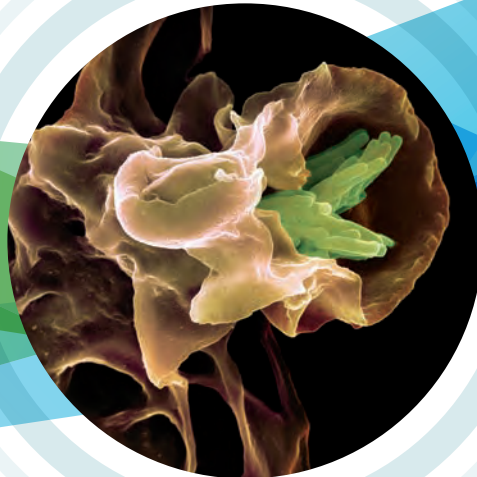




World Health  
Organization

REGIONAL OFFICE FOR **Europe**



# Tuberculosis surveillance and monitoring in Europe

# 2021

2019 data



# **Tuberculosis surveillance and monitoring in Europe**

# **2021**

2019 data

# Abstract

With almost 260 000 tuberculosis (TB) cases reported in 2019, TB remains a major public health problem in the WHO European Region, including the countries of the European Union/European Economic Area (EU/EEA). This report provides an overview of the latest TB epidemiological situation and is published jointly by the WHO Regional Office for Europe and the European Centre for Disease Prevention and Control (ECDC). It finds that epidemic patterns and trends vary widely, with the EU/EEA approaching the low incidence level of 9.2 per 100 000 population while the Region has nine out of 30 countries with the highest multidrug-resistant TB burden in the world. Overall, TB mortality and incidence rates have fallen. Despite the notable progress achieved in the fight against TB, countries still face a variety of challenges in reaching the goal to end the TB epidemic in the Region.

## Keywords

TUBERCULOSIS – EPIDEMIOLOGY

TB – EPIDEMIOLOGY

TB SURVEILLANCE

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# Abbreviations

<b>AFB</b>	acid-fast bacilli
<b>ART</b>	antiretroviral therapy
<b>CI</b>	confidence interval
<b>CISID</b>	Centralized Information System for Infectious Diseases
<b>DRS</b>	drug-resistance surveillance
<b>DST</b>	drug-susceptibility testing
<b>ECDC</b>	European Centre for Disease Prevention and Control
<b>EEA</b>	European Economic Area
<b>EQA</b>	external quality assessment
<b>ERLTB-Net</b>	European Tuberculosis Reference Laboratory Network
<b>EU</b>	European Union
<b>EU/EEA</b>	European Union/European Economic Area
<b>HPCs</b>	high-priority countries
<b>MDR</b>	multidrug resistance
<b>MDR-TB</b>	multidrug-resistant tuberculosis
<b>RR</b>	relative risk
<b>RR-TB</b>	rifampicin-resistant tuberculosis
<b>RR/MDR-TB</b>	rifampicin-resistant and multidrug-resistant tuberculosis
<b>TB</b>	tuberculosis
<b>TESSy</b>	The European Surveillance System
<b>TME</b>	WHO Tuberculosis Monitoring and Evaluation platform
<b>TOM</b>	treatment outcome monitoring
<b>WRD</b>	WHO-recommended rapid diagnostics
<b>XDR</b>	extensive drug resistance
<b>XDR-TB</b>	extensively drug-resistant tuberculosis





## **Executive summary**



# Executive summary

## The WHO European Region

The data in this report present tuberculosis (TB) notifications through to the end of 2019, the period just before the global COVID-19 pandemic began. The impact of the pandemic on laboratory, clinical and public health institutions involved in TB surveillance and response has been felt during the data-collection and preparation stages of the report, with several countries and areas requiring more time than usual to submit their 2019 TB data. Several found that it was not possible to report some variables at all or at levels concordant with the past. The European Centre for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe, in collaboration with Member States and partners, will look carefully at the impact of COVID-19 on TB surveillance to ensure the continuing high standard of European TB data.

Despite the notable progress achieved in the fight against TB in the WHO European Region and the ongoing decline in incidence seen as a result, TB, and its drug-resistant form in particular, still poses a public health threat in most countries and areas within the Region and should not be underestimated.

### TB burden

The year 2019 saw a further decrease in TB, with 246 000 incident TB cases (214 000–280 000) estimated in the WHO European Region, corresponding to 26 cases (23–30) per 100 000 population. During the period 2015–2019 the average annual decline in the TB incidence rate was 5.0%, which is the fastest decline among all WHO regions. The cumulative reduction for the period 2015–2019 was 19.0%, indicating that the Region has almost reached the 2020 End TB Strategy milestone to reduce the TB incidence rate in 2020 by 20% against the 2015 baseline, and is on track to achieve the regional action plan target of a 25% reduction in the TB incidence rate.

In 2019, there were an estimated 20 000 TB deaths among HIV-negative people in the European Region, a cumulative 57.0% decrease since 2010 and equivalent to 2.2 deaths per 100 000 population (range 2.1–2.3). The regional mortality decline was 9.4% between 2018 and 2019, which is notably higher than the average global decline in TB mortality (3.7% between 2018 and 2019).

In 2019, there were an estimated 70 000 new cases of rifampicin-resistant and multidrug-resistant TB (RR/MDR-TB) in the Region, with 46 000 estimated among notified bacteriologically confirmed pulmonary TB patients. This represents around 15.0% of the 465 000 global RR/MDR-TB burden. The proportion of RR/MDR-TB among new and previously treated TB cases in the Region also significantly exceeds the global average, with 17.0%

in new and 52.0% in previously treated cases compared to 3.3% and 18.0% respectively.

HIV prevalence in incident TB cases was estimated to be 12.0% in 2019, marking the third year of halted growth after an unprecedented increase from 3.0% to 12.0% during the period 2007–2016. There were an estimated 30 000 HIV-positive TB cases in the Region, with the Russian Federation (56.7%) and Ukraine (26.0%) contributing to the highest burden of coinfection.

### TB disease notification and treatment outcomes

Overall, a 20.4% decrease was observed in the notification rates of new and relapse TB cases during the period 2015–2019 (incident TB cases), from 29.2 to 23.2 cases per 100 000 population. In 2019, 215 871 incident TB cases were notified, amounting to 87.8% of the estimated new and relapse cases in the Region.

The percentage of newly notified TB patients tested using WHO-recommended rapid diagnostic tests increased from 45.3% in 2015 to 69.3% in 2019, overachieving the initial target of 30% set in the TB regional action plan, but remaining below the global End TB Strategy target of 90%.

A total of 180 113 patients with pulmonary TB (83.4%) were notified among incident TB cases, 67.0% of which were laboratory-confirmed. Among bacteriologically confirmed pulmonary TB cases, 90.8% were tested for rifampicin resistance.

Overall, 32.2% of pulmonary TB patients who were reported as having been tested for drug susceptibility had RR/MDR-TB. Prevalence of RR/MDR-TB among new and previously treated bacteriologically confirmed pulmonary TB cases was 21.1% and 54.4% respectively.

There has been an increasing trend in extensively drug-resistant TB (XDR-TB) and with 94.5% second-line drug-susceptibility testing (DST) coverage, 22.5% of pulmonary MDR-TB cases had XDR-TB in 2019. In absolute numbers, XDR-TB cases among pulmonary TB cases increased from 955 in 2015 to 7259 in 2019, largely due to the increase in the number of countries and areas reporting on second-line DST data.

Of the new and relapse TB patients notified from countries and areas reporting HIV testing data, 93.5% were screened for HIV. A total of 25 060 TB cases were detected with HIV-positive status, which is 14.5% of those tested, representing some increase compared to the last year (13.0% in 2018).

A total of 18 836 (75.8%) HIV-positive patients are reported to have received antiretroviral therapy (ART). ART coverage

has been increasing over the last five years but is still far below the WHO target of universal ART coverage for TB/HIV coinfecting patients.

Despite universal treatment coverage for TB and RR/MDR-TB patients, the treatment success rate in the Region remains below the respective regional targets of 85% and 75%. The successful treatment outcome for both incident TB and RR/MDR-TB cohorts were 76.5% and 58.6% respectively, which is comparable with the previous year's results.

## Conclusions

Analysis of the 2019 TB surveillance data shows that Member States are making good progress. This progress was particularly impressive in terms of efforts to reduce TB mortality and notification (as a proxy of TB incidence) and to increase testing coverage of new and relapse TB patients using WHO-recommended rapid tests, indicating that overall, the Region is on the right track in its efforts to contain the TB epidemic. Most of the high-priority countries have already achieved or are on track to reach the 2020 milestones of the global End TB Strategy and the targets articulated in the TB regional action plan. However, COVID-19 may jeopardize this progress; the impact of the pandemic on TB service delivery and TB notifications has already been documented and reported from a few high TB burden countries (1).

Although there is evidence of slow improvement, the treatment success rates for new and relapse cases and RR/MDR-TB patients are still below regional and global targets. Despite the efforts made, the burden in relation to RR-TB and TB/HIV is still considerable, underlining the need to introduce more innovative and effective approaches to the diagnosis and treatment of TB and MDR-TB.

## European Union and European Economic Area countries

### Epidemiology and treatment outcome

In 2019, 49 752 cases of TB were reported in 29 European Union and European Economic Area (EU/EEA) countries (Latvia and Liechtenstein did not report any case-based data), resulting in a notification rate of 9.6 per 100 000 population in the EU/EEA. The overall notification rate and the rates in most countries have been decreasing over the last five years.

Of all notified TB cases, 38 267 (76.9%) were newly diagnosed and 33 368 (67.1%) were confirmed by culture, or smear and nucleic acid amplification test. In 2019, adults aged between 25 and 64 years accounted for 65.3% of all new and relapse TB cases, while children under 15 years accounted for 4.1% of all new and relapse TB cases. Romania reported the highest notification rates among children, with 14.1 cases per 100 000 population aged between 0 and 4 years. In 2019, new and relapse TB cases were more frequently reported in males than females, with a male-to-female ratio of 1.8.

Approximately one third (34.5%) of TB cases reported in the EU/EEA in 2019 were of foreign origin, but this proportion was less than 25% in the countries with TB notification rates higher than 10 per 100 000 population (excluding Malta).

Of 24 812 cases with DST results, 834 (3.4%) had MDR-TB. The countries with the highest proportion of MDR-TB cases among cases with DST results (excluding France) were Estonia (21.3%) and Lithuania (17.0%). XDR-TB was reported for 21.9% of 584 MDR-TB cases tested for second-line drug susceptibility. The proportion of XDR-TB cases among pulmonary MDR-TB cases with results for second-line DST has remained between 20.0% and 25.0% since 2015. Lithuania and Romania reported 75.0% of the total XDR-TB cases in 2019.

The number of countries reporting data on HIV coinfection, which had peaked at 23 countries in 2016 and 2017, decreased to 21 in 2018 and again to 19 in 2019. Of the 16 088 TB cases with known HIV status, 502 (3.1%) were reported as HIV-positive.

TB in prisons remains poorly reported. For the 13 EU/EEA countries reporting data, the notification rate was 185 new and relapse TB cases per 100 000 prison population, and prisoners had a relative risk of 15.8 compared to the general population in the same countries.

Of all 42 811 TB cases notified in 2018 with a treatment outcome reported in 2019, 63.7% were treated successfully, 6.7% died and 0.8% experienced treatment failure. Of 937 MDR-TB cases notified in 2017 with a treatment outcome reported in 2019, 45.7% were treated successfully, 15.2% died and 11.0% experienced treatment failure. Treatment success was reported only for 34.9% of XDR-TB cases notified in 2016, while 26.2% of cases were reported to have died and 18.0% experienced treatment failure.

## Conclusions

In 2019, 29 of 31 EU/EEA countries reported TB notification data. There was a further decline in the overall TB notification rate (9.6 per 100 000 population), continuing the trend observed since 2002. However, there is significant work ahead to achieve the United Nations Sustainable Development Goal 3 target notification rate at EU/EEA level of 2.4 per 100 000 population by 2030. Reassuringly, the number of reported MDR-TB and XDR-TB cases continued to decline in EU/EEA countries in 2019 and account for a very small proportion of all reported TB cases in 2019.

Across all cohorts, reported treatment success remains well below the WHO targets. Of all TB cases notified in 2018 with a treatment outcome reported in 2019, only 63.7% were treated successfully. Treatment success was lower for MDR-TB cases at 24 months (43.2%) and lower still among XDR-TB cases at 36 months (34.9%), while the proportion of deaths for these cohorts was 15.0% and 26.2%, respectively.

Across the EU/EEA, TB data continue to be incomplete for HIV coinfection, TB in prisons, and for treatment

outcomes. In 2019, there were further declines in the number of countries reporting HIV status and treatment outcomes.

## Reference

1. Global tuberculosis report 2020. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/bitstream/handle/10665/336069/9789240013131-eng.pdf>, accessed 10 February 2021).

# Резюме

## Европейский регион ВОЗ

В настоящем докладе представлены данные по регистрации случаев туберкулеза (ТБ) вплоть до конца 2019 г. – периода непосредственно перед началом глобальной пандемии COVID-19. Влияние пандемии на работу лабораторий, клиник и учреждений здравоохранения, которые принимают участие в эпиднадзоре за ТБ и реализации ответных мер, ощущалось на этапах сбора данных и подготовки доклада, когда нескольким странам и регионам требовалось больше времени для представления данных по ТБ за 2019 г., чем обычно. Некоторые страны сообщили о невозможности сбора данных по ряду переменных или в объемах, сопоставимых с объемом прошлых лет. Европейский центр по контролю и профилактике заболеваний (ЕЦКЗ) и Европейское региональное бюро ВОЗ в сотрудничестве с государствами-членами и партнерами внимательно изучают влияние COVID-19 на эпиднадзор за ТБ, чтобы сохранить неизменно высокий стандарт европейских данных по ТБ.

Несмотря на заметный прогресс в борьбе с ТБ в Европейском регионе ВОЗ и, как следствие, стабильное снижение заболеваемости, туберкулез и особенно его лекарственно-устойчивая форма по-прежнему представляют угрозу общественному здоровью в большинстве стран и территорий Региона, и эту угрозу нельзя недооценивать.

### Бремя ТБ

В 2019 г. наблюдалось дальнейшее снижение заболеваемости ТБ: расчетное число новых случаев и рецидивов ТБ в Европейском регионе ВОЗ составило 246 000 (214 000–280 000), что соответствует 26 случаям (23–30) на 100 000 населения. В период 2015–2019 гг. заболеваемость туберкулезом снижалась в среднем на 5,0% в год, – это самые быстрые темпы снижения среди всех регионов ВОЗ. Совокупное снижение за период 2015–2019 гг. составило 19,0%, свидетельствуя о том, что Регион почти достиг промежуточного показателя на 2020 г., установленного в Стратегии по ликвидации ТБ (снижение заболеваемости ТБ к 2020 г. на 20% по сравнению с базовым уровнем 2015 г.), и находится на пути к достижению целевого ориентира Регионального плана действий – снижение заболеваемости ТБ на 25%.

Расчетное число смертей от ТБ среди ВИЧ-отрицательных больных в Европейском регионе ВОЗ в 2019 г. составило 20 000, что на 57,0% меньше, чем в 2010 г., и эквивалентно 2,2 случая смерти на 100 000 населения (диапазон 2,1–2,3). Региональное снижение смертности в период с 2018 по 2019 год составило 9,4%, что значительно

выше среднего показателя снижения смертности от ТБ в мире (3,7% в период с 2018 по 2019 г.).

В 2019 г. расчетное число новых случаев ТБ с лекарственной устойчивостью возбудителя к рифампицину и множественной лекарственной устойчивостью (РУ/МЛУ-ТБ) в Регионе составило около 70 000, причем примерно 46 000 из них были выявлены среди больных ТБ легких с бактериологически подтвержденным диагнозом. Это соответствует приблизительно 15,0% от 465 000 случаев РУ/МЛУ-ТБ во всем мире. Доля РУ/МЛУ-ТБ среди новых и ранее леченных случаев ТБ в Регионе также значительно превышает среднемировой показатель: 17,0% среди новых и 52,0% среди ранее леченных случаев, по сравнению с 3,3% и 18,0% соответственно.

Расчетная распространенность ВИЧ-инфекции среди новых случаев и рецидивов ТБ в 2019 г. составила 12,0%; это означает, что данный показатель не увеличивался уже три года подряд после беспрецедентного повышения 3,0% до 12,0% в период 2007–2016 гг. Расчетное число ВИЧ-положительных больных ТБ в Регионе составило 30 000, при этом наибольшее бремя сочетанной инфекции приходится на Российскую Федерацию (56,7%) и Украину (26,0%).

### Регистрация случаев ТБ и исходы лечения

В целом в период 2015–2019 гг. наблюдалось снижение показателей регистрации новых случаев и рецидивов ТБ на 20,4% – с 29,2 до 23,2 случая на 100 000 населения. В 2019 г. был зарегистрирован 215 871 случай заболевания ТБ, что составляет 87,8% от расчетного числа новых случаев и рецидивов заболевания в Регионе.

Процент впервые выявленных больных ТБ, прошедших тестирование с использованием рекомендованных ВОЗ быстрых диагностических тестов, вырос с 45,3% в 2015 г. до 69,3% в 2019 г., превысив первоначальный целевой показатель – 30%, предусмотренный Региональным планом действий по борьбе с ТБ, но оставаясь ниже целевого ориентира Глобальной стратегии по ликвидации туберкулеза – 90%.

В общей структуре новых случаев и рецидивов ТБ было зарегистрировано 180 113 больных ТБ легких (83,4%), у 67,0% из которых диагноз был подтвержден лабораторно. Среди больных ТБ легких с бактериологически подтвержденным диагнозом 90,8% прошли тестирование на лекарственную устойчивость возбудителя к рифампицину.

В целом 32,2% больных ТБ легких, которые, по отчетным данным, прошли тестирование на лекарственную чувствительность, имели РУ/МЛУ-ТБ. Распространенность

РУ/МЛУ-ТБ среди новых и ранее леченных бактериологически подтвержденных случаев ТБ легких составила 21,1% и 54,4% соответственно.

Наблюдается тенденция к росту числа случаев ТБ с широкой лекарственной устойчивостью (ШЛУ-ТБ); так, на фоне 94,5% охвата тестированием на лекарственную чувствительность (ТЛЧ) к противотуберкулезным препаратам второго ряда в 2019 г. 22,5% больных МЛУ-ТБ легких имели ШЛУ-ТБ. В абсолютных цифрах число случаев ШЛУ-ТБ среди больных ТБ легких выросло с 955 в 2015 г. до 7259 в 2019 г., в основном вследствие увеличения числа стран и территорий, представляющих отчетность о ТЛЧ к препаратам второго ряда.

Девяносто три с половиной процента новых случаев и рецидивов ТБ, зарегистрированных в странах и территориях, представляющих данные о тестировании на ВИЧ-инфекцию, прошли скрининг на ВИЧ. Всего было выявлено 25 060 больных ТБ с ВИЧ-положительным статусом, что составляет 14,5% от числа обследованных. Это несколько превышает аналогичный показатель предыдущего года (13,0% в 2018 г.).

По отчетным данным, общее число ВИЧ-положительных пациентов, получавших антиретровирусную терапию (АРТ), составило 18 836 (75,8%). На протяжении последних пяти лет отмечался рост охвата АРТ, однако он по-прежнему остается значительно ниже целевого показателя ВОЗ – всеобщего охвата АРТ пациентов с сочетанной инфекцией ТБ/ВИЧ.

Несмотря на всеобщий охват лечением больных туберкулезом и РУ/МЛУ-ТБ, показатель успешного лечения в Регионе остается ниже соответствующих региональных целевых ориентиров – 85% и 75% соответственно. В когорте больных ТБ показатель положительных исходов лечения составлял 76,5%, а в когорте больных РУ/МЛУ-ТБ – 58,6%, что сопоставимо с результатами предыдущего года.

## Выводы

Анализ данных эпиднадзора за ТБ за 2019 г. показывает, что государствам-членам удалось добиться значительного прогресса, особенно в работе по снижению смертности от ТБ и регистрации случаев (как косвенного показателя заболеваемости ТБ), а также увеличению охвата тестированием впервые выявленных больных ТБ и больных с рецидивом заболевания с использованием рекомендованных ВОЗ экспресс-тестов. Это свидетельствует о том, что в целом Регион находится на правильном пути в своих усилиях по сдерживанию эпидемии ТБ. Большинство стран высокого приоритета уже достигли или близки к достижению промежуточных ориентиров на 2020 г., указанных в Глобальной стратегии по ликвидации ТБ, и целей, сформулированных в Региональном плане действий по борьбе с ТБ. Однако пандемия COVID-19 ставит под угрозу достигнутый прогресс: несколько стран с высоким бременем ТБ уже сообщили о зафиксированных фактах влияния пандемии на оказание противотуберкулезной помощи и регистрацию случаев ТБ (1).

Фактические данные свидетельствуют о медленном улучшении ситуации, однако показатели успешного лечения впервые выявленных больных и больных с рецидивом ТБ, а также пациентов с РУ/МЛУ-ТБ по-прежнему остаются ниже региональных и глобальных целевых ориентиров. Сохранение, несмотря на предпринятые усилия, высокого бремени РУ-ТБ и ТБ/ВИЧ подчеркивает необходимость внедрения более инновационных и эффективных подходов к диагностике и лечению ТБ и МЛУ-ТБ.

## Страны Европейского союза и Европейской экономической зоны

### Эпидемиология и исходы лечения

В 2019 г. в 29 странах Европейского союза и Европейской экономической зоны (ЕС/ЕЭЗ) было зарегистрировано 49 752 случая ТБ (Латвия и Лихтенштейн не представили данных о случаях заболевания), в результате чего показатель регистрации случаев составил 9,6 на 100 000 населения стран ЕС/ЕЭЗ. На протяжении последних пяти лет отмечалось снижение как общего показателя регистрации случаев, так и соответствующих показателей в большинстве стран.

Из числа всех зарегистрированных случаев ТБ 38 267 (76,9%) были выявлены впервые, и 33 368 (67,1%) – подтверждены культуральным методом или микроскопией мазка мокроты и тестом на амплификацию нуклеиновых кислот. В 2019 г. в структуре общего числа новых случаев и рецидивов ТБ взрослые в возрасте от 25 до 64 лет составили 65,3%, а дети младше 15 лет – 4,1%. Румыния зафиксировала самые высокие показатели регистрации случаев ТБ среди детей: 14,1 случая на 100 000 населения в возрасте от 0 до 4 лет. В 2019 г. новые случаи и рецидивы ТБ чаще регистрировались среди мужчин, чем среди женщин, причем соотношение мужчин и женщин составило 1.8.

Примерно треть (34,5%) больных ТБ, зарегистрированных в странах ЕС/ЕЭЗ в 2019 г., были лицами иностранного происхождения, но в странах с показателем регистрации ТБ выше 10 на 100 000 населения (исключая Мальту) их доля составила менее 25%.

Из 24 812 больных с соответствующими результатами ТЛЧ у 834 (3,4%) был МЛУ-ТБ. Страны с наибольшей долей случаев МЛУ-ТБ (среди больных с соответствующими результатами ТЛЧ) – Литва (17,0%), Франция (100,0%) и Эстония (21,3%). ШЛУ-ТБ был зарегистрирован у 21,9% от 584 больных МЛУ-ТБ, прошедших тестирование на лекарственную чувствительность к препаратам второго ряда. Доля случаев ШЛУ-ТБ среди больных МЛУ-ТБ легких с результатами ТЛЧ к препаратам второго ряда начиная с 2015 г. колеблется в диапазоне от 20,0% до 25,0%. На долю Литвы и Румынии пришлось 75,0% от общего числа случаев ШЛУ-ТБ в 2019 г.

Число стран, представляющих данные отчетности о случаях сочетанной ВИЧ-инфекции, достигшее пика в 2016 и 2017 гг. (23 страны), сократилось до 21 в 2018 г. и до 19 в 2019 г. Из 16 088 случаев ТБ с известным ВИЧ-статусом 502 (3,1%) были зарегистрированы как ВИЧ-положительные.

Представление данных о случаях ТБ в местах лишения свободы носит неудовлетворительный характер. Для 13 стран ЕС/ЕЭЗ, представляющих данные, показатель регистрации случаев составил 185 новых случаев и рецидивов ТБ на 100 000 заключенных, относительный риск развития ТБ у заключенных составил 15,8, по сравнению с аналогичным показателем для населения в целом в тех же странах.

Из 42 811 больных ТБ, зарегистрированных в 2018 г., исход лечения которых был зарегистрирован в 2019 г., у 63,7% лечение было успешным, 6,7% умерли, и у 0,8% лечение было неэффективным. Из 937 больных МЛУ-ТБ, зарегистрированных в 2017 г., исход лечения которых был зарегистрирован в 2019 г., у 45,7% лечение было успешным, 15,2% умерли, и у 11,0% лечение было неэффективным. Успешный исход лечения был зафиксирован лишь у 34,9% больных ШЛУ-ТБ, зарегистрированных в 2016 г., при этом 26,2% больных умерли, и у 18,0% лечение было неэффективным.

## Выводы

В 2019 г. 29 из 31 страны ЕС/ЕЭЗ представили отчетные данные о регистрации случаев ТБ. Отмечалось дальнейшее снижение общего показателя регистрации случаев ТБ (9,6 на 100 000 населения), что является продолжением тенденции, наблюдаемой с 2002 г. Однако

нам предстоит проделать значительную работу для достижения к 2030 г. показателя регистрации ТБ в странах ЕС/ЕЭЗ на уровне 2,4 на 100 000 населения, в соответствии с Целью ООН в области устойчивого развития № 3. Обнадуживает то, что в 2019 г. в странах ЕС/ЕЭЗ число зарегистрированных случаев МЛУ-ТБ и ШЛУ-ТБ продолжило снижаться, и они составляли лишь небольшую долю в структуре всех зарегистрированных случаев ТБ.

Показатель успешного лечения во всех когортах пациентов остается существенно ниже целевых показателей ВОЗ. Из всех больных ТБ, зарегистрированных в 2018 г., исход лечения которых был зарегистрирован в 2019 г., только у 63,7% лечение было успешным. Показатель успешного лечения был ниже у больных МЛУ-ТБ через 24 месяца (43,2%) и еще ниже у больных ШЛУ-ТБ через 36 месяцев (34,9%), в то время как доля смертей в этих когортах составила 15,0% и 26,2% соответственно.

Данные по ТБ и сочетанной ВИЧ-инфекции, ТБ в местах лишения свободы и результатах лечения по-прежнему остаются неполными во всех странах ЕС/ЕЭЗ. В 2019 г. число стран, представляющих данные отчетности о ВИЧ-статусе и результатах лечения, еще больше сократилось.

## Ссылка

1. Global tuberculosis report 2020. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/bitstream/handle/10665/336069/9789240013131-eng.pdf>, accessed 10 February 2021).





# **1. Main facts about tuberculosis**

# 1. Main facts about tuberculosis

Tuberculosis (TB) is an infectious disease caused by a group of *Mycobacterium* species called the *Mycobacterium tuberculosis* complex (1). TB ranks among the top-10 causes of death on a global scale (2). Although TB typically affects the lungs (pulmonary TB), it can cause disease in any organ (extrapulmonary TB). TB is transmitted from person to person when, for example, an individual with pulmonary TB expels bacteria into the air by coughing.

Approximately 25% of the world's population is infected with *M. tuberculosis* (3), but only a small proportion of people (≈ 10%) will develop TB disease during their lifetime; the risk is much higher among immunocompromised individuals (such as people infected with HIV).

Sputum-smear microscopy has been the most common initial TB diagnostic method worldwide, but culture remains the gold standard, while the use of rapid molecular testing is increasing.

Standard treatment of non-resistant TB consists of a six-month regimen of four first-line drugs (isoniazid, rifampicin, ethambutol and pyrazinamide), with success rates usually above 85% (4). Multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB) require longer treatments with more drugs and are associated with lower success rates.

WHO estimated that 10 million people developed TB disease in 2019. Most cases were thought to occur in the WHO South-East Asia Region (44%), the WHO African Region (25%) and the WHO Western Pacific Region (18%). Smaller proportions of cases were estimated for the WHO Eastern Mediterranean Region (8.2%) and the WHO Region of the Americas (2.9%). The WHO European Region accounted for 2.5% of all cases (4).

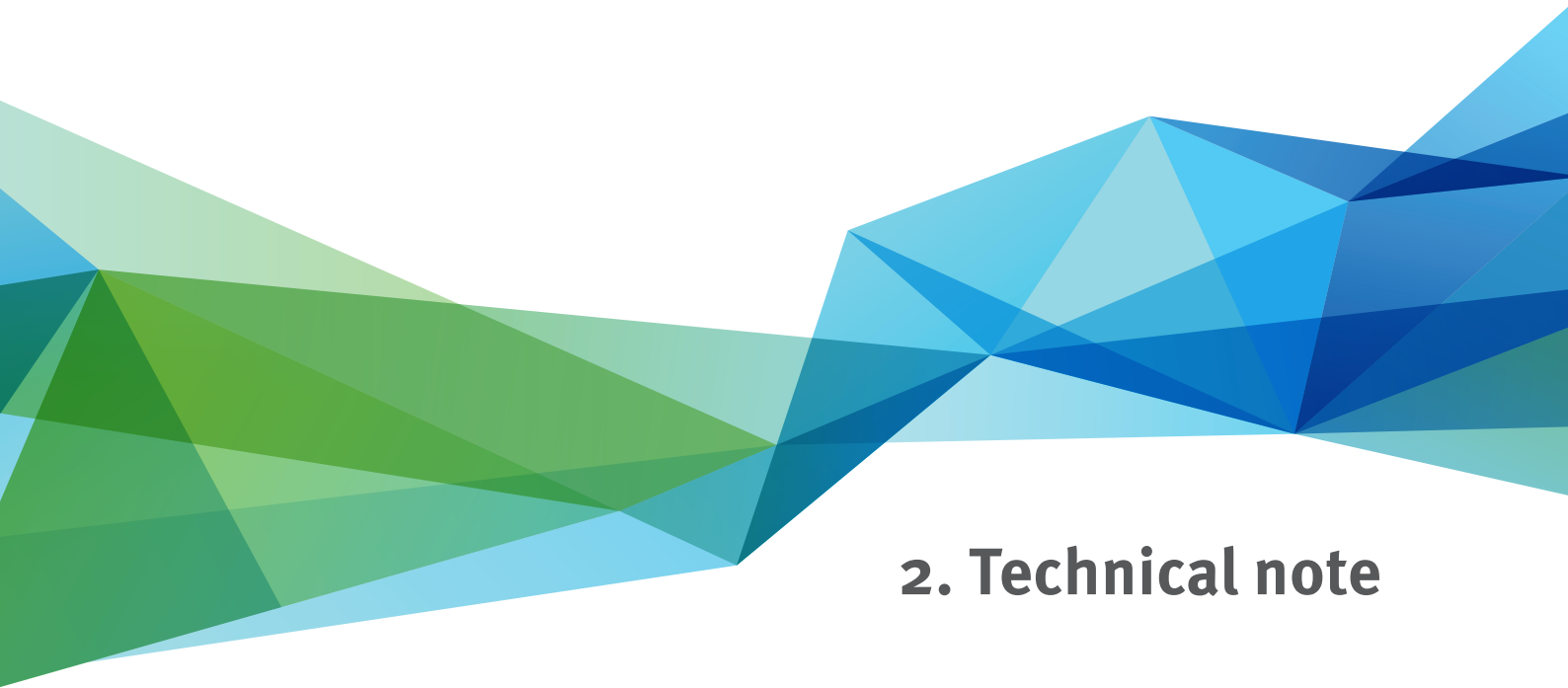
Overall, this report shows that in the European Union/ European Economic Area (EU/EEA), TB remains a public health issue. Most EU/EEA countries, however, are low-incidence countries (with a notification rate below 10 per 100 000) in which TB predominantly affects vulnerable populations, such as migrants, prison inmates or people coinfecting with HIV.

The overall aim of TB surveillance is to help inform public health action. The annual TB surveillance and monitoring report presents key figures and trends and provides an overview of the TB situation in the EU/EEA and the WHO European Region.

## References<sup>2</sup>

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2. Global Health Estimates 2016: disease burden by cause, age, sex, by country and by region, 2000–2016. Geneva: World Health Organization; 2018 ([https://www.who.int/healthinfo/global\\_burden\\_disease/estimates/en/index1.html](https://www.who.int/healthinfo/global_burden_disease/estimates/en/index1.html)).
3. Houben RMGJ, Dodd PJ. The global burden of latent tuberculosis infection: a re-estimation using mathematical modelling. *PLOS Med.* 2016;13(10):e1002152. <https://doi.org/10.1371/journal.pmed.1002152>.
4. Global tuberculosis report 2020. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/bitstream/handle/10665/336069/9789240013131-eng.pdf>)

<sup>2</sup> All weblinks accessed 10 February 2021.



## **2. Technical note**



## 2. Technical note

Between 1996 and 2007, TB surveillance data from the European Region were collected and analysed annually under the EuroTB project.

Since 1 January 2008, the European Centre for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe jointly have coordinated the collection and analysis of TB surveillance data in Europe, aiming to ensure data standardization and high quality across the WHO European Region. The underlying standards and definitions have been agreed by leading European experts. The definitions used in this report are in line with the latest WHO revised definitions (1). In the EU/EEA, the reporting follows the EU case definitions (2).

The report covers the 53 countries of the WHO European Region and Liechtenstein. These are collectively referred to as the European Region.

The data presented in the text and figures are augmented by:

- Tables 1–29, plus a summary table
- trends Tables I–XV
- 53 country profiles
- five annexes.

Data published in the report may differ from figures in national and area reports due to variations in reporting periods and the deadlines for data collection. The deadline for updating the data used in this report was 4 October 2020.

### 2.1 Data reporting and analysis

Designated experts within national surveillance, infectious disease or public health institutes submitted TB surveillance and control programme management data for 2019 electronically to the ECDC–WHO Regional Office for Europe Joint TB Information System via a common portal.<sup>3</sup> TB surveillance data from the EU/EEA countries were later submitted to The European Surveillance System (TESSy) platform hosted by ECDC (Annex 1). Surveillance data from non-EU/EEA countries and areas and programme management data from the entire European Region were processed through the WHO Tuberculosis Monitoring and Evaluation (TME) platform in aggregated format. In 2019, 29 out of 31 EU/EEA Member States reported case-based data. All countries and areas in the European Region were also asked to provide updates for 2016, 2017 and 2018 to allow for the exclusion of duplicate cases or those found later

not to have TB, and for the reporting of treatment outcomes in previously notified cases.

The TESSy variable list for collection of the 2019 data (Annex 2) has not undergone changes compared to the previous year.

Reporting completeness (Annexes 3 and 4) varied among countries and areas due to differences in legislation, specifics of surveillance systems and TB case ascertainment. Readers should be cautious when making comparisons across countries and areas, even though the quality and comparability of reported data have improved in recent years and the reporting completeness generally is high in the EU/EEA, with a few exceptions, such as HIV status and drug-susceptibility testing (DST) data.

Estimates of TB disease burden presented in Tables 1, 2, I and II are provided by WHO using a methodology developed by the Global Task Force on TB Impact Measurement. Estimates are updated annually using the latest available data and analytical methods (3). Population denominators were obtained from United Nations Population Division statistics (4) for the calculation of rates in these tables.

For the calculation of notification rates, country/area total population denominators by age group and gender were obtained from Eurostat (5) (25 June 2020) for the EU/EEA countries and from United Nations Population Division statistics for all other countries and areas.

Reported data were analysed using the main epidemiological (time, place, gender, age, patient origin) and case management (history of previous anti-TB treatment, localization of disease, laboratory results, HIV status and treatment outcome) variables. Associations between variables were, if indicated, quantified as relative risk (RR) and their 95% confidence intervals (CI), and results were considered significant if the CI did not include 1.

#### 2.1.1 TB/HIV coinfection

Case-based HIV status for 2019 was reported by Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Greece, Hungary, Iceland, Ireland, Lithuania, Luxembourg, the Netherlands, Norway, Portugal, Romania, Slovakia and Slovenia. The proportion of HIV/TB coinfection was expressed as a percentage of reported TB cases with known HIV status. HIV status had to be available for more than 50% of all TB cases to be considered complete in the country profiles. For the reported new and relapse TB cases with known HIV status in 2019, start or continuation on antiretroviral therapy (ART) was reported by seven EU/EEA Member States.

<sup>3</sup> ECDC/WHO Europe Joint Surveillance can be accessed at: <http://www.ecdcwhosurveillance.org/>

### 2.1.2 Laboratory network performance and drug resistance

Results of DST from initial isolates of *M. tuberculosis* have been collected for isoniazid and rifampicin since the reporting year 1998. EU/EEA countries have also reported susceptibility to ethambutol and streptomycin, with 78.8% of EU/EEA countries reporting the latter for the last six years (2014–2019). Data on second-line drug resistance to amikacin, capreomycin, kanamycin, ciprofloxacin and ofloxacin have been reported via TESSy since 2008 and via the Centralized Information System for Infectious Diseases (CISID)/TME since 2009. Data on ciprofloxacin are no longer collected in TESSy (since 2017), as ciprofloxacin is no longer recommended for treatment of drug-susceptible or drug-resistant TB. Data on resistance to gatifloxacin, levofloxacin and moxifloxacin were added in 2013, bedaquiline and delamanid in 2016 and pyrazinamide in 2017. Case-based information on DST is collected in countries and areas where DST results are linked to TB case notifications (28 in 2019). Where individual DST data are not available, data have been obtained from WHO's TME in aggregated format, when possible and deemed adequate. Information on the organization and laboratory practices for anti-TB DST in the country/area is collected using the TME module of the joint TB surveillance system. From 2019 onwards, when collecting data to report resistance to anti-TB drugs, EU/EEA Member States are required to report the resistance pattern used on initiation of the treatment to TESSy, irrespective of the method used for DST or resistance prediction. Drug-resistance surveillance (DRS) methods vary across countries and areas. Initial DST results may be collected routinely for all culture-positive TB cases notified, or only for cases included in specific surveys or diagnosed in/referred to selected laboratories. DRS data were considered complete if:

- they were collected nation- or area-wide; or
- culture results were available for 90% or more of all cases; and
- more than 50% of all cases were culture-positive; and
- more than 75% of all culture-positive cases had DST results available for isoniazid and rifampicin; and
- at least 95% of the external quality assessment (EQA) results were confirmed by a supranational reference laboratory.

DRS data were not reported or are considered incomplete for Albania, Andorra, Bosnia and Herzegovina, Italy, Georgia, Latvia, Liechtenstein, Monaco, Serbia, Switzerland and Turkmenistan. France reported complete national DRS data only for rifampicin-resistant TB (RR-TB) cases.

EQA systems are essential for ensuring accurate diagnosis of TB and drug-resistant TB. Implementing EQA by organizing regular EQA rounds and identifying training needs is one of the key activities of the European TB Reference Laboratory Network (ERLTB-Net) (6). The EQA test results for 2019 are published in Annex 5.

Percentages of laboratory-confirmed drug-resistant cases were calculated using cases with known DST results (for at least isoniazid and rifampicin) as the denominator. The results of DST for second-line drugs were analysed for MDR-TB cases only.

### 2.1.3 Treatment outcome monitoring

EU/EEA countries have provided treatment outcome data since the reporting year 2002, through the submission of an updated dataset for cases notified one year prior to the year of reporting. The same applies to MDR-TB and XDR-TB treatment outcome for cases reported two years earlier and additionally, XDR-TB treatment outcome for cases reported three years earlier. As part of the 2020 data call, for 2019 data, outcome data were collected for TB cases reported in 2018, MDR-TB and XDR-TB cases in 2017 and XDR-TB cases in 2016. Non-EU/EEA countries and areas have reported aggregated treatment outcome data following the same principle since 2013, except for XDR-TB treatment outcome for cases registered three years earlier, which is not reported by non-EU/EEA countries and areas.

If enrolment for treatment is taken into account for treatment outcome monitoring (TOM) analysis, two types of TB cases are included: cases enrolled for treatment, and cases with no indication of enrolment for treatment. For countries and areas reporting case-based data, the most recently updated information was used. This may result in denominators differing from the number of notified cases reported in the previous year's report. For countries and areas reporting aggregate outcome data, completeness of cohorts is assessed by comparing the total number of cases included in TOM cohorts with those initially notified as pulmonary and culture- or smear-positive, depending on the type of cohort.

### 2.1.4 Geographical areas

The following 31 EU/EEA countries are presented separately in tables and in Chapter 3: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia (case-based data not reported for 2018 or 2019), Liechtenstein (case-based data not reported for 2019), Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

The 23 remaining (non-EU/EEA) countries in the WHO European Region are: Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Israel, Kazakhstan, Kyrgyzstan, Monaco, Montenegro, North Macedonia, the Republic of Moldova, the Russian Federation, San Marino, Serbia, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.

Data from Serbia include TB cases reported from Kosovo<sup>4</sup> and these are also stratified in tables to reflect United Nations Security Council Resolution 1244 (1999).

<sup>4</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

Data from the 18 high-priority countries (HPCs) identified in the *Plan to stop TB in 18 high-priority countries in the WHO European Region, 2007–2015* (7) are presented in italics and as subtotals alongside the subtotals for the EU/EEA countries and non-EU/EEA countries and areas. The 18 HPCs in the WHO European Region are: Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia (did not report case-based data for 2018 or 2019), Lithuania, the Republic of Moldova, Romania, the Russian Federation, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.

TB notifications from France include overseas territories. TB notifications from Greenland are not included in the report.

## 2.2 Definitions

### 2.2.1 TB case definition for surveillance

Information from EU/EEA countries was collected to enable the classification of cases according to the case definition approved by EU Member States and published by the European Commission (2). This classifies cases as “possible”, “probable” or “confirmed”. Possible cases meet clinical criteria only. Probable cases meet the clinical criteria as well as at least one of the laboratory criteria for a probable case: detection of acid-fast bacilli (AFB) by microscopy; detection of *M. tuberculosis* complex by nucleic acid amplification testing; or histological appearance of granulomata. Confirmed cases require isolation of *M. tuberculosis* complex by culture or detection of both AFB by microscopy and *M. tuberculosis* complex by nucleic acid amplification testing, in addition to meeting clinical criteria.

Data from all countries and areas in the European Region also follow the WHO-recommended definitions, 2013 revision (1). They define a “case of tuberculosis” as a patient in whom TB has been confirmed by bacteriology or diagnosed by a clinician. A “bacteriologically confirmed TB case” is one from whom a biological specimen is positive by smear microscopy, culture or WHO-recommended rapid diagnostics (WRD) such as Xpert MTB/RIF. A “clinically diagnosed TB case” is one that does not fulfil the criteria for bacteriological confirmation, but has been diagnosed with active TB by a clinician or other medical practitioner who has decided to give the patient a full course of TB treatment.

Cases discovered postmortem as having gross pathological findings consistent with active TB that would have indicated anti-TB treatment, had the patient been diagnosed before dying, also fit the clinical criteria and are included.

### 2.2.2 Previous anti-TB treatment status

**New cases** have never been treated for TB or have taken anti-TB drugs for less than one month. For EU/EEA countries, cases diagnosed before 1951 are analysed as new cases.

**Previously treated patients** have received one month or more of anti-TB drugs in the past. They are further classified by the outcome of their most recent course of treatment as follows:

- **relapse:** patients have previously been treated for TB, were declared cured or to have completed their treatment at the end of their most recent course of treatment, and are now diagnosed with a recurrent episode of TB (either a true relapse or a new episode of TB caused by reinfection);
- **treatment after failure:** patients who have previously been treated for TB and whose treatment failed at the end of their most recent course of treatment;
- **treatment after loss to follow up:** patients have previously been treated for TB and were declared lost to follow up at the end of their most recent course of treatment (these were previously classified as “treatment after default”); and
- **other previous treatment:** patients who have previously been treated for TB but whose outcome after their most recent course of treatment is unknown or undocumented.

Patients with an unknown previous TB treatment history do not fit any of the categories listed above.

New and relapse cases of TB are **incident TB cases**.

### 2.2.3 Site of disease

**Pulmonary TB** refers to any bacteriologically confirmed or clinically diagnosed case of TB involving the lung parenchyma or the tracheobronchial tree (laryngeal TB is classified as pulmonary). A patient with both pulmonary and extrapulmonary TB should be classified as a case of pulmonary TB.

**Extrapulmonary TB** refers to any bacteriologically confirmed or clinically diagnosed case of TB involving organs or anatomical sites other than the lungs (such as pleura, lymph nodes, abdomen, genitourinary tract, skin, joints and bones, or meninges).

### 2.2.4 Notes on the definition

The above TB case definition, and the definition of previous anti-TB treatment status and site of disease, are in accordance with the European Commission’s approved definitions for TB surveillance.

All possible, probable and confirmed cases are reported to the joint European surveillance database. For countries and areas with laboratory-based reporting where no clinical information is available, laboratory-confirmed cases should be reported.

Cases should be notified only once in a given 12-month period, but a case should be reported again if the diagnosis of confirmed TB is made following completion of anti-TB treatment (relapse), even if this occurs within 12 months of reporting the initial disease episode.

Cases that have never been treated are commonly referred to as new cases, although this term should not be considered to indicate incidence in the strict epidemiological sense.

Among re-treated cases, relapse cases are included in notifications from all countries and areas, whereas cases re-treated after failure or loss to follow up and chronic cases are not included or further defined by Belgium, Cyprus, Denmark, France, Luxembourg, Malta, Norway, Spain and the United Kingdom.

DST data were analysed for laboratory-confirmed cases.

### 2.2.5 Origin of cases

The geographic origin of a TB case is classified according to the place of birth of a person with TB disease (born in the country/born outside of the country) for Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Israel, Italy, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, the Netherlands, North Macedonia, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Tajikistan, Turkey, the United Kingdom and Uzbekistan. For Albania, Andorra, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Georgia, Greece, Hungary, Kazakhstan, Montenegro, Poland, the Republic of Moldova, the Russian Federation, Serbia, Turkmenistan and Ukraine, origin is classified according to citizenship (citizen/non-citizen). Azerbaijan, Georgia, Kyrgyzstan, Monaco and Turkmenistan did not report information on origin. In Denmark, the birthplace of the parents is also used to classify origin (similarly, for cases born in the Netherlands the birthplace of parents is also notified for case-management purposes). The country of origin is included in case-based data.

The term “native” as used in this report refers to cases born in, or having the citizenship (nationality) of, the reporting country. “Foreign origin” refers to cases born in (or citizens of) a country different to the reporting country.

### 2.2.6 Drug resistance

**Resistance among cases never treated (new TB cases)** indicates primary drug resistance due to infection with resistant bacilli.

**Resistance among cases previously treated** usually indicates acquired drug resistance emerging during treatment following selection of drug-resistant mutant bacilli. It can also result from exogenous reinfection with resistant bacilli.

**Multidrug resistance (MDR)** refers to resistance to at least isoniazid and rifampicin.

**Extensive drug resistance (XDR)** refers to resistance to: (i) isoniazid and rifampicin (that is, MDR); (ii) a fluoroquinolone; and (iii) one or more of the following injectable drugs: amikacin, capreomycin or kanamycin (1).

**Rifampicin resistance** refers to resistance to rifampicin detected using phenotypic or genotypic methods, with or without resistance to other anti-TB drugs. This includes any resistance to rifampicin, whether monoresistance, MDR, polydrug resistance or XDR.

## 2.2.7 Treatment outcome

### 2.2.7.1 Cohorts

A cohort is defined as all TB cases notified in the calendar year of interest, after exclusion of cases with a final diagnosis other than TB, or cases found to have been reported more than once.

In accordance with the WHO treatment outcome definitions (1), this report distinguishes between two types of cases:

- patients treated for drug-susceptible TB; and
- patients treated for RR-TB; for non-EU/EEA countries and areas, this includes those placed on second-line treatment (defined as combination chemotherapy for drug-resistant TB).

The two groups are mutually exclusive. For EU/EEA countries, the case types are based on DST results. Any patient reported as having RR-TB is assumed to be on second-line treatment and is excluded from the drug-susceptible TB outcome cohort.

### 2.2.7.2 Period of observation

All cases are observed until the first outcome assessment up to a maximum of 12 months after the start of treatment. For MDR-TB cases in EU/EEA countries, treatment outcome after 24 months should be reported if treatment lasts longer than 12 months and the reported 12-month outcome is coded as “still on treatment”.<sup>5</sup> For XDR-TB cases in EU/EEA countries, treatment outcome after 36 months should be reported if treatment lasts longer than 24 months and the reported 12-month and 24-month outcomes are coded as “still on treatment”.<sup>6</sup> Non-EU/EEA countries and areas evaluate treatment outcomes according to the WHO definition.

### 2.2.7.3 Treatment outcome categories

All outcome categories but one apply to the entire Region and follow the WHO recommendations in *Definitions and reporting framework for tuberculosis – 2013 revision (1)*. The additional category “still on treatment” applies only to the EU/EEA Member States. The categories are as follows.

**Cured** is a pulmonary TB patient with bacteriologically confirmed TB at the beginning of treatment who was smear- or culture-negative in the last month of treatment and on at least one previous occasion.

**Cured of MDR-TB** is treatment completed as recommended under national/area policy without evidence of failure, AND three or more consecutive cultures taken at least 30 days apart are negative after the intensive phase.

**Treatment completed** is treatment completed as recommended under national/area policy but does not meet the criteria to be classified as cure or treatment failure.

<sup>5</sup> The degree of adherence to the 12-month limit is unknown, and a number of countries are known to exceed it.

<sup>6</sup> The degree of adherence to the 24-month limit is unknown.



**Treatment failed** is a TB patient whose sputum smear or culture is positive at month five or later during treatment.

**Treatment failed for MDR-TB case** is treatment terminated or the need for permanent regimen change of at least two anti-TB drugs because of:

- lack of conversion by the end of the intensive phase; or
- bacteriological reversion in the continuation phase after conversion to negative; or
- evidence of additional acquired resistance to fluoroquinolones or second-line injectable drugs; or
- adverse drug reactions.

**Died** is a TB patient who dies for any reason before starting, or during the course of, treatment.

**Lost to follow up** is a TB patient who did not start treatment or whose treatment was interrupted for two consecutive months or more (defined in previous reports as “defaulted”).

**Still on treatment** is:<sup>7</sup>

- a patient reported as still on treatment at 12 months without any other outcome during treatment; or
- a patient reported as still on treatment at 12 months and still on treatment at 24 months without any other outcome.

**Not evaluated** is a TB patient for whom no treatment outcome is assigned; this includes cases “transferred out” to another treatment unit and cases for whom the treatment outcome is unknown to the reporting unit.

In this report, **success** is the sum of “cured” and “treatment completed”.

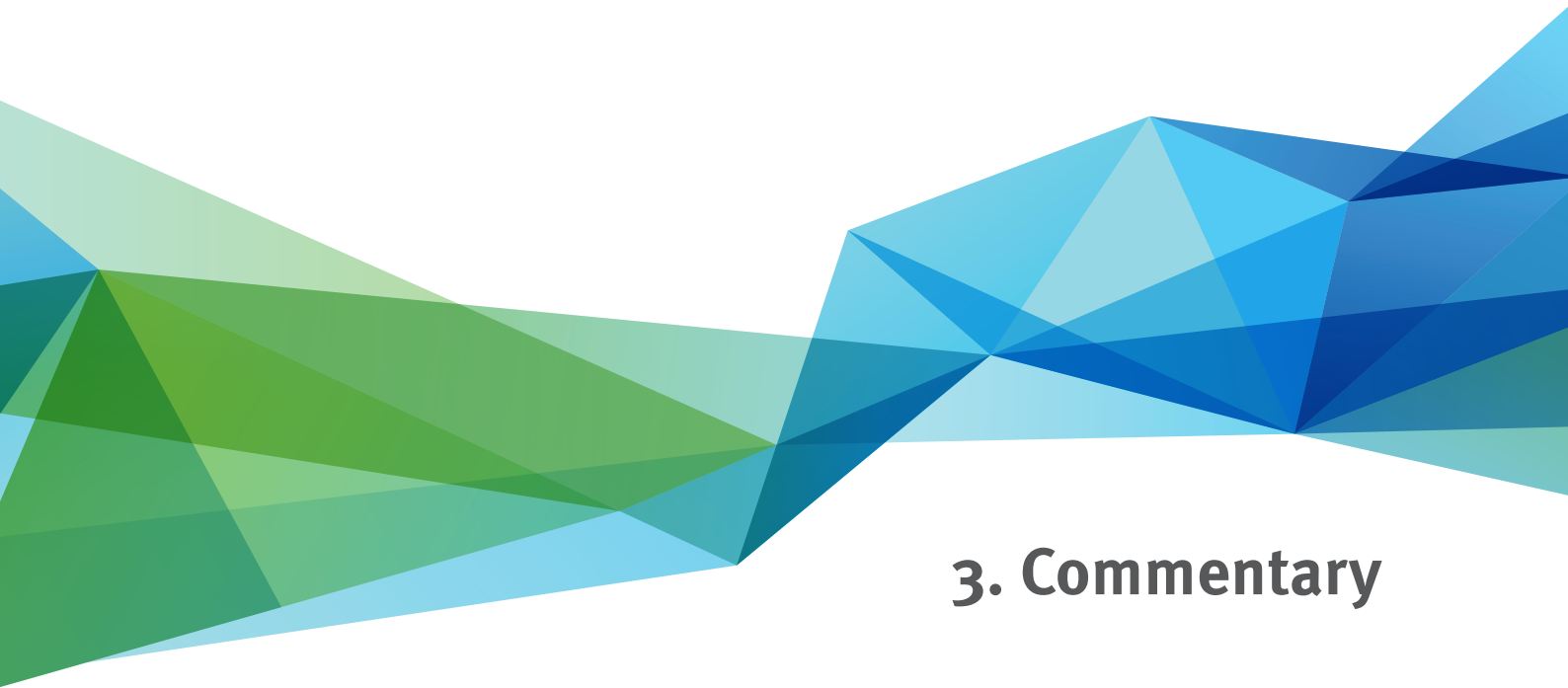
<sup>7</sup> This definition is applicable to EU/EEA countries only.

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<sup>8</sup> All weblinks accessed 10 February 2021.





### **3. Commentary**



## 3. Commentary

### 3.1 The WHO European Region

#### 3.1.1 TB burden estimates (incidence and mortality, HIV and MDR)

An estimated 246 000 new and relapse TB cases (range 214 000–280 000) occurred in countries and areas of the WHO European Region in 2019, equivalent to an average incidence of 26 cases (23–30) per 100 000 population. This represents about 2.5% of the total burden of TB in the world.

The absolute number of incident TB cases in the WHO European Region fell by 13 000 in 2019 compared to the previous year. About 83% of the estimated TB cases in the Region occur in the 18 HPCs, where estimated TB incidence was 50 cases per 100 000 population – almost five times higher than the EU/EEA average. The six countries with the absolute highest number of incident TB cases over 10 000 were the Russian Federation (73 000), Ukraine (34 000), Uzbekistan (22 000), Romania (13 000), Turkey (13 000) and Kazakhstan (13 000). The number relative to population (incidence rate) was highest in Kyrgyzstan (110 per 100 000 population), followed by Tajikistan (83), the Republic of Moldova (80), Ukraine (77) and Georgia (74).

The estimated number of TB cases in the Region has been decreasing consistently since 2000. During the period 2010–2019, the average annual decline in the TB incidence rate was 5.0%, with 5.3% between 2018 and 2019, which is notably higher than the global rate of decline for TB incidence (2.3%) and the fastest decline in the world compared to other regions (1). The cumulative reduction for the period 2015–2019 was 19.0%, indicating that the Region has almost reached the 2020 End TB Strategy milestone to reduce the TB incidence rate in 2020 by 20% against the 2015 baseline, and is on track to achieve the regional action plan target of a 25% reduction in the TB incidence rate. It should nevertheless be emphasized that all the HPCs in the Region have also experienced a decline in the TB incidence rate. During the period 2010–2019, the HPCs with the highest annual rate of decline were Armenia (–9.0%), Belarus (–9.0%), Kazakhstan (–8.0%), Estonia (–7.0%) and Latvia (–7.0%).

There were an estimated 20 000 TB deaths among HIV-negative people in the European Region in 2019, equivalent to 2.2 deaths per 100 000 population (range 2.1–2.3). Considerable variation was seen across the Region, ranging from less than one TB death per 100 000 population in western European countries up to 10 per 100 000 in HPCs. The TB mortality rate was highest in Turkmenistan (10.0 deaths per 100 000), followed by Tajikistan (7.9) and Ukraine (7.3). Together, the 18 HPCs accounted for over 88% of TB deaths in the Region.

Between 2010 and 2019, the TB mortality rate at regional level fell cumulatively by 56.0%, from 5.0 to 2.2 deaths per 100 000 population (Table 1), which on average is a decline of 9.0% per year. This decline was 9.4% between 2018 and 2019, which is notably higher than the global rate of decline for TB mortality (3.7% between 2018 and 2019). With a cumulative reduction of 33.3% between 2015 and 2019, the Region is on track to reach the End TB Strategy milestone of a 35% reduction in the total number of TB deaths between 2015 and 2020 (1).

An estimated 12.0% (range 7.8%–18.0%) of incident TB cases in 2019 were coinfecting with HIV (Table 2). The proportion of TB cases coinfecting with HIV was highest in the Russian Federation (23.0%), Turkmenistan (23.0%) and Ukraine (23.0%), followed by Estonia (12.0%) and the Republic of Moldova (11.0%). The top five countries with the highest absolute number of TB/HIV coinfection cases were the Russian Federation (17 000) and Ukraine (7 800), amounting to 82.7% of the total number of cases, followed by Uzbekistan (880), Kazakhstan (680) and Turkmenistan (610).

Nine out of the 30 countries with the highest MDR-TB burden in the world are in the WHO European Region.<sup>9</sup> In 2019, there were an estimated 46 000 incident cases of rifampicin-resistant and multidrug-resistant TB (RR/MDR-TB) in the WHO European Region among notified bacteriologically confirmed pulmonary TB cases, with MDR-TB accounting for 86%.

An estimated 17% (95% CI: 16–18%) of newly diagnosed patients and 52% (95% CI: 45–59%) of previously treated patients had RR/MDR-TB. If all TB patients were tested for drug resistance to rifampicin and isoniazid, it is estimated that around 70 000 (range 55 000–87 000) RR/MDR-TB cases would be detected.

#### 3.1.2 TB notification and trends

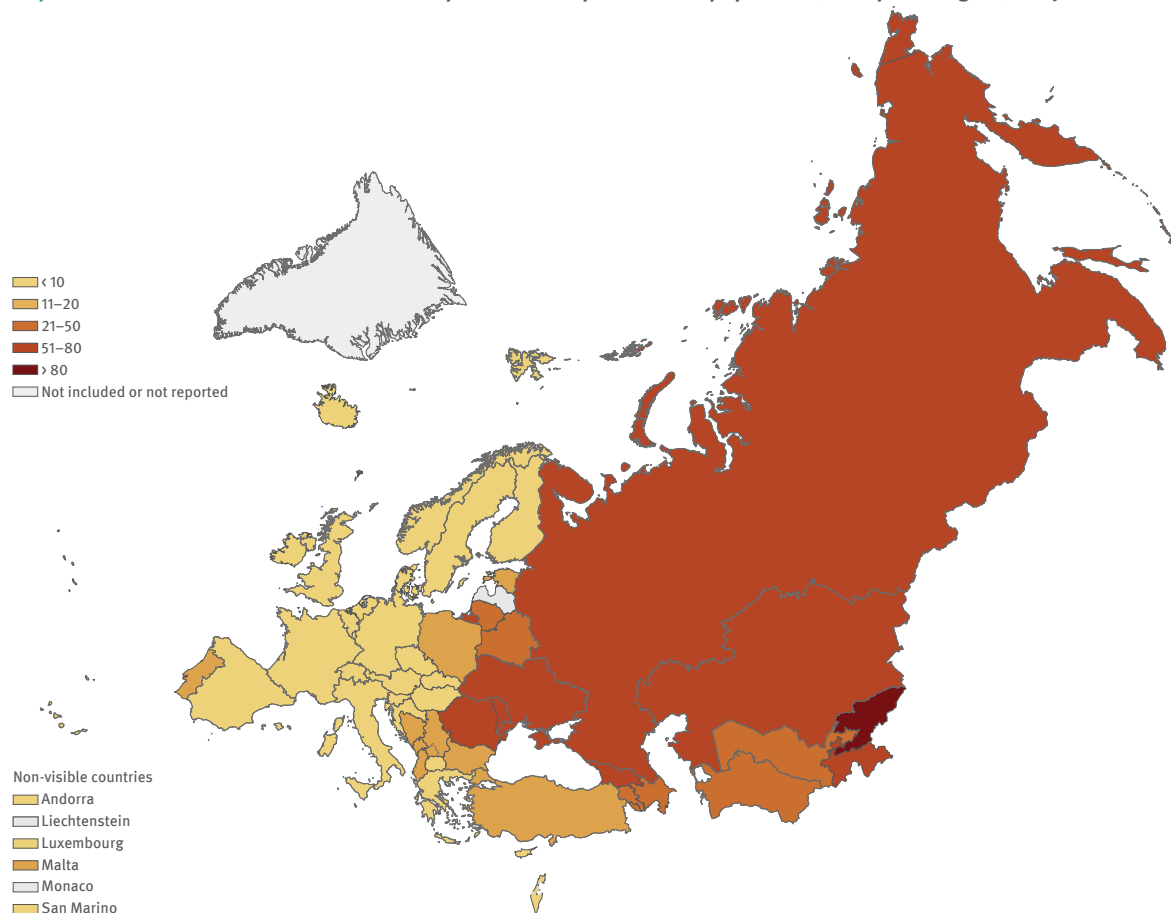
In 2019, 259 946 TB patients were reported from 51 countries and areas<sup>10</sup> in the WHO European Region, 215 871 of which were new or relapse cases or had an unknown previous treatment history (Table 3 and 4). This represents 83.0% of all TB cases notified in 2019.

The notification rate of new and relapse cases varies widely among countries and areas, from zero (San Marino) to 95.7 (Kyrgyzstan) per 100 000 population (Map 1 and Table 4).

Thirty-seven countries, all located in the western and central part of the Region and mostly high-income

<sup>9</sup> The top-10 countries with the highest global MDR-TB burden (in alphabetical order) are: Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Somalia, Tajikistan, Ukraine and Uzbekistan.

<sup>10</sup> Latvia, Liechtenstein and Monaco did not report and San Marino reported zero cases in 2019.

**Map 1.** TB notification rates of new and relapse TB cases per 100 000 population, European Region, 2019

countries, had low notification of new and relapse cases (less than 20 cases per 100 000) in 2019. Six reported new or relapse case rates of between 20 and 50 per 100 000 population and eight reported over 50 cases per 100 000 population: Kyrgyzstan (95.7), Republic of Moldova (69.5), Kazakhstan (67.4), Tajikistan (61.7), Ukraine (57.7), Romania (57.1), Georgia (54.3) and the Russian Federation (50.3). New and relapse case notifications in the 18 HPCs account for about 83% of the regional burden. The largest proportion of new and relapse cases (73 328, or 34.0%) comes from the Russian Federation, even though the Russian Federation accounts for only approximately 16% of the Region's population. All HPCs rates continue to show a decreasing trend compared to the previous year.

During the period 2015–2019, an overall downward trend of 20.5% was observed in the notification of incident TB cases, from 29.2 to 23.2 cases per 100 000 population (Table 4). This trend reflects a genuine reduction in the spread of the disease, significantly influenced by the decrease in notification rates in the Region's 18 HPCs, from 55.7 to 43.9 per 100 000 population. The notification rate of new and relapse cases in the 18 HPCs is almost twice as high as for the Region overall (43.9 cases per 100 000, compared to 23.2 for the Region) and almost five times higher than the rate in the EU/EEA (9.2 cases per 100 000 population) (Fig. 3.1.1).

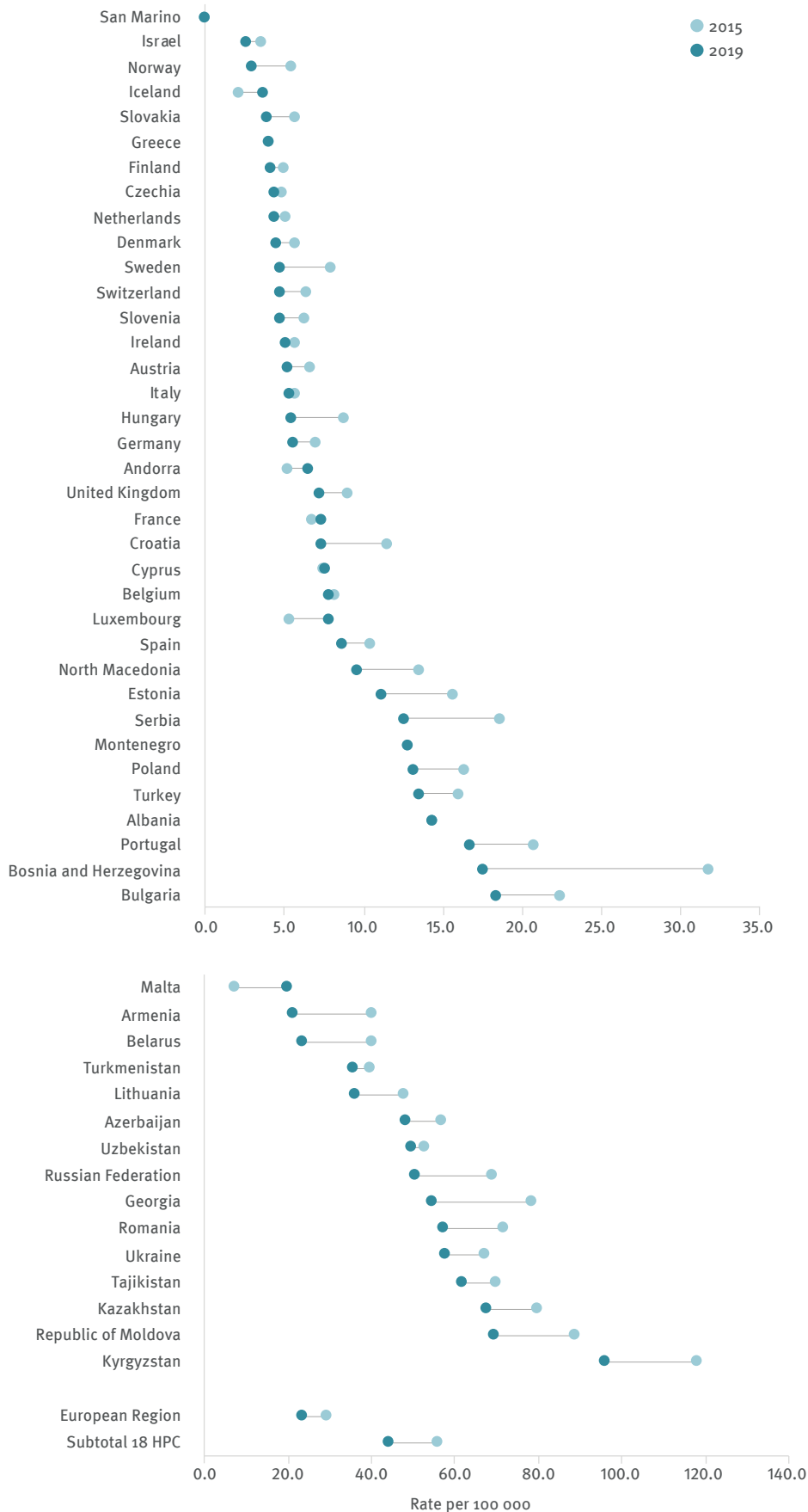
### 3.1.3 Previous treatment history

In 2019, previously treated cases represented 9.7% and 33.4% in the EU/EEA and non-EU/EEA, respectively (Table 5). The average in the 18 HPCs was 32.8%, which is above the pan-European average of 28.8%. Previously treated cases accounted for 15% or more of all TB cases in 15 countries: Azerbaijan (44.7%), the Russian Federation (41.8%), Turkmenistan (33.6%), Kazakhstan (33.1%), Belarus (32.8%), the Republic of Moldova (31.2%), Ukraine (27.7%), Kyrgyzstan (27.6%), Uzbekistan (22.7%), Georgia (22.6%), Romania (19.7%), Armenia (19.1%), Lithuania (17.3%), Estonia (16.0%) and Slovakia (15.9%). Reasons for the high percentage of previously treated cases include clinical failure or poor treatment adherence in previous treatment episodes, and possible re-infection and misclassification during the current treatment episode.

### 3.1.4 Disease localization

Pulmonary localization was notified in 83.4% of the incident TB cases in the Region in 2019 (Table 7). The proportion of patients with pulmonary localization in the non-EU/EEA countries and areas was higher than in the EU/EEA. Extrapulmonary TB was notified on average for 16.6% of all incident TB cases in the Region. Eleven countries reported more than 30% of their TB cases having extrapulmonary localization: Finland, France, Iceland, the

Fig. 3.1.1.1. Trend in TB notification rate per 100 000, WHO European Region, between 2015 and 2019



Netherlands, Norway, Sweden, Switzerland, Tajikistan, Turkey, the United Kingdom and Uzbekistan.

### 3.1.5 Bacteriological confirmation

Bacteriological confirmation of TB diagnosis was reported for 120 613 (67.0%) of all 180 113 new and relapse pulmonary cases in the Region (Table 7). Testing of cases using WRD (such as Xpert MTB/RIF) was much lower in the EU/EEA countries (28.3%) than in the non-EU/EEA countries and areas (81.7%). Nevertheless, the five-year trend shows a continuing increase in usage of WRDs across the Region, from 45.3% in 2015 to 69.3% in 2019 (Table XV; Fig. 3.1.2). Testing also varied considerably among countries, from 1.3% in Bulgaria to 100% in the Republic of Moldova. Bacteriological confirmation of new and relapse pulmonary cases was below 60% in six countries, underlining the need to strengthen diagnostics: Turkmenistan (48.0%), the Russian Federation (53.6%), Hungary (56.9%), Iceland (57.1%), Armenia (59.5%) and Uzbekistan (59.9%). In 31 countries, bacteriological confirmation of new and relapse pulmonary cases was 75% and above.

### 3.1.6 Age and sex

There is wide variation in the distribution of age- and sex-specific notification rates across countries and areas (Table 9). Notification rates in eastern European countries and areas are highest in young adults (25–44 years) and subsequently decrease with increasing age, while in the countries of central Asia and in Turkey, the notification rates either increase with age or are relatively constant across adult age groups.

In the 18 HPCs, the rate of TB in children under 5 years was lower than the notification rate among children aged 5–14 years, indicating that detection of TB remains particularly challenging in young children.

In countries and areas with at least 100 new and relapse TB cases, the proportion of TB cases notified in children (0–14 years) varied from below 1% (Bosnia and Herzegovina, Belarus, Croatia, Czechia and Estonia) to 16.7% (Slovakia) of all new and relapse cases. The difference in proportions of childhood TB cases across the countries and areas may reflect differences in case-finding practice (such as

contact-tracing), population age structure and under/overdiagnosis or reporting of childhood TB. The average percentage of new and relapse TB patients under 15 years in the Region is around 4%.

There were twice as many males as females reported among all incident TB cases, but large variation was observed for male predominance in the sex distribution of TB cases, ranging from almost even distribution to over three times greater in Armenia. The exception was Italy, where the number of female TB patients outnumbered those of males. In most countries and areas, gender differences in notification rates appear to be more significant among middle-aged and older adults. TB rates in males and females appear to be more similar in children and younger adults (0–14 and 15–24 years). The gender difference in TB case notification most probably reflects the overrepresentation of males in the various TB risk groups, notably homeless people, prisoners, seasonal migrant workers, people living with HIV, men who have sex with men and people who inject drugs.

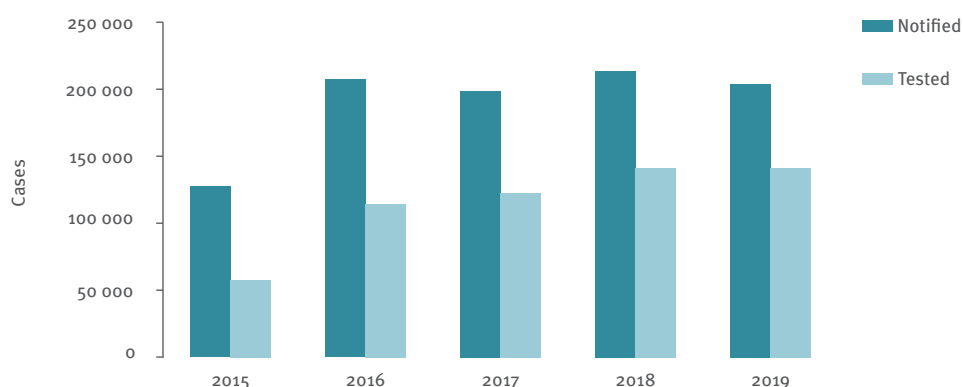
### 3.1.7 Drug resistance

Fifty countries/areas in the Region reported on first-line anti-TB DST results in 2019.

Overall, DST coverage in the Region, at least for rifampicin among bacteriologically confirmed pulmonary TB cases, was 90.8%, with 39 countries/areas achieving coverage of 85% or higher. Only in three was the coverage less than 50%: Spain (26.8%), Albania (12.9%) and France (4.4%). The percentage of confirmed RR-TB cases among 86 176 new pulmonary TB cases tested for rifampicin resistance in the Region was 21.1% (Map 2, Fig. 3.1.3, Table 12 and Table V). While 11 countries/areas reported no RR-TB or less than 1% among new TB cases, the rate was over 20% in eight (Table 12). Overall for EU/EEA countries, the prevalence of MDR-TB cases among all confirmed new pulmonary TB cases tested for rifampicin resistance was 2.2%, but among previously treated pulmonary cases, the MDR-TB proportion was higher at 11.9% (Fig. 3.1.4).

Six HPC countries had an RR/MDR-TB prevalence ranging from 10% to 19% among new cases tested for rifampicin resistance: Estonia (16.8%), Armenia (16.3%), Lithuania

Fig. 3.1.2. New and relapse TB cases tested using WRD such as Xpert MTB/RIF, European Region, 2015–2019



Source: WHO (2).



(13.8%), Georgia (12.1%), Azerbaijan (11.5%) and Uzbekistan (11.7%). Four had 20–29% MDR-TB among new cases – Kyrgyzstan (29.5%), Tajikistan (29.0%), Ukraine (27.2%) and Kazakhstan (27.0%) – and three had an RR-TB prevalence over 30% – Belarus (37.7%), the Russian Federation (35.3%) and the Republic of Moldova (32.9%). The percentage of RR/MDR-TB is misleading for France, as DST results are only reported for RR-TB cases.

The percentage of confirmed RR/MDR-TB cases among 46 739 previously treated pulmonary bacteriologically confirmed TB cases whose isolates were tested for first-line DST was 54.5% (Fig. 3.1.3, Table 12 and Table VI).

Fifteen countries/areas had between 15% and 49% RR/MDR-TB among previously treated TB cases tested for first-line DST. The rate was even higher in some HPCs: the Russian Federation (70.8%), Belarus (59.8%), Kyrgyzstan (60.1%) and Estonia (50%) (Fig. 3.1.5, Table 12).

The rate of MDR-TB notification at regional level was 1.6 per 100 000 in 2019. This represents an average annual decrease of 3.9% between 2015 and 2019 (Table V).

Trends in the MDR percentage among new bacteriologically confirmed pulmonary TB cases and trends in the notification rate have differed by country/area in recent years (Table V). At subregional level, the proportion of MDR among new pulmonary TB cases remained stable in the EU/EEA subregion over the last five years, ranging between 2.1% and 2.3%. Similarly, the rate of notified MDR-TB cases remained stable at around 0.1 case per 100 000 population. The MDR percentage among new bacteriologically confirmed pulmonary TB cases in non-EU/EEA countries and areas also remained stable, ranging between 22.9% and 23.8%, but the rate per 100 000 population declined slightly from 3.9 to 3.6 per 100 000 population during the same period.

Forty-seven countries/areas reported second-line DST data among pulmonary TB patients in 2019. Data on second-line DST were available for about 94.5% of all notified pulmonary MDR-TB cases. Of the 32 320 pulmonary MDR-TB cases subjected to second-line DST, 7259 (22.5%) were XDR-TB (Table 14).

XDR-TB cases are rising in absolute terms; 956 cases were notified among pulmonary MDR-TB cases in 2015 and 7259 in 2019, largely due to the increase in the number of countries and areas reporting second-line DST data (Table VIII).

In EU/EEA countries, where 69.6% of MDR-TB cases were tested for second-line drugs, the prevalence of XDR among MDR cases was 22.4%.

Among the countries and areas reporting at least 30 MDR cases with second-line DST results, eight reported over 20% XDR prevalence among MDR-TB cases: Armenia (54.5%), Uzbekistan (34.8%), Lithuania (36.3%), Romania (30.9%), Tajikistan (26.1%), Azerbaijan (24.3%) and the Russian Federation (23.5%).

There is no clear trend in relation to XDR-TB prevalence in countries and areas with a long history of second-line DST surveillance among pulmonary MDR-TB cases (with data

reported every year from 2015 to 2019). In most countries and areas, the XDR percentage varies widely from year to year, but in Armenia, Georgia, the Republic of Moldova, the Russian Federation and Turkey, XDR prevalence among MDR-TB cases has increased over the past five years (Table VIII).

Of the 47 614 RR/MDR-TB patients notified in 2019, 45 472 (95.5%) were enrolled into MDR-TB treatment programmes and another 9457 patients into XDR treatment. Four HPCs reported a gap of over 5% between the number of patients diagnosed and enrolled to treatment (treatment coverage): Tajikistan (67.0%), Georgia (84.6%), the Republic of Moldova (85.3%) and Kyrgyzstan (86.3%) (Table 16).

In 2019, access to XDR-TB treatment at regional level exceeded 100%, influenced by data reported by the Russian Federation, Ukraine and Kazakhstan, but six HPCs – Azerbaijan, Belarus, Georgia, Kyrgyzstan, the Republic of Moldova and Tajikistan – reported a gap of over 5% in XDR-TB treatment coverage.

### 3.1.8 TB/HIV coinfection

Thirty-nine countries and areas provided surveillance data on TB/HIV coinfection (Table 17). Of the 184 944 new and relapse TB patients notified in the reporting countries/areas, 172 941 were screened for HIV (93.5%). Twelve HPCs achieved a testing level above 90%: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Ukraine and Uzbekistan. A total of 25 060 TB cases were detected with HIV-positive status, representing 14.5% of those tested (versus 13.0% recorded in 2018).

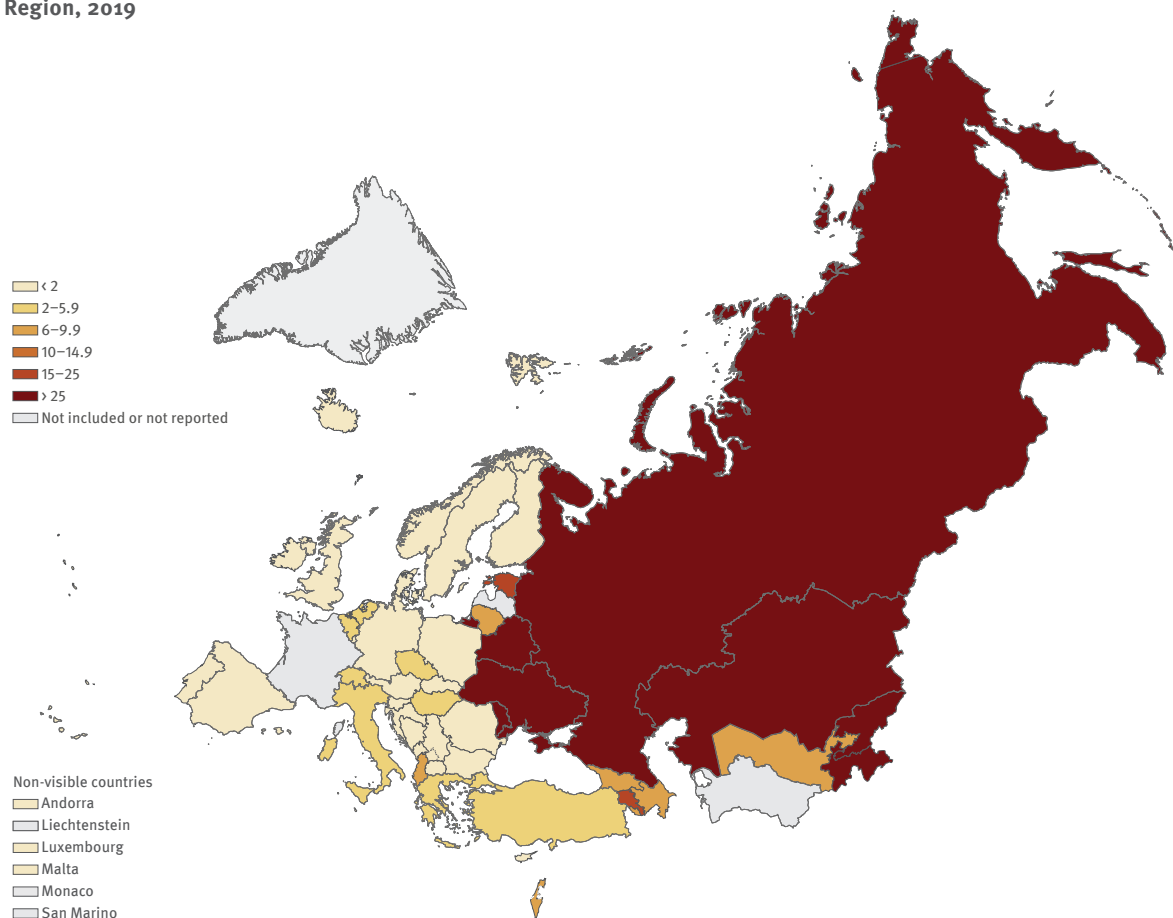
Among those countries and areas reporting representative HIV testing (above 50% HIV testing coverage), six documented a significant overlap of the HIV and TB epidemics by exceeding 10% HIV prevalence among new and relapse TB cases (Table 17): the Russian Federation (23.3%), Ukraine (23.0%), Estonia (11.6%), the Republic of Moldova (10.6%), Armenia (10.5%) and Portugal (10.5%). Three countries with representative routine surveillance had 5–10% HIV prevalence among TB patients: Belgium (7.8%), Belarus (7.1%) and Kazakhstan (5.4%).

Twenty-six countries and areas in the Region provided information on ART enrolment among TB cases with HIV-positive status in 2019. Of 24 836 HIV-positive TB cases, 18 836 (75.8%) had received ART. This is slightly higher than in 2018 (73.1%), but far below the WHO target of universal ART coverage. However, six of the HPCs did achieve ART coverage of over 90%: Armenia, Azerbaijan, Belarus, Bulgaria, Georgia and Kazakhstan.

### 3.1.9 Country of origin

TB patients of foreign origin represent 8.7% of all TB cases notified Region-wide: 34.5% in EU/EEA countries, and only 2.2% in non-EU/EEA countries and areas (Table 10). TB patients of foreign origin represent a large majority in several countries: Malta (95.9%), Luxembourg (90.0%), Cyprus (89.9%), Norway (88.5%), Israel (86.6%), Iceland

**Map 2.** Percentage of notified TB cases with MDR-TB among new pulmonary laboratory-confirmed TB cases, European Region, 2019



(84.6%), the Netherlands (74.7%), the United Kingdom (70.4%) and Switzerland (68.2%).

### 3.1.10 TB in prisons

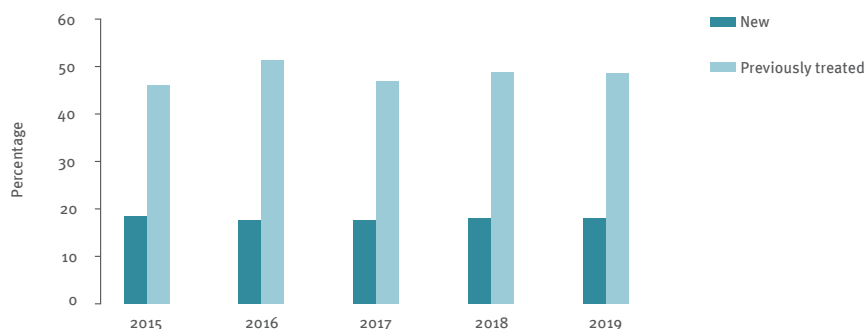
Thirty countries/areas in the Region provided information on TB case-detection and treatment in prisons during 2019 (Table 19). Overall, 8754 (4.7%) of the new and relapse TB cases in the Region were reported from prisons, 8492 (96.9%) of which were in the HPCs. The proportion of TB cases in prisons represented about 1.7% of the country total in EU/EEA countries; in non-EU/EEA countries and areas, the proportion was 5.1%. The notification rate in prisons in non-EU/EEA countries and areas was 801 new TB cases per 100 000 prison population, which is about four times higher than in the EU/EEA subregion (185 per 100 000). The overall notification rate for new TB cases in prisons in the WHO European Region was 698 per 100 000 prison population. The TB notification rate exceeded 1000 cases per 100 000 detainees in five countries: Azerbaijan, Kyrgyzstan, the Republic of Moldova, the Russian Federation and Ukraine. The highest TB-related risks in prison (relative to incidence in the general population) are calculated to be in the Russian Federation (RR 24.2), followed by Ukraine (RR 23.8), Kyrgyzstan (RR 23.6), Azerbaijan (RR 23.2) and Belgium (RR 23.2).

### 3.1.11 Treatment outcome

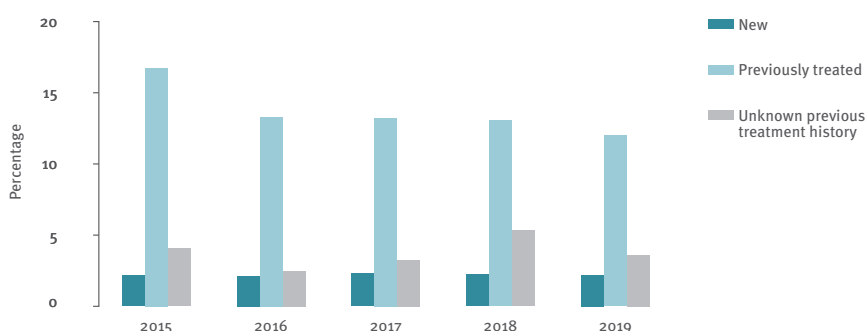
The treatment success rate among 173 058 new and relapse TB cases having started treatment with first-line drugs in 2018 was 76.5% (Table 21). In the HPCs, the average rate of cases cured or for whom treatment was completed was 77.4%. The treatment success rate was slightly lower in the EU/EEA countries than in non-EU/EEA countries and areas (73.1% versus 77.4%), both showing results comparable with the previous year. Only 14 countries and areas achieved an 85% treatment success rate in this treatment cohort. Another 13 were close to the target, with success rates of 80–85%. Seven had treatment success rates below 60%, with a very high proportion of cases not evaluated.

A total of 13 930 (8.0%) cases were reported to have died in the same cohort, 4.5% to have been lost to follow up and 3.9% to have had treatment that failed. These unfavourable outcomes were lower in the EU/EEA countries than in the rest of the Region, exemplified by the proportion of patients with failed treatment – 0.6% in the EU/EEA versus 4.7% in non-EU/EEA countries and areas (Table 21). Countries reporting fatal outcomes in excess of 10% were Hungary (15.6%), Slovenia (14.3%), Estonia (13.9%), Czechia (13.5%), Croatia (11.0%) and the Russian Federation (10.6%).

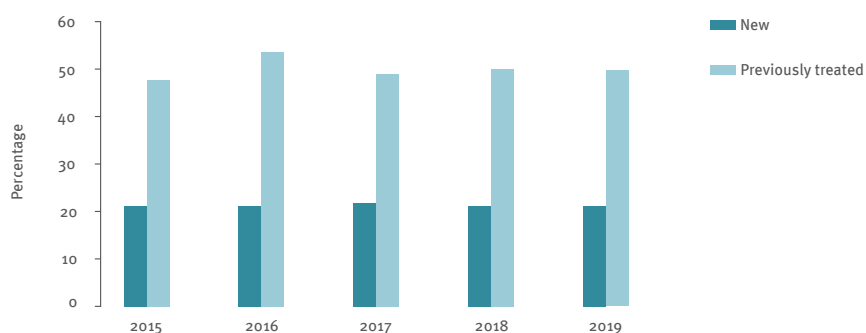
**Fig. 3.1.3.** Percentages of MDR among laboratory-confirmed pulmonary TB cases, European Region, 2015–2019



**Fig. 3.1.4.** Percentages of MDR-TB among laboratory-confirmed pulmonary TB cases, EU/EEA, 2015–2019



**Fig. 3.1.5.** Percentages of MDR-TB among laboratory-confirmed pulmonary TB cases, 18 HPCs, 2015–2019



The Russian Federation accounted for almost half of the deaths in the Region in absolute numbers.

The treatment success rate among the 5706 child TB cases (aged 0–14 years) in the 2018 cohort was 89.4% (Table 22). The treatment success rate in EU/EEA countries was remarkably lower than in the non-EU/EEA countries

and areas (79.9% versus 93.1%). Among child TB cases in the Region, 0.9% died, another 1.0% failed and 1.3% were lost to follow up.

Of the 17 928 TB/HIV coinfecting patients who started treatment throughout the Region in 2018, only 9247 (51.6%) had a successful treatment outcome (Table 24).

In the 2017 cohort, treatment outcome was notified for 43 720 laboratory-confirmed RR/MDR-TB cases reported by 44 countries/areas (Table 26). The treatment success rate for the whole Region was 58.6%, which is slightly higher than the 57.4% rate reported for the 2016 RR/MDR-TB treatment cohort. The treatment success rate for RR/MDR-TB patients was higher in non-EU/EEA countries and areas than in the EU/EEA (58.9% versus 45.7%). The countries that performed best were Norway (88.9%), Switzerland (83.3%), Sweden (81.8%), Kazakhstan (81.3%) and Belgium (80.0%). In the Region as a whole, 13.8% of RR/MDR-TB cases died, 11.3% failed and 10.7% were lost to follow up.

### 3.1.12 Conclusion for the WHO European Region

As in past years, the fastest annual decline in TB incidence in the world was observed in the WHO European Region: 5.1% between 2015 and 2019. The cumulative reductions for the period 2015–2019 were 19.0%, indicating that the Region has almost reached the 2020 End TB Strategy milestone to reduce the TB incidence rate in 2020 by 20% against the 2015 baseline, and is on track to achieve the regional action plan target of a 25% reduction in the TB incidence rate. However, the impact of the COVID-19 pandemic on TB service delivery and surveillance (which will be seen in the next report) may affect the achievement of the targets in future years. Disruptions in TB service delivery and a decrease in TB case notifications have already been documented and reported from a few high TB burden countries worldwide (1).

There were an estimated 20 000 TB deaths among HIV-negative people in 2019, with considerable variation across the Region, and 86% of TB deaths were attributed to the 18 HPCs. Twelve per cent of incident TB cases were estimated to be coinfecting with HIV, marking the third year of halted growth after the unprecedented increase from 3% to 12% during 2007–2016. Two countries, the Russian Federation and Ukraine, account for almost 83% of the estimated TB/HIV coinfecting patients in the Region.

Eighty-eight per cent of the estimated new and relapse cases were notified in the Region in 2019, which is substantially higher than the global TB detection of 71%.

The Region is faced with the challenge of having a high burden of RR/MDR-TB. Nine of the 30 countries with the highest RR/MDR-TB burden in the world are in the WHO European Region (Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Ukraine and Uzbekistan). Around 70 000 people in the Region are estimated to develop RR/MDR-TB each year, and it is of the utmost importance that capacity exists at country/area level to rapidly detect resistant TB. Over the past five years, there has been rapid uptake of WRD, with 69.3% of incident TB cases tested using this platform in 2019, compared to 45.3% in 2015.

Overall, most countries and areas achieved coverage of 85% or higher for first-line DST among bacteriologically confirmed pulmonary TB cases, but they should aim to have universal coverage. Ninety-four per cent of all notified

RR/MDR-TB cases in the Region had second-line DST available, with most countries and areas reporting coverage close to 100%.

TB is a major cause of death among people living with HIV, so rapid detection and appropriate treatment are vital. In 2019, 84% of an estimated 30 000 HIV patients coinfecting with TB were detected, and 76% of them were offered ART. Only 71% of coinfecting patients notified in 2018 had TB treatment outcomes available in 2019. This underlines the need to strengthen collaboration between TB and HIV programmes and to improve surveillance of coinfection in the Region.

Most countries and areas offer universal access to TB and MDR-TB treatment. Ninety-five per cent of the RR/MDR-TB cases notified in 2019 were enrolled into drug-resistant treatment programmes. The regional average is heavily influenced by the Russian Federation, as it includes more than half of all MDR-TB and XDR-TB patients detected in the Region.

The treatment outcome for both incident TB and RR/MDR-TB cohorts were 76.5% and 58.4% respectively, which is comparable with the results for the previous year.

## 3.2 EU/EEA countries

### 3.2.1 Data completeness

TB notification data for 2019 were reported by 29 of 31 countries (there were no case-based data from Latvia or Liechtenstein for 2019). The reporting of non-mandatory variables in 2019 was complete or near complete (> 95.0%) for age, gender, TB site and variables defining the origin of a case (Annex 3). Overall, previous treatment history was available for 86.6% of cases reported in 2019, but completeness ranged from below 70.0% in five countries (Croatia 5.3%, France 56.9%, Ireland 65.0%, Luxembourg 62.0% and Spain 62.6%) to 100.0% in 12 (Annex 3).

Among TB cases reported in 2019, 81.1% had culture results reported (Annex 3), which was a similar proportion to that reported in 2018 (82.5%). Only five countries had less than 75% of cases with culture results reported: France (46.4%), Greece (62.7%), Malta (51.0%), Portugal (62.9%) and the United Kingdom (61.9%). Reporting completeness for microscopy was slightly lower in 2019 (83.0%) compared to 2018 data (84.1%) and ranged from 41.7% in Belgium to 100% in Lithuania. For 2019, drug-susceptibility reporting completeness was 74.4% for the first-line drugs (isoniazid and rifampicin). Second-line DST reporting completeness was 100% for the 25 countries that reported at least one MDR-TB case (Annex 3); three countries (Iceland, Malta and Slovenia) reported no MDR-TB cases in 2019 (Table 13).

The number of countries reporting HIV status continued to decrease, with only 19 (of 29) reporting HIV status in 2019 compared to 21 (of 30) in 2018 and 23 (of 31) in 2017. HIV status was available only for 32.3% of all TB cases reported in 2019, but nine countries reported HIV status for more than 75% of their TB cases.

Treatment outcome at 12 months was available for 65.0% of all cases reported in 2018. Among MDR-TB cases reported in 2017, 96.1% had treatment outcome at 24 months completed. Treatment outcome at 36 months for XDR-TB cases reported in 2016 was complete for 95.8% of cases. In 2019, the completeness of treatment outcomes across all three cohorts had decreased compared to 2018.

### 3.2.2 Time and place

In 2019, 49 752 cases of TB were reported in 29 EU/EEA countries (Table 3). Four countries reported more than 5000 cases each (France, Poland, Romania and the United Kingdom), accounting for 54.7% of all reported cases, with Romania alone accounting for 23.4% of all TB cases reported in 2019.

The EU/EEA notification rate in 2019 was 9.6 per 100 000 population (Table 1), continuing the downward trend observed since the launch of European enhanced TB surveillance in 1996 (Fig. 3.2.1). During the period 2015–2019, the average annual decline in the notification rate was 5.1% (Table 3).

As reported for previous years, country-specific notification rates differed considerably in 2019, ranging from 3.1 per 100 000 population in Norway to 59.9 per 100 000 in Romania (Table 3). Rates were below 10 per 100 000 in 22 countries and below 20 per 100 000 in 27. Only two countries (Lithuania and Romania) had notification rates above 30 per 100 000 population (37.9 and 59.9 per 100 000, respectively).

In 24 countries, the notification rates have fallen compared with 2015 (Table 3). The downward trend was particularly pronounced in Croatia, Hungary, Norway and Sweden, where the average annual rate of decrease exceeded 10%.

### 3.2.2 Previous treatment, laboratory confirmation and TB site

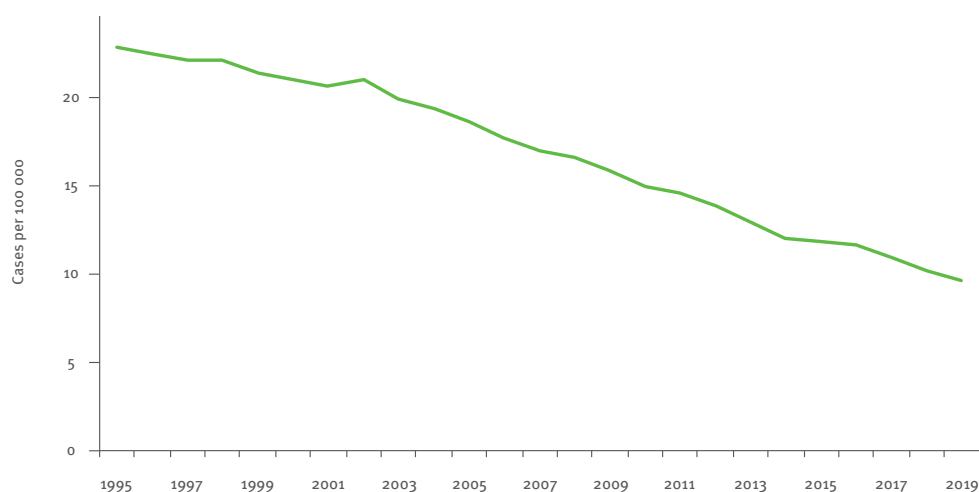
The distribution of cases by previous treatment history was similar in 2019 to that reported in previous years: 38 267 (76.9%) of 49 752 TB cases reported in 2019 were newly diagnosed, 4843 (9.7%) had previously been treated for TB and 6642 (13.4%) had an unknown previous treatment status (Table 5). The proportion of previously treated cases was more than 10% in seven countries: Bulgaria, Estonia, Hungary, Lithuania, Poland, Romania and Slovenia.

Laboratory confirmation was reported for 33 368 (67.1%) of the 49 752 TB cases reported in 2019 (Table 8). Country-specific proportions of laboratory-confirmed cases ranged from 35.3% in France to 92.1% in Slovenia. The proportion of laboratory-confirmed TB cases remained stable in 2019 compared to 2018 (68.2%) and 2017 (68.1%). Among the five HPCs (of which four reported 2019 data), Estonia and Lithuania had the highest proportions of confirmed cases (85.3% and 88.4%, respectively), followed by Romania (73.1%) and Bulgaria (46.6%).

Of all 49 752 TB cases reported in 2019, 34 975 (70.3%) were diagnosed with pulmonary TB, 10 988 (22.1%) with extrapulmonary TB, 3514 (7.1%) with a combination of both and 275 (0.6%) had no TB site reported (Table 6). The proportion of extrapulmonary TB was above 30% in six countries: France (31.0%), Iceland (46.2%), the Netherlands (41.9%), Norway (33.9%), Sweden (37.2%) and the United Kingdom (42.9%).

Of 36 819 new and relapse pulmonary TB cases reported in 2019, 29 929 (81.3%) were confirmed by culture and/or smear and nucleic acid amplification test (Table 7). In six countries, over 30% of reported new and relapse pulmonary TB cases were diagnosed clinically: Bulgaria (38.2%), France (31.6%), Hungary (43.1%), Iceland (42.9%), Malta (40.8%) and Slovakia (30.2%).

Fig. 3.2.1. TB notification rate per 100 000 population by year of reporting, EU/EEA, 1995–2019



Source: ECDC (3).

According to the EU case definition, 33 368 (67.1%) of 49 752 TB cases reported in 2019 would be classified as confirmed, 5022 (10.1%) as probable and 11 362 (22.8%) as possible cases (Table 8). In 14 countries, over 75% of reported cases were confirmed, with the highest proportion of confirmed cases reported by Lithuania (88.4%) and Slovenia (92.1%). Conversely, four countries reported over 40% of their TB cases as possible cases (that is, only clinically diagnosed): Bulgaria (44.3%), France (44.3%), Hungary (43.8%) and Malta (42.9%). The high proportion of clinically diagnosed cases may reflect underreporting of laboratory results to the national surveillance systems in these countries, or alternatively could indicate that TB may be overdiagnosed in these countries.

### 3.2.3 Age and sex

Of 47 504 new and relapse TB cases reported in 2019, 30 998 (65.3%) were aged between 25 and 64 years and 9052 cases (19.1%) were in adults aged over 64 years (Table 9). Notification rates were similar among the 15–24, 25–44 and 45–64 years age groups (11.6, 11.9 and 10.5 per 100 000 population, respectively).

There was variation in the age distribution of cases between countries: in most, the cases predominantly were aged between 25 and 64 years, but cases were younger in Malta (52.0% were aged between 15 and 24 years) and older in Croatia, Estonia, Poland and Slovenia (more than 70% of cases were aged over 45 years (Table 9)).

Children under 15 years accounted for 1928 (4.1%) of 47 504 new and relapse TB cases reported in 2019 and children aged between 5 and 14 years had the lowest notification rate of all age groups (2.1 per 100 000 population (Table 9)). Romania reported the highest notification rates among children under 15 years: 14.1 cases per 100 000 children aged between 0 and 4 years, and 12.2 cases per 100 000 aged between 5 and 14 years (Table 9).

In 2019, the male-to-female ratio in new and relapse TB cases was 1.8 (Table 9), which was lower than the ratio reported in 2018 (male-to-female ratio: 2.0). All EU/EEA Member States reported more male than female new and relapse TB cases, except for Italy. For children under 15 years, the male-to-female ratio among new and relapse cases was 1.1.

### 3.2.4 Origin of cases

Of the 49 752 TB cases notified in 2019, 31 239 (62.8%) were born in, or were citizens of, the reporting country (referred to as “native”), 17 181 (34.5%) were of foreign origin and 1332 (2.7%) were of unknown origin (Table 10). Of the 17 181 cases of foreign origin in 2019, 10 076 (58.6%) were reported by France, Germany and the United Kingdom. Country-specific proportions of foreign-origin TB cases ranged from 0.0% in Bulgaria and 0.4% in Romania to above 85% in Cyprus, Luxembourg, Malta, Norway and Sweden. Countries with TB notification rates higher than 10 per 100 000 population, with the exception of Malta, reported less than 25% of cases as being of foreign origin. The overall proportion of native TB cases has declined from 66.7% in 2015 to 62.8% in 2019 (Table IV).

### 3.2.5 Drug resistance

Annex 5 displays participation and performance in an EQA scheme for DST by Member State.

Of 31 007 laboratory-confirmed TB cases notified in 2019, 24 812 (80.0%) had isoniazid and rifampicin susceptibility testing results reported (Table 13). Resistance to any anti-TB drug was reported for 2638 (10.6%) cases. Overall, of 24 812 cases with the relevant DST results, MDR-TB was reported for 834 cases (3.4%). Among the cases with relevant DST results, the proportion that were MDR-TB varied by country: France reported 100.0% of cases with DST results as MDR-TB (DST results are reported only for MDR-TB cases), while Estonia and Lithuania reported that among cases with DST results, 38.6% and 32.0%, respectively, were MDR-TB. The total number of reported MDR-TB cases has continued to decrease each year, but the rate of MDR-TB cases remained at 0.2 per 100 000 population in 2019 (Table VII).

In 2019, XDR-TB was reported for 128 (21.9%) of 584 MDR-TB cases with results for second-line DST (Table 15). The proportion of XDR-TB cases among pulmonary MDR-TB cases with results for second-line DST has remained between 20% and 25% since 2015 (Table VIII). Lithuania and Romania reported 75.0% of the XDR-TB cases in 2019, which is an increased proportion compared with the previous four years (during which they reported between 60% and 70% of XDR cases (Table VIII)).

Of 19 333 new confirmed pulmonary TB cases with rifampicin DST results, 504 (2.6%) were resistant to rifampicin (Table 12). In contrast, 384 (13.3%) of 2887 previously treated confirmed pulmonary TB cases with rifampicin DST results were resistant to rifampicin. Previously treated pulmonary TB cases were five times as likely to be resistant to rifampicin compared with new pulmonary cases.

### 3.2.6 TB/HIV coinfection

HIV status was reported for 16 088 (78.0%) of 20 620 TB cases reported from the 19 countries that reported HIV status of TB cases (Table 18). Of the 16 088 cases with known HIV status, 502 (3.1%) were reported as HIV positive. Among countries with at least 50% reporting completeness for HIV status, the proportion of coinfecting cases was highest in Estonia (11.3%) and Portugal (11.0%). The proportion of HIV-coinfecting TB cases has declined from 4.6% in 2015 to 3.1% in 2019 (Table IX).

### 3.2.7 TB in prisons

For 2019, 13 EU/EEA countries reported 386 new and relapse TB cases in prisons, resulting in a notification rate of 185 per 100 000 prison population and an RR of 15.8 compared to the general population in the same countries (Table 19). Overall, TB cases in prisons accounted for 1.7% of all new and relapse cases notified in the 13 reporting EU/EEA countries, with the proportion being highest in Poland (3.2%), Portugal (2.3%) and Slovakia (2.8%).

### 3.2.8 Treatment outcome

Of all 42 811 TB cases notified in 2018 with a treatment outcome reported in 2019, 27 277 (63.7%) were treated successfully, 2853 (6.7%) died, 358 (0.8%) experienced treatment failure, 1623 (3.8%) were lost to follow up, 1705 (4.0%) were still on treatment in 2019 and 8995 cases (21.0%) were not evaluated (Table 20). Among the 24 countries that reported treatment outcome for the 2018 cohort, six countries reported successful treatment for over 80.0% of cases (Belgium 80.9%, Bulgaria 84.5%, Iceland 100.0%, the Netherlands 85.1%, Norway 82.7% and Slovakia 90.7%), while five countries reported death as the outcome for over 10.0% of cases (Croatia 11.0%, Czechia 13.5%, Estonia 14.3%, Hungary 15.2% and Slovenia 15.2% (Table 20)).

Among the 35 316 TB cases notified in 2018 and classified as new and relapse TB cases, including those with unknown previous treatment history and excluding those that were started on second-line treatment, 25 809 (73.1%) were treated successfully (Table 21). In countries where at least 75% of these new and relapse TB cases had a known outcome, treatment success ranged from 65.7% in Hungary to 100.0% in Iceland. The overall proportion of successfully treated cases among these new and relapse TB cases decreased from 76.5% of cases notified in 2014 to 73.1% of cases notified in 2018 (Table X).

Of 952 MDR-TB cases notified in 2017 with a treatment outcome reported in 2019, 446 (46.8%) were treated successfully, 149 (15.7%) died, 104 (10.9%) experienced treatment failure, 113 (11.9%) were lost to follow up, 85 (8.9%) were still on treatment in 2019 and 113 (11.9%) were not evaluated (Table 27). The proportion of MDR-TB cases with successful treatment was highest in Norway (88.9%), Sweden (81.8%) and Belgium (80.0%) (Table 27). Overall, the 24-month treatment success rate for RR/MDR-TB remained low for cases reported in 2017 (45.4%) and was lower than for cases reported in 2016 (49.9%) (Table XII).

Ten countries reported 172 XDR-TB cases in 2016 and a treatment outcome for these cases in 2019: 60 (34.9%) were treated successfully, 45 (26.2%) died, 31 (18.0%) experienced treatment failure, 18 (10.5%) were lost to follow up and 18 (10.5%) were not evaluated (Table 29). The 36-month XDR-TB treatment success rate remained low among the 2016 XDR-TB cases, but variations over time should be interpreted with caution due to the small number of cases (Table XIV).

Of 501 HIV-positive TB cases notified in 2018 (who were not started on second-line treatment and had a treatment outcome reported in 2019), 275 (54.9%) were reported as successfully treated, 62 (12.4%) died, four (0.8%) experienced treatment failure, 51 (10.2%) were lost to follow up, 66 (13.2%) were still on treatment in 2019 and 44 (8.6%) were not evaluated (Table 24).

### 3.2.9 WHO disease burden estimates

According to WHO, the estimated TB incidence in the EU/EEA overall (excluding Liechtenstein) was 10.6 per 100 000 population in 2019 (Table 1 and Table II). Of the

30 countries with estimates, 22 had an estimated incidence of less than 10.0 per 100 000 population (Table 1 and Table II). The overall number of estimated TB deaths, excluding HIV deaths in people who were HIV positive, was 3560 for the EU/EEA in 2019, a slight decrease compared to the 3730 estimated for 2018 and almost a 40% reduction on the 5800 estimated for 2010 (Table I).

### 3.2.10 Conclusions for the European Union/ European Economic Area

In 2019, 29 of 31 EU/EEA countries reported TB notification data and a total of 49 752 TB cases. There was a further decline in the overall TB notification rate to 9.6 per 100 000 population, which continued the decreasing trend observed since 2002. As in previous years, a few countries reported a large proportion of the total number of cases, including Romania, which reported almost a quarter of all TB cases in 2019.

While the decreasing notification rates observed in most countries are reassuring, there is still significant work ahead to reach the United Nations Sustainable Development Goal 3 target of an 80% reduction in the TB incidence rate in 2030 compared to 2015. The target at EU/EEA level is a notification rate of 2.4 per 100 000 population (based on an 80% reduction of the 2015 TB notification rate of 11.9 per 100 000 population). Although progress is being made towards this goal, at the current rate of decline most EU/EEA countries are not on track to reach the 80% reduction target by 2030, or the elimination target by 2050 (4). Countries need to accelerate progress towards these goals to achieve them.

The overall proportion of native TB cases has continued to decline in the EU/EEA since 2015, with approximately one third of all TB cases in 2019 being of foreign origin. However, the proportion of foreign- versus native-origin cases varies significantly between countries, highlighting that different approaches to TB screening and disease prevention are needed. In countries with a higher proportion of foreign-origin cases, screening for active TB or TB infection among newly arrived migrants from high-incidence countries remains an important measure for TB disease prevention (5).

Data on HIV coinfection remained incomplete in the EU/EEA, and the number of countries reporting HIV status was lower in 2019 than in 2018. HIV status was reported only for approximately one third of all reported TB cases across the EU/EEA in 2019, limiting the conclusions that can be drawn about this important cohort. This is especially true with regard to treatment outcomes among TB/HIV coinfecting cases, which accounted for 4.1% of TB cases in the EU/EEA with known HIV status in 2018.

Data on TB in prisons are scarce and the number of countries reporting also declined in 2019. With only 13 EU/EEA countries reporting in 2019, the conclusions that can be drawn about TB in prisons are also very limited. Although the proportion of TB cases among inmates in the countries that reported was low, the data indicate nevertheless that inmates have a 16-times higher risk of being reported as

a TB case than the general population. Public health guidance concluded in 2018 that it is advisable to offer universal testing for active TB at prison entry so that treatment can be initiated and transmission prevented (6). Further to this, additional efforts must be made to collect TB data within prison settings to better understand the risks within this setting.

Reassuringly, the number of MDR-TB and XDR-TB cases in the EU/EEA continued to decrease in 2019, despite the high number of drug-resistant TB cases in the European Region HPCs bordering the EU/EEA. DST results for first-line drugs were reported only for approximately 75% of laboratory-confirmed TB cases in 2019, indicating that there is still considerable room for improvement here. Countries need DST results to be able to diagnose and treat drug-resistant TB, and to monitor this threat.

The WHO target for treatment success in new and relapse cases is 85% (7). Data reported in 2019 (73.1% treatment success rate) indicate that improvement is needed to reach the treatment success target. The target for successful treatment among MDR-TB cases after 24 months is 75%, and overall the EU/EEA is far below where it should be (at 46.8% of MDR-TB cases with treatment success). In 2020, WHO released updated treatment guidelines for drug-resistant TB that recommend an all-oral bedaquiline-based shorter regimen (instead of the previously recommended injectable-based shorter regimen), all-oral regimens (whether shorter or longer) for all MDR-TB cases and the so-called BPaL regimen (a new agent, pretomanid, with bedaquiline and linezolid, under operational research conditions only) for MDR-TB cases with additional resistance to fluoroquinolones (8). The move away from injectable agents to all-oral regimens, and new agents such as pretomanid, provide hope that the rate of treatment success for MDR-TB will improve in the future.

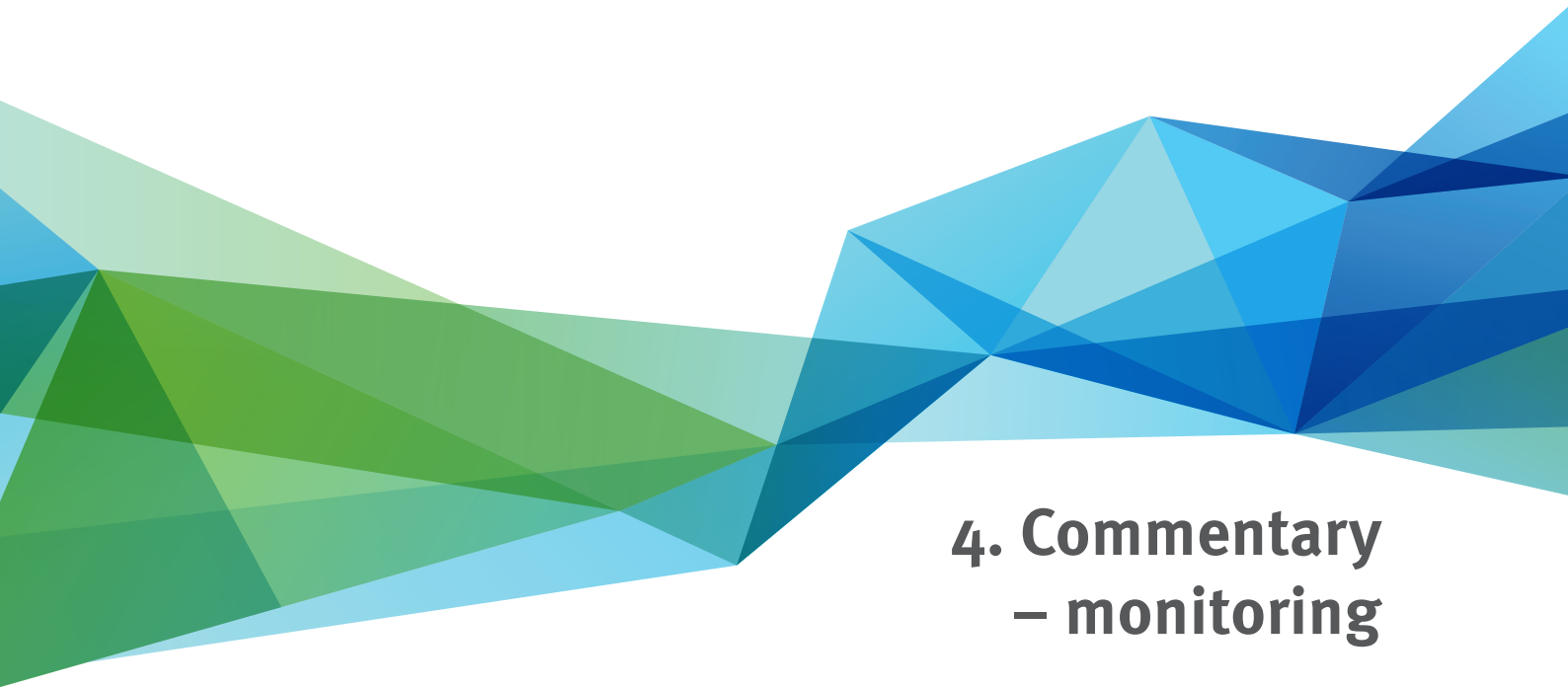
Finally, the slight deterioration in the completeness of 2019 data (particularly HIV status and treatment outcomes) may have been due to the widespread disruption in TB services caused by the COVID-19 pandemic from early 2020. Despite much of the 2019 data having been collected during 2019, countries were required to collate, submit, check and clean the data during 2020, while also managing COVID-19 pandemic-related work. Countries ensured they submitted TB data, highlighting their commitment to, and the importance of, maintaining TB essential services and monitoring. The broader impact of the COVID-19 pandemic will be reflected in the 2020 TB surveillance data, as during 2020 there were anecdotes of disruptions to (or reallocation of) TB laboratory (9) and clinical services, as well as major pressures to public health workforce capacity and limitations on patient access to TB services (1).

In late 2018, EU/EEA countries reaffirmed their commitment to ending the TB epidemic at a United Nations high-level meeting (10). The 2019 data presented in this report indicate that there is still considerable work ahead to achieve this goal, and with the ongoing disruption caused by the COVID-19 pandemic, now is the time to prioritize and intensify public health measures against TB. As always, ECDC remains committed to supporting EU/EEA countries to end the TB epidemic.

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## **4. Commentary – monitoring**



## 4. Commentary – monitoring

To address the challenges to TB and MDR/XDR-TB prevention and care, the WHO Regional Office for Europe, working in close consultation with representatives from countries and areas, experts and communities, developed the *Tuberculosis action plan for the WHO European Region 2016–2020* (1). This action plan is based on lessons learned from implementing the seven areas of intervention in the *Consolidated action plan to prevent and combat multidrug and extensively drug-resistant tuberculosis in the WHO European Region 2011–2015* (2) and is in line with the global End TB Strategy and other health policy guidance, such as the European policy for health and well-being, *Health 2020* (3). The *Tuberculosis action plan for the WHO European Region 2016–2020* is supported by a monitoring and evaluation framework to monitor progress towards defined targets. The framework consists of 26 indicators that enable performance monitoring in the action plan's areas of intervention and follow on from the Berlin Declaration on Tuberculosis of 2007 (4). Nine are core indicators for monitoring and reporting to the WHO Regional Committee for Europe. In addition, the selection of indicators was harmonized with the End TB Strategy's recommended top-10 global indicators. The status of the core indicators, which is analysed on an annual basis, is included in the surveillance report every second year.

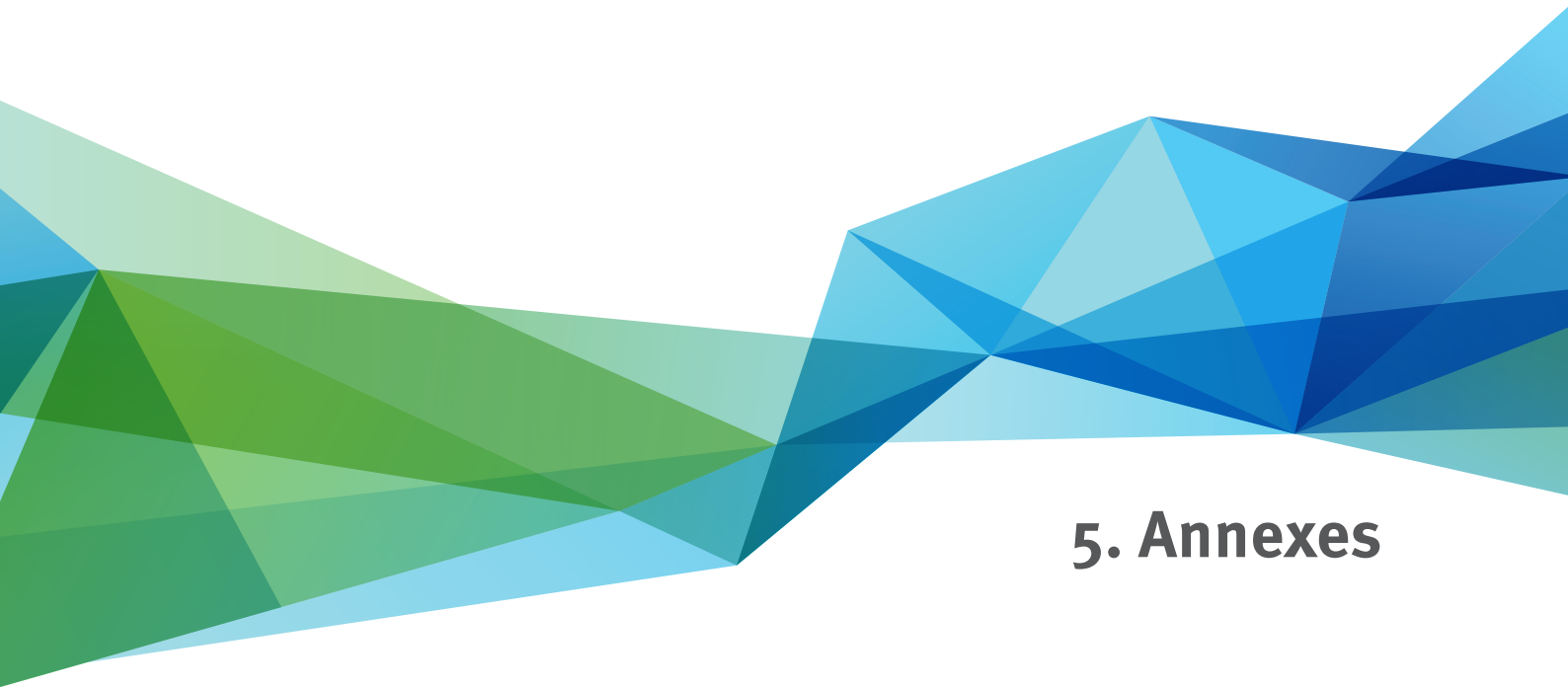
The final year covered by the action plan was 2020, so the WHO Regional Office for Europe has developed a final report that provides an overview of implementation. This is based on a summary report that was reviewed and approved by the Standing Committee of the Regional Committee and subsequently submitted to the 70th session of the WHO Regional Committee for Europe in 2020, in line with resolution EUR/RC65/R6. The report summarizes the progress and challenges and the next steps in ending TB and drug-resistant TB in the WHO European Region (5). The next and the final update with the status of all indicators will be presented in the TB surveillance and monitoring in Europe 2022 report.

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<sup>12</sup> All weblinks accessed 10 February 2020.





## **5. Annexes**



## Annex 1. Tuberculosis surveillance system overview, EU/EEA, 2019

Country	Data source	Legal character	Compre-hensiveness	Type	National coverage	Data available	
						TME aggregated data	TESSy case-based data <sup>a</sup>
Austria	AT-TUBERKULOSEGESETZ	Cp	Co	C	Y	–	1995–2019
Belgium	BE-TUBERCULOSIS	Cp	Co	C	Y	–	1995–2019
Bulgaria	BG-MOH	Cp	Co	C	Y	1995–2006	2007–2019
Croatia <sup>b</sup>	HR-CNIPH	Cp	Co	C	Y	1995–2007	2012–2019
Cyprus	CY-NOTIFIED_DISEASES	Cp	Co	C	Y	1995–2001	2002–2019
Czechia	CZ-TUBERCULOSIS	Cp	Co	C	Y	–	1995–2019
Denmark	DK-MIS	Cp	Co	C	Y	–	1995–2019
Estonia	EE-TBC	Cp	Co	C	Y	–	1995–2019
Finland	FI-NIDR	Cp	Co	C	Y	–	1995–2019
France	FR-MANDATORY_INFECTIOUS_DISEASES	Cp	Co	C	Y	–	1995–2019
Germany	DE-SURVNET@RKI-7.1/6	Cp	Co	C	Y	1995–2000	2001–2019
Greece	EL-NOTIFIABLE_DISEASES	Cp	Co	C	Y	1995–2001	2002–2019
Hungary	HU-TUBERCULOSIS	Cp	Co	C	Y	1995–1998	1999–2019
Iceland	IS-TUBERCULOSIS	Cp	Co	C	Y	–	1995–2019
Ireland	IE-CIDR	Cp	Co	C	Y	1995–1997	1998–2019
Italy	IT-NRS	Cp	Co	C	Y	–	1995–2019
Latvia	LV-TB	Cp	Co	C	Y	1995–2000	2001–2017
Liechtenstein	CH-SFOPH-LI	Cp	Co	C	Y	–	1995–2018
Lithuania	LT-TB_REGISTER	Cp	Co	C	Y	1995–2002	2003–2019
Luxembourg	LU-SYSTEM <sup>1</sup>	Cp	Co	C	Y	–	1995–2019
Malta	MT-DISEASE_SURVEILLANCE	Cp	Co	C	Y	–	1995–2019
Netherlands	NL-NTR	Cp	Co	C	Y	–	1995–2019
Norway	NO-MSIS_A	Cp	Co	C	Y	–	1995–2019
Poland	PL_CR	Cp	Co	C	Y	1995–1999	2000–2019
Portugal	PT-TUBERCULOSIS	Cp	Co	C	Y	1995–1999	2000–2019
Romania	RO-NTBSy	Cp	Co	C	Y	–	1995–2019
Slovakia	SK-NRT	Cp	Co	C	Y	1995	1996–2019
Slovenia	SI-TUBERCULOSIS	Cp	Co	C	Y	–	1995–2019
Spain	ES-STATUTORY_DISEASES	Cp	Co	C	Y	1995–2006	2007–2019
Sweden	SE-SweTBReg	Cp	Co	C	Y	–	1995–2019
United Kingdom	UK-TUBERCULOSIS	Cp	Co	C	Y	1995–1997	1998–2019

Cp: compulsory reporting.

Co: comprehensive.

C: case-based.

EU/EEA: European Union/European Economic Area.

TESSy: The European Surveillance System.

TME: WHO Tuberculosis Monitoring and Evaluation platform.

Y: yes.

<sup>a</sup> For some years, data from France, Italy and Spain related to drug-susceptibility testing have been collected in aggregated format from the WHO TME.<sup>b</sup> Data reported since 2012 to TESSy, historical data extracted from WHO TME.

Annex 2. List of variables for 2019 tuberculosis data collection<sup>a</sup>

List	Description
<b>Common set of variables</b>	
1 RecordId	Unique identifier for each record generated by the national surveillance system
2 RecordType	Structure and format of the data
3 RecordTypeVersion	Indicates which version the sender uses when generating the data for upload
4 Subject	Disease to report
5 Status	Status of reporting NEW/UPDATE or DELETE (inactivate)
6 DataSource	The data source (surveillance system) from which the record originates
7 ReportingCountry	The country reporting the record
8 PlaceOfNotification	Place of the first notification of the case to a regional authority
9 PlaceOfResidence	Place of residence of patient at the time of disease onset
10 Age	Age of patient in years as reported in the national system
11 Gender	Gender of the reported case
12 DateOfDiagnosis	First date of clinical or laboratory diagnosis
13 DateOfNotification	Date when the case is first reported to public health authorities
14 DateUsedForStatistics	The reference date used for standard reports (usually one of the above)
<b>Disease-specific variables</b>	
15 BornReportingCountry	The patient was born in the country of report
16 CountryOfBirth	Country of birth of patient
17 CountryOfNationality	Country of nationality of patient
18 DateOfEntryToCountry	Date of entry to country – for TB cases not born in the reporting country
19 NationalityReportingCountry	Origin of the patient (based on citizenship)
20 MajorSiteOfTB	Major site of the disease
21 MinorSiteOfTB	Minor site of the disease
22 PrevDiagnosis	Previous diagnosis of TB in the past
23 PrevDiagnosisYear	Year of previous diagnosis
24 PrevTreatment	Previous anti-TB drug treatment (at least one month of drug combination)
25 PrevTreatmentCompletion	Completion of the previous anti-TB drug treatment
26 DiagnosedAnteMortem	Vital status of the patient at the time of diagnosis
27 EnrolledToTreatment	Patient started appropriate TB treatment according to international recommendations
28 Outcome12Months	Patient first outcome at 12 months from the start of the treatment
29 Outcome24Months	The first outcome observed 13–24 months from the start of treatment
30 Outcome36Months	The first outcome observed 25–36 months from the start of treatment
31 ResultCulture	The result of the culture test for <i>Mycobacterium tuberculosis</i> complex
32 ResultMicroscopy	The result of the microscopy test performed
33 ResultOtherTest	Additional laboratory test results
34 Pathogen	Species and gene ( <i>M. tuberculosis</i> complex) of the pathogen that is the cause of the reported disease
35 HIVStatus	Result of the last HIV test
36 SIR_AMK	Susceptibility to amikacin
37 SIR_BDQ	Susceptibility to bedaquiline
38 SIR_CAP	Susceptibility to capreomycin
39 SIR_DLM	Susceptibility to delamanid
40 SIR_ETH	Susceptibility to ethambutol
41 SIR_GAT	Susceptibility to gatifloxacin
42 SIR_INH	Susceptibility to isoniazid
43 SIR_KAN	Susceptibility to kanamycin
44 SIR_LVX	Susceptibility to levofloxacin
45 SIR_MFX	Susceptibility to moxifloxacin
46 SIR_OFX	Susceptibility to ofloxacin
47 SIR_PZA	Susceptibility to pyrazinamide
48 SIR_RIF	Susceptibility to rifampicin
49 SIR_STR	Susceptibility to streptomycin
50 IsolateID	Unique identifier for each isolate within the data source/laboratory system related to the case
51 ECDCIsolateID	Identifier for each isolate record that is guaranteed to be unique across countries/areas/laboratories/pathogens and does not contain additional encoded information
52 SpoligoCode <sup>b</sup>	Spoligo pattern code
53 MiruCode <sup>b</sup>	MIRU pattern code
54 BeijingGenotype <sup>b</sup>	Beijing genotype identification

<sup>a</sup> Notification of tuberculosis (TB) cases for 2019, treatment outcome data updated for cohort 2018 and multidrug-resistant TB treatment outcome data updated for cohort 2017 and extensively drug-resistant TB treatment outcome data updated for cohort 2016.

<sup>b</sup> Optional variable. No need to be reported if the "IsolateID" or "ECDCIsolateID" is provided.



Annex 3. Completeness of data reported for 2019, EU/EEA

Country	Age (%)	Gender (%)	Origin <sup>a</sup> (%)	Country of origin (%)	Site (%)	Previous treatment history <sup>b</sup> (%)	Diagnosed antemortem (%)	Result culture (%)	Result microscopy (%)	Result other test (%)	DST FLD (%)	DST SLD (%)	HIV status (%)	Enrolled in treatment (%)	Outcome 12 months <sup>c</sup> (%)	Outcome 24 months <sup>d</sup> (%)	Outcome 36 months <sup>e</sup> (%)
Austria	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(80.6)	(100.0)	(95.4)	(71.5)	(84.0)	(96.8)	(100.0)	(0.0)	(0.0)	(92.3)	(72.7)	(100.0)
Belgium	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(85.5)	(100.0)	(95.7)	(41.7)	(75.3)	(75.3)	(100.0)	(52.2)	(98.6)	(97.2)	(100.0)	-
Bulgaria	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(86.3)	(87.4)	(7.4)	(72.5)	(100.0)	(82.1)	(100.0)	(100.0)	(100.0)	-
Croatia	(100.0)	(100.0)	(100.0)	(99.0)	(85.1)	(5.3)	(82.2)	(89.8)	(82.5)	(0.0)	(86.6)	(100.0)	(1.7)	(81.8)	(43.8)	-	-
Cyprus	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(97.1)	(100.0)	(78.3)	(87.0)	(47.8)	(100.0)	(100.0)	(62.3)	(100.0)	(75.0)	(0.0)	-
Czechia	(100.0)	(100.0)	(100.0)	(99.8)	(100.0)	(100.0)	(100.0)	(98.3)	(92.0)	(78.4)	(90.1)	(100.0)	(58.4)	(100.0)	(96.2)	(66.7)	-
Denmark	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(99.6)	(100.0)	(94.3)	(95.0)	(91.5)	(98.7)	(100.0)	(80.8)	(100.0)	(16.2)	-	-
Estonia	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(98.7)	(98.7)	(92.0)	(99.2)	(100.0)	(94.0)	(100.0)	(100.0)	(100.0)	(100.0)
Finland	(100.0)	(100.0)	(98.2)	(97.3)	(100.0)	(98.2)	(100.0)	(78.7)	(52.9)	(61.8)	(95.5)	(100.0)	(0.0)	(81.8)	(20.9)	(100.0)	-
France	(100.0)	(99.9)	(89.1)	(93.4)	(98.9)	(56.9)	(1.2)	(46.4)	(82.3)	(0.0)	(4.2)	(100.0)	(0.0)	(0.0)	(13.3)	-	-
Germany	(100.0)	(99.8)	(97.5)	(98.0)	(99.3)	(71.6)	(98.4)	(87.2)	(91.1)	(85.1)	(90.1)	(100.0)	(0.0)	(98.4)	(86.6)	(100.0)	-
Greece	(100.0)	(100.0)	(100.0)	(97.2)	(98.9)	(95.9)	(100.0)	(62.7)	(74.9)	(50.8)	(79.5)	(100.0)	(88.9)	(97.8)	(1.6)	-	-
Hungary	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(86.6)	(87.9)	(0.0)	(90.2)	(100.0)	(5.8)	(100.0)	(97.0)	(100.0)	(0.0)
Iceland	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(76.9)	(76.9)	(100.0)	(100.0)	-	(84.6)	(100.0)	(100.0)	-	-
Ireland	(100.0)	(99.6)	(84.6)	(84.6)	(90.2)	(65.0)	(100.0)	(80.1)	(42.1)	(52.6)	(88.8)	(100.0)	(39.8)	(100.0)	(47.1)	(50.0)	-
Italy	(100.0)	(99.6)	(97.9)	(97.5)	(84.3)	(0.0)	(73.8)	(69.6)	(0.0)	(0.0)	(0.0)	-	(0.0)	(29.0)	(0.0)	-	-
Latvia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(1.3)	(100.0)	(100.0)	(96.4)	(100.0)	(100.0)	(100.0)	(100.0)
Luxembourg	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(62.0)	(100.0)	(80.0)	(72.0)	(0.0)	(80.0)	(100.0)	(74.0)	(100.0)	(0.0)	-	-
Malta	(100.0)	(100.0)	(100.0)	(91.8)	(100.0)	(100.0)	(0.0)	(51.0)	(56.1)	(0.0)	(95.8)	-	(0.0)	(100.0)	(0.0)	-	-
Netherlands	(100.0)	(100.0)	(98.7)	(98.7)	(98.8)	(99.9)	(98.2)	(77.5)	(73.6)	(81.3)	(89.0)	(100.0)	(75.9)	(98.6)	(97.1)	(100.0)	-
Norway	(100.0)	(100.0)	(99.4)	(99.4)	(100.0)	(100.0)	(100.0)	(92.7)	(85.5)	(93.3)	(94.9)	(100.0)	(78.8)	(100.0)	(95.7)	(100.0)	-
Poland	(100.0)	(100.0)	(100.0)	(99.8)	(100.0)	(100.0)	(100.0)	(92.4)	(89.7)	(21.3)	(91.0)	(100.0)	(0.0)	(0.0)	(0.0)	-	-
Portugal	(100.0)	(100.0)	(99.9)	(80.1)	(99.8)	(100.0)	(100.0)	(62.9)	(48.6)	(37.9)	(57.3)	(100.0)	(68.0)	(100.0)	(100.0)	(77.8)	-
Romania	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(95.4)	(96.6)	(30.7)	(90.5)	(100.0)	(86.4)	(100.0)	(100.0)	(100.0)	(100.0)
Slovakia	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(95.3)	(100.0)	(87.4)	(88.8)	(36.0)	(100.0)	(100.0)	(69.2)	(100.0)	(98.6)	(100.0)	-
Slovenia	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(95.0)	(88.1)	(96.0)	(100.0)	(100.0)	(72.3)	(100.0)	(99.0)	-	-
Spain	(99.8)	(100.0)	(91.2)	(86.6)	(100.0)	(62.6)	(0.0)	(84.3)	(87.3)	(37.4)	(29.0)	(100.0)	(0.0)	(0.0)	(55.0)	(0.0)	-
Sweden	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(88.9)	(100.0)	(100.0)	(73.7)	(85.4)	(99.2)	(100.0)	(0.0)	(100.0)	(86.5)	(100.0)	-
United Kingdom	(100.0)	(100.0)	(96.9)	(96.3)	(99.7)	(94.7)	(100.0)	(61.9)	(64.1)	(37.0)	(98.8)	(100.0)	(0.0)	(95.4)	(95.8)	(83.3)	(100.0)
<b>Total EU/EEA</b>	<b>(100.0)</b>	<b>(99.9)</b>	<b>(97.3)</b>	<b>(96.6)</b>	<b>(99.4)</b>	<b>(86.6)</b>	<b>(74.3)</b>	<b>(81.1)</b>	<b>(83.0)</b>	<b>(31.7)</b>	<b>(74.4)</b>	<b>(100.0)</b>	<b>(32.3)</b>	<b>(64.1)</b>	<b>(65.0)</b>	<b>(96.1)</b>	<b>(95.8)</b>

Note: WHO European Region tuberculosis high-priority countries presented in italics.

DST FLD: drug-susceptibility testing for first-line anti-tuberculosis drugs, calculated for confirmed tuberculosis cases.

DST SLD: drug-susceptibility testing for second-line anti-tuberculosis drugs, calculated only for multidrug-resistant tuberculosis cases.

EU/EEA: European Union/European Economic Area.

<sup>a</sup> For determining the origin, two variables were merged: BornReportingCountry and NationalityReportingCountry, depending on country preference.

<sup>b</sup> History of previous treatment defined by previous diagnosis of tuberculosis for cases reported by Belgium, Denmark, Ireland, Norway and the United Kingdom.

<sup>c</sup> Data for the 2018 cohort.

<sup>d</sup> Data for the multidrug-resistant tuberculosis 2017 cohort cases that are reported as "still on treatment" at 12 months.

<sup>e</sup> Data for the extensively drug-resistant tuberculosis 2016 cohort cases that are reported as "still on treatment" at 12 months and 24 months.

## Annex 4. Reporting completeness into Global TB Database, 2019

Country/area	Identification (%) (17 fields)	Notification (%) (58 fields)	Anti-tuberculosis (TB) drug resistance surveillance (%) (45 fields)	Treatment outcome of TB cases by risk categories (%) (79 fields)	Implementing End TB Strategy (%) (86 fields)	Budget and expenditure (%) (49 fields)
<b>EU/EEA</b>						
Austria	(0.0)	(62.1)	(77.8)	(45.6)	(0.0)	(0.0)
Belgium	(100.0)	(87.9)	(91.1)	(92.4)	(32.6)	(0.0)
<i>Bulgaria</i>	<i>(100.0)</i>	<i>(87.9)</i>	<i>(91.1)</i>	<i>(92.4)</i>	<i>(76.7)</i>	<i>(93.9)</i>
Croatia	(29.4)	(62.1)	(91.1)	(38.0)	(23.3)	(0.0)
Cyprus	(0.0)	(62.1)	(91.1)	(53.2)	(0.0)	(0.0)
Czechia	(100.0)	(91.4)	(91.1)	(92.4)	(47.7)	(0.0)
Denmark	(70.6)	(79.3)	(91.1)	(62.0)	(41.9)	(0.0)
<i>Estonia</i>	<i>(94.1)</i>	<i>(93.1)</i>	<i>(91.1)</i>	<i>(74.7)</i>	<i>(80.2)</i>	<i>(87.8)</i>
Finland	(70.6)	(84.5)	(77.8)	(45.6)	(44.2)	(0.0)
France	(0.0)	(62.1)	(77.8)	(30.4)	(0.0)	(0.0)
Germany	(0.0)	(62.1)	(77.8)	(45.6)	(7.0)	(0.0)
Greece	(58.8)	(74.1)	(91.1)	(39.2)	(11.6)	(0.0)
Hungary	(47.1)	(87.9)	(91.1)	(92.4)	(62.8)	(2.0)
Iceland	(0.0)	(62.1)	(91.1)	(38.0)	(0.0)	(0.0)
Ireland	(100.0)	(82.8)	(91.1)	(77.2)	(58.1)	(0.0)
Italy	(29.4)	(72.4)	(100.0)	(0.0)	(30.2)	(0.0)
<i>Latvia</i>	<i>(100.0)</i>	<i>(19.0)</i>	<i>(0.0)</i>	<i>(0.0)</i>	<i>(46.5)</i>	<i>(28.6)</i>
Liechtenstein	-	-	-	-	-	-
<i>Lithuania</i>	<i>(58.8)</i>	<i>(87.9)</i>	<i>(91.1)</i>	<i>(100.0)</i>	<i>(75.6)</i>	<i>(0.0)</i>
Luxembourg	(100.0)	(77.6)	(91.1)	(5.1)	(45.3)	(0.0)
Malta	(58.8)	(86.2)	(77.8)	(24.1)	(32.6)	(0.0)
Netherlands	(105.9)	(89.7)	(91.1)	(92.4)	(47.7)	(2.0)
Norway	(0.0)	(79.3)	(91.1)	(73.4)	(43.0)	(0.0)
Poland	(100.0)	(82.8)	(77.8)	(0.0)	(36.0)	(0.0)
Portugal	(64.7)	(87.9)	(91.1)	(83.5)	(65.1)	(0.0)
<i>Romania</i>	<i>(100.0)</i>	<i>(91.4)</i>	<i>(91.1)</i>	<i>(100.0)</i>	<i>(75.6)</i>	<i>(100.0)</i>
Slovakia	(94.1)	(89.7)	(91.1)	(77.2)	(32.6)	(2.0)
Slovenia	(100.0)	(87.9)	(91.1)	(62.0)	(75.6)	(0.0)
Spain	(0.0)	(62.1)	(77.8)	(53.2)	(0.0)	(0.0)
Sweden	(64.7)	(82.8)	(77.8)	(60.8)	(44.2)	(0.0)
United Kingdom	(0.0)	(56.9)	(77.8)	(45.6)	(0.0)	(0.0)
<b>Subtotal EU/EEA</b>	<b>(56.4)</b>	<b>(74.0)</b>	<b>(81.6)</b>	<b>(53.2)</b>	<b>(36.6)</b>	<b>(10.2)</b>
<b>Non-EU/EEA</b>						
Albania	(100.0)	(93.1)	(82.2)	(100.0)	(73.3)	(2.0)
Andorra	(64.7)	(50.0)	(31.1)	(79.7)	(58.1)	(2.0)
Armenia	(100.0)	(96.6)	(100.0)	(98.7)	(68.6)	(77.6)
<i>Azerbaijan</i>	<i>(94.1)</i>	<i>(87.9)</i>	<i>(40.0)</i>	<i>(49.4)</i>	<i>(59.3)</i>	<i>(83.7)</i>
<i>Belarus</i>	<i>(100.0)</i>	<i>(101.7)</i>	<i>(97.8)</i>	<i>(92.4)</i>	<i>(77.9)</i>	<i>(93.9)</i>
Bosnia and Herzegovina	(100.0)	(67.2)	(31.1)	(11.4)	(38.4)	(16.3)
<i>Georgia</i>	<i>(100.0)</i>	<i>(93.1)</i>	<i>(86.7)</i>	<i>(92.4)</i>	<i>(84.9)</i>	<i>(100.0)</i>
Israel	(100.0)	(86.2)	(82.2)	(60.8)	(37.2)	(0.0)
<i>Kazakhstan</i>	<i>(100.0)</i>	<i>(98.3)</i>	<i>(51.1)</i>	<i>(100.0)</i>	<i>(86.0)</i>	<i>(100.0)</i>
<i>Kyrgyzstan</i>	<i>(100.0)</i>	<i>(86.2)</i>	<i>(100.0)</i>	<i>(86.1)</i>	<i>(89.5)</i>	<i>(100.0)</i>
Republic of Moldova	(100.0)	(100.0)	(100.0)	(100.0)	(94.2)	(93.9)
Monaco	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Montenegro	(100.0)	(81.0)	(86.7)	(59.5)	(57.0)	(2.0)
<i>North Macedonia</i>	<i>(100.0)</i>	<i>(93.1)</i>	<i>(100.0)</i>	<i>(100.0)</i>	<i>(76.7)</i>	<i>(0.0)</i>
<i>Russian Federation</i>	<i>(70.6)</i>	<i>(81.0)</i>	<i>(42.2)</i>	<i>(92.4)</i>	<i>(53.5)</i>	<i>(100.0)</i>
San Marino	(100.0)	(87.9)	(100.0)	(75.9)	(70.9)	(2.0)
Serbia	(100.0)	(79.3)	(73.3)	(100.0)	(81.4)	(0.0)
Serbia excluding Kosovo <sup>1</sup>	(94.1)	(79.3)	(73.3)	(100.0)	(76.7)	(0.0)
Kosovo <sup>1</sup>	(100.0)	(70.7)	(24.4)	(100.0)	(81.4)	(0.0)
Switzerland	(100.0)	(72.4)	(82.2)	(46.8)	(37.2)	(2.0)
<i>Tajikistan</i>	<i>(100.0)</i>	<i>(89.7)</i>	<i>(100.0)</i>	<i>(100.0)</i>	<i>(80.2)</i>	<i>(100.0)</i>
<i>Turkey</i>	<i>(100.0)</i>	<i>(89.7)</i>	<i>(100.0)</i>	<i>(100.0)</i>	<i>(83.7)</i>	<i>(0.0)</i>
<i>Turkmenistan</i>	<i>(88.2)</i>	<i>(70.7)</i>	<i>(13.3)</i>	<i>(30.4)</i>	<i>(72.1)</i>	<i>(0.0)</i>
<i>Ukraine</i>	<i>(100.0)</i>	<i>(101.7)</i>	<i>(60.0)</i>	<i>(100.0)</i>	<i>(91.9)</i>	<i>(100.0)</i>
<i>Uzbekistan</i>	<i>(100.0)</i>	<i>(89.7)</i>	<i>(64.4)</i>	<i>(48.1)</i>	<i>(84.9)</i>	<i>(0.0)</i>
<b>Subtotal non-EU/EEA</b>	<b>(92.1)</b>	<b>(82.5)</b>	<b>(70.6)</b>	<b>(75.0)</b>	<b>(71.2)</b>	<b>(42.4)</b>
<b>Total European Region</b>	<b>(73.4)</b>	<b>(78.9)</b>	<b>(77.4)</b>	<b>(65.2)</b>	<b>(51.4)</b>	<b>(23.9)</b>
<b>Subtotal 18 HPCs</b>	<b>(94.8)</b>	<b>(87.0)</b>	<b>(73.3)</b>	<b>(80.9)</b>	<b>(76.7)</b>	<b>(70.0)</b>

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB HPCs presented in italics. EU/EEA: European Union/European Economic Area.

HPC: high-priority country.

<sup>1</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

Annex 5. Laboratory network capacity, European Region, 2019<sup>a</sup>

Country/area	Country/area laboratory network									
	Microscopy		Culture	DST for isoniazid and rifampicin		Line probe assay	Xpert MTB/Rif (N)	International proficiency testing of national reference laboratory		
	Number of laboratories performing	EQA passed	Number of laboratories performing	Number of laboratories performing	EQA passed			Year	Percentage agreement of results for:	Acceptable performance <sup>b</sup>
							isoniazid	rifampicin		
<b>EU/EEA</b>										
Austria	–	–	–	–	–	–	–	–	–	–
Belgium	101	101	101	14	14	1	27	–	–	–
<i>Bulgaria</i>	33	33	30	9	9	3	4	2018	100	100
Croatia	15	1	15	6	6	0	1	–	–	–
Cyprus	–	–	–	–	–	–	–	–	–	–
Czechia	38	38	38	–	–	–	13	2019	100	100
Denmark	1	1	1	1	1	0	1	2019	100	100
<i>Estonia</i>	2	2	2	2	2	0	6	2019	100	100
Finland	9	9	9	1	1	2	5	2019	100	100
France	–	–	–	–	–	–	–	–	–	–
Germany	–	–	–	–	–	–	–	–	–	–
Greece	–	–	–	–	–	–	–	–	–	–
Hungary	11	11	11	6	2	1	5	2019	100	100
Iceland	–	–	–	–	–	–	–	–	–	–
Ireland	11	11	10	3	3	0	7	2019	100	100
Italy	46	0	46	68	65	36	42	2018	100	100
<i>Latvia</i>	143	143	–	1	1	0	323	–	–	–
Liechtenstein	–	–	–	–	–	–	–	–	–	–
<i>Lithuania</i>	10	10	5	5	5	2	4	2019	100	100
Luxembourg	1	1	1	1	1	1	0	2019	100	100
Malta	1	1	1	2	–	0	1	–	–	–
Netherlands	–	–	30	8	–	–	–	2019	100	100
Norway	14	14	8	3	3	1	8	2019	100	100
Poland	50	0	50	39	–	0	22	2019	100	100
Portugal	46	0	42	21	11	20	10	2019	100	100
<i>Romania</i>	94	73	86	43	35	7	27	2019	100	100
Slovakia	7	7	3	2	2	1	1	–	–	–
Slovenia	2	2	2	2	2	1	2	2019	100	100
Spain	–	–	–	–	–	–	–	–	–	–
Sweden	5	5	5	6	6	2	3	2019	100	100
United Kingdom	–	–	–	–	–	–	–	–	–	–
<b>Subtotal EU/EEA</b>	<b>640</b>	<b>463</b>	<b>496</b>	<b>243</b>	<b>169</b>	<b>78</b>	<b>512</b>	–	–	–
<b>Non-EU/EEA</b>										
Albania	12	1	1	1	0	0	1	2017	100	100
Andorra	7	–	7	6	–	4	3	–	–	–
<i>Armenia</i>	25	25	1	1	1	1	13	2019	100	100
<i>Azerbaijan</i>	55	35	7	5	5	2	11	–	–	–
<i>Belarus</i>	116	105	16	16	16	8	26	2019	100	100
Bosnia and Herzegovina	15	–	12	7	–	3	1	–	–	–
Georgia	11	11	2	2	2	2	27	2019	98	97
<i>Israel</i>	17	0	17	3	3	1	–	2018	100	100
<i>Kazakhstan</i>	281	279	19	19	19	12	123	2018	100	100
<i>Kyrgyzstan</i>	116	116	7	2	2	1	24	2019	95	95
Republic of Moldova	57	57	4	4	4	0	57	2019	100	100
Monaco	–	–	–	–	–	–	–	–	–	–
Montenegro	1	1	1	1	1	–	–	2019	100	100
<i>North Macedonia</i>	7	7	3	1	0	0	1	2017	100	100
<i>Russian Federation</i>	5 594	537	359	286	78	5	212	–	–	–
<i>San Marino</i>	0	0	0	0	0	0	0	–	–	–
Serbia	41	11	32	6	6	1	5	2018	100	100
Serbia excluding Kosovo <sup>c</sup>	31	1	29	4	4	1	2	–	–	–
Kosovo <sup>c</sup>	10	10	3	2	2	0	3	2018	100	100
Switzerland	32	32	21	11	11	5	53	–	–	–
Tajikistan	76	71	6	2	2	6	43	2019	–	100
<i>Turkey</i>	274	165	127	65	–	2	26	2019	100	100
<i>Turkmenistan</i>	74	6	6	12	2	6	7	2019	100	100
<i>Ukraine</i>	740	711	82	68	68	4	134	–	100	100
<i>Uzbekistan</i>	285	260	8	8	2	–	51	2019	100	100
<b>Subtotal non-EU/EEA</b>	<b>7 836</b>	<b>2 430</b>	<b>738</b>	<b>526</b>	<b>222</b>	<b>63</b>	<b>819</b>	–	–	–
<b>Total European Region</b>	<b>8 476</b>	<b>2 893</b>	<b>1 234</b>	<b>769</b>	<b>391</b>	<b>141</b>	<b>1 331</b>	–	–	–
<b>Subtotal 18 HPCs</b>	<b>7 986</b>	<b>2 639</b>	<b>767</b>	<b>550</b>	<b>253</b>	<b>61</b>	<b>1 118</b>	–	–	–

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB high-priority countries presented in italics.

EQA: external quality assessment.

EU/EEA: European Union/European Economic Area.

HPC: high-priority country.

DST: drug-susceptibility testing.

Y: yes.

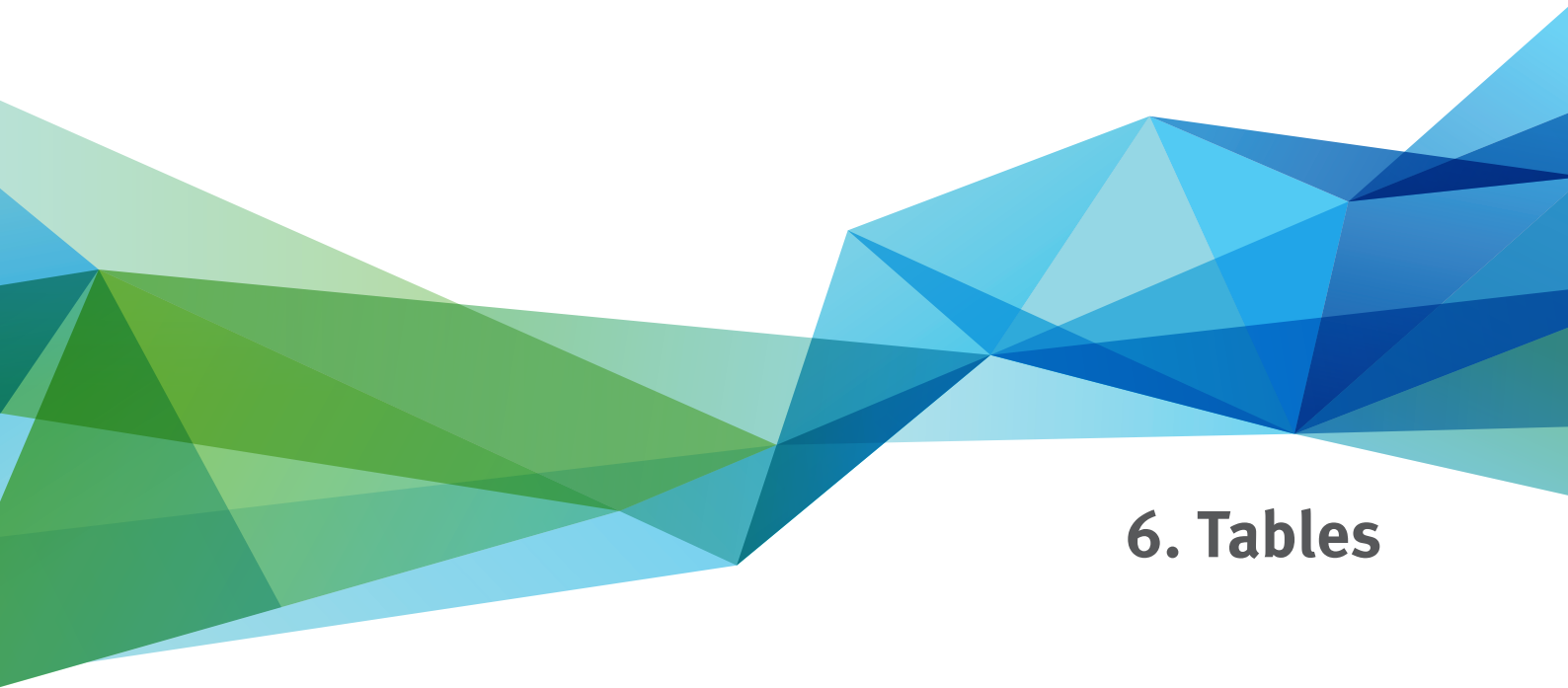
N: no.

<sup>a</sup> Data obtained from WHO Tuberculosis Monitoring and Evaluation platform (TME).

<sup>b</sup> Acceptable performance defined as reference laboratory achieving 95% performance (smear and DST).

<sup>c</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).





## 6. Tables



**Summary table. Tuberculosis (TB) surveillance data by region, European Region, 2019**

Data item	Table showing data by country/area	Region							
		EU/EEA		Non-EU/EEA		Total		18 high-priority countries <sup>a</sup>	
		Number of reporting countries/areas <sup>b</sup>	Value	Number of reporting countries/areas <sup>b</sup>	Value	Number of reporting countries/areas <sup>b</sup>	Value	Number of reporting countries/areas <sup>b</sup>	Value
<b>Total population (millions)</b>	-	<b>30</b>	<b>518.1</b>	<b>23</b>	<b>411.9</b>	<b>52</b>	<b>930.2</b>	<b>18</b>	<b>409.4</b>
<b>Estimates of TB disease burden, 2019<sup>c</sup></b>									
Estimated TB mortality rate (excluding HIV-related deaths) per 100 000 population	1	30	0.7	21	4.1	51	2.2	18	4.3
Estimated TB incidence rate per 100 000 population	1	30	10.6	23	46.6	53	26.4	18	49.8
Estimated RR-TB cases among notified bacteriologically confirmed pulmonary TB patients	2	31	1 170	22	44 100	53	46 000	17	44 800
Estimated percentage of HIV infection among incident TB cases (new and relapse)	2	29	3.8	20	14.7	49	12.0	18	14.0
<b>Notifications of TB cases, 2019</b>									
Total number of TB cases	3	29	49 752	22	210 194	51	259 946	17	221 270
All TB cases per 100 000 population	3	29	9.6	22	51.0	51	28.0	17	54.3
Mean annual percentage change of notification rate (2015–2019)	3	29	-5.1%	22	-5.3%	51	-5.1%	17	-5.2%
Number of new and relapse TB cases	4	29	47 504	22	168 367	51	215 871	17	178 890
New and relapse TB cases per 100 000 population	4	29	9.2	22	40.9	51	23.2	17	43.9
Mean annual percentage change of notification rate of new and relapse TB cases (2015–2019)	4	29	-5.0%	22	-5.9%	51	-5.5%	17	-5.8%
Percentage of new cases among all TB cases	5	29	76.9%	22	66.6%	51	68.6%	17	67.2%
Percentage of retreatment cases among all TB cases	5	29	9.7%	22	33.4%	51	28.8%	17	32.8%
Percentage of pulmonary TB among all TB cases	6	29	77.4%	-	-	-	-	-	-
Percentage of laboratory-confirmed TB cases among all TB cases	8	29	67.1%	-	-	-	-	-	-
Male-to-female ratio of new and relapse TB cases	9	29	1.8	22	1.9	51	1.9	17	2.0
Percentage of foreign TB cases among all TB cases	10	29	34.5%	19	2.2%	48	8.7%	14	1.8%
<b>TB case laboratory confirmation, MDR and XDR, 2019</b>									
Percentage of laboratory-confirmed cases among new pulmonary TB cases <sup>d</sup>	12	29	75.9%	21	62.2%	50	65.0%	16	63.4%
Percentage of DST results reported among new bacteriologically confirmed pulmonary TB cases	12	29	86.5%	21	93.2%	50	91.6%	16	93.4%
Percentage of MDR-TB among new pulmonary TB cases	12	29	2.2%	21	26.6%	50	21.1%	16	24.7%
Percentage of MDR-TB among previously treated pulmonary TB cases	12	29	11.9%	21	57.4%	50	54.4%	16	55.6%
Percentage of DST results reported among all confirmed TB cases	13	28	80.0%	-	-	-	-	-	-
Percentage of MDR-TB among all TB cases	13	28	3.4%	-	-	-	-	-	-
Percentage of XDR-TB among all MDR-TB cases with DST for SLD	14	29	22.4%	18	22.5%	47	22.5%	15	22.6%
<b>TB/HIV coinfection, 2019</b>									
Percentage of new and relapse TB cases with known HIV status	17	19	77.9%	20	95.4%	39	93.5%	16	95.3%
Percentage of HIV-positive cases among new and relapse TB cases with known HIV status	17	19	3.0%	20	15.6%	39	14.5%	16	14.7%
Percentage of HIV-positive new and relapse TB cases started on ART	17	7	85.7%	19	75.7%	26	75.8%	15	75.9%
Percentage of all TB cases with known HIV status	18	19	78.0%	-	-	-	-	-	-
Percentage of HIV-positive cases among all TB cases with known HIV status	18	19	3.1%	-	-	-	-	-	-
<b>Treatment outcome</b>									
Treatment success of all TB cases reported in 2018	20	24	63.7%	22	75.2%	46	72.7%	17	75.6%
Treatment success of new and relapse TB cases notified in 2018	21	24	73.1%	22	77.4%	46	76.5%	17	78.2%
Treatment success of childhood TB cases notified in 2018	22	26	79.9%	19	93.1%	45	89.4%	14	93.6%
Treatment success of TB/HIV cases notified in 2018	24	19	54.9%	15	51.5%	34	51.6%	14	51.6%
Treatment success of RR/MDR-TB cases enrolled in SLD treatment in 2017	26	23	45.7%	21	58.9%	44	58.6%	17	58.6%
Treatment success of all MDR-TB cases notified in 2017	27	23	46.8%	-	-	-	-	-	-
Treatment success of all XDR-TB cases notified in 2017	28	26	7.8%	19	43.9%	45	43.0%	17	43.0%

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein.

ART: antiretroviral therapy.

DST: drug-susceptibility testing.

MDR: multidrug-resistant.

RR: rifampicin-resistant.

SLD: second-line anti-TB drugs.

XDR: extensively drug-resistant.

<sup>a</sup> High-priority countries: the 18 high-priority countries under the STOP TB in the WHO European Region scheme are: Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, the Republic of Moldova, Romania, the Russian Federation, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.

<sup>b</sup> Number of countries/areas with available data included in the statistics.

<sup>c</sup> WHO estimates, as published in: WHO (2020). Global tuberculosis report 2020. Geneva: World Health Organization (<https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2020>, accessed 10 February 2021).

<sup>d</sup> Laboratory-confirmed cases – cases with positive identification for *Mycobacterium tuberculosis* complex confirmed by culture and/or line probe assay for non-EU/EEA countries and areas. For EU/EEA countries: culture-positive OR microscopy-positive and nucleic acid amplification test-positive cases.





	Estimated incidence of child TB cases						Estimated incidence of TB among females						Country	
	Number			Per 100 000			Number			Per 100 000				
	Best	Low	High	Best	Low	High	Best	Low	High	Best	Low	High		
														<b>EU/EEA</b>
	33	28	39	2.6	2.2	3.0	210	160	260	5.4	4.1	6.6		Austria
	58	48	67	2.9	2.4	3.4	320	250	390	6.6	5.1	8.0		Belgium
	90	66	110	8.8	6.4	10.7	470	300	640	15.2	9.7	20.6		Bulgaria
	7	6	8	1.2	1.0	1.3	120	94	140	6.5	5.1	7.6		Croatia
	1	1	1	0.5	0.5	0.5	31	24	38	6.2	4.8	7.6		Cyprus
	5	4	5	0.3	0.2	0.3	130	110	150	2.8	2.4	3.3		Czechia
	11	9	12	1.2	1.0	1.3	110	85	130	4.5	3.5	5.3		Denmark
	1	1	1	0.5	0.5	0.5	54	43	65	9.1	7.2	11.0		Estonia
	10	9	12	1.1	1.0	1.4	91	71	110	3.8	3.0	4.6		Finland
	310	270	360	2.7	2.3	3.1	1 800	1 500	2 200	6.4	5.4	7.9		France
	200	190	220	1.7	1.6	1.9	1 600	1 500	1 700	4.4	4.1	4.6		Germany
	6	5	6	0.4	0.3	0.4	110	89	130	2.4	1.9	2.8		Greece
	12	10	13	0.9	0.7	0.9	200	160	240	4.5	3.6	5.5		Hungary
	0	0	0	0.0	0.0	0.0	7	5	8	5.1	3.7	5.9		Iceland
	12	10	13	1.2	1.0	1.3	110	86	130	5.6	4.4	6.6		Ireland
	190	160	210	2.4	2.0	2.6	1 300	1 100	1 600	4.8	4.0	5.9		Italy
	9	8	11	2.9	2.6	3.5	140	120	170	15.9	13.7	19.3		Latvia
	-	-	-	-	-	-	-	-	-	-	-	-		Liechtenstein
	31	26	36	7.4	6.2	8.6	320	250	380	25.0	19.5	29.7		Lithuania
	0	0	0	0.0	0.0	0.0	12	9	14	4.7	3.5	5.4		Luxembourg
	1	1	1	1.6	1.6	1.6	14	12	17	7.4	6.3	9.0		Malta
	53	44	61	2.0	1.6	2.2	340	260	410	4.7	3.6	5.6		Netherlands
	5	4	5	0.5	0.4	0.5	71	56	87	3.2	2.5	3.9		Norway
	93	79	110	1.6	1.4	1.9	1 500	1 200	1 800	9.0	7.2	10.8		Poland
	72	61	84	5.3	4.5	6.2	640	510	780	13.5	10.8	16.5		Portugal
	450	380	520	14.9	12.6	17.2	3 600	2 900	4 300	42.5	34.2	50.7		Romania
	40	33	47	4.7	3.9	5.5	86	65	110	3.6	2.7	4.6		Slovakia
	2	2	3	0.6	0.6	1.0	40	32	49	4.5	3.6	5.5		Slovenia
	290	240	330	4.3	3.5	4.8	1 500	1 200	1 800	7.3	5.9	8.8		Spain
	22	18	25	1.2	1.0	1.4	240	190	300	5.8	4.6	7.2		Sweden
	200	180	230	1.7	1.5	1.9	2 000	1 700	2 300	7.1	6.0	8.1		United Kingdom
	<b>2 210</b>	<b>2 100</b>	<b>2 320</b>	<b>2.8</b>	<b>2.6</b>	<b>2.9</b>	<b>17 000</b>	<b>16 000</b>	<b>18 000</b>	<b>7.5</b>	<b>7.1</b>	<b>8.0</b>		<b>Subtotal EU/EEA</b>
														<b>Non-EU/EEA</b>
	13	11	15	2.6	2.2	3.0	130	110	160	11.0	9.3	13.6		Albania
	0	0	0	0.0	0.0	0.0	1	1	1	2.9	2.9	2.9		Andorra
	47	35	60	7.7	5.7	9.8	150	100	200	11.7	7.8	15.6		Armenia
	460	330	580	19.5	14.0	24.6	1 900	1 200	2 600	48.3	30.5	66.1		Azerbaijan
	69	51	86	4.3	3.2	5.3	790	530	1 100	18.5	12.4	25.8		Belarus
	7	5	8	1.4	1.0	1.6	350	230	470	24.2	15.9	32.5		Bosnia and Herzegovina
	160	130	190	20.0	16.2	23.7	930	710	1 200	54.5	41.6	70.3		Georgia
	8	7	9	0.3	0.3	0.4	92	72	110	2.9	2.3	3.5		Israel
	360	210	500	6.7	3.9	9.3	4 800	2 100	7 500	69.1	30.2	107.9		Kazakhstan
	350	300	410	16.8	14.4	19.7	2 800	2 200	3 400	125.9	98.9	152.9		Kyrgyzstan
	0	0	0	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0		Monaco
	1	1	1	0.9	0.9	0.9	29	23	35	11.0	8.7	13.3		Montenegro
	15	11	19	4.4	3.2	5.6	80	51	110	9.1	5.8	12.6		North Macedonia
	120	98	130	18.7	15.3	20.2	820	660	980	45.7	36.8	54.6		Republic of Moldova
	2 000	1 200	2 800	7.6	4.5	10.6	21 000	9 900	32 000	32.1	15.1	48.9		Russian Federation
	0	0	0	0.0	0.0	0.0	0	0	0	0.0	0.0	0.0		San Marino
	18	15	20	1.3	1.1	1.5	520	410	630	13.6	10.7	16.5		Serbia
	17	15	20	1.3	1.2	1.6	200	160	250	5.4	4.3	6.7		Switzerland
	630	460	790	18.2	13.3	22.9	3 200	2 000	4 300	108.7	68.0	146.1		Tajikistan
	570	480	660	2.8	2.4	3.3	5 100	4 000	6 200	15.8	12.4	19.2		Turkey
	120	87	150	6.6	4.8	8.2	1 000	660	1 400	47.3	31.2	66.2		Turkmenistan
	1 300	750	1 800	18.5	10.7	25.7	10 000	4 700	16 000	49.5	23.3	79.2		Ukraine
	3 200	2 000	4 400	33.7	21.1	46.3	8 700	4 000	13 000	73.0	33.6	109.1		Uzbekistan
	<b>9 000</b>	<b>7 000</b>	<b>11 000</b>	<b>10.2</b>	<b>7.9</b>	<b>12.4</b>	<b>63 000</b>	<b>50 000</b>	<b>76 000</b>	<b>36.7</b>	<b>29.1</b>	<b>44.3</b>		<b>Subtotal non-EU/EEA</b>
	<b>12 000</b>	<b>10 000</b>	<b>13 000</b>	<b>7.1</b>	<b>5.9</b>	<b>7.7</b>	<b>80 000</b>	<b>65 000</b>	<b>95 000</b>	<b>20.2</b>	<b>16.4</b>	<b>23.9</b>		<b>Total European Region</b>
	<b>10 000</b>	<b>8 000</b>	<b>12 000</b>	<b>11.5</b>	<b>9.2</b>	<b>13.8</b>	<b>66 000</b>	<b>53 000</b>	<b>79 000</b>	<b>38.5</b>	<b>30.9</b>	<b>46.1</b>		<b>Subtotal 18 HPCs</b>

**Table 2. Estimates for TB/HIV coinfection and MDR-TB, European Region, 2019**

Country	Estimated HIV infection among incident TB cases (new and relapse)						Estimated percentage of RR-TB cases among new TB cases		
	Number			%			%		
	Best	Low	High	Best	Low	High	Best	Low	High
<b>EU/EEA</b>									
Austria	13	5	23	2.3	1.0	4.1	2.3	0.8	4.9
Belgium	44	14	90	4.3	1.4	8.7	2.1	1.0	3.9
<i>Bulgaria</i>	15	4	32	1.0	0.3	2.1	2.5	1.3	4.4
Croatia	3	2	6	1.0	0.5	1.7	0.4	0.0	2.5
Cyprus	3	2	5	4.9	2.6	7.8	0.0	0.0	11.0
Czechia	5	2	9	0.9	0.4	1.7	2.6	1.1	5.1
Denmark	8	2	17	2.7	0.9	5.7	2.5	0.7	6.3
Estonia	19	11	30	12.0	6.6	18.0	17.0	10.0	26.0
Finland	4	2	7	1.6	0.7	2.8	1.7	0.2	5.8
France	400	130	820	7.1	2.3	14.0	1.0	0.7	1.5
Germany	130	72	210	2.7	1.5	4.4	2.2	0.8	4.8
Greece	16	9	25	3.6	2.1	5.5	1.5	0.0	8.0
Hungary	6	3	10	1.0	0.5	1.7	3.3	1.4	6.4
Iceland	0	0	1	2.7	0.3	7.8	0.0	0.0	60.0
Ireland	11	6	18	3.9	2.2	6.1	1.1	0.0	5.8
Italy	230	100	420	5.4	2.4	9.6	2.8	1.8	4.3
<i>Latvia</i>	36	11	75	7.2	2.1	15.0	8.0	5.4	11.0
Liechtenstein	–	–	–	–	–	–	–	–	–
<i>Lithuania</i>	30	18	44	2.6	1.7	3.7	14.0	11.0	17.0
Luxembourg	0	0	2	0	0	3.7	2.5	1.3	4.0
Malta	2	1	5	3.5	0.9	7.8	0.0	0.0	13.0
Netherlands	29	18	43	3.4	2.2	4.9	2.4	1.0	5.0
Norway	8	3	16	4.7	1.7	8.9	1.4	0.0	7.3
Poland	84	43	140	1.5	0.8	2.4	1.0	0.7	1.4
Portugal	200	160	240	10.0	8.8	12.0	1.0	0.5	1.7
<i>Romania</i>	240	190	290	1.9	1.6	2.1	2.7	2.3	3.1
Slovakia	7	2	14	2.7	0.8	5.7	1.3	0.0	6.9
Slovenia	2	0	6	1.4	0.0	5.2	0.0	0.0	4.6
Spain	340	110	700	7.9	2.5	16.0	4.2	2.9	5.8
Sweden	13	6	23	2.4	1.1	4.2	2.1	0.7	4.9
United Kingdom	210	68	440	3.9	1.2	8.0	1.4	0.9	2.1
<b>Subtotal EU/EEA</b>	<b>2 110</b>	<b>2 000</b>	<b>3 000</b>	<b>3.8</b>	<b>3.4</b>	<b>5.8</b>	<b>2.7</b>	<b>1.9</b>	<b>3.7</b>
<b>Non-EU/EEA</b>									
Albania	10	4	19	2.2	0.9	4.0	2.3	0.6	5.8
Andorra	–	–	–	–	–	–	0.0	0.0	98.0
Armenia	81	56	110	10.0	8.1	13.0	16.0	12.0	22.0
<i>Azerbaijan</i>	94	65	130	1.6	1.2	1.9	11.0	10.0	13.0
<i>Belarus</i>	200	140	260	7.1	6.1	8.2	38.0	35.0	40.0
Bosnia and Herzegovina	1	0	4	0.2	0.0	0.4	0.5	0.1	1.8
<i>Georgia</i>	53	35	74	1.8	1.3	2.4	12.0	10.0	14.0
Israel	9	4	17	3.7	1.4	6.9	8.6	4.0	16.0
<i>Kazakhstan</i>	680	440	980	5.4	5.0	5.8	27.0	26.0	28.0
<i>Kyrgyzstan</i>	160	130	200	2.3	1.9	2.6	29.0	28.0	31.0
Monaco	–	–	–	–	–	–	2.5	1.3	4.0
Montenegro	0	0	2	0	0	2.3	0.0	0.0	5.8
North Macedonia	2	0	6	0.7	0.0	2.6	0.8	0.0	4.3
<i>Republic of Moldova</i>	340	280	410	11.0	9.4	12.0	33.0	30.0	35.0
<i>Russian Federation</i>	17 000	11 000	24 000	23.0	23.0	24.0	35.0	35.0	36.0
San Marino	–	–	–	–	–	–	2.5	1.3	4.0
Serbia	4	3	6	0.3	0.2	0.5	1.1	0.5	2.2
Switzerland	23	11	37	4.9	2.5	8.0	1.1	0.2	3.3
<i>Tajikistan</i>	230	170	300	3.0	2.5	3.4	29.0	27.0	31.0
<i>Turkey</i>	150	120	190	1.2	1.0	1.4	2.4	1.9	2.8
<i>Turkmenistan</i>	610	310	1 000	23.0	12.0	36.0	23.0	21.0	26.0
<i>Ukraine</i>	7 800	5 000	11 000	23.0	22.0	24.0	27.0	26.0	28.0
<i>Uzbekistan</i>	880	610	1 200	4.0	3.7	4.3	12.0	11.0	13.0
<b>Subtotal non-EU/EEA</b>	<b>28 300</b>	<b>21 000</b>	<b>35 000</b>	<b>14.7</b>	<b>9.4</b>	<b>21.9</b>	<b>22</b>	<b>21</b>	<b>23</b>
<b>Total European Region</b>	<b>30 000</b>	<b>23 000</b>	<b>38 000</b>	<b>12.0</b>	<b>7.9</b>	<b>18.0</b>	<b>17</b>	<b>16</b>	<b>18</b>
<b>Subtotal 18 HPCs</b>	<b>28 600</b>	<b>22 000</b>	<b>40 300</b>	<b>14.0</b>	<b>9.1</b>	<b>24.1</b>	<b>22</b>	<b>21</b>	<b>23</b>

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB HPCs are presented in italics. HPC: high-priority countries. RR: rifampicin-resistant.

	Estimated percentage of RR-TB cases among retreated TB patients			Estimated RR-TB cases among notified bacteriologically confirmed pulmonary TB patients			Country
	%			Number			
	Best	Low	High	Best	Low	High	
	18.0	3.8	43.0	10	4	17	<b>EU/EEA</b>
	8.8	1.9	24.0	16	7	25	Austria
	21.0	13.0	32.0	30	20	41	Belgium
	6.3	0.2	30.0	2	0	5	Bulgaria
	0.0	0.0	98.0	0	0	3	Croatia
	12.0	2.4	30.0	11	5	18	Cyprus
	0.0	0.0	25.0	4	0	9	Czechia
	52.0	30.0	74.0	29	20	38	Denmark
	67.0	9.4	99.0	6	2	10	Estonia
	10.0	7.1	15.0	37	27	47	Finland
	23.0	16.0	30.0	100	52	160	France
	9.1	0.2	41.0	7	0	16	Germany
	8.1	3.3	16.0	12	5	18	Greece
	0.0	0.0	98.0	0	0	2	Hungary
	11.0	0.3	48.0	3	0	7	Iceland
	13.0	7.7	21.0	72	47	96	Ireland
	31.0	19.0	44.0	–	–	–	Italy
	–	–	–	–	–	–	Latvia
	39.0	32.0	46.0	170	150	190	Liechtenstein
	11.0	7.1	16.0	1	0	1	Lithuania
	11.0	7.1	16.0	0	0	6	Luxembourg
	0.0	0.0	25.0	9	2	15	Malta
	0.0	0.0	29.0	1	0	4	Netherlands
	2.8	1.4	4.9	49	34	63	Norway
	6.9	2.8	14.0	16	9	23	Poland
	13.0	11.0	15.0	430	390	480	Portugal
	19.0	5.4	42.0	6	1	10	Romania
	0.0	0.0	60.0	0	0	2	Slovakia
	18.0	9.4	30.0	110	78	150	Slovenia
	18.0	2.3	52.0	6	1	12	Spain
	3.3	0.9	8.1	35	23	47	Sweden
	12.1	8.7	20.2	1170	1100	1300	United Kingdom
							<b>Subtotal EU/EEA</b>
							<b>Non-EU/EEA</b>
	6.7	0.2	32.0	6	1	11	Albania
	11.0	7.1	16.0	0	0	4	Andorra
	41.0	29.0	54.0	66	52	80	Armenia
	24.0	23.0	26.0	760	710	810	Azerbaijan
	60.0	56.0	64.0	870	830	920	Belarus
	0.0	0.0	8.2	2	0	4	Bosnia and Herzegovina
	32.0	28.0	37.0	320	280	350	Georgia
	0.0	0.0	46.0	10	4	17	Israel
	44.0	43.0	46.0	3 100	3 000	3 200	Kazakhstan
	60.0	57.0	63.0	1 400	1 300	1 400	Kyrgyzstan
	11.0	7.1	16.0	–	–	–	Monaco
	0.0	0.0	37.0	0	0	2	Montenegro
	0.0	0.0	23.0	1	0	4	North Macedonia
	60.0	56.0	64.0	930	880	970	Republic of Moldova
	71.0	70.0	71.0	28 000	28 000	29 000	Russian Federation
	11.0	7.1	16.0	0	0	0	San Marino
	4.7	1.3	11.0	7	3	11	Serbia
	26.0	9.1	51.0	12	4	19	Switzerland
	40.0	36.0	45.0	880	830	930	Tajikistan
	9.7	6.9	13.0	170	150	200	Turkey
	54.0	48.0	60.0	300	280	330	Turkmenistan
	43.0	42.0	44.0	6 200	6 000	6 300	Ukraine
	22.0	20.0	24.0	1 100	1 000	1 100	Uzbekistan
	52	45	59	44 100	43 600	44 600	<b>Subtotal non-EU/EEA</b>
	52	45	59	46 000	45 000	46 000	<b>Total European Region</b>
	52	45	59	44 800	44 300	45 300	<b>Subtotal 18 HPCs</b>







Table 6. TB cases by site of disease, EU/EEA, 2019

Country	Pulmonary						Extrapulmonary		No site reported		Total N
	Pulmonary only		Pulmonary and extrapulmonary		Total		N	%	N	%	
	N	(%)	N	(%)	N	(%)					
<b>EU/EEA</b>											
Austria	301	(63.5)	41	(8.6)	342	(72.2)	132	(27.8)	0	(0.0)	474
Belgium	562	(58.1)	130	(13.4)	692	(71.5)	276	(28.5)	0	(0.0)	968
<i>Bulgaria</i>	1 001	(74.5)	65	(4.8)	1 066	(79.3)	278	(20.7)	0	(0.0)	1 344
Croatia	222	(73.3)	17	(5.6)	239	(78.9)	19	(6.3)	45	(14.9)	303
Cyprus	56	(81.2)	6	(8.7)	62	(89.9)	7	(10.1)	0	(0.0)	69
Czechia	398	(85.8)	28	(6.0)	426	(91.8)	38	(8.2)	0	(0.0)	464
Denmark	209	(74.4)	15	(5.3)	224	(79.7)	54	(19.2)	3	(1.1)	281
<i>Estonia</i>	110	(73.3)	29	(19.3)	139	(92.7)	11	(7.3)	0	(0.0)	150
Finland	158	(70.2)	0	(0.0)	158	(70.2)	67	(29.8)	0	(0.0)	225
France	3 476	(67.9)	0	(0.0)	3 476	(67.9)	1 586	(31.0)	54	(1.1)	5 116
Germany	2 871	(59.9)	564	(11.8)	3 435	(71.7)	1 321	(27.6)	35	(0.7)	4 791
Greece	313	(68.2)	83	(18.1)	396	(86.3)	58	(12.6)	5	(1.1)	459
Hungary	517	(93.7)	18	(3.3)	535	(96.9)	17	(3.1)	0	(0.0)	552
Iceland	5	(38.5)	2	(15.4)	7	(53.8)	6	(46.2)	0	(0.0)	13
Ireland	144	(54.1)	27	(10.2)	171	(64.3)	69	(25.9)	26	(9.8)	266
Italy	2 336	(69.8)	201	(6.0)	2 537	(75.8)	728	(21.8)	81	(2.4)	3 346
<i>Latvia</i>	–	–	–	–	–	–	–	–	–	–	–
Liechtenstein	–	–	–	–	–	–	–	–	–	–	–
<i>Lithuania</i>	979	(92.5)	3	(0.3)	982	(92.8)	76	(7.2)	0	(0.0)	1 058
Luxembourg	35	(70.0)	5	(10.0)	40	(80.0)	10	(20.0)	0	(0.0)	50
Malta	64	(65.3)	12	(12.2)	76	(77.6)	22	(22.4)	0	(0.0)	98
Netherlands	354	(46.6)	78	(10.3)	432	(56.9)	318	(41.9)	9	(1.2)	759
Norway	90	(54.5)	19	(11.5)	109	(66.1)	56	(33.9)	0	(0.0)	165
Poland	5 057	(95.0)	18	(0.3)	5 075	(95.4)	246	(4.6)	0	(0.0)	5 321
Portugal	1 133	(64.0)	178	(10.1)	1 311	(74.0)	457	(25.8)	3	(0.2)	1 771
<i>Romania</i>	9 313	(80.1)	754	(6.5)	10 067	(86.5)	1 566	(13.5)	0	(0.0)	11 633
Slovakia	149	(69.6)	30	(14.0)	179	(83.6)	35	(16.4)	0	(0.0)	214
Slovenia	75	(74.3)	14	(13.9)	89	(88.1)	12	(11.9)	0	(0.0)	101
Spain	2 670	(64.3)	339	(8.2)	3 009	(72.5)	1 141	(27.5)	0	(0.0)	4 150
Sweden	257	(53.7)	44	(9.2)	301	(62.8)	178	(37.2)	0	(0.0)	479
United Kingdom	2 120	(41.3)	794	(15.5)	2 914	(56.8)	2 204	(42.9)	14	(0.3)	5 132
<b>Total EU/EEA</b>	<b>34 975</b>	<b>(70.3)</b>	<b>3 514</b>	<b>(7.1)</b>	<b>38 489</b>	<b>(77.4)</b>	<b>10 988</b>	<b>(22.1)</b>	<b>275</b>	<b>(0.6)</b>	<b>49 752</b>

Note: WHO European Region TB high-priority countries are presented in italics.





**Table 8. TB cases according to EU case definition, EU/EEA, 2019**

Country	All laboratory-confirmed cases <sup>a</sup>						Confirmed cases <sup>b</sup>		Probable cases		Possible cases		All TB cases
	Meeting only the smear-positive and nucleic acid test-positive criterion		Meeting only the culture-positive criterion		Meeting both criteria								
	N	(%) <sup>c</sup>	N	(%) <sup>c</sup>	N	(%) <sup>c</sup>	N	(%) <sup>d</sup>	N	(%) <sup>d</sup>	N	(%) <sup>d</sup>	N
Austria	4	(1.2)	249	(72.8)	89	(26.0)	342	(72.2)	81	(17.1)	51	(10.8)	474
Belgium	15	(2.0)	402	(54.5)	320	(43.4)	737	(76.1)	127	(13.1)	104	(10.7)	968
<i>Bulgaria</i>	0	(0.0)	624	(99.7)	2	(0.3)	626	(46.6)	122	(9.1)	596	(44.3)	1 344
Croatia	0	(0.0)	253	(100.0)	0	(0.0)	253	(83.5)	9	(3.0)	41	(13.5)	303
Cyprus	0	(0.0)	39	(73.6)	14	(26.4)	53	(76.8)	5	(7.2)	11	(15.9)	69
Czechia	2	(0.5)	218	(58.1)	155	(41.3)	375	(80.8)	50	(10.8)	39	(8.4)	464
Denmark	1	(0.4)	133	(58.3)	94	(41.2)	228	(81.1)	6	(2.1)	47	(16.7)	281
<i>Estonia</i>	0	(0.0)	65	(50.8)	63	(49.2)	128	(85.3)	12	(8.0)	10	(6.7)	150
Finland	0	(0.0)	145	(81.9)	32	(18.1)	177	(78.7)	24	(10.7)	24	(10.7)	225
France	0	(0.0)	1 807	(100.0)	0	(0.0)	1 807	(35.3)	1 045	(20.4)	2 264	(44.3)	5 116
Germany	146	(3.9)	1 953	(52.8)	1 602	(43.3)	3 701	(77.2)	471	(9.8)	619	(12.9)	4 791
Greece	12	(4.2)	165	(58.3)	106	(37.5)	283	(61.7)	82	(17.9)	94	(20.5)	459
Hungary	0	(0.0)	287	(100.0)	0	(0.0)	287	(52.0)	23	(4.2)	242	(43.8)	552
Iceland	0	(0.0)	4	(50.0)	4	(50.0)	8	(61.5)	1	(7.7)	4	(30.8)	13
Ireland	0	(0.0)	158	(80.2)	39	(19.8)	197	(74.1)	25	(9.4)	44	(16.5)	266
Italy	0	(0.0)	2 361	(100.0)	0	(0.0)	2 361	(70.6)	317	(9.5)	668	(20.0)	3 346
<i>Latvia</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	0	(0.0)	935	(100.0)	0	(0.0)	935	(88.4)	6	(0.6)	117	(11.1)	1 058
Luxembourg	0	(0.0)	40	(100.0)	0	(0.0)	40	(80.0)	0	(0.0)	10	(20.0)	50
Malta	0	(0.0)	48	(100.0)	0	(0.0)	48	(49.0)	8	(8.2)	42	(42.9)	98
Netherlands	4	(0.8)	293	(57.8)	210	(41.4)	507	(66.8)	79	(10.4)	173	(22.8)	759
Norway	2	(1.5)	92	(67.2)	43	(31.4)	137	(83.0)	16	(9.7)	12	(7.3)	165
Poland	0	(0.0)	3 273	(80.7)	781	(19.3)	4 054	(76.2)	103	(1.9)	1 164	(21.9)	5 321
Portugal	34	(3.4)	870	(87.2)	94	(9.4)	998	(56.4)	423	(23.9)	350	(19.8)	1 771
<i>Romania</i>	50	(0.6)	6 510	(76.6)	1 939	(22.8)	8 499	(73.1)	934	(8.0)	2 200	(18.9)	11 633
Slovakia	0	(0.0)	94	(83.2)	19	(16.8)	113	(52.8)	38	(17.8)	63	(29.4)	214
Slovenia	0	(0.0)	50	(53.8)	43	(46.2)	93	(92.1)	6	(5.9)	2	(2.0)	101
Spain	59	(2.1)	2 202	(78.7)	536	(19.2)	2 797	(67.4)	606	(14.6)	747	(18.0)	4 150
Sweden	1	(0.3)	297	(74.4)	101	(25.3)	399	(83.3)	38	(7.9)	42	(8.8)	479
United Kingdom	9	(0.3)	3 003	(94.3)	173	(5.4)	3 185	(62.1)	365	(7.1)	1 582	(30.8)	5 132
<b>Total EU/EEA</b>	<b>339</b>	<b>(1.0)</b>	<b>26 570</b>	<b>(79.6)</b>	<b>6 459</b>	<b>(19.4)</b>	<b>33 368</b>	<b>(67.1)</b>	<b>5 022</b>	<b>(10.1)</b>	<b>11 362</b>	<b>(22.8)</b>	<b>49 752</b>

Note: WHO European Region TB high-priority countries are presented in italics.

<sup>a</sup> Laboratory-confirmed TB cases according to the EU case definition.

<sup>b</sup> Culture-positive OR microscopy-positive and nucleic acid amplification test-positive.

<sup>c</sup> Proportion of all laboratory-confirmed TB cases.

<sup>d</sup> Proportion of all TB cases.





Table 10. TB cases by origin, European Region, 2019

Country/area	Origin criterion	Native		Foreign		Unknown origin		All TB cases
		N	(%)	N	(%)	N	(%)	N
<b>EU/EEA</b>								
Austria	Citizenship	211	(44.5)	263	(55.5)	0	(0.0)	474
Belgium	Citizenship	427	(44.1)	541	(55.9)	0	(0.0)	968
<i>Bulgaria</i>	<i>Birthplace</i>	<i>1 344</i>	<i>(100.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>1 344</i>
Croatia	Birthplace	299	(98.7)	4	(1.3)	0	(0.0)	303
Cyprus	Birthplace	7	(10.1)	62	(89.9)	0	(0.0)	69
Czechia	Birthplace	323	(69.6)	140	(30.2)	1	(0.2)	464
Denmark	Birthplace	77	(27.4)	204	(72.6)	0	(0.0)	281
<i>Estonia</i>	<i>Birthplace</i>	<i>114</i>	<i>(76.0)</i>	<i>36</i>	<i>(24.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>150</i>
Finland	Birthplace	125	(55.6)	96	(42.7)	4	(1.8)	225
France	Birthplace	1 455	(28.4)	3 102	(60.6)	559	(10.9)	5 116
Germany	Birthplace	1 308	(27.3)	3 362	(70.2)	121	(2.5)	4 791
Greece	Citizenship	202	(44.0)	257	(56.0)	0	(0.0)	459
Hungary	Citizenship	509	(92.2)	43	(7.8)	0	(0.0)	552
Iceland	Birthplace	2	(15.4)	11	(84.6)	0	(0.0)	13
Ireland	Birthplace	106	(39.8)	119	(44.7)	41	(15.4)	266
Italy	Birthplace	1 393	(41.6)	1 882	(56.2)	71	(2.1)	3 346
<i>Latvia</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Liechtenstein	-	-	-	-	-	-	-	-
<i>Lithuania</i>	<i>Birthplace</i>	<i>1 042</i>	<i>(98.5)</i>	<i>16</i>	<i>(1.5)</i>	<i>0</i>	<i>(0.0)</i>	<i>1 058</i>
Luxembourg	Birthplace	5	(10.0)	45	(90.0)	0	(0.0)	50
Malta	Birthplace	4	(4.1)	94	(95.9)	0	(0.0)	98
Netherlands	Birthplace	182	(24.0)	567	(74.7)	10	(1.3)	759
Norway	Birthplace	18	(10.9)	146	(88.5)	1	(0.6)	165
Poland	Citizenship	5 200	(97.7)	121	(2.3)	0	(0.0)	5 321
Portugal	Birthplace	1 350	(76.2)	419	(23.7)	2	(0.1)	1 771
<i>Romania</i>	<i>Birthplace</i>	<i>11 591</i>	<i>(99.6)</i>	<i>42</i>	<i>(0.4)</i>	<i>0</i>	<i>(0.0)</i>	<i>11 633</i>
Slovakia	Birthplace	207	(96.7)	7	(3.3)	0	(0.0)	214
Slovenia	Birthplace	65	(64.4)	36	(35.6)	0	(0.0)	101
Spain	Birthplace	2 247	(54.1)	1 539	(37.1)	364	(8.8)	4 150
Sweden	Birthplace	64	(13.4)	415	(86.6)	0	(0.0)	479
United Kingdom	Birthplace	1 362	(26.5)	3 612	(70.4)	158	(3.1)	5 132
<b>Subtotal EU/EEA</b>		<b>31 239</b>	<b>(62.8)</b>	<b>17 181</b>	<b>(34.5)</b>	<b>1 332</b>	<b>(2.7)</b>	<b>49 752</b>
<b>Non-EU/EEA</b>								
Albania	Citizenship	412	(100.0)	0	(0.0)	-	-	412
Andorra	Citizenship	4	(80.0)	1	(20.0)	-	-	5
Armenia	Citizenship	700	(98.3)	12	(1.7)	-	-	712
<i>Azerbaijan</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Belarus	Citizenship	2 619	(100.0)	0	(0.0)	-	-	2 619
Bosnia and Herzegovina	Birthplace	580	(100.0)	0	(0.0)	-	-	580
<i>Georgia</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Israel	Birthplace	29	(13.4)	188	(86.6)	-	-	217
<i>Kazakhstan</i>	<i>Citizenship</i>	<i>12 942</i>	<i>(98.8)</i>	<i>161</i>	<i>(1.2)</i>	<i>-</i>	<i>-</i>	<i>13 103</i>
<i>Kyrgyzstan</i>	<i>Birthplace</i>	<i>7 057</i>	<i>(100.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>-</i>	<i>-</i>	<i>7 057</i>
Monaco	-	-	-	-	-	-	-	-
Montenegro	Citizenship	78	(95.1)	4	(4.9)	-	-	82
North Macedonia	Birthplace	197	(99.0)	2	(1.0)	-	-	199
<i>Republic of Moldova</i>	<i>Citizenship</i>	<i>3 293</i>	<i>(99.4)</i>	<i>19</i>	<i>(0.6)</i>	<i>-</i>	<i>-</i>	<i>3 312</i>
<i>Russian Federation</i>	<i>Citizenship</i>	<i>101 909</i>	<i>(98.0)</i>	<i>2 070</i>	<i>(2.0)</i>	<i>-</i>	<i>-</i>	<i>103 979</i>
San Marino	Birthplace	0	-	0	-	-	-	0
Serbia	-	1 184	(99.6)	5	(0.4)	-	-	1 189
Serbia excluding Kosovo <sup>1</sup>	Citizenship	569	(99.1)	5	(0.9)	-	-	574
Kosovo <sup>1</sup>	Birthplace	615	(100.0)	0	(0.0)	-	-	615
Switzerland	Birthplace	148	(31.8)	318	(68.2)	-	-	466
<i>Tajikistan</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Turkey	Birthplace	9 986	(87.3)	1 454	(12.7)	-	-	11 440
<i>Turkmenistan</i>	<i>Citizenship</i>	<i>3 472</i>	<i>(100.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>-</i>	<i>-</i>	<i>3 472</i>
Ukraine	Citizenship	28 985	(99.9)	36	(0.1)	-	-	29 021
<i>Uzbekistan</i>	<i>Birthplace</i>	<i>19 146</i>	<i>(100.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>-</i>	<i>-</i>	<i>19 146</i>
<b>Subtotal non-EU/EEA</b>		<b>192 741</b>	<b>(97.8)</b>	<b>4 270</b>	<b>(2.2)</b>	<b>0</b>	<b>(0.0)</b>	<b>197 011</b>
<b>Total European Region</b>		<b>223 980</b>	<b>(90.8)</b>	<b>21 451</b>	<b>(8.7)</b>	<b>1 332</b>	<b>(0.5)</b>	<b>246 763</b>
<b>Subtotal 18 HPCs</b>		<b>204 200</b>	<b>(98.2)</b>	<b>3 846</b>	<b>(1.8)</b>	<b>0</b>	<b>(0.0)</b>	<b>208 046</b>

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB HPCs are presented in italics.

HPC: high-priority countries.

<sup>1</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).



**Table 11. Drug-resistance surveillance of bacteriologically confirmed<sup>a</sup> pulmonary TB cases, European Region, 2019**

Country/area	Source of data	Coverage	Bacteriologically confirmed cases <sup>a</sup>		Cases with DST results at least for RIF and INH		Cases with DST results for at least RIF	
			N	(%)	N	(%)	N	(%)
<b>EU/EEA</b>								
Austria	TESSy	National	306	(89.5)	260	(85.0)	260	(85.0)
Belgium	TESSy	National	608	(87.9)	540	(88.8)	540	(88.8)
Bulgaria	TESSy	National	618	(58.0)	446	(72.2)	453	(73.3)
Croatia	TESSy	National	215	(90.0)	183	(85.1)	183	(85.1)
Cyprus	TESSy	National	50	(80.6)	49	(98.0)	49	(98.0)
Czechia	TESSy	National	368	(86.4)	317	(86.1)	319	(86.7)
Denmark	TESSy	National	193	(86.2)	189	(97.9)	189	(97.9)
Estonia	TESSy	National	127	(91.4)	122	(96.1)	127	(100.0)
Finland	TESSy	National	139	(88.0)	125	(89.9)	126	(90.6)
France	TESSy	National	1 351	(38.9)	60	(4.4)	60	(4.4)
Germany	TESSy	National	2 984	(86.9)	2 558	(85.7)	2 576	(86.3)
Greece	TESSy	National	273	(68.9)	198	(72.5)	198	(72.5)
Hungary	TESSy	National	285	(53.3)	257	(90.2)	267	(93.7)
Iceland	TESSy	National	4	(57.1)	4	(100.0)	4	(100.0)
Ireland	TESSy	National	149	(87.1)	128	(85.9)	130	(87.2)
Italy	NRL-TME <sup>d</sup>	Partial	2 134	(84.1)	1 737	(81.4)	1 737	(81.4)
Latvia	–	–	–	–	–	–	–	–
Liechtenstein	–	–	–	–	–	–	–	–
Lithuania	TESSy	National	905	(92.2)	905	(100.0)	905	(100.0)
Luxembourg	TESSy	National	33	(82.5)	26	(78.8)	26	(78.8)
Malta	TESSy	National	37	(48.7)	36	(97.3)	36	(97.3)
Netherlands	TESSy	National	363	(84.0)	299	(82.4)	300	(82.6)
Norway	TESSy	National	100	(91.7)	87	(87.0)	89	(89.0)
Poland	TESSy	National	4 006	(78.9)	3 574	(89.2)	3 574	(89.2)
Portugal	TESSy	National	951	(72.5)	504	(53.0)	504	(53.0)
Romania	TESSy	National	8 315	(82.6)	7 442	(89.5)	7 592	(91.3)
Slovakia	TESSy	National	125	(69.8)	107	(85.6)	107	(85.6)
Slovenia	TESSy	National	83	(93.3)	82	(98.8)	82	(98.8)
Spain	TESSy	National	2 352	(78.2)	617	(26.2)	630	(26.8)
Sweden	TESSy	National	281	(93.4)	263	(93.6)	263	(93.6)
United Kingdom	TESSy	National	2 200	(75.5)	2 157	(98.0)	2 160	(98.2)
<b>Subtotal EU/EEA</b>			<b>29 555</b>	<b>(76.8)</b>	<b>23 272</b>	<b>(78.7)</b>	<b>23 486</b>	<b>(79.5)</b>
<b>Non-EU/EEA</b>								
Albania	NRL-TME	National	225	(70.3)	29.00	(12.9)	29	(12.9)
Andorra	NRL-TME	National	4	(100.0)	2	(50.0)	2	(50.0)
Armenia	NRL-TME	National	305	(57.4)	296	(97.0)	299	(98.0)
Azerbaijan	NRL-TME	National	4 130	(73.8)	3 757	(91.0)	4 094	(99.1)
Belarus	NRL-TME	National	2 013	(95.2)	2 013	(100.0)	2 013	(100.0)
Bosnia and Herzegovina	NRL-TME	National	355	(70.7)	242	(68.2)	342	(96.3)
Georgia	NRL-TME	National	1 841	(91.4)	1 412	(76.7)	1 793	(97.4)
Israel	NRL-TME	National	111	(69.8)	105	(94.6)	105	(94.6)
Kazakhstan	NRL-TME	National	9 309	(79.4)	6 527	(70.1)	8 937	(96.0)
Kyrgyzstan	NRL-TME	National	3 609	(67.1)	3 310	(91.7)	3 378	(93.6)
Monaco	–	–	–	–	–	–	–	–
Montenegro	NRL-TME	National	71	(94.7)	61	(85.9)	70	(98.6)
North Macedonia	NRL-TME	National	140	(86.4)	120	(85.7)	140	(100.0)
Republic of Moldova	NRL-TME	–	2 180	(73.5)	1 539	(70.6)	1 687	(77.4)
Russian Federation	NRL-TME	National	54 751	(63.5)	50 476	(92.2)	50 476	(92.2)
San Marino	–	National	0	–	–	–	–	–
Serbia	NRL-TME	National	577	(61.4)	242	(41.9)	485	(84.1)
Serbia excluding Kosovo <sup>1</sup>	NRL-TME	National	334	(67.3)	242	(72.5)	242	(72.5)
Kosovo <sup>1</sup>	NRL-TME	National	243	(54.9)	0	(0.0)	243	(100.0)
Switzerland	NRL-TME	Subnational	294	(86.5)	216	(73.5)	217	(73.8)
Tajikistan	NRL-TME	National	2 828	(67.2)	2 002	(70.8)	2 828	(100.0)
Turkey	NRL-TME	National	5 915	(79.6)	5 087	(86.0)	5 178	(87.5)
Turkmenistan	–	–	–	–	–	–	–	–
Ukraine	NRL-TME	National	19 129	(73.5)	18 459	(96.5)	18 459	(96.5)
Uzbekistan	NRL-TME	National	7 394	(61.6)	7 394	(100.0)	7 394	(100.0)
<b>Subtotal non-EU/EEA</b>			<b>115 181</b>	<b>(68.3)</b>	<b>103 289</b>	<b>(89.7)</b>	<b>107 926</b>	<b>(93.7)</b>
<b>Total European Region</b>			<b>144 736</b>	<b>(69.9)</b>	<b>126 561</b>	<b>(87.4)</b>	<b>131 412</b>	<b>(90.8)</b>
<b>Subtotal 18 HPCs</b>			<b>123 369</b>	<b>(69.1)</b>	<b>111 187</b>	<b>(90.1)</b>	<b>115 613</b>	<b>(93.7)</b>

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB HPCs are presented in italics. The resistance pattern at the initiation of treatment is reported to TESSy irrespective of the method used for drug-susceptibility testing or resistance prediction.

DST: drug-susceptibility testing.

HPC: high-priority countries.

INH: isoniazid.

MDR-TB: multidrug-resistant tuberculosis.

N: no.

NRL: national reference laboratory.

RIF: rifampicin.

TESSy: The European Surveillance System.

TME: WHO Tuberculosis Monitoring and Evaluation platform.

Y: yes.

<sup>1</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

	Cases resistant to RIF		Cases resistant to any anti-TB drug <sup>a</sup>		MDR-TB cases		All pulmonary TB cases	Reporting completeness <sup>c</sup>
	N	(%)	N	(%)	N	(%)	N	
	4	(1.5)	23	(8.8)	3	(1.2)	342	Y
	13	(2.4)	31	(5.7)	12	(2.2)	692	Y
	14	(3.1)	34	(7.6)	11	(2.5)	1 066	Y
	2	(1.1)	7	(3.8)	2	(1.1)	239	Y
	1	(2.0)	4	(8.2)	1	(2.0)	62	Y
	8	(2.5)	35	(11.0)	8	(2.5)	426	Y
	3	(1.6)	6	(3.2)	3	(1.6)	224	Y
	29	(22.8)	50	(41.0)	27	(22.1)	139	Y
	3	(2.4)	13	(10.4)	2	(1.6)	158	Y
	60	(100.0)	60	(100.0)	60	(100.0)	3 476	Y
	78	(3.0)	283	(11.1)	67	(2.6)	3 435	Y
	7	(3.5)	36	(18.2)	6	(3.0)	396	Y
	13	(4.9)	37	(14.4)	12	(4.7)	535	Y
	0	(0.0)	0	(0.0)	0	(0.0)	7	Y
	3	(2.3)	14	(10.9)	2	(1.6)	171	Y
	45	(2.6)	–	–	38	(2.2)	2 537	N
	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–
	170	(18.8)	291	(32.2)	157	(17.3)	982	Y
	1	(3.8)	7	(26.9)	1	(3.8)	40	Y
	0	(0.0)	2	(5.6)	0	(0.0)	76	Y
	7	(2.3)	17	(5.7)	6	(2.0)	432	Y
	2	(2.2)	10	(11.5)	2	(2.3)	109	Y
	44	(1.2)	249	(7.0)	40	(1.1)	5 075	Y
	9	(1.8)	60	(11.9)	5	(1.0)	1 311	Y
	374	(4.9)	636	(8.5)	302	(4.1)	10 067	Y
	5	(4.7)	8	(7.5)	5	(4.7)	179	Y
	0	(0.0)	2	(2.4)	0	(0.0)	89	Y
	10	(1.6)	66	(10.7)	8	(1.3)	3 009	Y
	6	(2.3)	30	(11.4)	4	(1.5)	301	Y
	34	(1.6)	238	(11.0)	27	(1.3)	2 914	Y
	<b>945</b>	<b>(4.0)</b>	<b>2 249</b>	<b>(10.4)</b>	<b>811</b>	<b>(3.5)</b>	<b>38 489</b>	
	4	(13.8)	2	(6.9)	2	(6.9)	320	N
	0	(0.0)	0	(0.0)	0	(0.0)	4	N
	65	(21.7)	85	(28.7)	56	(18.9)	531	Y
	752	(18.4)	533	(14.2)	414	(11.0)	5 600	Y
	874	(43.4)	561	(27.9)	808	(40.1)	2 115	Y
	1	(0.3)	3	(1.2)	0	(0.0)	502	Y
	304	(17.0)	230	(16.3)	229	(16.2)	2 015	Y
	9	(8.6)	14	(13.3)	9	(8.6)	159	Y
	2 980	(33.3)	2 013	(30.8)	1 569	(24.0)	11 723	Y
	1 303	(38.6)	1 000	(30.2)	1 097	(33.1)	5 378	Y
	–	–	–	–	–	–	–	N
	0	(0.0)	0	(0.0)	0	(0.0)	75	Y
	1	(0.7)	1	(0.8)	1	(0.8)	162	Y
	559	(33.1)	402	(26.1)	441	(28.7)	2 967	N
	26 445	(52.4)	18 286	(36.2)	24 443	(48.4)	86 181	Y
	–	–	–	–	–	–	–	–
	2	(0.4)	2	(0.8)	2	(0.8)	939	Y
	2	(0.8)	4	(1.7)	2	(0.8)	496	Y
	0	(0.0)	0	(0.0)	0	(0.0)	443	Y
	9	(4.1)	13	(6.0)	7	(3.2)	340	N
	878	(31.0)	473	(23.6)	308	(15.4)	4 209	Y
	150	(2.9)	487	(9.6)	121	(2.4)	7 433	Y
	–	–	–	–	–	–	–	N
	5 936	(32.2)	3 886	(21.1)	4 490	(24.3)	26 032	Y
	1 082	(14.6)	1 665	(22.5)	978	(13.2)	12 008	Y
	<b>41 354</b>	<b>(38.3)</b>	<b>29 656</b>	<b>(28.7)</b>	<b>34 975</b>	<b>(33.9)</b>	<b>168 693</b>	–
	<b>42 299</b>	<b>(32.2)</b>	<b>31 905</b>	<b>(25.2)</b>	<b>35 786</b>	<b>(28.3)</b>	<b>207 182</b>	–
	<b>41 915</b>	<b>(36.3)</b>	<b>30 632</b>	<b>(27.5)</b>	<b>35 451</b>	<b>(31.9)</b>	<b>178 446</b>	–

<sup>a</sup> Bacteriologically confirmed cases – cases with positive identification for *Mycobacterium tuberculosis* complex confirmed by culture and/or line probe assay for non-EU/EEA countries and areas. For EU/EEA countries: cases with positive identification for *Mycobacterium tuberculosis* complex confirmed by culture and/or line probe assay.

<sup>b</sup> For non-EU/EEA countries and areas, any resistance to isoniazid, rifampicin, ethambutol or streptomycin expressed as a percentage of cases with DST results available for at least isoniazid and rifampicin. No routine testing for ethambutol and streptomycin in all countries. For EU/EEA countries, cases with DST results for at least RIF and INH that have any resistance to isoniazid, rifampicin, ethambutol, streptomycin, ciprofloxacin, gatifloxacin, levofloxacin, moxifloxacin, ofloxacin, amikacin, capreomycin, kanamycin or pyrazinamide expressed as a percentage of cases with DST results available for at least isoniazid and rifampicin.

<sup>c</sup> Data are considered complete when national coverage is 100% OR culture results are available for 90% of all cases, and 50% of all cases are culture-positive, and 75% of them have DST results, and external quality-assessment results have been accurate in 95% of samples of reported year.

<sup>d</sup> Laboratory-related data from Italy are reported by NRL and may differ from data shown elsewhere in this report.





	Total ... <sup>b</sup>								Country/area
	cases with DST results to RIF		RR/MDR-TB cases		All bacteriologically confirmed pulmonary TB cases		All pulmonary TB cases		
	N	(%) <sup>c</sup>	N	(%) <sup>d</sup>	N	(%) <sup>e</sup>	N	(%) <sup>f</sup>	
	<b>EU/EEA</b>								
	204	(98.1)	3	(1.5)	208	(75.6)	275	(58.0)	Austria
	477	(96.0)	12	(2.5)	497	(80.9)	614	(63.4)	Belgium <sup>g</sup>
	453	(73.5)	11	(2.4)	616	(57.8)	1 066	(79.3)	Bulgaria
	11	(73.3)	1	(9.1)	15	(100.0)	15	(5.0)	Croatia
	48	(100.0)	0	(0.0)	48	(80.0)	60	(87.0)	Cyprus
	319	(90.9)	8	(2.5)	351	(82.4)	426	(91.8)	Czechia
	185	(98.9)	3	(1.6)	187	(83.9)	223	(79.4)	Denmark <sup>h</sup>
	121	(100.0)	26	(21.5)	121	(87.1)	139	(92.7)	Estonia
	124	(96.1)	2	(1.6)	129	(83.8)	154	(68.4)	Finland
	38	(4.7)	38	(100.0)	813	(40.9)	1 989	(38.9)	France
	1 865	(91.6)	47	(2.5)	2 036	(81.4)	2 501	(52.2)	Germany
	192	(80.0)	6	(3.1)	240	(63.2)	380	(82.8)	Greece
	267	(93.7)	12	(4.5)	285	(53.3)	535	(96.9)	Hungary
	4	(100.0)	0	(0.0)	4	(57.1)	7	(53.8)	Iceland
	102	(95.3)	2	(2.0)	107	(84.9)	126	(47.4)	Ireland <sup>h</sup>
	–	–	38	(2.2)	269	(70.4)	382	(17.7)	Italy
	–	–	–	–	–	–	–	–	Latvia
	–	–	–	–	–	–	–	–	Liechtenstein
	905	(100.0)	157	(17.3)	905	(92.2)	982	(92.8)	Lithuania
	16	(76.2)	0	(0.0)	21	(84.0)	25	(50.0)	Luxembourg
	36	(97.3)	0	(0.0)	37	(48.7)	76	(77.6)	Malta
	299	(90.1)	6	(2.0)	332	(77.0)	431	(56.8)	Netherlands
	87	(92.6)	2	(2.3)	94	(86.2)	109	(66.1)	Norway <sup>h</sup>
	3 574	(91.0)	40	(1.1)	3 926	(77.4)	5 075	(95.4)	Poland
	504	(58.4)	5	(1.0)	863	(65.8)	1 311	(74.0)	Portugal
	7 589	(93.0)	302	(4.0)	8 161	(81.1)	10 067	(86.5)	Romania
	100	(100.0)	5	(5.0)	100	(58.8)	170	(79.4)	Slovakia
	82	(100.0)	0	(0.0)	82	(92.1)	89	(88.1)	Slovenia
	619	(44.7)	8	(1.3)	1 384	(76.0)	1 820	(43.9)	Spain
	234	(99.2)	4	(1.7)	236	(89.1)	265	(55.3)	Sweden
	2 028	(98.9)	25	(1.2)	2 050	(74.9)	2 737	(53.3)	United Kingdom <sup>h</sup>
	<b>22 220</b>	<b>(86.4)</b>	<b>763</b>	<b>(3.4)</b>	<b>25 713</b>	<b>(76.0)</b>	<b>33 822</b>	<b>(68.0)</b>	<b>Subtotal EU/EEA</b>
	<b>Non-EU/EEA</b>								
	29	(12.9)	4	(13.8)	225	(70.3)	320	(77.7)	Albania
	2	(50.0)	0	(0.0)	4	(100.0)	4	(80.0)	Andorra
	299	(98.0)	65	(21.7)	305	(57.4)	531	(79.3)	Armenia
	4 094	(99.1)	752	(18.4)	4 130	(73.8)	5 600	(85.7)	Azerbaijan
	2 013	(100.0)	874	(43.4)	2 013	(95.2)	2 115	(80.9)	Belarus
	342	(96.3)	1	(0.3)	355	(70.7)	502	(86.6)	Bosnia and Herzegovina
	1 793	(97.6)	304	(17.0)	1 838	(91.2)	2 015	(82.2)	Georgia
	105	(94.6)	9	(8.6)	111	(69.8)	159	(73.3)	Israel
	8 937	(96.0)	2 980	(33.3)	9 309	(79.4)	11 723	(90.2)	Kazakhstan
	3 378	(93.6)	1 303	(38.6)	3 609	(67.1)	5 378	(76.4)	Kyrgyzstan
	–	–	–	–	–	–	–	–	Monaco
	70	(98.6)	0	(0.0)	71	(94.7)	75	(91.5)	Montenegro
	140	(100.0)	1	(0.7)	140	(86.4)	162	(81.4)	North Macedonia
	1 687	(77.4)	559	(33.1)	2 180	(73.5)	2 967	(91.2)	Republic of Moldova
	50 476	(92.2)	26 445	(52.4)	54 751	(63.5)	86 181	(82.9)	Russian Federation
	–	–	–	–	–	–	0	–	San Marino
	485	(84.3)	2	(0.4)	575	(65.3)	880	(74.6)	Serbia
	242	(72.9)	2	(0.8)	332	(76.0)	437	(77.1)	Serbia excluding Kosovo <sup>i</sup>
	243	(100.0)	0	(0.0)	243	(54.9)	443	(72.4)	Kosovo <sup>i</sup>
	217	(92.3)	9	(4.1)	235	(69.1)	340	(78.2)	Switzerland
	2 828	(100.0)	878	(31.0)	2 828	(67.2)	4 209	(70.4)	Tajikistan
	5 178	(87.5)	150	(2.9)	5 915	(79.6)	7 433	(65.2)	Turkey
	–	–	–	–	–	–	–	–	Turkmenistan
	18 459	(96.5)	5 936	(32.2)	19 129	(73.5)	26 032	(91.2)	Ukraine
	7 394	(100.0)	1 082	(14.6)	7 394	(61.6)	12 008	(64.0)	Uzbekistan
	<b>107 926</b>	<b>(93.8)</b>	<b>41 354</b>	<b>(38.3)</b>	<b>115 117</b>	<b>(68.3)</b>	<b>168 634</b>	<b>(81.3)</b>	<b>Subtotal non-EU/EEA</b>
	<b>130 146</b>	<b>(92.4)</b>	<b>42 117</b>	<b>(32.4)</b>	<b>140 830</b>	<b>(69.6)</b>	<b>202 456</b>	<b>(79.8)</b>	<b>Total European Region</b>
	<b>115 604</b>	<b>(93.8)</b>	<b>41 824</b>	<b>(36.2)</b>	<b>123 204</b>	<b>(69.0)</b>	<b>178 446</b>	<b>(81.7)</b>	<b>Subtotal 18 HPCs</b>

<sup>a</sup> Proportion of bacteriologically confirmed pulmonary RR/MDR-TB cases with DST results and the respective previous TB treatment history.

<sup>b</sup> Proportion of all pulmonary TB cases with the respective previous TB treatment history.

<sup>c</sup> Proportion of all pulmonary TB cases. For EU/EEA, excluding the cases with unknown previous TB treatment history.

<sup>d</sup> Proportion of all bacteriologically confirmed pulmonary TB cases with DST results. For EU/EEA, excluding the cases with unknown previous TB treatment history.

<sup>e</sup> Proportion of all bacteriologically confirmed pulmonary RR/MDR-TB cases with DST results. For EU/EEA, excluding the cases with unknown previous TB treatment history.

<sup>f</sup> Proportion of all pulmonary TB cases. For EU/EEA, excluding the cases with unknown previous TB treatment history.

<sup>g</sup> Proportion of all TB cases.

<sup>h</sup> Previous TB history is defined by previous diagnosis.

<sup>i</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

**Table 13. Drug resistance in all laboratory-confirmed<sup>a</sup> TB cases, EU/EEA, 2019**

Country	Source of data	Coverage	Laboratory-confirmed TB cases <sup>a</sup>		Cases with DST results (at least INH and RIF)		Cases resistant to any anti-TB drug <sup>b</sup>		MDR-TB cases		Reporting completeness <sup>c</sup>
			N	(%)	N	(%)	N	(%)	N	(%)	
<b>EU/EEA</b>											
Austria	TESSy	National	342	(72.2)	331	(96.8)	29	(8.8)	4	(1.2)	Y
Belgium	TESSy	National	737	(76.1)	707	(95.9)	46	(6.5)	15	(2.1)	Y
<i>Bulgaria</i>	<i>TESSy</i>	<i>National</i>	<i>626</i>	<i>(46.6)</i>	<i>454</i>	<i>(72.5)</i>	<i>35</i>	<i>(7.7)</i>	<i>11</i>	<i>(2.4)</i>	<i>Y</i>
Croatia	TESSy	National	253	(83.5)	219	(86.6)	9	(4.1)	2	(0.9)	Y
Cyprus	TESSy	National	53	(76.8)	53	(100.0)	4	(7.5)	1	(1.9)	Y
Czechia	TESSy	National	375	(80.8)	338	(90.1)	35	(10.4)	8	(2.4)	Y
Denmark	TESSy	National	228	(81.1)	225	(98.7)	7	(3.1)	4	(1.8)	Y
<i>Estonia</i>	<i>TESSy</i>	<i>National</i>	<i>128</i>	<i>(85.3)</i>	<i>127</i>	<i>(99.2)</i>	<i>49</i>	<i>(38.6)</i>	<i>27</i>	<i>(21.3)</i>	<i>Y</i>
Finland	TESSy	National	177	(78.7)	169	(95.5)	19	(11.2)	2	(1.2)	Y
France	TESSy	National	1 807	(35.3)	75	(4.2)	75	(100.0)	75	(100.0)	Y
Germany	TESSy	National	3 701	(77.2)	3 336	(90.1)	387	(11.6)	87	(2.6)	Y
Greece	TESSy	National	283	(61.7)	225	(79.5)	40	(17.8)	6	(2.7)	Y
Hungary	TESSy	National	287	(52.0)	259	(90.2)	37	(14.3)	12	(4.6)	Y
Iceland	TESSy	National	8	(61.5)	8	(100.0)		(0.0)	0	(0.0)	Y
Ireland	TESSy	National	197	(74.1)	175	(88.8)	26	(14.9)	3	(1.7)	Y
Italy	-	-	-	-	-	-	-	-	-	-	-
<i>Latvia</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	<i>TESSy</i>	<i>National</i>	<i>935</i>	<i>(88.4)</i>	<i>935</i>	<i>(100.0)</i>	<i>299</i>	<i>(32.0)</i>	<i>159</i>	<i>(17.0)</i>	<i>Y</i>
Luxembourg	TESSy	National	40	(80.0)	32	(80.0)	10	(31.3)	1	(3.1)	Y
Malta	TESSy	National	48	(49.0)	46	(95.8)	2	(4.3)	0	(0.0)	Y
Netherlands	TESSy	National	507	(66.8)	451	(89.0)	35	(7.8)	7	(1.6)	Y
Norway	TESSy	National	137	(83.0)	130	(94.9)	20	(15.4)	2	(1.5)	Y
Poland	TESSy	National	4 054	(76.2)	3 690	(91.0)	255	(6.9)	41	(1.1)	Y
Portugal	TESSy	National	998	(56.4)	572	(57.3)	67	(11.7)	5	(0.9)	Y
<i>Romania</i>	<i>TESSy</i>	<i>National</i>	<i>8 499</i>	<i>(73.1)</i>	<i>7 694</i>	<i>(90.5)</i>	<i>646</i>	<i>(8.4)</i>	<i>304</i>	<i>(4.0)</i>	<i>Y</i>
Slovakia	TESSy	National	113	(52.8)	113	(100.0)	9	(8.0)	5	(4.4)	Y
Slovenia	TESSy	National	93	(92.1)	93	(100.0)	2	(2.2)	0	(0.0)	Y
Spain	TESSy	National	2 797	(67.4)	811	(29.0)	89	(11.0)	9	(1.1)	Y
Sweden	TESSy	National	399	(83.3)	396	(99.2)	51	(12.9)	7	(1.8)	Y
United Kingdom	TESSy	National	3 185	(62.1)	3 148	(98.8)	355	(11.3)	37	(1.2)	Y
<b>Total EU/EEA</b>	-	-	<b>31 007</b>	<b>(62.3)</b>	<b>24 812</b>	<b>(80.0)</b>	<b>2 638</b>	<b>(10.6)</b>	<b>834</b>	<b>(3.4)</b>	-

Note: WHO European Region 18 tuberculosis high-priority countries presented in italics. The resistance pattern at the initiation of treatment is reported to TESSy irrespective of the method used for drug-susceptibility testing or resistance prediction.

DST: drug-susceptibility testing.

INH: isoniazid.

MDR-TB: multidrug-resistant tuberculosis.

NRL: national reference laboratory.

RIF: rifampicin.

TESSy: The European Surveillance System.

TME: WHO Tuberculosis Monitoring and Evaluation platform.

Y: yes.

<sup>a</sup> Laboratory-confirmed cases – culture-positive OR microscopy-positive and nucleic acid amplification test-positive cases.

<sup>b</sup> Cases with DST results for at least rifampicin and isoniazid that have any resistance to isoniazid, rifampicin, ethambutol, streptomycin, ciprofloxacin, gatifloxacin, levofloxacin, moxifloxacin, ofloxacin, amikacin, capreomycin, kanamycin or pyrazinamide expressed as a percentage of cases with DST results available for at least isoniazid and rifampicin.

<sup>c</sup> Data considered complete when collected nationwide OR culture results available for ≥ 90% of all cases, and > 50% of all cases culture-positive, and > 75% of them with DST results for isoniazid and rifampicin, and ≥ 95% of the external quality-assessment results confirmed by a supranational reference laboratory.

**Table 14. XDR-TB cases among bacteriologically confirmed pulmonary MDR-TB cases, European Region, 2019**

Country/area	Source of data	Coverage	Bacteriologically confirmed pulmonary MDR-TB cases <sup>a</sup>		Cases with DST results for any fluoroquinolone and any second-line injectable agent		XDR-TB cases		Reporting completeness <sup>b</sup>
			N	(%)	N	(%)	N	(%)	
<b>EU/EEA</b>									
Austria	TESSy	National	3	(1.2)	3	(100.0)	0	(0.0)	Y
Belgium	TESSy	National	12	(2.2)	11	(91.7)	0	(0.0)	Y
Bulgaria	TESSy	National	11	(2.5)	11	(100.0)	0	(0.0)	Y
Croatia	TESSy	National	2	(1.1)	1	(50.0)	1	(100.0)	Y
Cyprus	TESSy	National	1	(2.0)	1	(100.0)	0	(0.0)	Y
Czechia	TESSy	National	8	(2.5)	3	(37.5)	0	(0.0)	Y
Denmark	TESSy	National	3	(1.6)	3	(100.0)	0	(0.0)	Y
Estonia	TESSy	National	26	(21.3)	24	(92.3)	4	(16.7)	Y
Finland	TESSy	National	2	(1.6)	1	(50.0)	0	(0.0)	Y
France	TESSy	National	60	(100.0)	59	(98.3)	8	(13.6)	Y
Germany	TESSy	National	66	(2.6)	49	(74.2)	7	(14.3)	Y
Greece	TESSy	National	6	(3.0)	3	(50.0)	0	(0.0)	Y
Hungary	TESSy	National	12	(4.7)	5	(41.7)	3	(60.0)	Y
Iceland	TESSy	National	0	–	0	–	0	–	Y
Ireland	TESSy	National	2	(1.6)	2	(100.0)	0	(0.0)	Y
Italy	NRL-TME	Partial	38	(2.2)	31	(81.6)	2	(6.5)	N
Latvia	–	–	–	–	–	–	–	–	–
Liechtenstein	–	–	–	–	–	–	–	–	–
Lithuania	TESSy	National	157	(17.3)	157	(100.0)	57	(36.3)	Y
Luxembourg	TESSy	National	1	(3.8)	0	(0.0)	0	–	Y
Malta	TESSy	National	0	–	0	–	0	–	Y
Netherlands	TESSy	National	6	(2.0)	6	(100.0)	1	(16.7)	Y
Norway	TESSy	National	2	(2.3)	1	(50.0)	0	(0.0)	Y
Poland	TESSy	National	40	(1.1)	31	(77.5)	4	(12.9)	Y
Portugal	TESSy	National	5	(1.0)	2	(40.0)	0	(0.0)	Y
Romania	TESSy	National	302	(4.1)	123	(40.7)	38	(30.9)	Y
Slovakia	TESSy	National	5	(4.7)	5	(100.0)	0	(0.0)	Y
Slovenia	TESSy	National	0	–	0	–	0	–	Y
Spain	TESSy	National	8	(1.3)	2	(25.0)	0	(0.0)	Y
Sweden	TESSy	National	4	(1.5)	4	(100.0)	0	(0.0)	Y
United Kingdom	TESSy	National	27	(1.3)	25	(92.6)	1	(4.0)	Y
<b>Subtotal EU/EEA</b>	–	–	<b>809</b>	<b>(3.5)</b>	<b>563</b>	<b>(69.6)</b>	<b>126</b>	<b>(22.4)</b>	–
<b>Non-EU/EEA</b>									
Albania	NRL-TME	National	2	(6.9)	0	(0.0)	0	–	Y
Andorra	NRL-TME	National	0	(0.0)	0	–	0	–	Y
Armenia	NRL-TME	National	56	(18.9)	22	(39.3)	12	(54.5)	Y
Azerbaijan	NRL-TME	National	414	(11.0)	367	(88.6)	89	(24.3)	Y
Belarus	NRL-TME	National	808	(40.1)	807	(99.9)	185	(22.9)	Y
Bosnia and Herzegovina	–	–	–	(0.0)	–	–	–	–	N
Georgia	NRL-TME	National	229	(16.2)	203	(88.6)	31	(15.3)	Y
Israel	NRL-TME	National	9	(8.6)	9	(100.0)	0	(0.0)	Y
Kazakhstan	–	–	–	–	–	–	–	–	N
Kyrgyzstan	NRL-TME	National	1 097	(33.1)	887	(80.9)	93	(10.5)	Y
Monaco	–	–	–	–	–	–	–	–	N
Montenegro	NRL-TME	National	0	(0.0)	0	–	0	–	Y
North Macedonia	NRL-TME	National	1	(0.8)	0	(0.0)	0	–	Y
Republic of Moldova	NRL-TME	National	441	(28.7)	441	(100.0)	49	(11.1)	Y
Russian Federation	NRL-TME	National	24 443	(48.4)	23 646	(96.7)	5 559	(23.5)	Y
San Marino	–	National	0	–	0	–	0	–	Y
Serbia	–	–	–	–	–	–	–	–	–
Serbia excluding Kosovo <sup>c</sup>	–	–	–	–	–	–	–	–	N
Kosovo <sup>c</sup>	–	–	–	–	–	–	–	–	N
Switzerland	NRL-TME	National	7	(3.2)	7	(100.0)	0	(0.0)	Y
Tajikistan	NRL-TME	National	308	(15.4)	287	(93.2)	75	(26.1)	Y
Turkey	NRL-TME	National	121	(2.4)	76	(62.8)	8	(10.5)	Y
Turkmenistan	–	–	–	–	–	–	–	–	N
Ukraine	NRL-TME	National	4 490	(24.3)	4 490	(100.0)	853	(19.0)	Y
Uzbekistan	NRL-TME	National	978	(13.2)	515	(52.7)	179	(34.8)	Y
<b>Subtotal non-EU/EEA</b>	–	–	<b>33 404</b>	<b>(34.5)</b>	<b>31 757</b>	<b>(95.1)</b>	<b>7 133</b>	<b>(22.5)</b>	–
<b>Total European Region</b>	–	–	<b>34 213</b>	<b>(28.5)</b>	<b>32 320</b>	<b>(94.5)</b>	<b>7 259</b>	<b>(22.5)</b>	–
<b>Subtotal 18 HPCs</b>	–	–	<b>33 881</b>	<b>(32.4)</b>	<b>32 056</b>	<b>(94.6)</b>	<b>7 232</b>	<b>(22.6)</b>	–

Note: WHO European Region 18 TB HPCs presented in italics. The resistance pattern at the initiation of treatment is reported to TESSy irrespective of the method used for drug-susceptibility testing or resistance prediction.

DST: drug-susceptibility testing.

HPC: high-priority countries.

MDR-TB: multidrug-resistant tuberculosis.

N: no.

NRL: national reference laboratory.

TESSy: The European Surveillance System.

TME: WHO Tuberculosis Monitoring and Evaluation platform.

XDR-TB: extensively drug-resistant tuberculosis.

Y: yes.

<sup>a</sup> For EU/EEA countries, laboratory-confirmed cases are culture-positive OR microscopy-positive and nucleic acid amplification test-positive cases. For non-EU/EEA countries and areas, cases with positive identification for *Mycobacterium tuberculosis* complex confirmed by culture and/or line probe assay.

<sup>b</sup> Data considered complete when collected nationwide OR culture results available for ≥ 90% of all cases, and > 50% of all cases culture-positive, and > 75% of them with DST results for isoniazid and rifampicin, and ≥ 95% of the external quality-assessment results confirmed by a supranational reference laboratory.

<sup>c</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

**Table 15. XDR-TB cases among all laboratory-confirmed<sup>a</sup> MDR-TB cases, European Region, 2019**

Country/area	TB cases with first-line DST <sup>b</sup>		MDR-TB among all TB cases with first-line DST <sup>b</sup>		MDR-TB with second-line DST <sup>c</sup>		XDR-TB cases	
	N		N	(%)	N	(%)	N	(%)
<b>EU/EEA</b>								
Austria	331		4	(1.2)	4	(100.0)	0	(0.0)
Belgium	707		15	(2.1)	14	(93.3)	0	(0.0)
<i>Bulgaria</i>	454		11	(2.4)	11	(100.0)	0	(0.0)
Croatia	219		2	(0.9)	1	(50.0)	1	(100.0)
Cyprus	53		1	(1.9)	1	(100.0)	0	(0.0)
Czechia	338		8	(2.4)	3	(37.5)	0	(0.0)
Denmark	225		4	(1.8)	4	(100.0)	0	(0.0)
<i>Estonia</i>	127		26	(20.5)	24	(92.3)	4	(16.7)
Finland	169		2	(1.2)	1	(50.0)	0	(0.0)
France	75		75	(100.0)	74	(98.7)	9	(12.2)
Germany	3 336		86	(2.6)	63	(73.3)	8	(12.7)
Greece	225		6	(2.7)	3	(50.0)	0	(0.0)
Hungary	259		12	(4.6)	5	(41.7)	3	(60.0)
Iceland	8		0	(0.0)	0	–	0	–
Ireland	175		3	(1.7)	3	(100.0)	0	(0.0)
Italy	–		–	–	–	–	–	–
<i>Latvia</i>	–		–	–	–	–	–	–
Liechtenstein	–		–	–	–	–	–	–
<i>Lithuania</i>	935		159	(17.0)	159	(100.0)	58	(36.5)
Luxembourg	32		1	(3.1)	0	(0.0)	0	–
Malta	46		0	(0.0)	0	–	0	–
Netherlands	451		7	(1.6)	7	(100.0)	1	(14.3)
Norway	130		2	(1.5)	1	(50.0)	0	(0.0)
Poland	3 690		41	(1.1)	32	(78.0)	5	(15.6)
Portugal	572		5	(0.9)	2	(40.0)	0	(0.0)
<i>Romania</i>	7 694		304	(4.0)	123	(40.5)	38	(30.9)
Slovakia	113		5	(4.4)	5	(100.0)	0	(0.0)
Slovenia	93		0	(0.0)	0	–	0	–
Spain	811		9	(1.1)	2	(22.2)	0	(0.0)
Sweden	396		7	(1.8)	7	(100.0)	0	(0.0)
United Kingdom	3 148		37	(1.2)	35	(94.6)	1	(2.9)
<b>Subtotal EU/EEA</b>	<b>24 812</b>		<b>832</b>	<b>(3.4)</b>	<b>584</b>	<b>(70.2)</b>	<b>128</b>	<b>(21.9)</b>
<b>Non-EU/EEA</b>								
Albania	29		2	(6.9)	0	–	0	–
Andorra	2		0	(0.0)	0	–	0	–
Armenia	296		56	(18.9)	22	(39.3)	12	(54.5)
<i>Azerbaijan</i>	3 757		414	(11.0)	367	(88.6)	89	(24.3)
Belarus	2 013		808	(40.1)	807	(99.9)	185	(22.9)
Bosnia and Herzegovina	242		0	(0.0)	–	–	–	–
<i>Georgia</i>	1 412		229	(16.2)	203	(88.6)	31	(15.3)
Israel	105		9	(8.6)	9	(100.0)	0	(0.0)
<i>Kazakhstan</i>	–		–	–	–	–	–	–
<i>Kyrgyzstan</i>	3 310		1 097	(33.1)	887	(80.9)	93	(10.5)
Monaco	–		–	–	–	–	–	–
Montenegro	61		0	(0.0)	0	–	0	–
North Macedonia	120		1	(0.8)	0	(0.0)	0	–
Republic of Moldova	1 539		441	(28.7)	441	(100.0)	49	(11.1)
<i>Russian Federation</i>	50 476		24 443	(48.4)	23 646	(96.7)	5 559	(23.5)
San Marino	0		–	–	–	–	–	–
Serbia	242		2	(0.8)	0	(0.0)	–	–
Serbia excluding Kosovo <sup>d</sup>	242		2	(0.8)	0	(0.0)	–	–
Kosovo <sup>d</sup>	–		–	–	–	–	–	–
Switzerland	216		7	(3.2)	7	(100.0)	0	(0.0)
<i>Tajikistan</i>	2 002		308	(15.4)	287	(93.2)	75	(26.1)
Turkey	5 087		121	(2.4)	76	(62.8)	8	(10.5)
<i>Turkmenistan</i>	–		–	–	–	–	–	–
Ukraine	18 459		4 490	(24.3)	4 490	(100.0)	853	(19.0)
<i>Uzbekistan</i>	7 394		978	(13.2)	515	(52.7)	179	(34.8)
<b>Subtotal non-EU/EEA</b>	<b>96 762</b>		<b>33 406</b>	<b>(34.5)</b>	<b>31 757</b>	<b>(95.1)</b>	<b>7 133</b>	<b>(22.5)</b>
<b>Total European Region</b>	<b>121 574</b>		<b>34 238</b>	<b>(28.2)</b>	<b>32 341</b>	<b>(94.5)</b>	<b>7 261</b>	<b>(22.5)</b>
<b>Subtotal 18 HPCs</b>	<b>104 955</b>		<b>33 885</b>	<b>(32.3)</b>	<b>32 058</b>	<b>(94.6)</b>	<b>7 233</b>	<b>(22.6)</b>

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB HPCs are presented in italics. The resistance pattern at the initiation of treatment is reported to TESSy irrespective of the method used for drug-susceptibility testing or resistance prediction.

DST: drug-susceptibility testing.

HPC: high-priority countries.

MDR-TB: multidrug-resistant tuberculosis.

XDR-TB: extensively drug-resistant tuberculosis.

<sup>a</sup> For non-EU/EEA countries and areas, cases with positive identification for *Mycobacterium tuberculosis* complex confirmed by culture and/or line probe assay; for EU/EEA countries, culture-positive OR microscopy-positive and nucleic acid amplification test-positive cases.

<sup>b</sup> First-line DST – drug-susceptibility testing for at least two main first-line anti-TB drugs: isoniazid and rifampicin.

<sup>c</sup> Second-line DST – drug-susceptibility testing for second-line anti-TB drugs (at least one fluoroquinolone (ciprofloxacin, gatifloxacin, levofloxacin, moxifloxacin and ofloxacin) and one injectable drug (amikacin, capreomycin and kanamycin)).

<sup>d</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

**Table 16. RR/MDR-TB and XDR-TB cases enrolled to treatment, European Region, 2019**

Country/area	Total number of RR/MDR-TB cases detected	RR/MDR-TB cases enrolled to treatment <sup>ab</sup>		Total number of XDR-TB cases detected	XDR-TB cases enrolled to treatment <sup>ab</sup>	
	N	N	(%)	N	N	(%)
<b>EU/EEA</b>						
Austria	4	4	(100.0)	0	0	–
Belgium	15	14	(93.3)	0	0	–
Bulgaria	11	10	(90.9)	0	0	–
Croatia	2	2	(100.0)	1	1	(100.0)
Cyprus	1	1	(100.0)	0	0	–
Czechia	8	6	(75.0)	0	0	–
Denmark	4	4	(100.0)	0	0	–
Estonia	26	24	(92.3)	4	4	(100.0)
Finland	2	2	(100.0)	0	0	–
France	75	75	(100.0)	9	9	(100.0)
Germany	86	85	(98.8)	8	8	(100.0)
Greece	6	5	(83.3)	0	0	–
Hungary	12	12	(100.0)	3	3	(100.0)
Iceland	0	0	–	0	0	–
Ireland	3	3	(100.0)	0	0	–
Italy	62	–	–	–	–	–
Latvia	–	–	–	–	–	–
Liechtenstein	–	–	–	–	–	–
Lithuania	159	159	(100.0)	58	58	(100.0)
Luxembourg	1	1	(100.0)	0	0	–
Malta	0	0	–	0	0	–
Netherlands	7	6	(85.7)	1	1	(100.0)
Norway	2	2	(100.0)	0	0	–
Poland	41	41	(100.0)	5	5	(100.0)
Portugal	5	5	(100.0)	0	0	–
Romania	304	297	(97.7)	38	37	(97.4)
Slovakia	5	5	(100.0)	0	0	–
Slovenia	0	0	–	0	0	–
Spain	9	9	(100.0)	0	0	–
Sweden	7	7	(100.0)	0	0	–
United Kingdom	37	36	(97.3)	1	1	(100.0)
<b>Subtotal EU/EEA</b>	<b>894</b>	<b>815</b>	<b>(91.2)</b>	<b>128</b>	<b>127</b>	<b>(99.2)</b>
<b>Non-EU/EEA</b>						
Albania	6	2	(33.3)	0	0	–
Andorra	0	0	–	0	0	–
Armenia	65	65	(100.0)	12	12	(100.0)
Azerbaijan	1 031	815	(79.0)	197	186	(94.4)
Belarus	1 182	1 059	(89.6)	344	287	(83.4)
Bosnia and Herzegovina	1	0	(0.0)	0	0	–
Georgia	319	270	(84.6)	31	24	(77.4)
Israel	10	10	(100.0)	1	1	(100.0)
Kazakhstan	5 073	5 404	(106.5)	375	403	(107.5)
Kyrgyzstan	1 359	1 173	(86.3)	109	97	(89.0)
Monaco	–	–	–	–	–	–
Montenegro	0	0	–	0	0	–
North Macedonia	2	2	(100.0)	0	0	–
Republic of Moldova	655	559	(85.3)	49	37	(75.5)
Russian Federation	27 207	24 566	(90.3)	5 699	6 010	(105.5)
San Marino	0	0	–	0	0	–
Serbia	2	3	(150.0)	0	0	–
Serbia excluding Kosovo <sup>c</sup>	2	3	(150.0)	0	0	–
Kosovo <sup>c</sup>	0	0	–	0	0	–
Switzerland	12	12	(100.0)	0	0	–
Tajikistan	878	588	(67.0)	75	68	(90.7)
Turkey	158	155	(98.1)	8	8	(100.0)
Turkmenistan	649	649	(100.0)	55	55	(100.0)
Ukraine	6 051	7 265	(120.1)	895	1 540	(172.1)
Uzbekistan	2 060	2 060	(100.0)	602	602	(100.0)
<b>Subtotal non-EU/EEA</b>	<b>46 720</b>	<b>44 657</b>	<b>(95.6)</b>	<b>8 452</b>	<b>9 330</b>	<b>(110.4)</b>
<b>Total European Region</b>	<b>47 614</b>	<b>45 472</b>	<b>(95.5)</b>	<b>8 580</b>	<b>9 457</b>	<b>(110.2)</b>
<b>Subtotal 18 HPCs</b>	<b>47 187</b>	<b>45 118</b>	<b>(95.6)</b>	<b>8 551</b>	<b>9 428</b>	<b>(110.3)</b>

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB HPCs are presented in italics. The resistance pattern at the initiation of treatment is reported to TESSy irrespective of the method used for drug-susceptibility testing or resistance prediction.

HPC: high-priority countries.

RR/MDR-TB: rifampicin-resistant and multidrug-resistant tuberculosis.

XDR-TB: extensively drug-resistant tuberculosis.

<sup>a</sup> For countries that do not provide information on treatment start, all reported cases are used as proxy.

<sup>b</sup> For some non-EU/EEA countries and areas, patients who were diagnosed before 2018 but started on treatment in 2018 are included, resulting in over 100% coverage.

<sup>c</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

**Table 17. New and relapse<sup>a</sup> TB cases with HIV infection, European Region, 2019**

Country/area	New and relapse TB cases <sup>a</sup>		TB cases with HIV status		HIV-positive TB cases		HIV-positive cases started ART <sup>b</sup>	
	N		N	(%)	N	(%)	N	(%)
<b>EU/EEA</b>								
Austria	–	–	–	–	–	–	–	–
Belgium <sup>d</sup>	895	463	(51.7)	36	(7.8)	–	–	
Bulgaria	1 288	1 065	(82.7)	1	(0.1)	1	(100.0)	
Croatia	297	4	(1.3)	0	(0.0)	–	–	
Cyprus	66	41	(62.1)	1	(2.4)	–	–	
Czechia	458	267	(58.3)	8	(3.0)	–	–	
Denmark <sup>d</sup>	260	208	(80.0)	5	(2.4)	–	–	
Estonia	147	138	(93.9)	16	(11.6)	14	(87.5)	
Finland	–	–	–	–	–	–	–	
France	–	–	–	–	–	–	–	
Germany	–	–	–	–	–	–	–	
Greece	434	388	(89.4)	19	(4.9)	–	–	
Hungary	528	31	(5.9)	3	(9.7)	–	–	
Iceland	13	11	(84.6)	0	(0.0)	–	–	
Ireland <sup>d</sup>	247	93	(37.7)	9	(9.7)	6	(66.7)	
Italy	–	–	–	–	–	–	–	
Latvia	–	–	–	–	–	–	–	
Liechtenstein	–	–	–	–	–	–	–	
Lithuania	1 006	968	(96.2)	25	(2.6)	–	–	
Luxembourg	48	35	(72.9)	0	(0.0)	–	–	
Malta	–	–	–	–	–	–	–	
Netherlands	746	566	(75.9)	20	(3.5)	11	(55.0)	
Norway <sup>d</sup>	153	119	(77.8)	4	(3.4)	–	–	
Poland	–	–	–	–	–	–	–	
Portugal	1 720	1 166	(67.8)	123	(10.5)	–	–	
Romania	11 083	9 574	(86.4)	179	(1.9)	161	(89.9)	
Slovakia	214	148	(69.2)	4	(2.7)	3	(75.0)	
Slovenia	98	70	(71.4)	1	(1.4)	1	(100.0)	
Spain	–	–	–	–	–	–	–	
Sweden	–	–	–	–	–	–	–	
United Kingdom <sup>d</sup>	–	–	–	–	–	–	–	
<b>Subtotal EU/EEA</b>	<b>19 701</b>	<b>15 355</b>	<b>(77.9)</b>	<b>454</b>	<b>(3.0)</b>	<b>197</b>	<b>(85.7)</b>	
<b>Non-EU/EEA</b>								
Albania	412	368	(89.3)	8	(2.2)	8	(100.0)	
Andorra	5	0	(0.0)	–	–	–	–	
Armenia	621	591	(95.2)	62	(10.5)	62	(100.0)	
Azerbaijan	4 823	4 534	(94.0)	71	(1.6)	71	(100.0)	
Belarus	2 207	2 207	(100.0)	157	(7.1)	149	(94.9)	
Bosnia and Herzegovina	580	18	(3.1)	–	–	–	–	
Georgia	2 169	1 841	(84.9)	33	(1.8)	33	(100.0)	
Israel	217	217	(100.0)	8	(3.7)	8	(100.0)	
Kazakhstan	12 501	12 375	(99.0)	666	(5.4)	637	(95.6)	
Kyrgyzstan	6 138	5 810	(94.7)	131	(2.3)	94	(71.8)	
Monaco	–	–	–	–	–	–	–	
Montenegro	80	76	(95.0)	0	(0.0)	0	–	
North Macedonia	199	152	(76.4)	1	(0.7)	1	(100.0)	
Republic of Moldova	2 809	2 792	(99.4)	295	(10.6)	260	(88.1)	
Russian Federation	73 328	70 610	(96.3)	16 453	(23.3)	11 761	(71.5)	
San Marino	0	–	–	–	–	–	–	
Serbia	501	39	(7.8)	3	(7.7)	3	(100.0)	
Serbia excluding Kosovo <sup>c</sup>	501	39	(7.8)	3	(7.7)	3	(100.0)	
Kosovo <sup>c</sup>	–	–	–	–	–	–	–	
Switzerland	–	–	–	–	–	–	–	
Tajikistan	5 755	5 660	(98.3)	167	(3.0)	127	(76.0)	
Turkey	11 247	8 814	(78.4)	104	(1.2)	84	(80.8)	
Turkmenistan	–	–	–	–	–	–	–	
Ukraine	25 379	25 210	(99.3)	5 809	(23.0)	4 860	(83.8)	
Uzbekistan	16 272	16 272	(100.0)	647	(4.0)	481	(74.3)	
<b>Subtotal non-EU/EEA</b>	<b>165 243</b>	<b>157 586</b>	<b>(95.4)</b>	<b>24 606</b>	<b>(15.6)</b>	<b>18 639</b>	<b>(75.7)</b>	
<b>Total European Region</b>	<b>184 944</b>	<b>172 941</b>	<b>(93.5)</b>	<b>25 060</b>	<b>(14.5)</b>	<b>18 836</b>	<b>(75.8)</b>	
<b>Subtotal 18 HPCs</b>	<b>176 773</b>	<b>168 461</b>	<b>(95.3)</b>	<b>24 807</b>	<b>(14.7)</b>	<b>18 795</b>	<b>(75.9)</b>	

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region TB HPCs are presented in italics.

ART: antiretroviral therapy.

HPC: high-priority countries.

<sup>a</sup> Cases with unknown previous TB history are included among new TB cases.

<sup>b</sup> Countries are only included in this analysis if total number of cases tested for HIV and test results are provided. For EU/EEA countries, countries are only included in this analysis if the total number of cases tested for HIV is more than zero.

<sup>c</sup> Data from the WHO Tuberculosis Monitoring and Evaluation platform.

<sup>d</sup> Previous TB history is defined by previous diagnosis.

<sup>e</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

**Table 18. All TB cases with HIV infection, EU/EEA, 2019**

Country	All TB cases <sup>a</sup>	TB cases with known HIV status		HIV-positive TB cases	
	N	N	(%)	N	(%)
<b>EU/EEA</b>					
Austria	–	–	–	–	–
Belgium	968	505	(52.2)	44	(8.7)
<i>Bulgaria</i>	<i>1 344</i>	<i>1 104</i>	<i>(82.1)</i>	<i>1</i>	<i>(0.1)</i>
Croatia	303	5	(1.7)	0	(0.0)
Cyprus	69	43	(62.3)	2	(4.7)
Czechia	464	271	(58.4)	8	(3.0)
Denmark	281	227	(80.8)	7	(3.1)
<i>Estonia</i>	<i>150</i>	<i>141</i>	<i>(94.0)</i>	<i>16</i>	<i>(11.3)</i>
Finland	–	–	–	–	–
France	–	–	–	–	–
Germany	–	–	–	–	–
Greece	459	408	(88.9)	19	(4.7)
Hungary	552	32	(5.8)	3	(9.4)
Iceland	13	11	(84.6)	0	(0.0)
Ireland	266	106	(39.8)	10	(9.4)
Italy	–	–	–	–	–
<i>Latvia</i>	<i>–</i>	<i>–</i>	<i>–</i>	<i>–</i>	<i>–</i>
Liechtenstein	–	–	–	–	–
<i>Lithuania</i>	<i>1 058</i>	<i>1 020</i>	<i>(96.4)</i>	<i>27</i>	<i>(2.6)</i>
Luxembourg	50	37	(74.0)	0	(0.0)
Malta	–	–	–	–	–
Netherlands	759	576	(75.9)	21	(3.6)
Norway	165	130	(78.8)	6	(4.6)
Poland	–	–	–	–	–
Portugal	1 771	1 204	(68.0)	133	(11.0)
<i>Romania</i>	<i>11 633</i>	<i>10 047</i>	<i>(86.4)</i>	<i>200</i>	<i>(2.0)</i>
Slovakia	214	148	(69.2)	4	(2.7)
Slovenia	101	73	(72.3)	1	(1.4)
Spain	–	–	–	–	–
Sweden	–	–	–	–	–
United Kingdom	–	–	–	–	–
<b>Total EU/EEA</b>	<b>20 620</b>	<b>16 088</b>	<b>(78.0)</b>	<b>502</b>	<b>(3.1)</b>

Note: WHO European Region TB high-priority countries presented in italics.

<sup>a</sup> Countries are only included in this analysis if the total number of cases tested for HIV is more than zero.

Table 19. TB in prisons,<sup>a</sup> European Region, 2019

Country/area	Prison population <sup>b</sup>		New and relapse TB cases (all forms) notified in prisons		Proportion of new and relapse TB cases in prisons out of the country total		TB relative risk in prisons <sup>c</sup>
	N	N	Rate per 100 000 prisoners	%	%		
<b>EU/EEA</b>							
Austria	–	–	–	–	–	–	–
Belgium	10 471	19	181	(2.1)	23.2		
<i>Bulgaria</i>	6 637	7	105	(0.5)	5.7		
Croatia	–	–	–	–	–	–	
Cyprus	–	–	–	–	–	–	
Czechia	21 048	8	38	(1.7)	8.8		
Denmark	–	2	–	(0.8)	–	–	
<i>Estonia</i>	2 500	2	80	(1.4)	7.2		
Finland	–	–	–	–	–	–	
France	–	–	–	–	–	–	
Germany	–	–	–	–	–	–	
Greece	–	–	–	–	–	–	
Hungary	–	11	–	(2.1)	–	–	
Iceland	–	–	–	–	–	–	
Ireland	7 170	0	0	(0.0)	0.0		
Italy	–	–	–	–	–	–	
<i>Latvia</i>	–	–	–	–	–	–	
Liechtenstein	–	–	–	–	–	–	
<i>Lithuania</i>	8 776	18	205	(1.8)	5.7		
Luxembourg	750	1	133	(2.1)	17.1		
Malta	–	–	–	–	–	–	
Netherlands	31 456	16	51	(2.1)	11.8		
Norway	–	0	–	(0.0)	–	–	
Poland	74 564	160	215	(3.2)	16.4		
Portugal	12 793	40	313	(2.3)	18.7		
<i>Romania</i>	20 114	109	542	(1.0)	9.5		
Slovakia	7 876	6	76	(2.8)	19.4		
Slovenia	4 060	0	0	(0.0)	0.0		
Spain	–	–	–	–	–	–	
Sweden	–	–	–	–	–	–	
United Kingdom	–	–	–	–	–	–	
<b>Subtotal EU/EEA<sup>d</sup></b>	<b>208 215</b>	<b>386</b>	<b>185</b>	<b>(1.7)</b>	<b>15.8</b>		
<b>Non EU/EEA</b>							
Albania	6 200	6	97	(1.5)	6.8		
Andorra	–	0	–	–	–	–	
Armenia	2 626	2	76	(0.3)	3.6		
<i>Azerbaijan</i>	18 354	204	1 111	(4.2)	23.2		
<i>Belarus</i>	32 500	60	185	(2.7)	7.9		
Bosnia and Herzegovina	–	–	–	–	–	–	
<i>Georgia</i>	10 000	28	280	(1.3)	5.2		
Israel	–	–	–	–	–	–	
<i>Kazakhstan</i>	29 403	243	826	(1.9)	12.3		
<i>Kyrgyzstan</i>	7 260	164	2 259	(2.7)	23.6		
Monaco	–	–	–	–	–	–	
Montenegro	1 070	1	93	(1.3)	7.3		
North Macedonia	2 600	2	77	(1.0)	8.1		
<i>Republic of Moldova</i>	6 722	84	1 250	(3.0)	18.0		
<i>Russian Federation</i>	539 618	6 555	1 215	(8.9)	24.2		
San Marino	–	–	–	–	–	–	
Serbia	31 832	3	9	(0.3)	0.7		
Serbia excluding Kosovo <sup>e</sup>	30 000	2	7	(0.4)	0.9		
Kosovo <sup>f</sup>	1 832	1	55	(0.2)	1.6		
Switzerland	–	–	–	–	–	–	
<i>Tajikistan</i>	13 000	106	815	(1.8)	13.2		
<i>Turkey</i>	291 546	188	64	(1.7)	4.8		
<i>Turkmenistan</i>	–	–	–	–	–	–	
<i>Ukraine</i>	52 440	722	1 377	(2.8)	23.9		
<i>Uzbekistan</i>	–	–	–	–	–	–	
<b>Subtotal non-EU/EEA</b>	<b>1 045 171</b>	<b>8 368</b>	<b>800.6</b>	<b>(5.1)</b>	<b>18.7</b>		
<b>Total European Region</b>	<b>1 253 386</b>	<b>8 754</b>	<b>698.4</b>	<b>(4.7)</b>	<b>19.2</b>		
<b>Subtotal 18 HPCs</b>	<b>1 041 496</b>	<b>8 492</b>	<b>815.4</b>	<b>(4.8)</b>	<b>18.5</b>		

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB HPCs are presented in italics. HPC: high-priority countries.

<sup>a</sup> Data from the WHO Tuberculosis Monitoring and Evaluation platform.

<sup>b</sup> Belarus, Kazakhstan and Montenegro, and Kosovo<sup>f</sup> prison population data are from [prisonstudies.org](http://prisonstudies.org).

<sup>c</sup> In the calculation of summary results, only countries/areas reporting data on prison population and TB notification in prisons are included.

<sup>d</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).













**Table 25. Treatment outcome among new and relapse<sup>a</sup> TB cases in prisons notified in 2018, European Region, 2019**

Country/area	New and relapse TB cases in prisons notified in 2018 <sup>b</sup>	Success		Died		Failed		Lost to follow-up <sup>c</sup>		Not evaluated <sup>d</sup>	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>EU/EEA</b>											
Austria	-	-	-	-	-	-	-	-	-	-	-
Belgium	15	11	(73.3)	1	(6.7)	0	(0.0)	3	(20.0)	0	(0.0)
<i>Bulgaria</i>	16	11	(68.8)	0	(0.0)	0	(0.0)	0	(0.0)	5	(31.3)
Croatia	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-
Czechia	19	13	(68.4)	1	(5.3)	0	(0.0)	5	(26.3)	0	(0.0)
Denmark	298	0	(0.0)	6	(2.0)	0	(0.0)	0	(0.0)	292	(98.0)
<i>Estonia</i>	5	5	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Finland	-	-	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-
Hungary	15	11	(73.3)	0	(0.0)	0	(0.0)	1	(6.7)	3	(20.0)
Iceland	-	-	-	-	-	-	-	-	-	-	-
Ireland	0	0	-	0	-	0	-	0	-	0	-
Italy	-	-	-	-	-	-	-	-	-	-	-
<i>Latvia</i>	-	-	-	-	-	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	46	37	(80.4)	1	(2.2)	0	(0.0)	4	(8.7)	4	(8.7)
Luxembourg	0	0	-	0	-	0	-	0	-	-	-
Malta	0	0	-	0	-	0	-	0	-	0	-
Netherlands	5	3	(60.0)	0	(0.0)	0	(0.0)	0	(0.0)	2	(40.0)
Norway	0	0	-	0	-	0	-	0	-	0	-
Poland	-	-	-	-	-	-	-	-	-	-	-
Portugal	46	20	(43.5)	0	(0.0)	-	-	2	(4.3)	24	(52.2)
<i>Romania</i>	114	96	(84.2)	4	(3.5)	3	(2.6)	9	(7.9)	2	(1.8)
Slovakia	14	14	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Slovenia	0	0	-	0	-	0	-	0	-	0	-
Spain	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-	-	-	-
United Kingdom	22	15	(68.2)	-	-	-	-	2	(9.1)	5	(22.7)
<b>Subtotal EU/EEA</b>	<b>615</b>	<b>236</b>	<b>(38.4)</b>	<b>13</b>	<b>(2.1)</b>	<b>3</b>	<b>(0.5)</b>	<b>26</b>	<b>(4.2)</b>	<b>337</b>	<b>(54.8)</b>
<b>Non-EU/EEA</b>											
Albania	3	3	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Andorra	0	-	-	-	-	-	-	-	-	-	-
Armenia	7	7	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
<i>Azerbaijan</i>	158	150	(94.9)	3	(1.9)	0	(0.0)	5	(3.2)	0	(0.0)
<i>Belarus</i>	40	37	(92.5)	0	(0.0)	2	(5.0)	0	(0.0)	1	(2.5)
Bosnia and Herzegovina	-	-	-	-	-	-	-	-	-	-	-
<i>Georgia</i>	34	28	(82.4)	0	(0.0)	2	(5.9)	3	(8.8)	1	(2.9)
Israel	-	-	-	-	-	-	-	-	-	-	-
<i>Kazakhstan</i>	145	106	(73.1)	3	(2.1)	9	(6.2)	27	(18.6)	0	(0.0)
<i>Kyrgyzstan</i>	159	127	(79.9)	5	(3.1)	2	(1.3)	25	(15.7)	0	(0.0)
Monaco	-	-	-	-	-	-	-	-	-	-	-
Montenegro	-	-	-	-	-	-	-	-	-	-	-
North Macedonia	3	3	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
<i>Republic of Moldova</i>	68	62	(91.2)	0	(0.0)	4	(5.9)	2	(2.9)	0	(0.0)
<i>Russian Federation</i>	6 382	3 342	(52.4)	207	(3.2)	657	(10.3)	289	(4.5)	1 887	(29.6)
San Marino	0	-	-	-	-	-	-	-	-	-	-
Serbia	3	3	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Serbia excluding Kosovo <sup>1</sup>	3	3	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Kosovo <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-	-	-
<i>Tajikistan</i>	95	90	(94.7)	4	(4.2)	1	(1.1)	0	(0.0)	0	(0.0)
<i>Turkey</i>	151	121	(80.1)	7	(4.6)	0	(0.0)	11	(7.3)	12	(7.9)
<i>Turkmenistan</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Ukraine</i>	475	361	(76.0)	20	(4.2)	46	(9.7)	46	(9.7)	2	(0.4)
<i>Uzbekistan</i>	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal non-EU/EEA</b>	<b>7 723</b>	<b>4 440</b>	<b>(57.5)</b>	<b>249</b>	<b>(3.2)</b>	<b>723</b>	<b>(9.4)</b>	<b>408</b>	<b>(5.3)</b>	<b>1 903</b>	<b>(24.6)</b>
<b>Total European Region</b>	<b>8 338</b>	<b>4 676</b>	<b>(56.1)</b>	<b>262</b>	<b>(3.1)</b>	<b>726</b>	<b>(8.7)</b>	<b>434</b>	<b>(5.2)</b>	<b>2 240</b>	<b>(26.9)</b>
<b>Subtotal 18 HPCs</b>	<b>7 895</b>	<b>4 580</b>	<b>(58.0)</b>	<b>254</b>	<b>(3.2)</b>	<b>726</b>	<b>(9.2)</b>	<b>421</b>	<b>(5.3)</b>	<b>1 914</b>	<b>(24.2)</b>

Note: European Region comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB HPCs are presented in italics. EU/EEA: country data are shown as missing (-) when data on treatment outcomes are not reported. For inclusion in the cohort, drug-susceptibility data are also required.

HPC: high-priority countries.

<sup>a</sup> Cases with unknown previous TB history are included among new TB cases.

<sup>b</sup> Excludes cases moved to second-line treatment.

<sup>c</sup> In previous reports defined as "defaulted".

<sup>d</sup> In previous reports defined as "transferred out and unknown". "Not evaluated" includes "transferred out", "still on treatment" and any other registered case where the treatment outcome has not been evaluated.

<sup>1</sup> All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).



**Table 27. Treatment outcome after 24 months among laboratory-confirmed<sup>a</sup> MDR-TB cases notified in 2017, EU/EEA, 2019**

Country	All MDR-TB cases notified in 2017	Success		Died		Failed		Lost to follow up <sup>b</sup>		Still on treatment		Not evaluated <sup>c</sup>	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>EU/EEA</b>													
Austria	18	9	(50.0)	2	(11.1)	0	(0.0)	0	(0.0)	0	(0.0)	7	(38.9)
Belgium	5	4	(80.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(20.0)
<i>Bulgaria</i>	24	16	(66.7)	2	(8.3)	0	(0.0)	5	(20.8)	1	(4.2)	0	(0.0)
Croatia	0	0	-	0	-	0	-	0	-	0	-	0	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-
Czechia	8	3	(37.5)	0	(0.0)	1	(12.5)	1	(12.5)	1	(12.5)	2	(25.0)
Denmark	2	1	(50.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(50.0)
<i>Estonia</i>	36	27	(75.0)	5	(13.9)	0	(0.0)	2	(5.6)	2	(5.6)	0	(0.0)
Finland	5	1	(20.0)	1	(20.0)	0	(0.0)	0	(0.0)	1	(20.0)	2	(40.0)
France	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	121	81	(66.9)	4	(3.3)	0	(0.0)	4	(3.3)	9	(7.4)	23	(19.0)
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	11	5	(45.5)	4	(36.4)	0	(0.0)	1	(9.1)	0	(0.0)	1	(9.1)
Iceland	0	0	-	0	-	0	-	0	-	0	-	0	-
Ireland	5	2	(40.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	3	(60.0)
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Latvia</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	249	103	(41.4)	46	(18.5)	18	(7.2)	46	(18.5)	35	(14.1)	1	(0.4)
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	9	6	(66.7)	0	(0.0)	0	(0.0)	1	(11.1)	1	(11.1)	1	(11.1)
Norway	9	8	(88.9)	0	(0.0)	0	(0.0)	1	(11.1)	0	(0.0)	0	(0.0)
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	10	7	(70.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	3	(30.0)
<i>Romania</i>	372	134	(36.0)	76	(20.4)	85	(22.8)	48	(12.9)	29	(7.8)	0	(0.0)
Slovakia	6	1	(16.7)	4	(66.7)	0	(0.0)	0	(0.0)	1	(16.7)	0	(0.0)
Slovenia	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(100.0)
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	11	9	(81.8)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	2	(18.2)
United Kingdom	50	29	(58.0)	5	(10.0)	0	(0.0)	4	(8.0)	5	(10.0)	7	(14.0)
<b>Total EU/EEA</b>	<b>952</b>	<b>446</b>	<b>(46.8)</b>	<b>149</b>	<b>(15.7)</b>	<b>104</b>	<b>(10.9)</b>	<b>113</b>	<b>(11.9)</b>	<b>85</b>	<b>(8.9)</b>	<b>55</b>	<b>(5.8)</b>

Note: WHO European Region TB high-priority countries presented in italics. Country data are shown as missing (-) when data on treatment outcomes are not reported. For inclusion in the cohort, drug-susceptibility data are also required.

MDR-TB: multidrug-resistant tuberculosis.

<sup>a</sup> Laboratory-confirmed cases – culture-positive OR microscopy-positive and nucleic acid amplification test-positive cases.

<sup>b</sup> In previous reports defined as "defaulted".

<sup>c</sup> In previous reports defined as "transferred out and unknown".





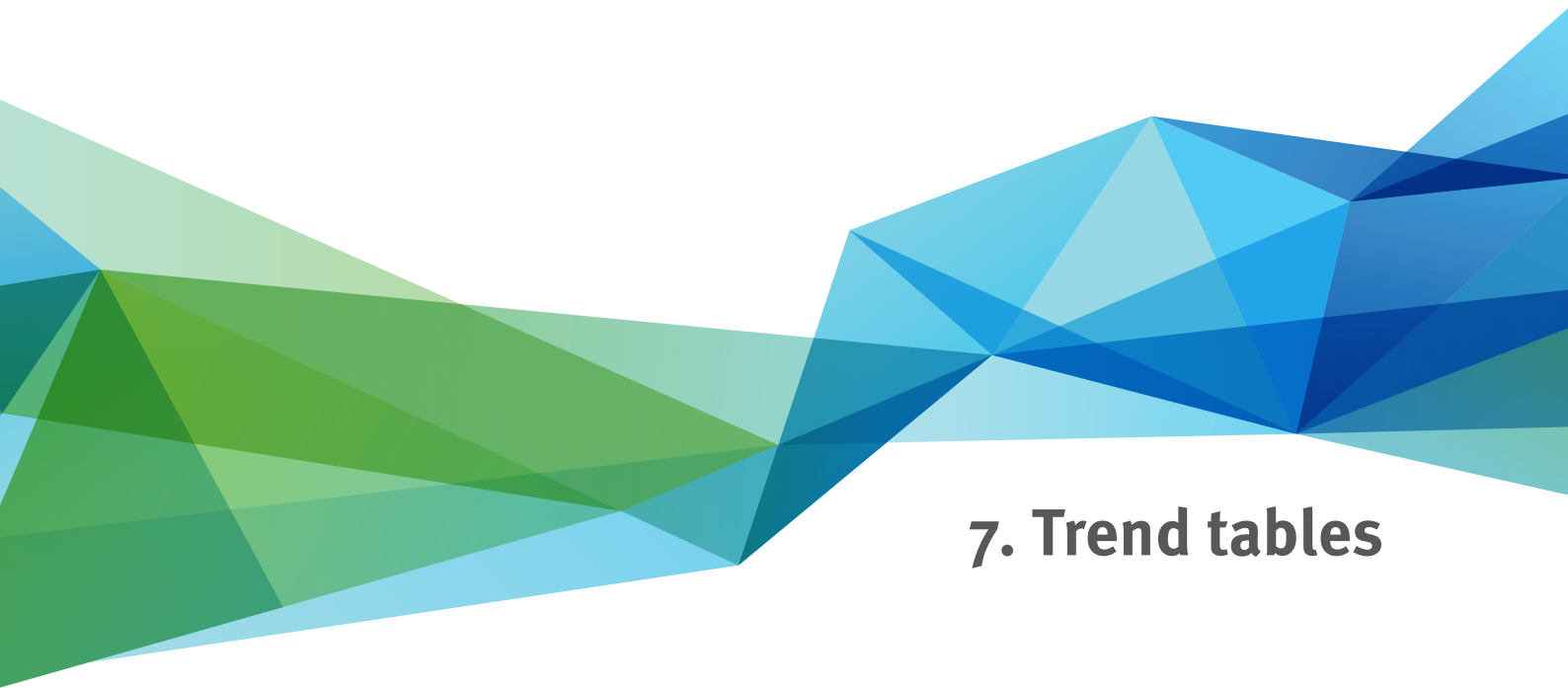
**Table 29. Treatment outcome after 36 months among XDR-TB cases notified in 2016, EU/EEA, 2019**

Country	XDR-TB cases reported in 2016	Success		Died		Failed		Lost to follow up <sup>a</sup>		Not evaluated <sup>b</sup>	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>EU/EEA</b>											
Austria	2	2	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Belgium	0	0	–	0	–	0	–	0	–	0	–
Bulgaria	0	0	–	0	–	0	–	0	–	0	–
Croatia	0	0	–	0	–	0	–	0	–	0	–
Cyprus	0	0	–	0	–	0	–	0	–	0	–
Czechia	0	0	–	0	–	0	–	0	–	0	–
Denmark	0	0	–	0	–	0	–	0	–	0	–
Estonia	7	3	(42.9)	3	(42.9)	1	(14.3)	0	(0.0)	0	(0.0)
Finland	–	–	–	–	–	–	–	–	–	–	–
France	–	–	–	–	–	–	–	–	–	–	–
Germany	7	3	(42.9)	1	(14.3)	0	(0.0)	0	(0.0)	3	(42.9)
Greece	0	0	–	0	–	0	–	0	–	0	–
Hungary	7	3	(42.9)	1	(14.3)	0	(0.0)	0	(0.0)	3	(42.9)
Iceland	0	0	–	0	–	0	–	0	–	0	–
Ireland	0	0	–	0	–	0	–	0	–	0	–
Italy	–	–	–	–	–	–	–	–	–	–	–
Latvia	–	–	–	–	–	–	–	–	–	–	–
Liechtenstein	0	0	–	0	–	0	–	0	–	0	–
Lithuania	58	18	(31.0)	17	(29.3)	7	(12.1)	14	(24.1)	2	(3.4)
Luxembourg	0	0	–	0	–	0	–	0	–	0	–
Malta	0	0	–	0	–	0	–	0	–	0	–
Netherlands	0	0	–	0	–	0	–	0	–	0	–
Norway	0	0	–	0	–	0	–	0	–	0	–
Poland	8	1	(12.5)	2	(25.0)	0	(0.0)	0	(0.0)	5	(62.5)
Portugal	4	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	4	(100.0)
Romania	68	24	(35.3)	20	(29.4)	21	(30.9)	3	(4.4)	0	(0.0)
Slovakia	0	0	–	0	–	0	–	0	–	0	–
Slovenia	0	0	–	0	–	0	–	0	–	0	–
Spain	0	0	–	0	–	0	–	0	–	0	–
Sweden	4	2	(50.0)	1	(25.0)	0	(0.0)	0	(0.0)	1	(25.0)
United Kingdom	7	4	(57.1)	0	(0.0)	2	(28.6)	1	(14.3)	0	(0.0)
<b>Total EU/EEA</b>	<b>172</b>	<b>60</b>	<b>(34.9)</b>	<b>45</b>	<b>(26.2)</b>	<b>31</b>	<b>(18.0)</b>	<b>18</b>	<b>(10.5)</b>	<b>18</b>	<b>(10.5)</b>

Note: WHO European Region TB high-priority countries presented in italics. Country data are shown as missing (–) when data on treatment outcomes are not reported. For inclusion in the cohort, drug-susceptibility data are also required.  
XDR-TB: extensively drug-resistant tuberculosis.

<sup>a</sup> In previous reports defined as "defaulted".

<sup>b</sup> In previous reports defined as "transferred out and unknown".



## **7. Trend tables**



	2016		2017		2018		2019		Mean annual % change in rate, 2015–2019	Mean annual % change in rate, 2010–2019	Country
	N	Rate per 100 000	N	Rate per 100 000	N	Rate per 100 000	N	Rate per 100 000			
											<b>EU/EEA</b>
	38	(0.4)	34	(0.4)	34	(0.4)	35	(0.4)	-14.8%	-1.8%	Austria
	33	(0.3)	33	(0.3)	33	(0.3)	33	(0.3)	-14.4%	-6.9%	Belgium
	110	(1.6)	110	(1.6)	110	(1.6)	110	(1.6)	0.0%	-5.6%	Bulgaria
	58	(1.4)	59	(1.4)	45	(1.1)	40	(1.0)	-3.3%	-7.3%	Croatia
	3	(0.3)	3	(0.3)	3	(0.3)	3	(0.3)	2.0%	7.1%	Cyprus
	43	(0.4)	36	(0.3)	36	(0.3)	36	(0.3)	-10.9%	-1.2%	Czechia
	17	(0.3)	18	(0.3)	18	(0.3)	18	(0.3)	0.0%	-7.7%	Denmark
	28	(2.1)	23	(1.8)	13	(1.0)	13	(1.0)	-11.5%	-12.0%	Estonia
	26	(0.5)	35	(0.6)	26	(0.5)	23	(0.4)	-8.9%	-8.1%	Finland
	420	(0.7)	370	(0.6)	330	(0.5)	290	(0.5)	-10.1%	-8.5%	France
	300	(0.4)	290	(0.4)	300	(0.4)	300	(0.4)	-2.0%	-2.4%	Germany
	49	(0.5)	49	(0.5)	49	(0.5)	48	(0.5)	2.3%	-4.9%	Greece
	66	(0.7)	62	(0.6)	43	(0.4)	27	(0.3)	-29.0%	-17.6%	Hungary
	2	(0.6)	2	(0.6)	2	(0.6)	1	(0.4)	-10.0%	-10.6%	Iceland
	18	(0.4)	18	(0.4)	19	(0.4)	19	(0.4)	0.0%	-7.3%	Ireland
	320	(0.5)	320	(0.5)	320	(0.5)	320	(0.5)	-1.4%	-2.1%	Italy
	72	(3.7)	62	(3.2)	51	(2.7)	42	(2.2)	-17.7%	-7.2%	Latvia
	-	-	-	-	-	-	-	-	-	-	Liechtenstein
	180	(6.1)	160	(5.6)	120	(4.2)	110	(4.0)	-11.8%	-6.3%	Lithuania
	1	(0.2)	1	(0.2)	1	(0.2)	1	(0.2)	0.0%	-1.2%	Luxembourg
	3	(0.7)	3	(0.7)	3	(0.7)	3	(0.7)	12.5%	-0.7%	Malta
	30	(0.2)	24	(0.1)	24	(0.1)	24	(0.1)	-10.7%	-9.4%	Netherlands
	18	(0.3)	18	(0.3)	18	(0.3)	19	(0.3)	11.5%	-5.8%	Norway
	600	(1.6)	540	(1.4)	500	(1.3)	460	(1.2)	-5.4%	-3.1%	Poland
	200	(1.9)	200	(1.9)	190	(1.8)	180	(1.8)	-3.8%	-1.7%	Portugal
	980	(5.0)	920	(4.7)	860	(4.4)	790	(4.1)	-6.7%	-6.2%	Romania
	35	(0.6)	35	(0.6)	35	(0.6)	35	(0.6)	0.0%	-0.3%	Slovakia
	7	(0.4)	7	(0.3)	7	(0.3)	7	(0.3)	-10.9%	-11.2%	Slovenia
	260	(0.6)	240	(0.5)	240	(0.5)	240	(0.5)	-0.9%	-5.4%	Spain
	26	(0.3)	22	(0.2)	23	(0.2)	23	(0.2)	-2.1%	-5.4%	Sweden
	300	(0.5)	300	(0.5)	300	(0.5)	310	(0.5)	-3.5%	-2.8%	United Kingdom
	<b>4 200</b>	<b>(0.8)</b>	<b>4 000</b>	<b>(0.8)</b>	<b>3 800</b>	<b>(0.7)</b>	<b>3 600</b>	<b>(0.7)</b>	<b>-6.1%</b>	<b>-5.4%</b>	<b>Subtotal EU/EEA</b>
											<b>Non-EU/EEA</b>
	8	(0.3)	8	(0.3)	8	(0.3)	8	(0.3)	0.0%	0.0%	Albania
	0	(0.5)	0	(0.1)	0	(0.3)	0	(0.6)	6.2%	-2.7%	Andorra
	56	(1.9)	36	(1.2)	18	(0.6)	1	(0.0)	-66.2%	-44.2%	Armenia
	580	(5.9)	580	(5.9)	590	(5.9)	590	(5.9)	0.0%	-4.5%	Azerbaijan
	390	(4.1)	330	(3.5)	270	(2.8)	270	(2.8)	-12.6%	-12.9%	Belarus
	120	(3.5)	110	(3.2)	100	(3.0)	93	(2.8)	-6.1%	-6.4%	Bosnia and Herzegovina
	180	(4.4)	170	(4.2)	160	(4.0)	150	(3.8)	-1.3%	-4.0%	Georgia
	15	(0.2)	13	(0.2)	13	(0.2)	13	(0.2)	-5.7%	-10.1%	Israel
	720	(4.0)	670	(3.7)	440	(2.4)	290	(1.6)	-23.6%	-20.8%	Kazakhstan
	470	(7.8)	430	(7.0)	390	(6.2)	350	(5.5)	-9.2%	-8.3%	Kyrgyzstan
	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-	Monaco
	1	(0.2)	1	(0.2)	1	(0.2)	1	(0.2)	0.0%	0.0%	Montenegro
	20	(1.0)	20	(1.0)	20	(1.0)	20	(1.0)	0.0%	-5.9%	North Macedonia
	300	(7.3)	250	(6.2)	240	(5.9)	200	(4.9)	-12.1%	-12.3%	Republic of Moldova
	12 000	(8.3)	11 000	(7.2)	9 400	(6.5)	8 400	(5.8)	-12.5%	-10.7%	Russian Federation
	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-	San Marino
	95	(1.1)	86	(1.0)	59	(0.7)	44	(0.5)	-14.2%	-13.6%	Serbia
	26	(0.3)	26	(0.3)	27	(0.3)	27	(0.3)	11.6%	-1.6%	Switzerland
	760	(8.8)	750	(8.5)	740	(8.2)	730	(7.9)	-3.2%	-3.6%	Tajikistan
	610	(0.8)	500	(0.6)	400	(0.5)	300	(0.4)	-17.6%	-14.7%	Turkey
	640	(11.0)	630	(11.0)	610	(11.0)	600	(10.0)	-4.5%	-2.9%	Turkmenistan
	3 600	(8.1)	3 500	(7.9)	3 300	(7.6)	3 200	(7.3)	-4.0%	-3.4%	Ukraine
	1 900	(6.0)	1 800	(5.6)	1 700	(5.1)	1 500	(4.7)	-7.8%	-7.1%	Uzbekistan
	<b>22 000</b>	<b>(5.4)</b>	<b>21 000</b>	<b>(5.2)</b>	<b>18 000</b>	<b>(4.4)</b>	<b>17 000</b>	<b>(4.1)</b>	<b>-9.8%</b>	<b>-9.4%</b>	<b>Subtotal non-EU/EEA</b>
	<b>27 000</b>	<b>(2.9)</b>	<b>24 000</b>	<b>(2.6)</b>	<b>22 000</b>	<b>(2.4)</b>	<b>20 000</b>	<b>(2.2)</b>	<b>-10.0%</b>	<b>-9.0%</b>	<b>Total European Region</b>
	<b>24 000</b>	<b>(6.0)</b>	<b>22 000</b>	<b>(5.4)</b>	<b>19 000</b>	<b>(4.7)</b>	<b>18 000</b>	<b>(4.4)</b>	<b>-9.3%</b>	<b>-9.0%</b>	<b>Subtotal 18 HPCs</b>



	2016		2017		2018		2019		Mean annual % change in rate, 2015–2019	Mean annual % change in rate, 2010–2019	Country
	N	Rate per 100 000	N	Rate per 100 000	N	Rate per 100 000	N	Rate per 100 000			
											<b>EU/EEA</b>
	710	(8.1)	650	(7.3)	540	(6.1)	560	(6.2)	-4.6%	-4.2%	Austria
	1100	(10.0)	1100	(9.2)	1000	(9.1)	1000	(8.9)	-1.6%	-2.3%	Belgium
	1 900	(27.0)	1 800	(25.0)	1 600	(23.0)	1 400	(21.0)	-6.9%	-7.2%	Bulgaria
	520	(12.0)	420	(10.0)	420	(10.0)	330	(8.0)	-11.4%	-8.6%	Croatia
	66	(5.6)	60	(5.1)	59	(4.9)	64	(5.3)	-3.8%	-1.9%	Cyprus
	590	(5.5)	570	(5.4)	500	(4.7)	530	(4.9)	-2.8%	-3.6%	Czechia
	340	(5.9)	290	(5.1)	310	(5.4)	290	(5.0)	-6.3%	-3.5%	Denmark
	220	(16.0)	200	(15.0)	170	(13.0)	170	(13.0)	-7.8%	-7.0%	Estonia
	260	(4.7)	270	(4.9)	260	(4.8)	260	(4.7)	-4.3%	-3.7%	Finland
	5 700	(8.7)	5 900	(9.0)	5 800	(8.9)	5 700	(8.7)	0.9%	-0.6%	France
	6 000	(7.3)	5 600	(6.8)	5 500	(6.7)	4 900	(5.8)	-5.6%	1.0%	Germany
	470	(4.4)	500	(4.7)	470	(4.4)	450	(4.3)	-2.2%	-1.0%	Greece
	850	(8.7)	750	(7.7)	690	(7.1)	610	(6.3)	-10.9%	-11.0%	Hungary
	7	(2.1)	15	(4.5)	9	(2.7)	15	(4.4)	16.4%	-6.3%	Iceland
	340	(7.2)	350	(7.3)	340	(7.0)	280	(5.8)	-5.6%	-5.7%	Ireland
	4 300	(7.2)	4 400	(7.3)	4 300	(7.2)	4 300	(7.1)	1.8%	-2.4%	Italy
	740	(37.0)	620	(32.0)	560	(29.0)	490	(26.0)	-10.2%	-7.0%	Latvia
	-	-	-	-	-	-	-	-	-	-	Liechtenstein
	1 500	(54.0)	1 500	(51.0)	1 200	(44.0)	1 200	(42.0)	-6.5%	-4.6%	Lithuania
	33	(5.8)	37	(6.2)	48	(8.0)	55	(9.0)	10.2%	3.5%	Luxembourg
	58	(13.0)	48	(11.0)	63	(14.0)	60	(14.0)	13.3%	6.3%	Malta
	1 000	(5.9)	890	(5.2)	910	(5.3)	860	(5.0)	-3.6%	-3.8%	Netherlands
	320	(6.1)	270	(5.1)	220	(4.1)	180	(3.3)	-14.9%	-7.9%	Norway
	7 100	(19.0)	6 400	(17.0)	6 000	(16.0)	5 700	(15.0)	-5.7%	-3.7%	Poland
	2 100	(20.0)	2 000	(20.0)	2 100	(21.0)	2 000	(19.0)	-4.7%	-4.2%	Portugal
	15 000	(74.0)	14 000	(72.0)	13 000	(68.0)	13 000	(66.0)	-5.3%	-4.9%	Romania
	320	(5.9)	260	(4.8)	310	(5.8)	250	(4.5)	-8.8%	-7.1%	Slovakia
	140	(6.5)	130	(6.2)	110	(5.4)	110	(5.4)	-6.9%	-6.1%	Slovenia
	5 400	(12.0)	5 000	(11.0)	5 200	(11.0)	4 300	(9.3)	-1.6%	-6.5%	Spain
	810	(8.2)	560	(5.7)	550	(5.5)	550	(5.5)	-12.1%	-3.4%	Sweden
	6 500	(9.8)	5 900	(8.8)	5 400	(8.0)	5 400	(8.0)	-5.4%	-6.0%	United Kingdom
	<b>64 400</b>	<b>(12.5)</b>	<b>60 500</b>	<b>(11.7)</b>	<b>57 600</b>	<b>(11.1)</b>	<b>55 000</b>	<b>(10.6)</b>	<b>-4.3%</b>	<b>-4.4%</b>	<b>Subtotal EU/EEA</b>
											<b>Non-EU/EEA</b>
	480	(17.0)	580	(20.0)	510	(18.0)	470	(16.0)	-1.5%	-0.7%	Albania
	5	(6.0)	1	(1.5)	2	(3.0)	6	(7.5)	6.2%	-2.6%	Andorra
	1 300	(44.0)	1 100	(36.0)	920	(31.0)	780	(26.0)	-15.1%	-9.0%	Armenia
	6 400	(66.0)	6 500	(66.0)	6 300	(63.0)	6 000	(60.0)	-4.1%	-5.9%	Azerbaijan
	4 000	(42.0)	3 500	(37.0)	2 900	(31.0)	2 800	(29.0)	-12.7%	-9.0%	Belarus
	1 100	(33.0)	960	(29.0)	830	(25.0)	900	(27.0)	-9.4%	-5.5%	Bosnia and Herzegovina
	3 700	(92.0)	3 400	(86.0)	3 200	(80.0)	3 000	(74.0)	-7.0%	-5.8%	Georgia
	290	(3.5)	270	(3.3)	340	(4.0)	250	(2.9)	-7.7%	-6.5%	Israel
	13 000	(73.0)	12 000	(69.0)	12 000	(67.0)	13 000	(68.0)	-4.3%	-8.0%	Kazakhstan
	8 100	(133.0)	7 700	(124.0)	7 300	(116.0)	7 100	(110.0)	-5.2%	-1.0%	Kyrgyzstan
	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-	Monaco
	100	(16.0)	86	(14.0)	97	(15.0)	92	(15.0)	0.0%	-3.1%	Montenegro
	330	(16.0)	270	(13.0)	270	(13.0)	250	(12.0)	-8.3%	-7.0%	North Macedonia
	4 100	(101.0)	3 900	(95.0)	3 500	(86.0)	3 200	(80.0)	-5.9%	-4.0%	Republic of Moldova
	91 000	(63.0)	86 000	(59.0)	79 000	(54.0)	73 000	(50.0)	-7.1%	-5.7%	Russian Federation
	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-	San Marino
	1 700	(19.0)	1 700	(19.0)	1 500	(17.0)	1 300	(14.0)	-9.6%	-8.1%	Serbia
	660	(7.9)	610	(7.2)	540	(6.4)	460	(5.4)	-7.6%	-3.6%	Switzerland
	7 400	(85.0)	7 500	(85.0)	7 600	(84.0)	7 700	(83.0)	-0.9%	-4.7%	Tajikistan
	14 000	(18.0)	14 000	(17.0)	13 000	(16.0)	13 000	(16.0)	-2.9%	-4.8%	Turkey
	2 600	(46.0)	2 500	(43.0)	2 700	(46.0)	2 600	(45.0)	-2.1%	-6.1%	Turkmenistan
	39 000	(87.0)	37 000	(84.0)	36 000	(80.0)	34 000	(77.0)	-4.1%	-3.9%	Ukraine
	24 000	(76.0)	23 000	(73.0)	23 000	(70.0)	22 000	(67.0)	-4.0%	-4.0%	Uzbekistan
	<b>223 000</b>	<b>(55.2)</b>	<b>213 000</b>	<b>(52.3)</b>	<b>202 000</b>	<b>(49.3)</b>	<b>192 000</b>	<b>(46.6)</b>	<b>-5.5%</b>	<b>-5.3%</b>	<b>Subtotal non-EU/EEA</b>
	<b>287 000</b>	<b>(31.2)</b>	<b>274 000</b>	<b>(29.7)</b>	<b>260 000</b>	<b>(28.1)</b>	<b>247 000</b>	<b>(26.6)</b>	<b>-5.1%</b>	<b>-5.0%</b>	<b>Total European Region</b>
	<b>238 000</b>	<b>(59.1)</b>	<b>226 000</b>	<b>(55.8)</b>	<b>214 000</b>	<b>(52.5)</b>	<b>204 000</b>	<b>(49.8)</b>	<b>-5.6%</b>	<b>-5.3%</b>	<b>Subtotal 18 HPCs</b>















**Table VII. MDR-TB notification among all bacteriologically confirmed<sup>a</sup> TB cases with available DST results, EU/EEA, 2015–2019**

Country	2015			2016			2017			2018			2019			Mean annual % change in rate, 2015–2019
	N	%	Rate per 100 000	N	%	Rate per 100 000	N	%	Rate per 100 000	N	%	Rate per 100 000	N	%	Rate per 100 000	
<b>EU/EEA</b>																
Austria	12	(2.8)	0.1	17	(3.6)	0.2	18	(4.2)	0.2	18	(5.2)	0.2	4	(1.2)	0.0	-24.6%
Belgium	15	(2.0)	0.1	10	(1.3)	0.1	5	(0.7)	0.0	7	(1.0)	0.1	15	(2.1)	0.1	-0.5%
Bulgaria	24	(3.6)	0.3	19	(2.8)	0.3	24	(4.0)	0.3	24	(4.4)	0.3	11	(2.4)	0.2	-17.1%
Croatia	1	(0.3)	0.0	0	(0.0)	0.0	0	(0.0)	0.0	2	(0.7)	0.0	2	(0.9)	0.0	20.0%
Cyprus	0	(0.0)	0.0	1	(2.4)	0.1	1	(2.6)	0.1	0	(0.0)	0.0	1	(1.9)	0.1	-
Czechia	9	(2.4)	0.1	6	(1.6)	0.1	8	(2.3)	0.1	12	(3.7)	0.1	8	(2.4)	0.1	-3.2%
Denmark	6	(2.2)	0.1	4	(1.6)	0.1	2	(0.9)	0.0	4	(1.8)	0.1	4	(1.8)	0.1	-10.2%
Estonia	38	(21.2)	2.9	24	(15.8)	1.8	36	(25.4)	2.7	30	(24.6)	2.3	26	(20.5)	2.0	-9.2%
Finland	8	(3.8)	0.1	6	(3.3)	0.1	5	(2.6)	0.1	4	(2.2)	0.1	2	(1.2)	0.0	-29.4%
France	96	(2.3)	0.1	71	(1.7)	0.1	79	(1.9)	0.1	82	(100.0)	0.1	75	(100.0)	0.1	-6.2%
Germany	112	(2.8)	0.1	104	(2.6)	0.1	117	(3.0)	0.1	118	(3.0)	0.1	86	(2.6)	0.1	-6.9%
Greece	9	(4.3)	0.1	4	(3.4)	0.0	7	(3.7)	0.1	5	(3.2)	0.0	6	(2.7)	0.1	-9.4%
Hungary	8	(2.1)	0.1	18	(5.3)	0.2	11	(3.5)	0.1	12	(3.6)	0.1	12	(4.6)	0.1	10.9%
Iceland	0	(0.0)	0.0	0	(0.0)	0.0	0	(0.0)	0.0	0	(0.0)	0.0	0	(0.0)	0.0	-
Ireland	1	(0.5)	0.0	6	(2.6)	0.1	5	(2.5)	0.1	5	(2.4)	0.1	3	(1.7)	0.1	30.1%
Italy	70	(2.7)	0.1	70	(2.6)	0.1	66	(2.5)	0.1	53	(2.1)	0.1	46	-	0.1	-9.8%
Latvia	63	(11.1)	3.2	56	(10.4)	2.8	46	(10.6)	2.4	-	-	-	-	-	-	-
Liechtenstein	0	(0.0)	0.0	0	(0.0)	0.0	0	(0.0)	0.0	0	(0.0)	0.0	-	-	-	-
Lithuania	241	(19.7)	8.2	244	(20.3)	8.4	249	(21.7)	8.7	170	(17.1)	6.1	159	(17.0)	5.7	-8.9%
Luxembourg	0	(0.0)	0.0	1	(4.0)	0.2	1	(4.3)	0.2	1	(2.9)	0.2	1	(3.1)	0.2	-
Malta	1	(4.5)	0.2	0	(0.0)	0.0	0	(0.0)	0.0	0	(0.0)	0.0	0	(0.0)	0.0	-100.0%
Netherlands	8	(1.4)	0.0	14	(2.5)	0.1	9	(1.7)	0.1	6	(1.1)	0.0	7	(1.6)	0.0	-3.8%
Norway	5	(2.0)	0.1	11	(4.8)	0.2	9	(4.2)	0.2	4	(2.4)	0.1	2	(1.5)	0.0	-21.1%
Poland	35	(0.8)	0.1	46	(1.1)	0.1	44	(1.2)	0.1	48	(1.3)	0.1	41	(1.1)	0.1	4.1%
Portugal	23	(1.8)	0.2	15	(1.3)	0.1	10	(0.9)	0.1	8	(0.8)	0.1	5	(0.9)	0.0	-31.6%
Romania	538	(6.0)	2.7	470	(5.5)	2.4	372	(4.5)	1.9	356	(4.4)	1.8	304	(4.0)	1.6	-12.8%
Slovakia	2	(1.3)	0.0	3	(2.7)	0.1	6	(4.5)	0.1	2	(1.4)	0.0	5	(4.4)	0.1	25.6%
Slovenia	0	(0.0)	0.0	0	(0.0)	0.0	1	(0.9)	0.0	0	(0.0)	0.0	0	(0.0)	0.0	-
Spain	18	(1.7)	0.0	15	(1.4)	0.0	29	(1.7)	0.1	19	(1.8)	0.0	9	(1.1)	0.0	-16.1%
Sweden	22	(3.2)	0.2	22	(3.7)	0.2	11	(2.6)	0.1	13	(3.2)	0.1	7	(1.8)	0.1	-25.8%
United Kingdom	48	(1.3)	0.1	58	(1.5)	0.1	50	(1.4)	0.1	40	(1.3)	0.1	37	(1.2)	0.1	-6.9%
<b>Total EU/EEA</b>	<b>1 413</b>	<b>(3.7)</b>	<b>0.3</b>	<b>1 315</b>	<b>(3.6)</b>	<b>0.3</b>	<b>1 221</b>	<b>(3.4)</b>	<b>0.2</b>	<b>1 043</b>	<b>(3.1)</b>	<b>0.2</b>	<b>878</b>	<b>(3.1)</b>	<b>0.2</b>	<b>-11.4%</b>

Note: WHO European Region TB high-priority countries are presented in italics. The resistance pattern at the initiation of treatment is reported to TESSy irrespective of the method used for drug-susceptibility testing or resistance prediction.  
DST: drug-susceptibility testing.

MDR-TB: multidrug-resistant tuberculosis.

<sup>a</sup> Culture-positive OR microscopy-positive and nucleic acid amplification test-positive cases.

















**Table XIV.** Treatment success after 36 months among XDR-TB cases notified in EU/EEA, 2012–2016

Country/area	2012			2013			2014			2015			2016		
	XDR-TB cases (N)	Success		XDR-TB cases (N)	Success		XDR-TB cases (N)	Success		XDR-TB cases (N)	Success		XDR-TB cases (N)	Success	
		N	(%)		N	(%)		N	(%)		N	(%)		N	(%)
<b>EU/EEA</b>															
Austria	7	2	(28.6)	3	2	(66.7)	2	2	(100.0)	1	1	(100.0)	2	2	(100.0)
Belgium	2	2	(100.0)	0	-	-	1	1	(100.0)	2	2	(100.0)	0	-	-
Bulgaria	5	1	(20.0)	4	0	(0.0)	3	0	(0.0)	4	2	(50.0)	0	-	-
Croatia	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Cyprus	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Czechia	1	0	(0.0)	0	-	-	0	-	-	1	0	(0.0)	0	-	-
Denmark	0	-	-	1	1	(100.0)	0	-	-	1	0	(0.0)	0	-	-
Estonia	4	1	(25.0)	10	5	(50.0)	8	3	(37.5)	9	3	(33.3)	7	3	(42.9)
Finland	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	1	0	(0.0)	3	0	(0.0)	11	2	(18.2)	9	4	(44.4)	7	3	(42.9)
Greece	0	-	-	0	-	-	-	-	-	0	-	-	0	-	-
Hungary	2	1	(50.0)	1	0	(0.0)	0	-	-	1	0	(0.0)	7	3	(42.9)
Iceland	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Ireland	0	-	-	-	-	-	0	-	-	0	-	-	0	-	-
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	17	9	(52.9)	15	11	(73.3)	13	10	(76.9)	-	-	-	-	-	-
Liechtenstein	0	-	-	0	-	-	0	-	-	0	-	-	-	-	-
Lithuania	52	6	(11.5)	47	11	(23.4)	61	15	(24.6)	59	15	(25.4)	58	18	(31.0)
Luxembourg	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Malta	0	-	-	-	-	-	0	-	-	0	-	-	0	-	-
Netherlands	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Norway	0	-	-	1	0	(0.0)	1	0	(0.0)	0	-	-	0	-	-
Poland	0	-	-	1	0	(0.0)	5	1	(20.0)	-	-	-	8	1	(12.5)
Portugal	4	4	(100.0)	4	4	(100.0)	3	2	(66.7)	6	2	(33.3)	4	0	(0.0)
Romania	41	5	(12.2)	56	11	(19.6)	58	9	(15.5)	71	28	(39.4)	68	24	(35.3)
Slovakia	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Slovenia	0	-	-	0	-	-	0	-	-	0	-	-	0	-	-
Spain	-	-	-	-	-	-	-	-	-	0	-	-	0	-	-
Sweden	2	2	(100.0)	2	2	(100.0)	1	0	(0.0)	1	1	(100.0)	4	2	(50.0)
United Kingdom	2	1	(50.0)	3	3	(100.0)	3	2	(66.7)	10	8	(80.0)	7	4	(57.1)
<b>Total EU/EEA</b>	<b>140</b>	<b>34</b>	<b>(24.3)</b>	<b>151</b>	<b>50</b>	<b>(33.1)</b>	<b>170</b>	<b>47</b>	<b>(27.6)</b>	<b>175</b>	<b>66</b>	<b>(37.7)</b>	<b>172</b>	<b>60</b>	<b>(34.9)</b>

Note: WHO European Region 18 TB high-priority countries presented in italics.

EU/EEA: country data are shown as missing (-) when data on treatment outcomes are not reported. For inclusion in the cohort, drug-susceptibility data are also required.

XDR-TB: extensively drug-resistant tuberculosis.









## **8. Country profiles**

**Abbreviations used in country profiles**

ART	antiretroviral therapy
C+	culture-positive
DRS	drug-resistance surveillance
DST	drug-susceptibility testing
MDR-TB	multidrug-resistant tuberculosis
EQA	external quality assessment
RR/MDR-TB	rifampicin-resistant and multidrug-resistant tuberculosis
RR-TB	rifampicin-resistant tuberculosis
TB	tuberculosis
XDR-TB	extensively drug-resistant tuberculosis

# Albania

Population estimate 2019 by United Nations Statistical Database: 2 880 913

## TB cases, 2019

### Notifications

Total number of cases	412
Notification rate per 100 000	14.3
New <sup>a</sup> and relapse	412
New <sup>a</sup> and relapse notification rate per 100 000	14.3
Pulmonary	320 (77.7%)
of which microscopy-positive	-
of which laboratory-confirmed	225 (70.3%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	45.0 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	0 (0.0%)
New (not previously treated)	383 (93.0%)

### Estimates

Estimated new and relapse cases N, best [low-high]	470 [410-550]
--	---------------

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	29 (12.9%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary cases N, best [low-high]	6 [1-11]
Pulmonary MDR-TB cases notified	2 (6.9%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	2 -
of which XDR-TB cases	0 -
TB cases tested for HIV	368 (89.3%)
HIV-positive TB cases	8 (2.2%)
of these on ART	8 (100.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

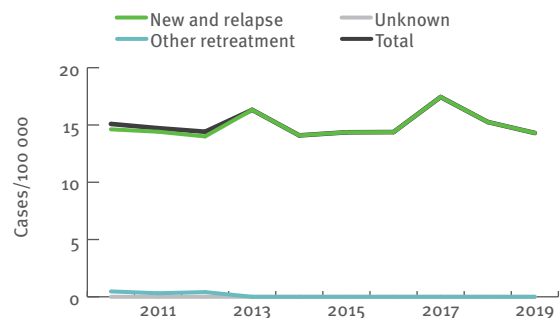
<sup>b</sup> More than 50% of TB cases with reported HIV status.

## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	434	0
Success	386 (88.9%)	-
Died	16 (3.7%)	-
Failed	1 (0.2%)	-
Lost to follow up	17 (3.9%)	-
Not evaluated	14 (3.2%)	-

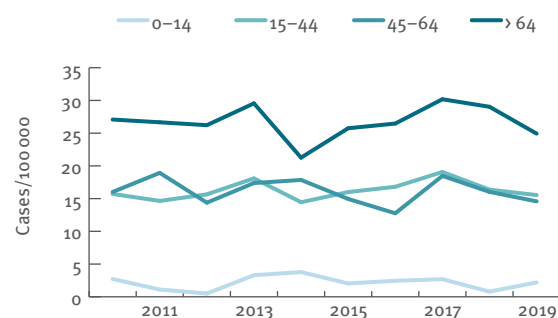
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



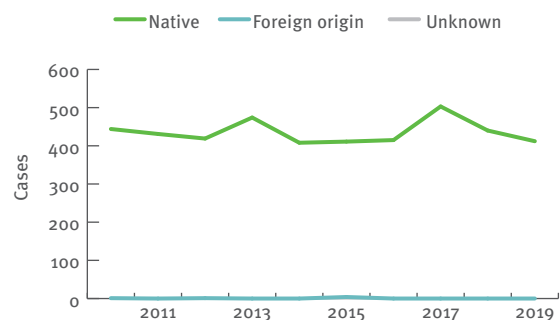
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

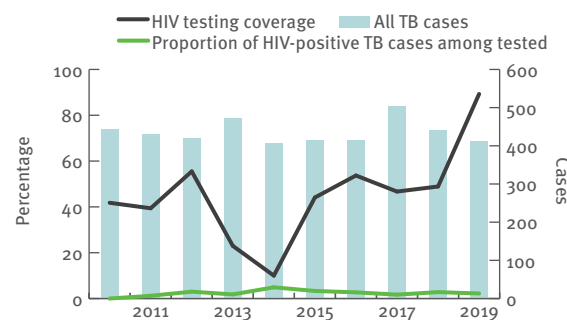


<sup>a</sup> Data up to 2012 include new TB cases only.

## TB cases by geographical origin, 2010-2019

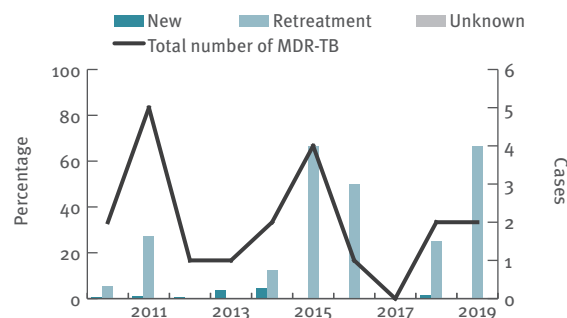


## TB/HIV coinfection, 2010-2019<sup>a</sup>

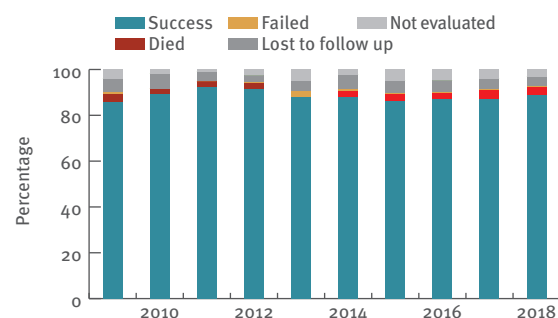


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Andorra

Total population estimate 2019 by United Nations Statistical Database: 77 147

## TB cases, 2019

### Notifications

Total number of cases	5
Notification rate per 100 000	6.5
New <sup>a</sup> and relapse	5
New <sup>a</sup> and relapse notification rate per 100 000	6.5
Pulmonary	4 (80.0%)
of which microscopy-positive	- -
of which laboratory-confirmed	4 (100.0%)
Laboratory-confirmed TB cases	- -
Mean age of new native TB cases	52.0 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	1 (20.0%)
New (not previously treated)	5 (100.0%)

### Estimates

Estimated new and relapse cases N, best [low-high]	6 [5-7]
--	---------

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	No
Case-linked data-reporting	Yes
Cases with DST results	2 (50.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	0 [0-4]
Pulmonary MDR-TB cases notified	0 (0.0%)
of which XDR-TB cases	- -
Notified MDR-TB	0 -
of which XDR-TB cases	- -
TB cases tested for HIV	0 (0.0%)
HIV-positive TB cases	- -
of these on ART	- -

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

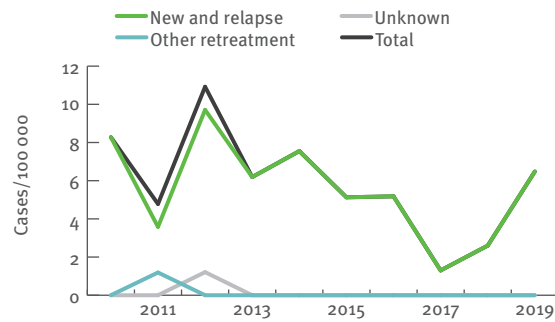
<sup>b</sup> More than 50% of TB cases with reported HIV status.

## Treatment outcome monitoring

Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	2	0
Success	2 (100.0%)	- -
Died	0 (0.0%)	- -
Failed	0 (0.0%)	- -
Lost to follow up	0 (0.0%)	- -
Not evaluated	0 (0.0%)	- -

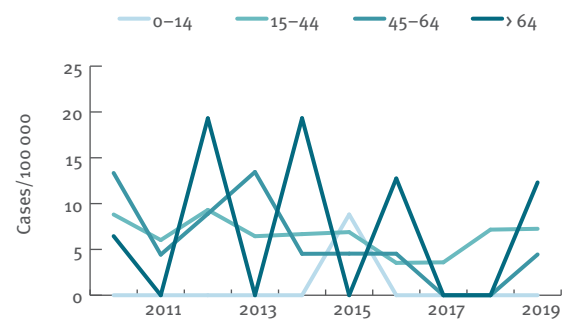
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010–2019<sup>a</sup>



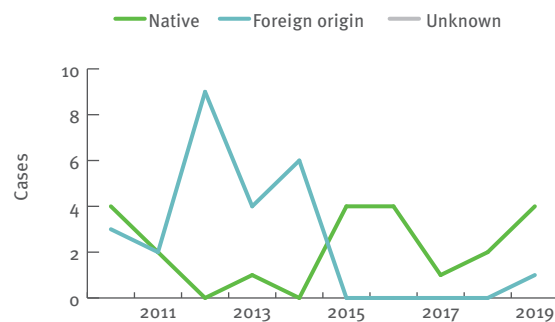
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010–2019<sup>a</sup>

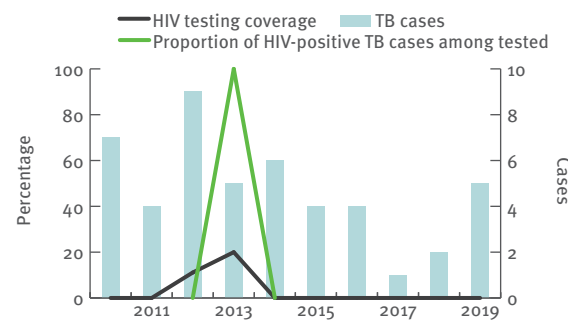


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010–2019

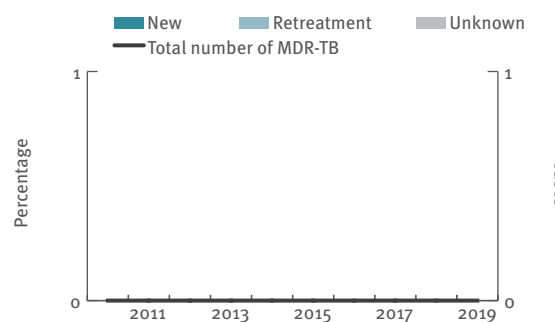


## TB/HIV coinfection, 2010–2019<sup>a</sup>

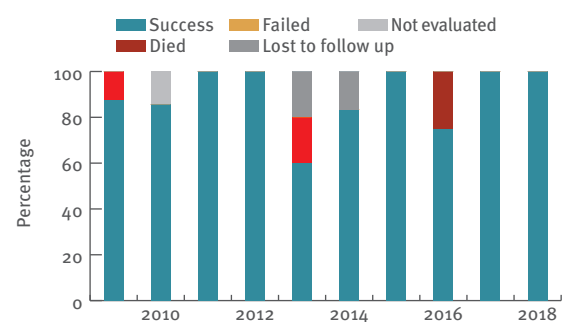


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new and relapse TB cases, 2009–2018<sup>a</sup>



<sup>a</sup> 2009–2011 cohorts include new cases only.

# Armenia

Total population estimate 2019 by United Nations Statistical Database: 2 957 728

## TB cases, 2019

### Notifications

Total number of cases	670
Notification rate per 100 000	22.7
New <sup>a</sup> and relapse	621
New <sup>a</sup> and relapse notification rate per 100 000	21.0
Pulmonary	531 (79.3%)
of which microscopy-positive	-
of which laboratory-confirmed	305 (57.4%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	42.6 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	12 (1.8%)
New (not previously treated)	542 (80.9%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	780 [590-980]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	296 (97.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	66 [52-80]
Pulmonary MDR-TB cases notified	56 (18.9%)
of which XDR-TB cases	12 (54.5%)
Notified MDR-TB	57 -
of which XDR-TB cases	12 -
TB cases tested for HIV	591 (95.2%)
HIV-positive TB cases	62 (10.5%)
of these on ART	62 (100.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

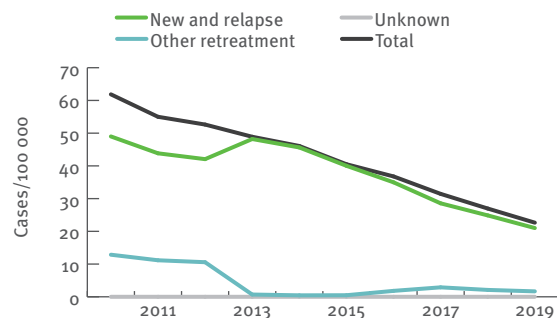
<sup>b</sup> More than 50% of TB cases with reported HIV status.

## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	615	104
Success	497 (80.8%)	52 (50.0%)
Died	43 (7.0%)	11 (10.6%)
Failed	15 (2.4%)	10 (9.6%)
Lost to follow up	60 (9.8%)	31 (29.8%)
Not evaluated	0 (0.0%)	0 (0.0%)

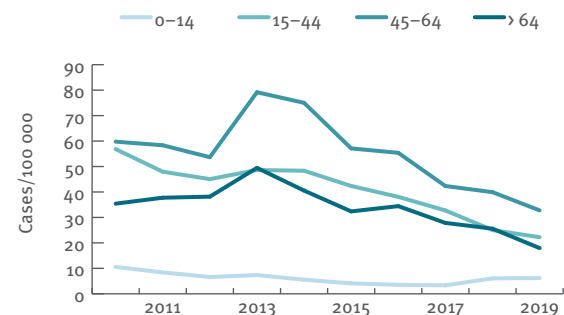
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010–2019<sup>a</sup>



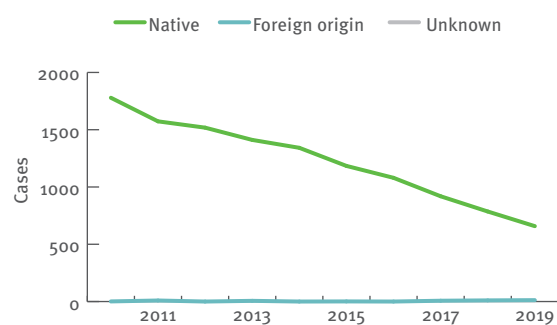
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010–2019<sup>a</sup>

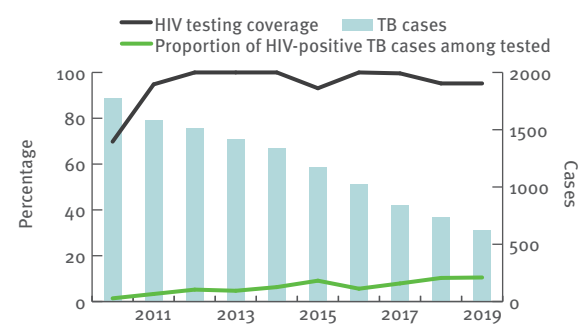


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010–2019

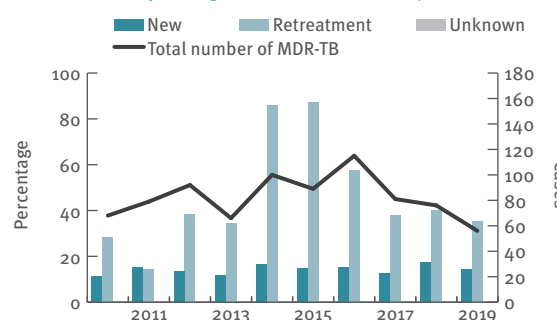


## TB/HIV coinfection, 2010–2019<sup>a</sup>

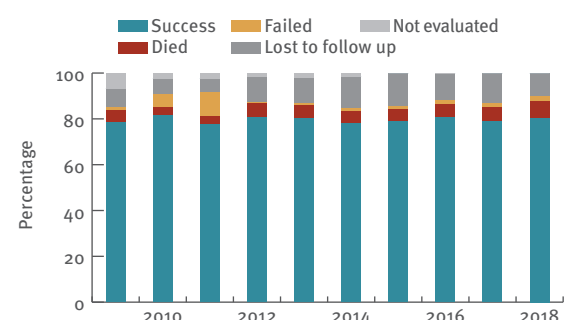


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new and relapse TB cases, 2009–2018<sup>a</sup>



<sup>a</sup> 2009–2011 cohorts include new cases only.

# Austria

Total population at 25 June 2020 by EUROSTAT: 8 858 775

## TB cases, 2019

### Notifications

Total number of cases	474
Notification rate per 100 000	5.4
New <sup>a</sup> and relapse	464
New <sup>a</sup> and relapse notification rate per 100 000	5.2
Pulmonary	342 (72.2%)
of which microscopy-positive	92 (26.9%)
of which laboratory-confirmed	265 (77.5%)
Laboratory-confirmed TB cases	342 (72.2%)
Mean age of new native TB cases	54.5 years
Mean age of new foreign TB cases	35.2 years
Foreign origin of all TB cases	263 (55.5%)
New (not previously treated)	345 (72.8%)

### Estimates

Estimated new and relapse cases N, best [low-high]	560 [480-650]
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<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	-
Case-linked data-reporting	Yes
Cases with DST results	331 (96.8%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	10 [4-17]
Pulmonary MDR-TB cases notified	3 (1.2%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	4 (1.2%)
of which XDR-TB cases	0 (0.0%)
New <sup>c</sup> and relapse cases tested for HIV	-
HIV-positive TB cases	-
of these on ART	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included as new cases.

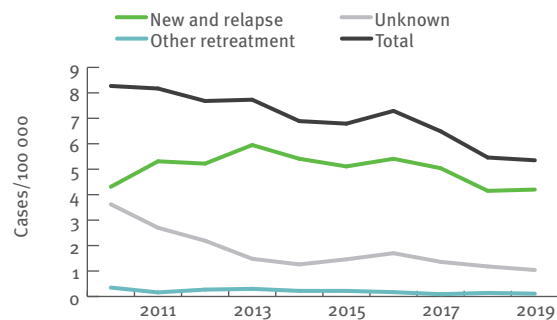
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	208	18
Success	143 (68.8%)	9 (50.0%)
Died	21 (10.1%)	2 (11.1%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	0 (0.0%)	0 (0.0%)
Still on treatment	29 (13.9%)	0 (0.0%)
Not evaluated	15 (7.2%)	7 (38.9%)

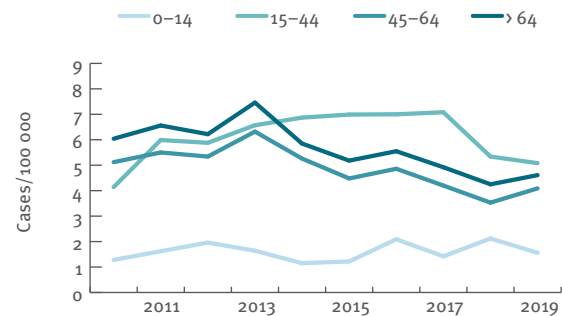
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

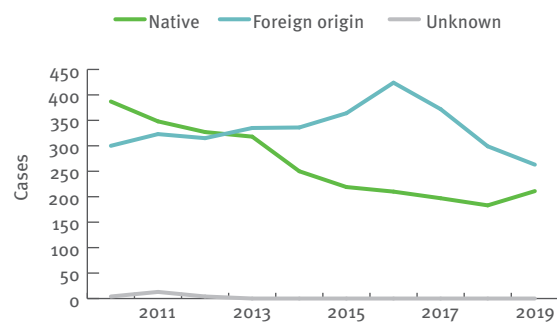
## TB notification rates by previous treatment history, 2010-2019



## New and relapse TB cases – notification rates by age group, 2010-2019



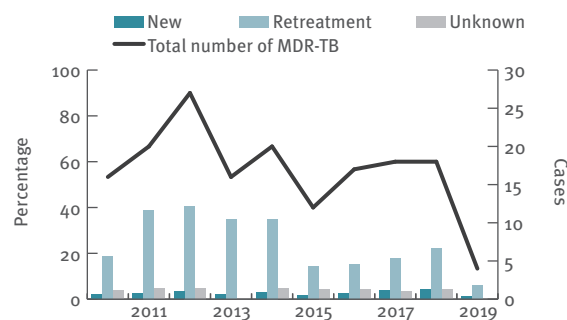
## TB cases by geographical origin, 2010-2019



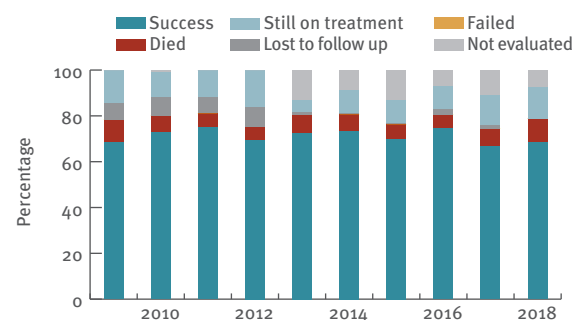
## TB/HIV coinfection, 2010-2019

Data not reported

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018



# Azerbaijan

Total population estimate 2019 by United Nations Statistical Database: 10 047 719

## TB cases, 2019

### Notifications

Total number of cases	6 533
Notification rate per 100 000	65.0
New <sup>a</sup> and relapse	4 823
New <sup>a</sup> and relapse notification rate per 100 000	48.0
Pulmonary	5 600 (85.7%)
of which microscopy-positive	-
of which laboratory-confirmed	4 130 (73.8%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	26.7 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	0 (0.0%)
New (not previously treated)	3 613 (55.3%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	6 000 [4 600-7 600]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	3 757 (91.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	760 [710-810]
Pulmonary MDR-TB cases notified	414 (11.0%)
of which XDR-TB cases	89 (24.3%)
Notified MDR-TB	834 -
of which XDR-TB cases	197 -
TB cases tested for HIV	4 534 (94.0%)
HIV-positive TB cases	71 (1.6%)
of these on ART	71 (100.0%)

<sup>a</sup> National coverage 100% or culturing 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

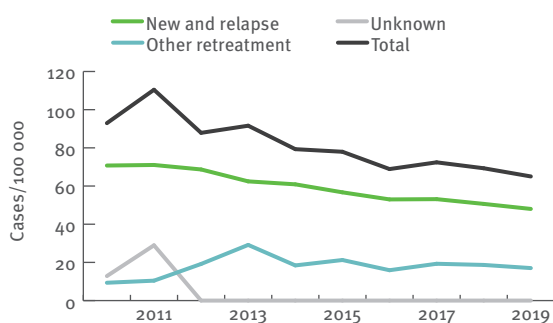
## Treatment outcome monitoring

Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	1 751	858
Success	1 471 (84.0%)	509 (59.3%)
Died	39 (2.2%)	103 (12.0%)
Failed	95 (5.4%)	136 (15.9%)
Lost to follow up	121 (6.9%)	110 (12.8%)
Not evaluated	25 (1.4%)	0 (0.0%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

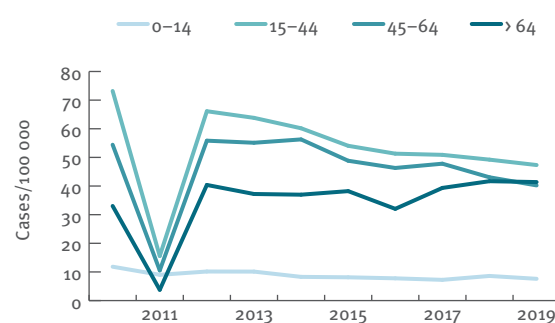
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



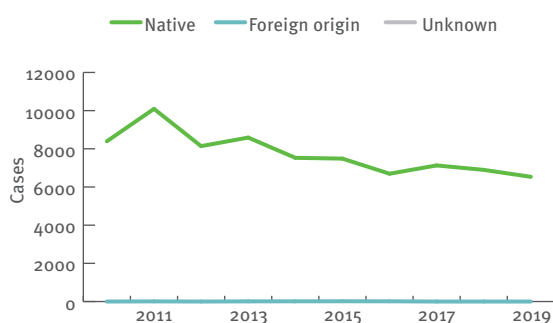
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

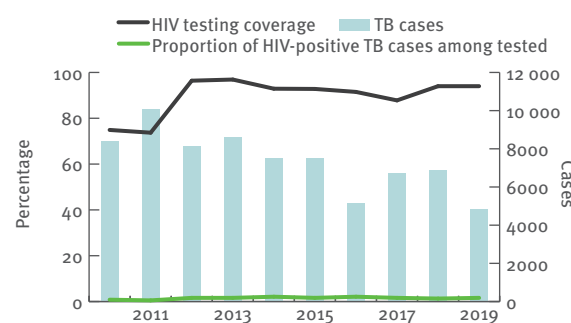


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

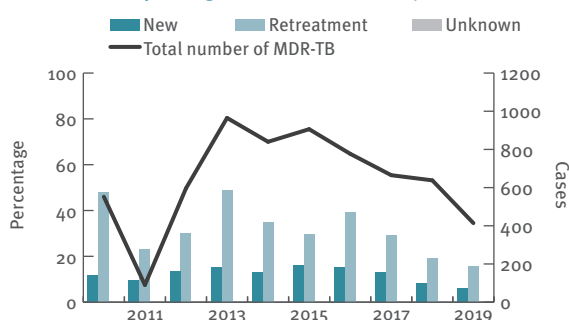


## TB/HIV coinfection, 2010-2019<sup>a</sup>

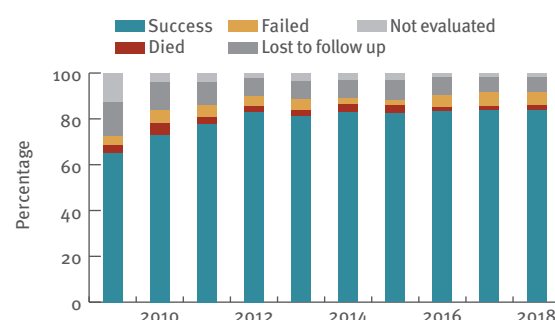


<sup>a</sup> Data up to 2018 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Belarus

Population estimate 2018 by United Nations Statistical Database: 9 452 409

## TB cases, 2019

### Notifications

Total number of cases	2 615
Notification rate per 100 000	27.7
New <sup>a</sup> and relapse	2 207
New <sup>a</sup> and relapse notification rate per 100 000	23.3
Pulmonary	2 115 (80.9%)
of which microscopy-positive	-
of which laboratory-confirmed	2 013 (95.2%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	48.3 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	0 (0.0%)
New (not previously treated)	1 758 (67.2%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	2 800 [2 100-3 500]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	2 013 (100.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	870 [830-920]
Pulmonary MDR-TB cases notified	808 (40.1%)
of which XDR-TB cases	185 (22.9%)
Notified MDR-TB	838 -
of which XDR-TB cases	344 -
TB cases tested for HIV	2 207 (100.0%)
HIV-positive TB cases	157 (7.1%)
of these on ART	149 (94.9%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

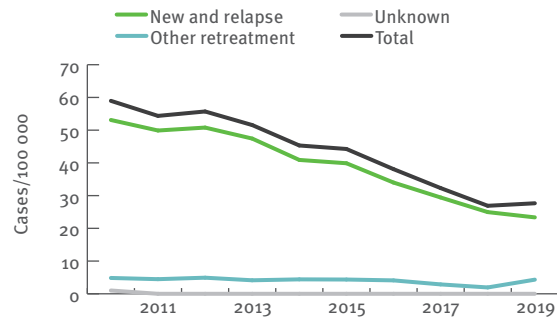
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	1 418	1 067
Success	1 250 (88.2%)	752 (70.5%)
Died	94 (6.6%)	94 (8.8%)
Failed	33 (2.3%)	100 (9.4%)
Lost to follow up	32 (2.3%)	112 (10.5%)
Not evaluated	9 (0.6%)	9 (0.8%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

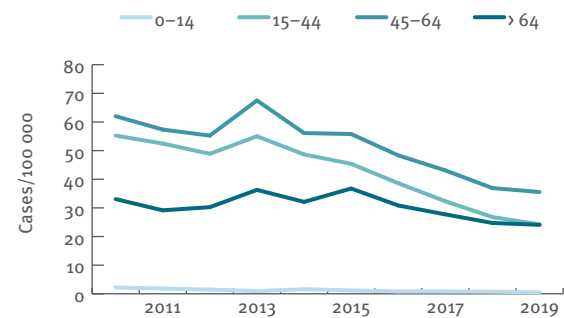
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



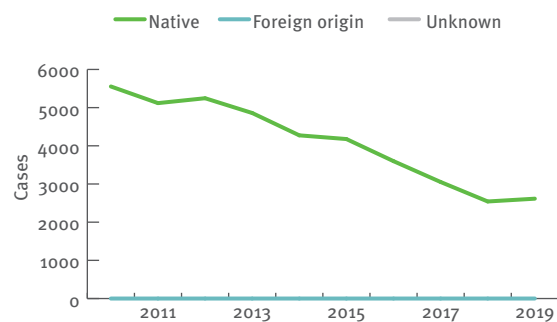
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

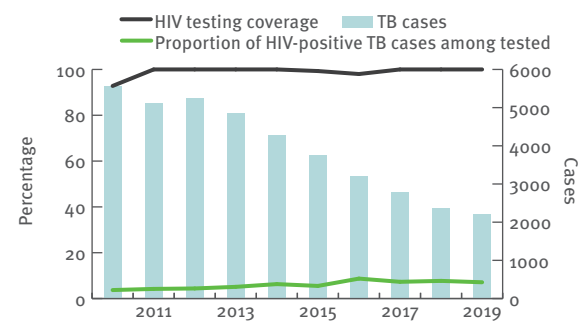


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

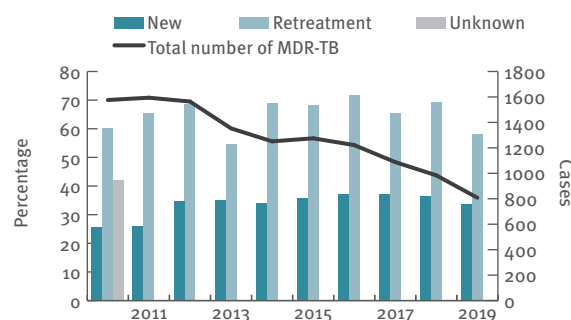


## TB/HIV coinfection, 2010-2019<sup>a</sup>

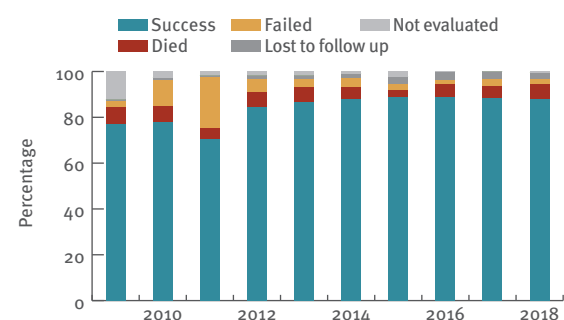


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.



# Belgium

Total population at 25 June 2020 by EUROSTAT: 11 455 519

## TB cases, 2019

### Notifications

Total number of cases	968
Notification rate per 100 000	8.5
New <sup>a</sup> and relapse	895
New <sup>a</sup> and relapse notification rate per 100 000	7.8
Pulmonary	692 (71.5%)
of which microscopy-positive	356 (51.4%)
of which laboratory-confirmed	564 (81.5%)
Laboratory-confirmed TB cases	737 (76.1%)
Mean age of new native TB cases	49.5 years
Mean age of new foreign TB cases	34.3 years
Foreign origin of all TB cases	541 (55.9%)
New (not previously treated)	755 (78.0%)

### Estimates

Estimated new and relapse cases N, best [low–high]	1000 [880–1 200]
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<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	707 (95.9%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	16 [7–25]
Pulmonary MDR-TB cases notified	12 (2.2%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	15 (2.1%)
of which XDR-TB cases	0 (0.0%)
New <sup>c</sup> and relapse cases tested for HIV	463 (51.7%)
HIV-positive TB cases of these on ART	36 (7.8%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

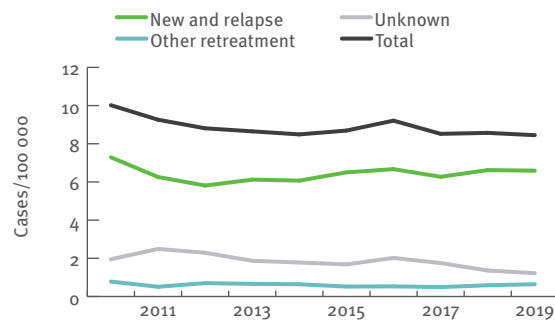
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	–
Cases notified	440	5
Success	350 (79.5%)	4 (80.0%)
Died	32 (7.3%)	0 (0.0%)
Failed	1 (0.2%)	0 (0.0%)
Lost to follow up	41 (9.3%)	0 (0.0%)
Still on treatment	8 (1.8%)	0 (0.0%)
Not evaluated	8 (1.8%)	1 (20.0%)

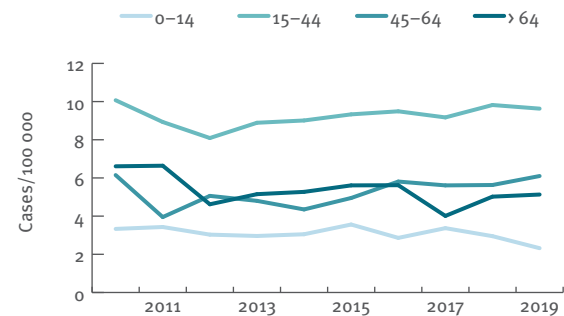
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

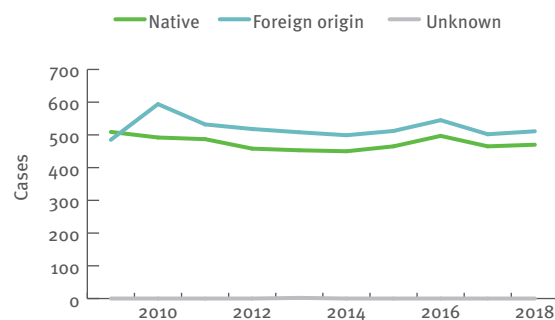
## TB notification rates by previous treatment history, 2010–2019



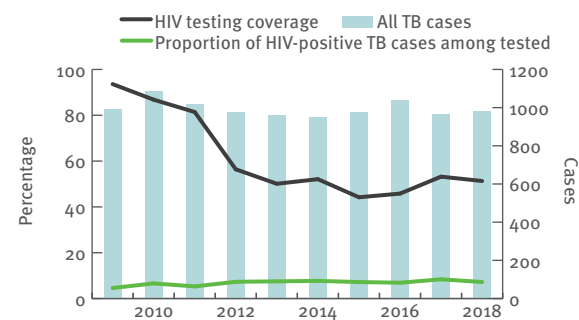
## New and relapse TB cases – notification rates by age group, 2010–2019



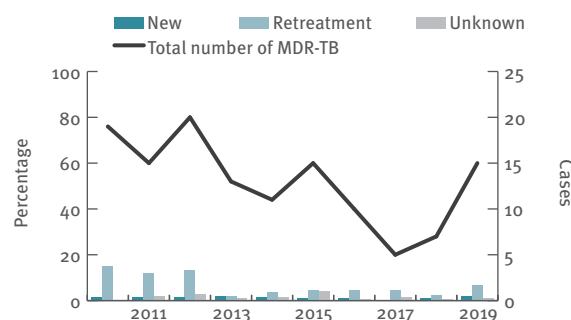
## TB cases by geographical origin, 2010–2019



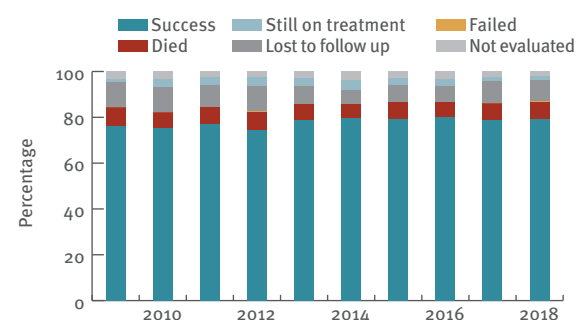
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Bosnia and Herzegovina

Total population estimate 2019 by United Nations Statistical Database: 3 300 998

## TB cases, 2019

### Notifications

Total number of cases	580
Notification rate per 100 000	17.6
New <sup>a</sup> and relapse	580
New <sup>a</sup> and relapse notification rate per 100 000	17.6
Pulmonary	502 (86.6%)
of which microscopy-positive	-
of which laboratory-confirmed	355 (70.7%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	44.3 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	0 (0.0%)
New (not previously treated)	535 (92.2%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	900 [690-1100]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	No
Case-linked data-reporting	Yes
Cases with DST results	242 (68.2%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary cases N, best [low-high]	2 [0-4]
Pulmonary MDR-TB cases notified	0 (0.0%)
of which XDR-TB cases	-
Notified MDR-TB	0 -
of which XDR-TB cases	-
TB cases tested for HIV	18 (3.1%)
HIV-positive TB cases	0 (0.0%)
of these on ART	-

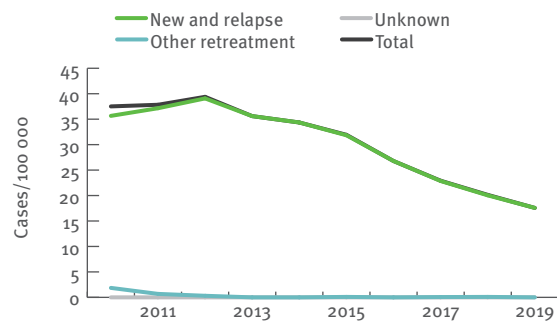
<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.  
<sup>b</sup> More than 50% of TB cases with reported HIV status.

## Treatment outcome monitoring

Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	666	0
Success	189 (28.4%)	-
Died	35 (5.3%)	-
Failed	11 (1.7%)	-
Lost to follow up	3 (0.5%)	-
Not evaluated	428 (64.3%)	-

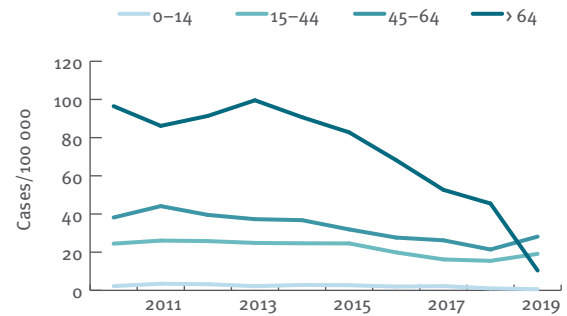
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



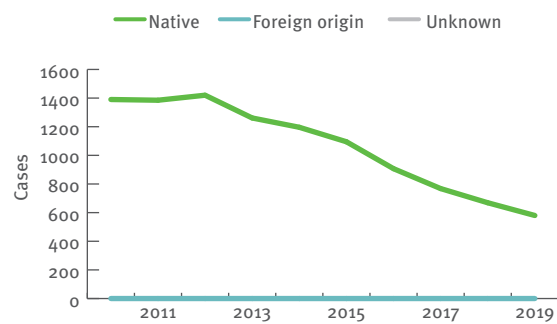
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

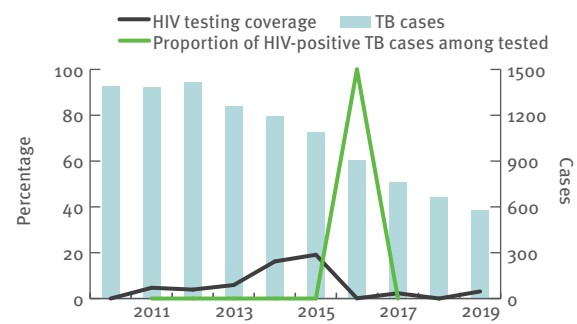


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

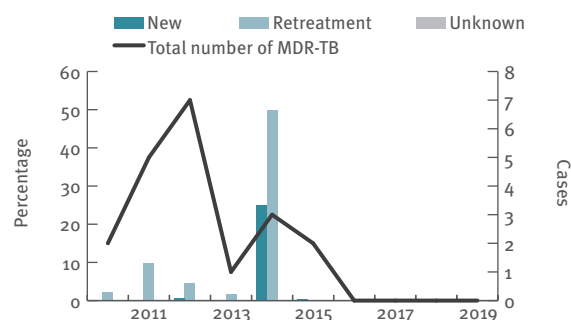


## TB/HIV coinfection, 2010-2019<sup>a</sup>

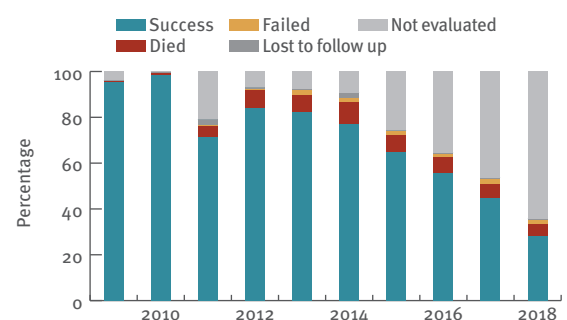


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Bulgaria

Total population at 25 June 2020 by EUROSTAT: 7 000 039

## TB cases, 2019

### Notifications

Total number of cases	1344
Notification rate per 100 000	19.1
New <sup>a</sup> and relapse	1288
New <sup>a</sup> and relapse notification rate per 100 000	18.4
Pulmonary	1066 (79.3%)
of which microscopy-positive	512 (48.0%)
of which laboratory-confirmed	616 (57.8%)
Laboratory-confirmed TB cases	626 (46.6%)
Mean age of new native TB cases	49.1 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	0 (0.0%)
New (not previously treated)	1193 (88.8%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	1400 [1100-1800]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	454 (72.5%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	30 [20-41]
Pulmonary MDR-TB cases notified	11 (2.5%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	11 (2.4%)
of which XDR-TB cases	0 (0.0%)
New <sup>a</sup> and relapse cases tested for HIV	1065 (82.7%)
HIV-positive TB cases	1 (0.1%)
of these on ART	1 (100.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

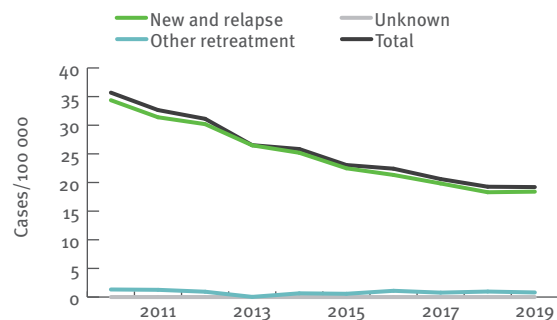
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	517	24
Success	441 (85.3%)	16 (66.7%)
Died	42 (8.1%)	2 (8.3%)
Failed	2 (0.4%)	0 (0.0%)
Lost to follow up	27 (5.2%)	5 (20.8%)
Still on treatment	3 (0.6%)	1 (4.2%)
Not evaluated	2 (0.4%)	0 (0.0%)

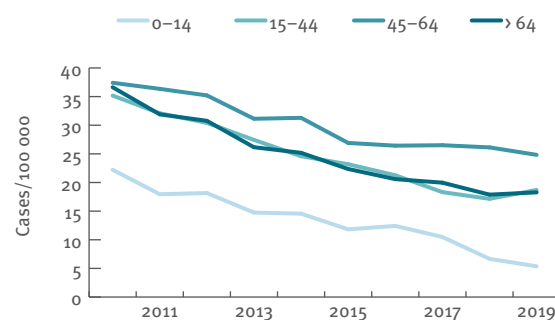
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

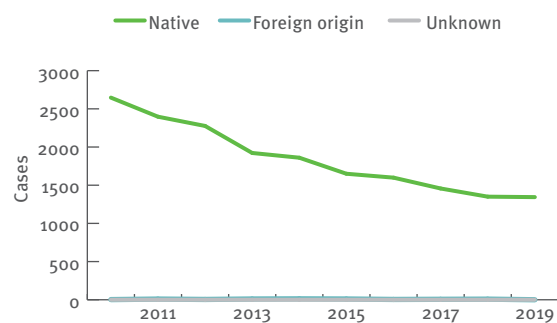
## TB notification rates by previous treatment history, 2010-2019



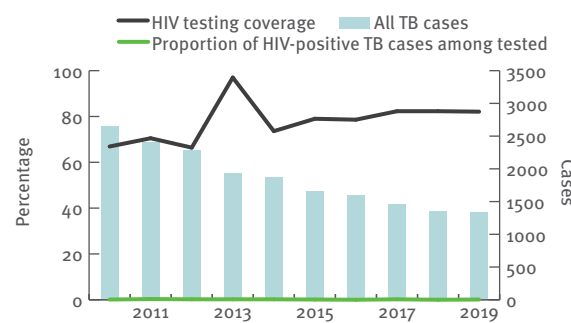
## New and relapse TB cases – notification rates by age group, 2010-2019



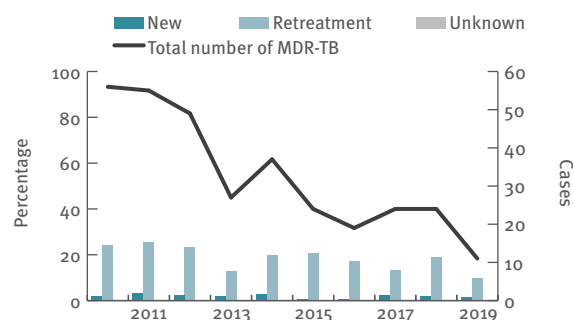
## TB cases by geographical origin, 2010-2019



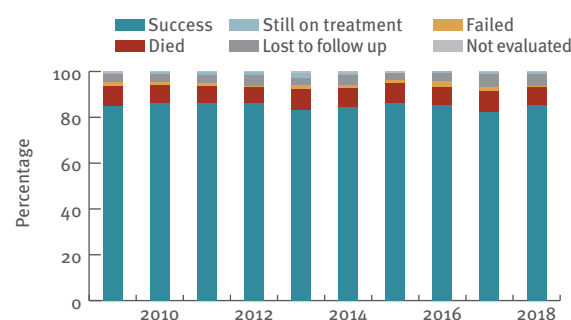
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018



# Croatia

Total population at 25 June 2020 by EUROSTAT: 4 076 246

## TB cases, 2019

### Notifications

Total number of cases	303	
Notification rate per 100 000	7.4	
New <sup>a</sup> and relapse	297	
New <sup>a</sup> and relapse notification rate per 100 000	7.3	
Pulmonary	239	(78.9%)
of which microscopy-positive	147	(61.5%)
of which laboratory-confirmed	215	(90.0%)
Laboratory-confirmed TB cases	253	(83.5%)
Mean age of new native TB cases	84.0 years	
Mean age of new foreign TB cases	-	
Foreign origin of all TB cases	4	(1.3%)
New (not previously treated)	2	(0.7%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low-high]	330	[280-380]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	No	
Case-linked data-reporting	Yes	
Cases with DST results	219	(86.6%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	2	[0-5]
Pulmonary MDR-TB cases notified	2	(1.1%)
of which XDR-TB cases	1	-
Notified MDR-TB of which XDR-TB cases	2	(0.9%)
of which XDR-TB cases	1	-
New <sup>a</sup> and relapse cases tested for HIV	4	(1.3%)
HIV-positive TB cases of these on ART	0	(0.0%)

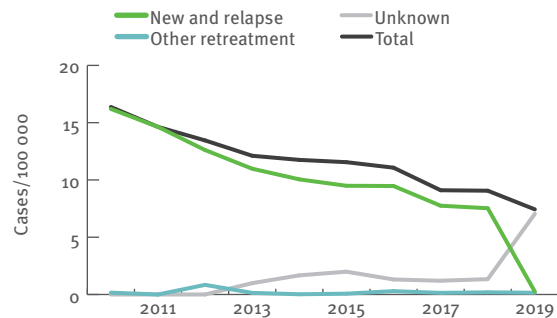
<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.  
<sup>b</sup> More than 50% of TB cases with reported HIV status.  
<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

## Treatment outcome monitoring

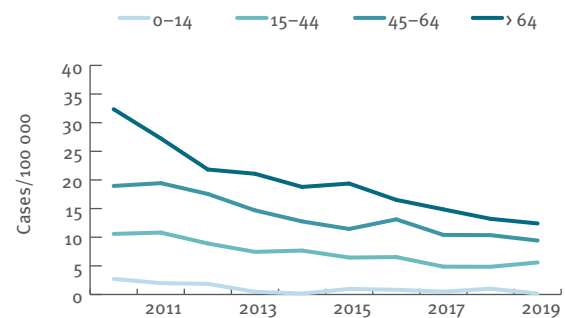
Geographical coverage	National		
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>	
Case-linked data-reporting	Yes	-	
Cases notified	241	0	
Success	75	(31.1%)	-
Died	30	(12.4%)	-
Failed	0	(0.0%)	-
Lost to follow up	2	(0.8%)	-
Still on treatment	5	(2.1%)	-
Not evaluated	129	(53.5%)	-

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019

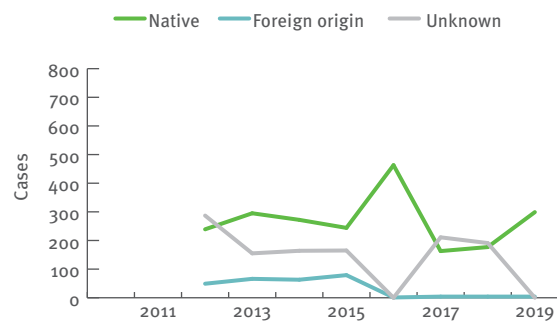


## New<sup>a</sup> and relapse TB cases – notification rates by age group, 2010-2019

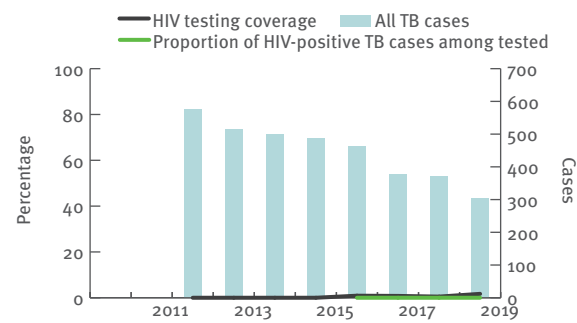


<sup>a</sup> For 2019, cases with unknown treatment history included in new cases.

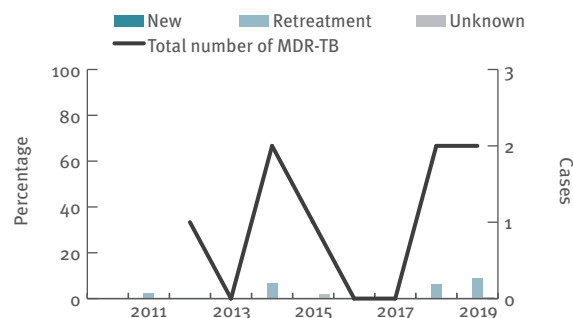
## TB cases by geographical origin, 2010-2019



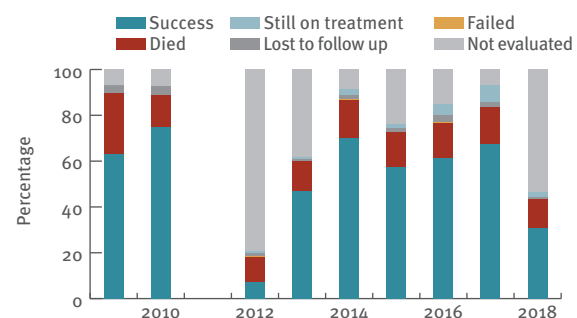
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018



# Cyprus

Total population at 25 June 2020 by EUROSTAT: 875 899

## TB cases, 2019

### Notifications

Total number of cases	69
Notification rate per 100 000	8.0
New <sup>a</sup> and relapse	66
New <sup>a</sup> and relapse notification rate per 100 000	7.5
Pulmonary	62 (89.9%)
of which microscopy-positive	21 (33.9%)
of which laboratory-confirmed	49 (79.0%)
Laboratory-confirmed TB cases	53 (76.8%)
Mean age of new native TB cases	59.0 years
Mean age of new foreign TB cases	34.0 years
Foreign origin of all TB cases	62 (89.9%)
New (not previously treated)	64 (92.8%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low–high]	64 [54–73]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	53 (100.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	0 [0–3]
Pulmonary MDR-TB cases notified	1 (2.0%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	1 (1.9%)
of which XDR-TB cases	0 –
New <sup>c</sup> and relapse cases tested for HIV	41 (62.1%)
HIV-positive TB cases	1 (2.4%)
of these on ART	– –

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

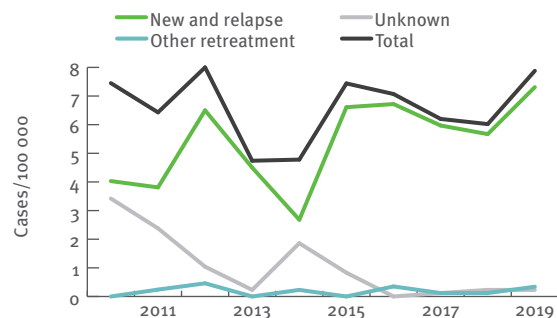
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	–
Cases notified	33	1
Success	22 (66.7%)	0 (0.0%)
Died	0 (0.0%)	0 (0.0%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	0 (0.0%)	0 (0.0%)
Still on treatment	2 (6.1%)	0 (0.0%)
Not evaluated	9 (27.3%)	1 (100.0%)

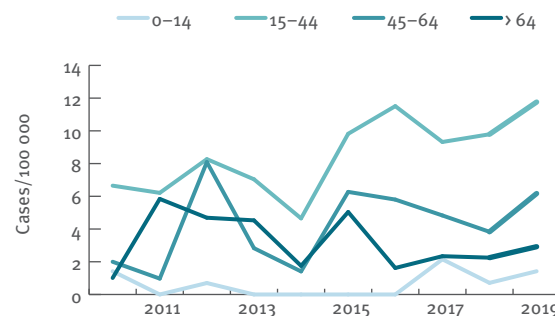
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

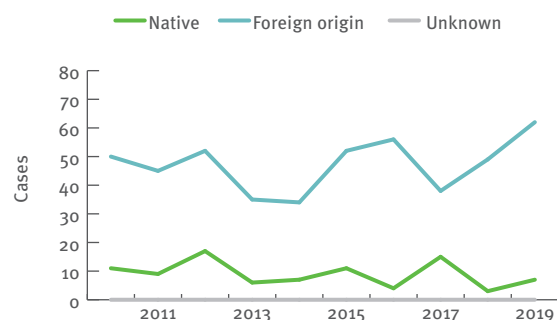
## TB notification rates by previous treatment history, 2010–2019



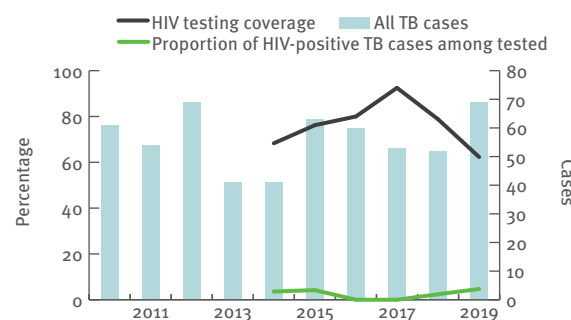
## New and relapse TB cases – notification rates by age group, 2010–2019



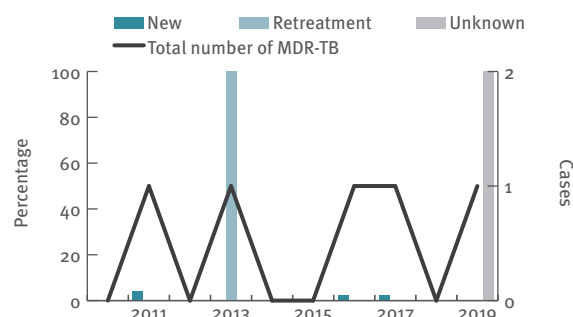
## TB cases by geographical origin, 2010–2019



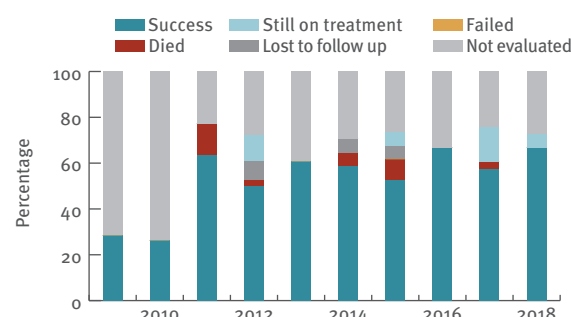
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Czechia

Total population at 25 June 2020 by EUROSTAT: 10 649 800

## TB cases, 2019

### Notifications

Total number of cases	464
Notification rate per 100 000	4.4
New <sup>a</sup> and relapse	458
New <sup>a</sup> and relapse notification rate per 100 000	4.3
Pulmonary	426 (91.8%)
of which microscopy-positive	218 (51.2%)
of which laboratory-confirmed	351 (82.4%)
Laboratory-confirmed TB cases	375 (80.8%)
Mean age of new native TB cases	56.2 years
Mean age of new foreign TB cases	40.2 years
Foreign origin of all TB cases	140 (30.2%)
New (not previously treated)	444 (95.7%)

### Estimates

Estimated new and relapse cases N, best [low–high]	530 [450–610]
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<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	338 (90.1%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	11 [5–18]
Pulmonary MDR-TB cases notified	8 (2.5%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	8 (2.4%)
of which XDR-TB cases	0 (0.0%)
New <sup>c</sup> and relapse cases tested for HIV	267 (58.3%)
HIV-positive TB cases	8 (3.0%)
of these on ART	–

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

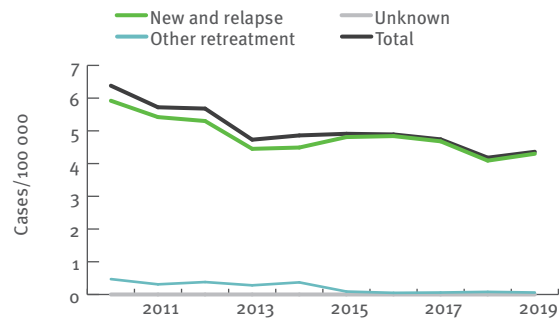
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	–
Cases notified	301	8
Success	195 (64.8%)	3 (37.5%)
Died	38 (12.6%)	0 (0.0%)
Failed	0 (0.0%)	1 (12.5%)
Lost to follow up	37 (12.3%)	1 (12.5%)
Still on treatment	10 (3.3%)	1 (12.5%)
Not evaluated	21 (7.0%)	2 (25.0%)

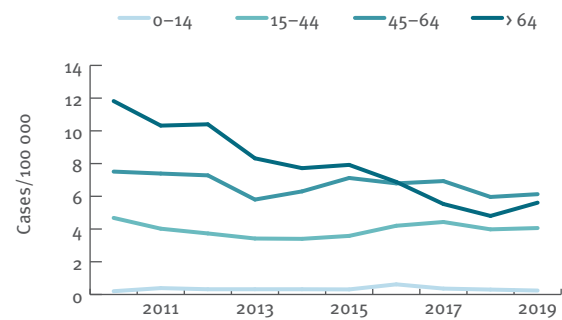
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

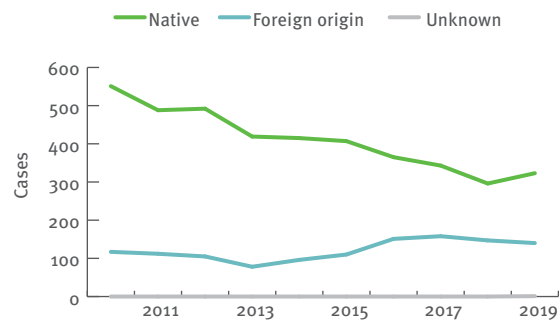
## TB notification rates by previous treatment history, 2010–2019



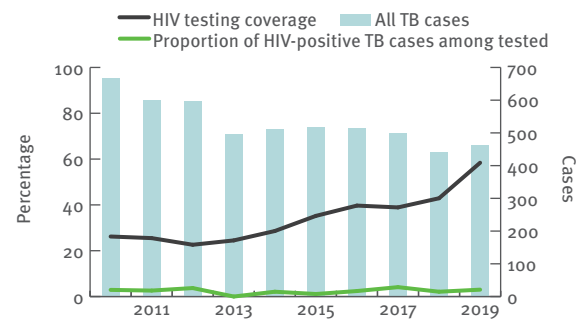
## New and relapse TB cases – notification rates by age group, 2010–2019



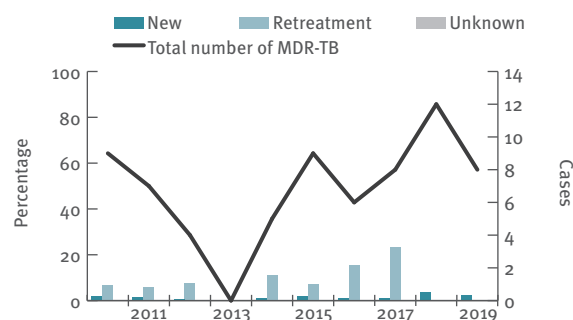
## TB cases by geographical origin, 2010–2019



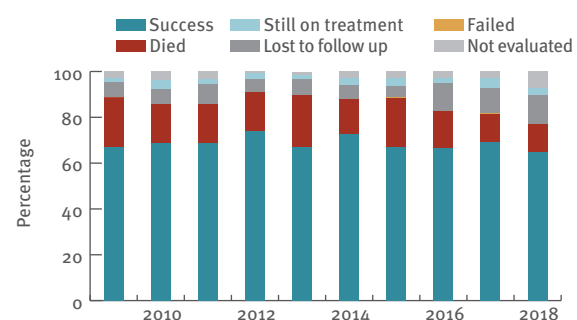
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Denmark

Total population at 25 June 2020 by EUROSTAT: 5 806 081

## TB cases, 2019

### Notifications

Total number of cases	281
Notification rate per 100 000	4.9
New <sup>a</sup> and relapse	260
New <sup>a</sup> and relapse notification rate per 100 000	4.5
Pulmonary	224 (79.7%)
of which microscopy-positive	94 (42.0%)
of which laboratory-confirmed	188 (83.9%)
Laboratory-confirmed TB cases	228 (81.1%)
Mean age of new native TB cases	49.4 years
Mean age of new foreign TB cases	37.0 years
Foreign origin of all TB cases	204 (72.6%)
New (not previously treated)	259 (92.2%)

### Estimates

Estimated new and relapse cases N, best [low–high]	290 [250–340]
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<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	225 (98.7%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	4 [0–9]
Pulmonary MDR-TB cases notified	3 (1.6%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	4 (1.8%)
of which XDR-TB cases	0 (0.0%)
New <sup>c</sup> and relapse cases tested for HIV	208 (80.0%)
HIV-positive TB cases of these on ART	5 (2.4%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

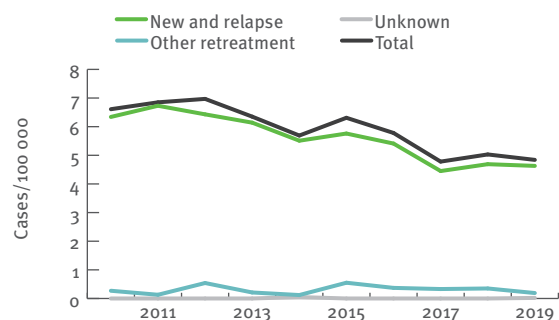
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	–
Cases notified	161	2
Success	20 (12.4%)	1 (50.0%)
Died	0 (0.0%)	0 (0.0%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	0 (0.0%)	0 (0.0%)
Still on treatment	0 (0.0%)	0 (0.0%)
Not evaluated	141 (87.6%)	1 (50.0%)

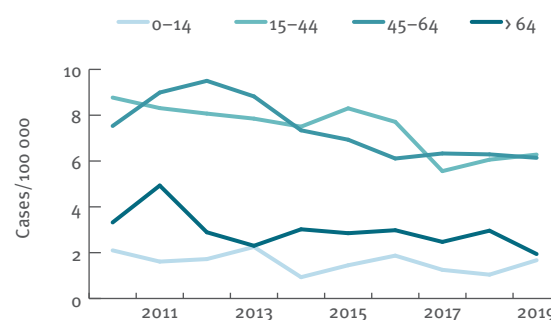
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

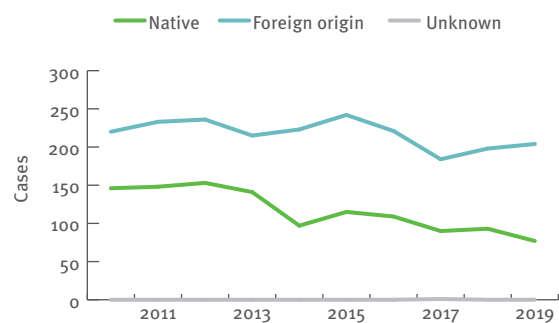
## TB notification rates by previous treatment history, 2010–2019



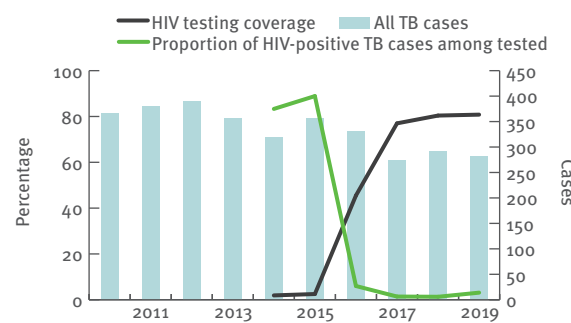
## New and relapse TB cases – notification rates by age group, 2010–2019



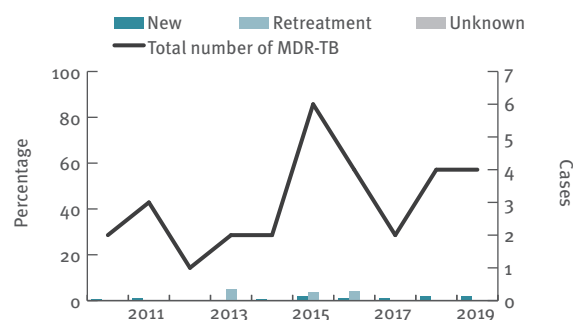
## TB cases by geographical origin, 2010–2019



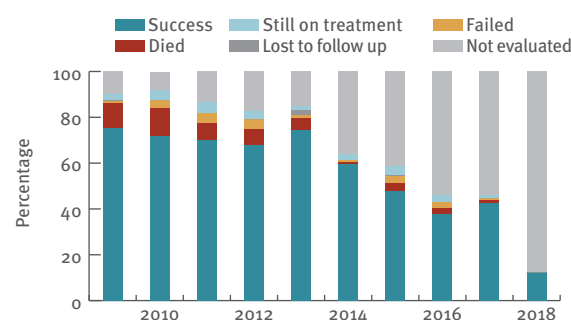
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Estonia

Total population at 25 June 2020 by EUROSTAT: 1 324 820

## TB cases, 2019

### Notifications

Total number of cases	150
Notification rate per 100 000	11.4
New <sup>a</sup> and relapse	147
New <sup>a</sup> and relapse notification rate per 100 000	11.1
Pulmonary	139 (92.7%)
of which microscopy-positive	64 (46.0%)
of which laboratory-confirmed	121 (87.1%)
Laboratory-confirmed TB cases	128 (85.3%)
Mean age of new native TB cases	53.6 years
Mean age of new foreign TB cases	56.8 years
Foreign origin of all TB cases	36 (24.0%)
New (not previously treated)	126 (84.0%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low–high]	170 [140–200]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	127 (99.2%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	29 [20–38]
Pulmonary MDR-TB cases notified	26 (21.3%)
of which XDR-TB cases	4 (16.7%)
Notified MDR-TB	26 (20.5%)
of which XDR-TB cases	4 (16.7%)
New <sup>a</sup> and relapse cases tested for HIV	138 (93.9%)
HIV-positive TB cases	16 (11.6%)
of these on ART	14 (87.5%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

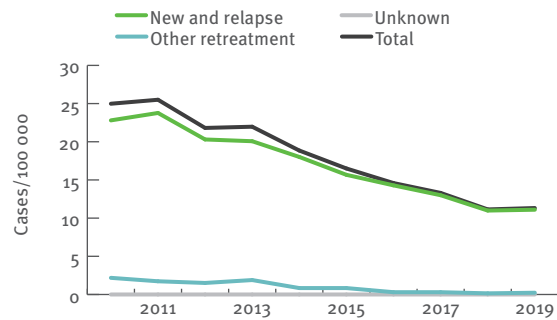
## Treatment outcome monitoring

Geographical coverage	National		
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>	
Case-linked data-reporting	Yes	–	
Cases notified	101	36	
Success	65 (64.4%)	27	(75.0%)
Died	13 (12.9%)	5	(13.9%)
Failed	0 (0.0%)	0	(0.0%)
Lost to follow up	1 (1.0%)	2	(5.6%)
Still on treatment	19 (18.8%)	2	(5.6%)
Not evaluated	3 (3.0%)	0	(0.0%)

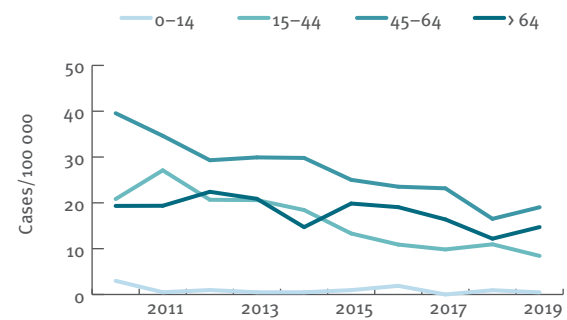
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

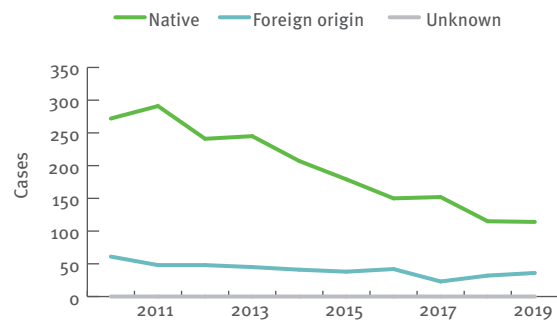
## TB notification rates by previous treatment history, 2010–2019



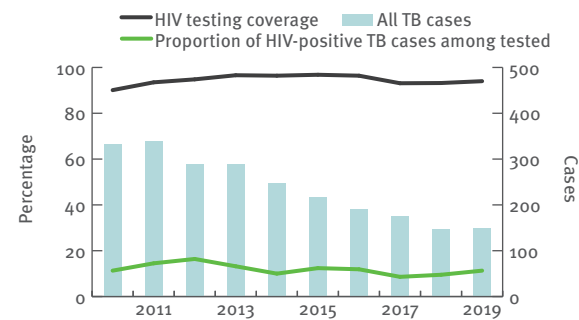
## New and relapse TB cases – notification rates by age group, 2010–2019



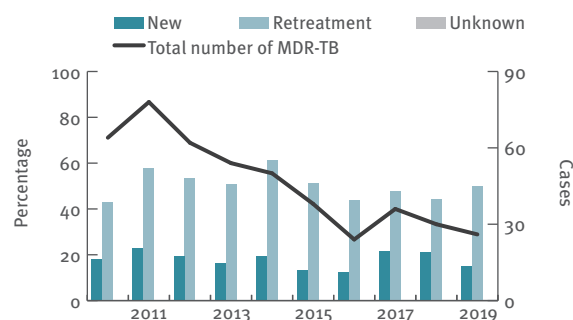
## TB cases by geographical origin, 2010–2019



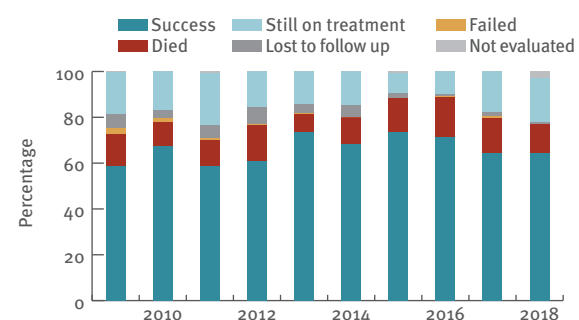
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018





# Finland

Total population at 25 June 2020 by EUROSTAT: 5 517 919

## TB cases, 2019

### Notifications

Total number of cases	225
Notification rate per 100 000	4.1
New <sup>a</sup> and relapse	224
New <sup>a</sup> and relapse notification rate per 100 000	4.1
Pulmonary	158 (70.2%)
of which microscopy-positive	45 (28.5%)
of which laboratory-confirmed	132 (83.5%)
Laboratory-confirmed TB cases	177 (78.7%)
Mean age of new native TB cases	66.4 years
Mean age of new foreign TB cases	33.9 years
Foreign origin of all TB cases	96 (42.7%)
New (not previously treated)	213 (94.7%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low–high]	260 [220–300]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	169 (95.5%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	6 [2–10]
Pulmonary MDR-TB cases notified	2 (1.6%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	2 (1.2%)
of which XDR-TB cases	0 (0.0%)
New <sup>a</sup> and relapse cases tested for HIV	–
HIV-positive TB cases	–
of these on ART	–

<sup>a</sup> National coverage 100% or culturing > 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

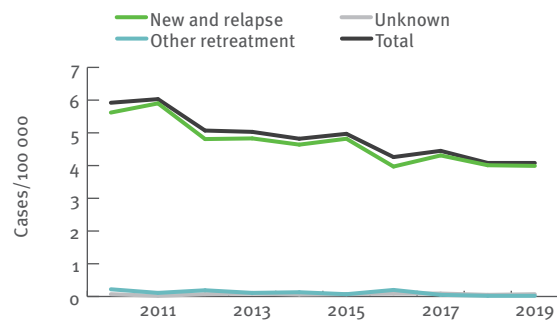
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	–
Cases notified	132	5
Success	39 (29.5%)	1 (20.0%)
Died	0 (0.0%)	1 (20.0%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	1 (0.8%)	0 (0.0%)
Still on treatment	1 (0.8%)	1 (20.0%)
Not evaluated	91 (68.9%)	2 (40.0%)

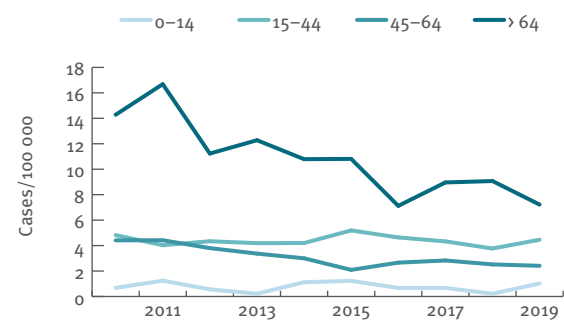
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

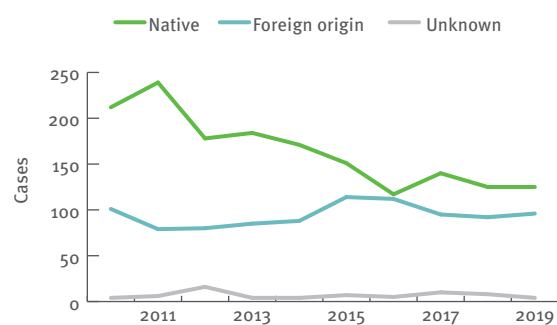
## TB notification rates by previous treatment history, 2010–2019



## New and relapse TB cases – notification rates by age group, 2010–2019



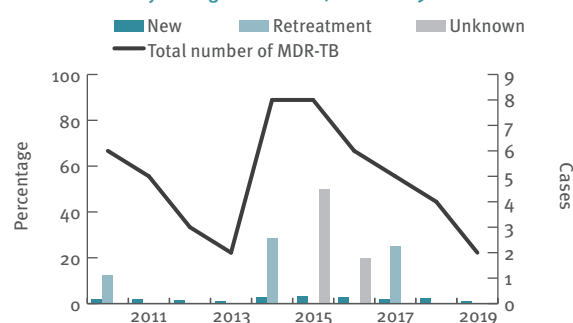
## TB cases by geographical origin, 2010–2019



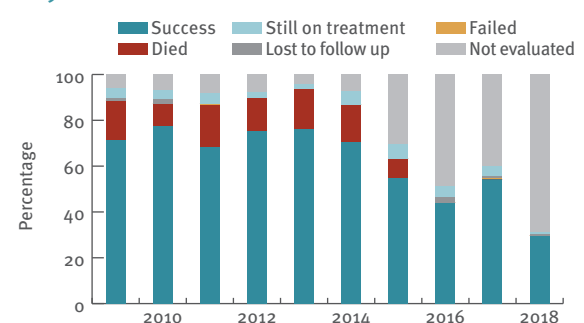
## TB/HIV coinfection, 2010–2019

Data not reported

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# France

Total population at 25 June 2020 by EUROSTAT: 67 012 883

## TB cases, 2019

### Notifications

Total number of cases	5 116
Notification rate per 100 000	7.6
New <sup>a</sup> and relapse	4 869
New <sup>a</sup> and relapse notification rate per 100 000	7.3
Pulmonary	3 476 (67.9%)
of which microscopy-positive	1 564 (45.0%)
of which laboratory-confirmed	1 351 (38.9%)
Laboratory-confirmed TB cases	1 807 (35.3%)
Mean age of new native TB cases	47.8 years
Mean age of new foreign TB cases	37.5 years
Foreign origin of all TB cases	3 102 (60.6%)
New (not previously treated)	2 663 (52.1%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low–high]	5 700 [5 000–6 400]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	-
Case-linked data-reporting	No
Cases with DST results	75 (1.5%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	37 [27–47]
Pulmonary MDR-TB cases notified	60 (100.0%)
of which XDR-TB cases	8 (13.6%)
Notified MDR-TB	75 (100.0%)
of which XDR-TB cases	9 (12.2%)
New <sup>c</sup> and relapse cases tested for HIV	-
HIV-positive TB cases	-
of these on ART	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

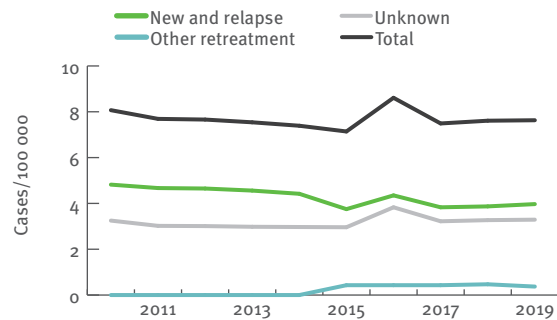
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data reporting	Yes	-
Cases notified	794	-
Success	124 (15.6%)	-
Died	12 (1.5%)	-
Failed	0 (0.0%)	-
Lost to follow up	5 (0.6%)	-
Still on treatment	1 (0.1%)	-
Not evaluated	652 (82.1%)	-

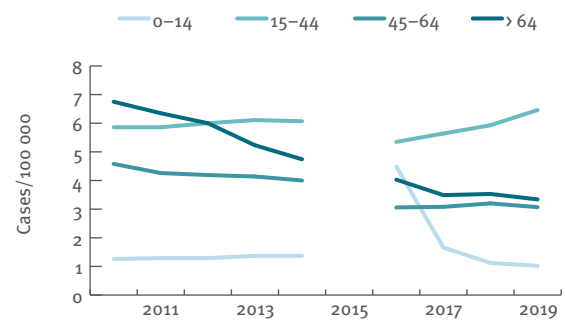
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

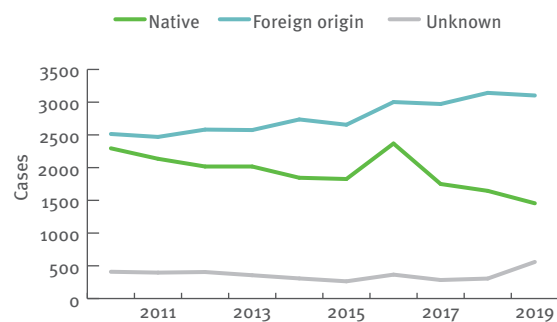
## TB notification rates by previous treatment history, 2010–2019



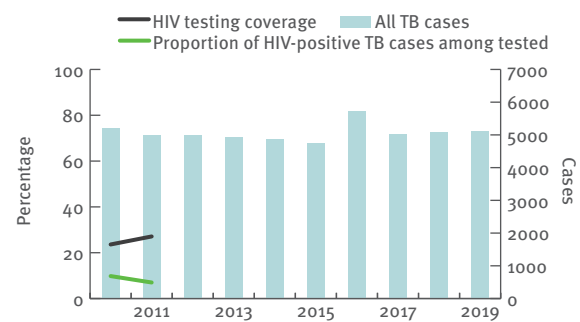
## New and relapse TB cases – notification rates by age group, 2010–2019



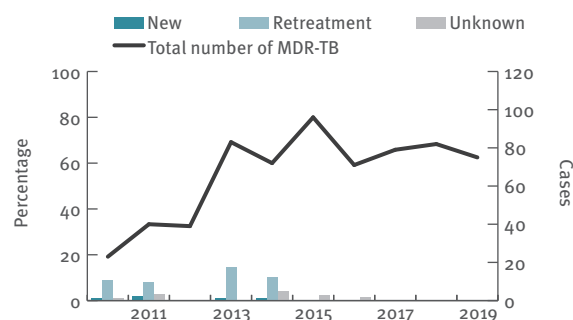
## TB cases by geographical origin, 2010–2019



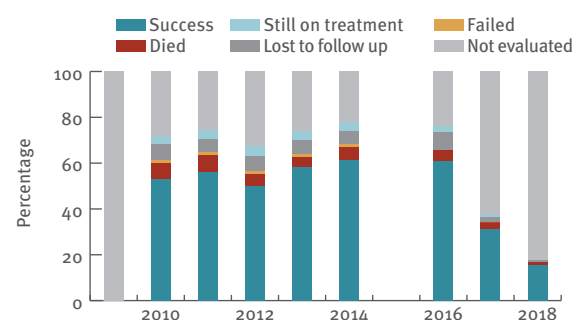
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Georgia

Total population estimate 2019 by United Nations Statistical Database: 3 996 762

## TB cases, 2019

### Notifications

Total number of cases	2 451
Notification rate per 100 000	61.3
New <sup>a</sup> and relapse	2 169
New <sup>a</sup> and relapse notification rate per 100 000	54.3
Pulmonary	2 015 (82.2%)
of which microscopy-positive	-
of which laboratory-confirmed	1 841 (91.4%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	41.9 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	-
New (not previously treated)	1 897 (77.4%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	3 000 [2 500-3 500]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	1 412 (76.7%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	320 [280-350]
Pulmonary MDR-TB cases notified	229 (16.2%)
of which XDR-TB cases	31 (15.3%)
Notified MDR-TB	240 -
of which XDR-TB cases	31 -
TB cases tested for HIV	1 841 (84.9%)
HIV-positive TB cases	33 (1.8%)
of these on ART	33 (100.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

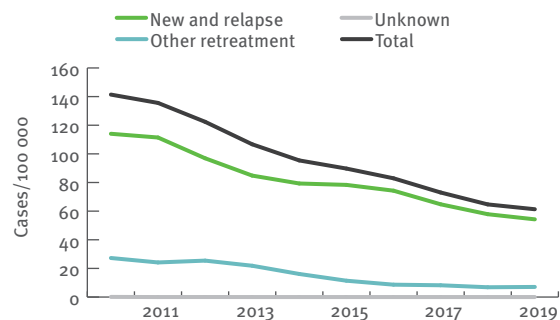
<sup>b</sup> More than 50% of TB cases with reported HIV status.

## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	2 071	316
Success	1 735 (83.8%)	203 (64.2%)
Died	86 (4.2%)	9 (2.8%)
Failed	51 (2.5%)	20 (6.3%)
Lost to follow up	145 (7.0%)	64 (20.3%)
Not evaluated	54 (2.6%)	20 (6.3%)

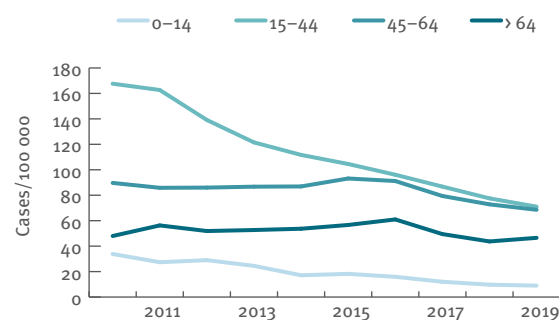
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010–2019<sup>a</sup>



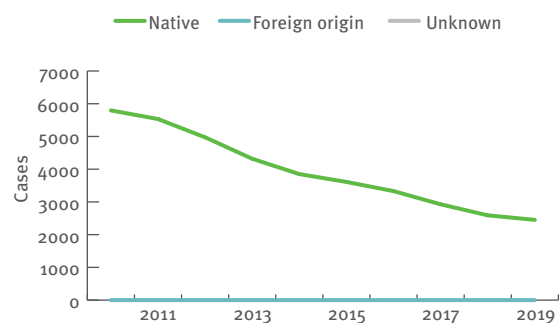
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New TB cases – notification rates by age group, 2009–2018<sup>a</sup>

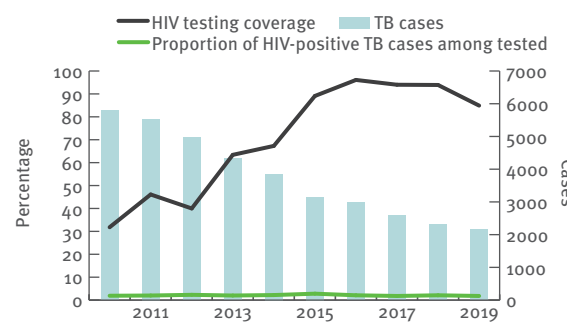


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010–2019

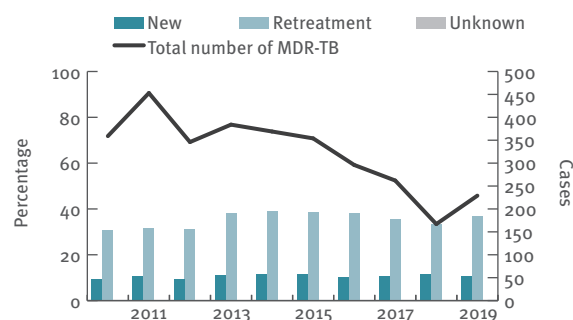


## TB/HIV coinfection, 2010–2019<sup>a</sup>

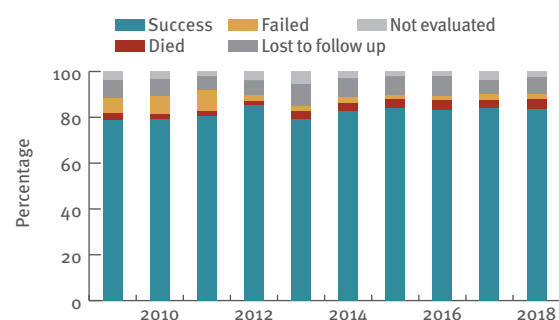


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new and relapse TB cases, 2009–2018<sup>a</sup>



<sup>a</sup> 2009–2011 cohorts include new cases only.

# Germany

Total population at 25 June 2020 by EUROSTAT: 83 019 213

## TB cases, 2019

### Notifications

Total number of cases	4 791
Notification rate per 100 000	5.8
New <sup>a</sup> and relapse	4 628
New <sup>a</sup> and relapse notification rate per 100 000	5.4
Pulmonary	3 435 (71.7%)
of which microscopy-positive	1 731 (50.4%)
of which laboratory-confirmed	2 802 (81.6%)
Laboratory-confirmed TB cases	3 701 (77.2%)
Mean age of new native TB cases	53.0 years
Mean age of new foreign TB cases	36.4 years
Foreign origin of all TB cases	3 362 (70.2%)
New (not previously treated)	3 157 (65.9%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low–high]	4 900 [4 600–5 100]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	–
Case-linked data-reporting	Yes
Cases with DST results	3 336 (90.1%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	100 [52–160]
Pulmonary MDR-TB cases notified	66 (2.6%)
of which XDR-TB cases	7 (14.3%)
Notified MDR-TB	86 (2.6%)
of which XDR-TB cases	8 (12.7%)
New <sup>c</sup> and relapse cases tested for HIV	–
HIV-positive TB cases	–
of these on ART	–

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

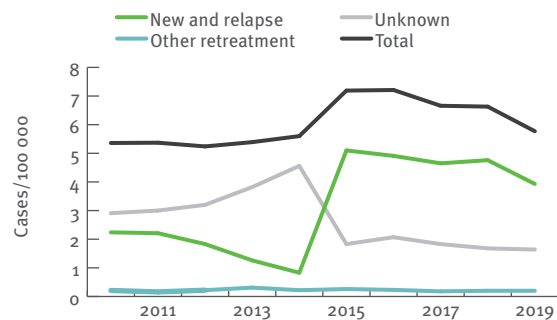
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	–
Cases notified	2 254	121
Success	1 666 (73.9%)	81 (66.9%)
Died	183 (8.1%)	4 (3.3%)
Failed	5 (0.2%)	0 (0.0%)
Lost to follow up	38 (1.7%)	4 (3.3%)
Still on treatment	67 (3.0%)	9 (7.4%)
Not evaluated	295 (13.1%)	23 (19.0%)

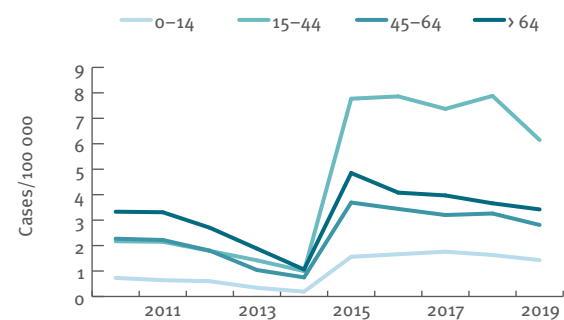
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

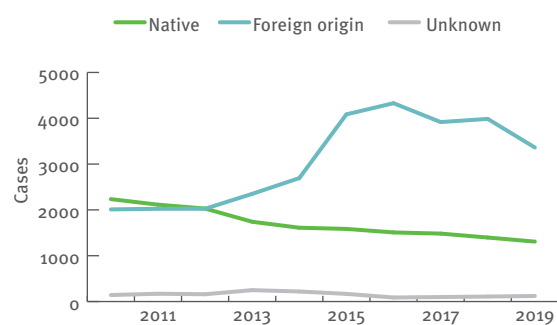
## TB notification rates by previous treatment history, 2010–2019



## New and relapse TB cases – notification rates by age group, 2010–2019



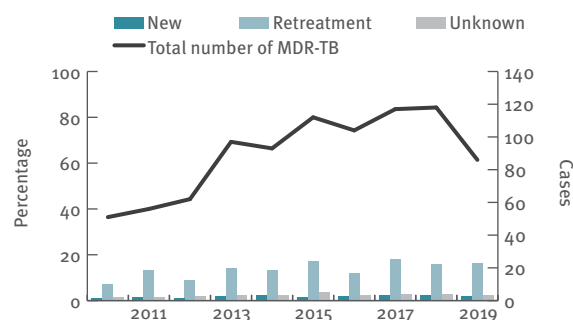
## TB cases by geographical origin, 2010–2019



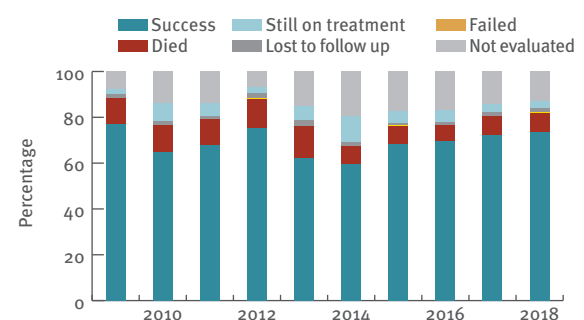
## TB/HIV coinfection, 2010–2019

Data not reported

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Greece

Total population at 25 June 2020 by EUROSTAT: 10 724 599

## TB cases, 2019

### Notifications

Total number of cases	459
Notification rate per 100 000	4.3
New <sup>a</sup> and relapse	434
New <sup>a</sup> and relapse notification rate per 100 000	4.0
Pulmonary	396 (86.3%)
of which microscopy-positive	201 (50.8%)
of which laboratory-confirmed	249 (62.9%)
Laboratory-confirmed TB cases	283 (61.7%)
Mean age of new native TB cases	59.9 years
Mean age of new foreign TB cases	31.5 years
Foreign origin of all TB cases	257 (56.0%)
New (not previously treated)	406 (88.5%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	450 [390-520]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	225 (79.5%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	7 [0-16]
Pulmonary MDR-TB cases notified	6 (3.0%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	6 (2.7%)
of which XDR-TB cases	0 (0.0%)
New <sup>c</sup> and relapse cases tested for HIV	388 (89.4%)
HIV-positive TB cases	19 (4.9%)
of these on ART	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

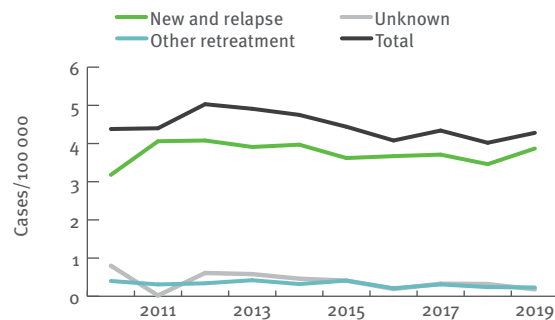
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	159	7
Success	-	-
Died	-	-
Failed	-	-
Lost to follow up	-	-
Still on treatment	-	-
Not evaluated	-	-

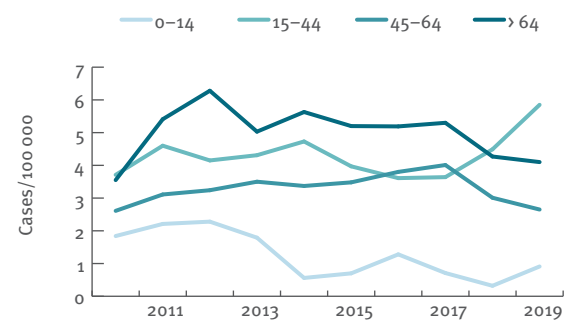
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

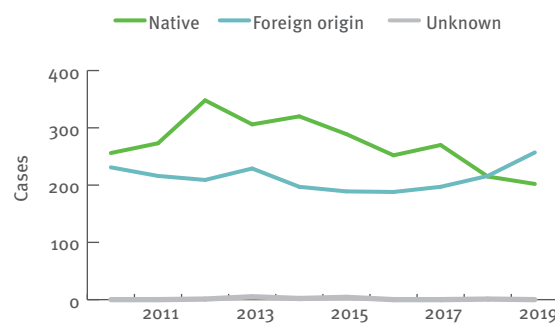
## TB notification rates by previous treatment history, 2010-2019



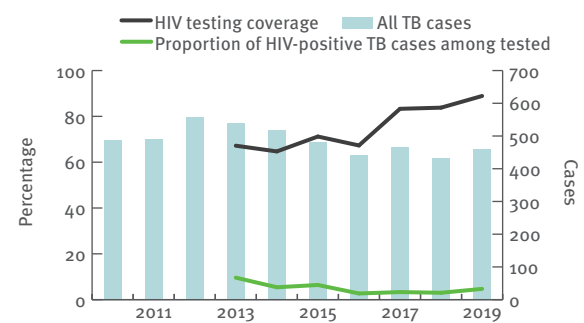
## New and relapse TB cases – notification rates by age group, 2010-2019



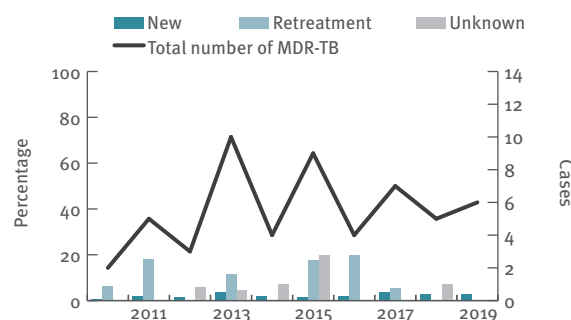
## TB cases by geographical origin, 2010-2019



## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018

Data not reported

# Hungary

Total population at 25 June 2020 by EUROSTAT: 9 772 756

## TB cases, 2019

### Notifications

Total number of cases	552
Notification rate per 100 000	5.6
New <sup>a</sup> and relapse	528
New <sup>a</sup> and relapse notification rate per 100 000	5.4
Pulmonary	535 (96.9%)
of which microscopy-positive	196 (36.6%)
of which laboratory-confirmed	285 (53.3%)
Laboratory-confirmed TB cases	287 (52.0%)
Mean age of new native TB cases	53.1 years
Mean age of new foreign TB cases	34.1 years
Foreign origin of all TB cases	43 (7.8%)
New (not previously treated)	496 (89.9%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low–high]	610 [520–700]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	No
Case-linked data-reporting	Yes
Cases with DST results	259 (90.2%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	12 [5–18]
Pulmonary MDR-TB cases notified	12 (4.7%)
of which XDR-TB cases	3 (60.0%)
Notified MDR-TB	12 (4.6%)
of which XDR-TB cases	3 (60.0%)
New <sup>c</sup> and relapse cases tested for HIV	31 (5.9%)
HIV-positive TB cases	3 (9.7%)
of these on ART	–

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

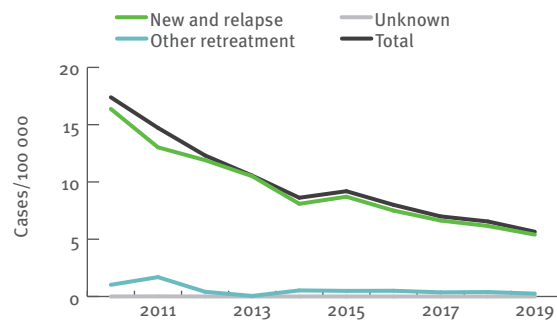
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	–
Cases notified	320	11
Success	189 (59.1%)	5 (45.5%)
Died	63 (19.7%)	4 (36.4%)
Failed	4 (1.3%)	0 (0.0%)
Lost to follow up	27 (8.4%)	1 (9.1%)
Still on treatment	20 (6.3%)	0 (0.0%)
Not evaluated	17 (5.3%)	1 (9.1%)

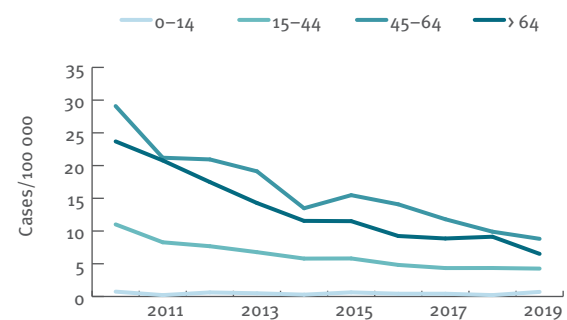
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

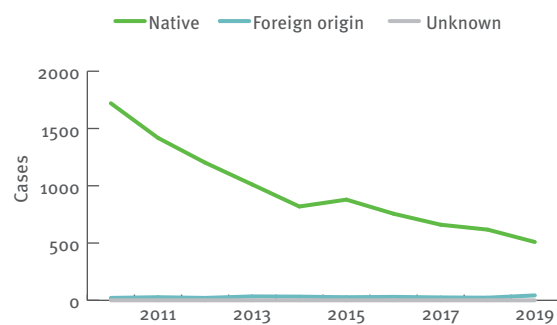
## TB notification rates by previous treatment history, 2010–2019



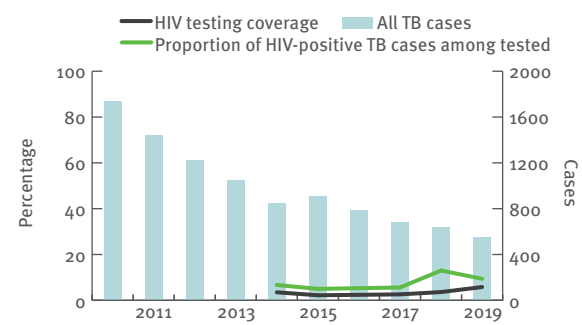
## New and relapse TB cases – notification rates by age group, 2010–2019



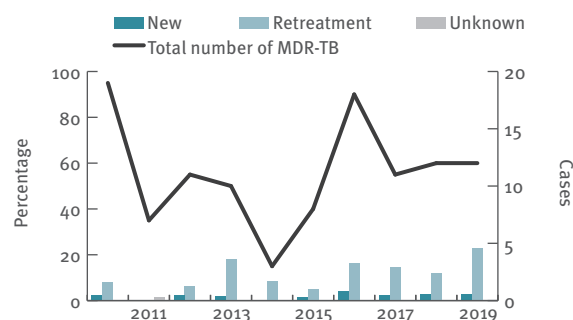
## TB cases by geographical origin, 2010–2019



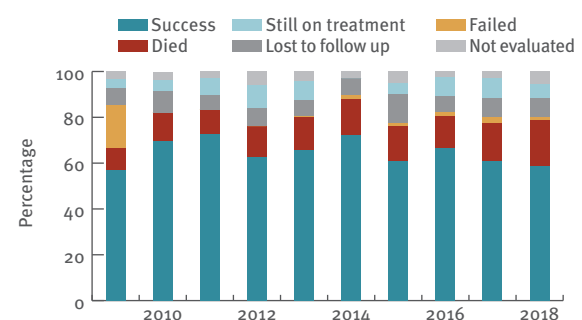
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Iceland

Total population at 25 June 2020 by EUROSTAT: 356 991

## TB cases, 2019

### Notifications

Total number of cases	13
Notification rate per 100 000	3.7
New <sup>a</sup> and relapse	13
New <sup>a</sup> and relapse notification rate per 100 000	3.6
Pulmonary	7 (53.8%)
of which microscopy-positive	3 (42.9%)
of which laboratory-confirmed	4 (57.1%)
Laboratory-confirmed TB cases	8 (61.5%)
Mean age of new native TB cases	34.0 years
Mean age of new foreign TB cases	39.4 years
Foreign origin of all TB cases	11 (84.6%)
New (not previously treated)	13 (100.0%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	15 [13-17]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	8 (100.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	0 [0-2]
Pulmonary MDR-TB cases notified	0 (0.0%)
of which XDR-TB cases	0 -
Notified MDR-TB	0 (0.0%)
of which XDR-TB cases	0 -
New <sup>c</sup> and relapse cases tested for HIV	11 (84.6%)
HIV-positive TB cases	0 (0.0%)
of these on ART	- -

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

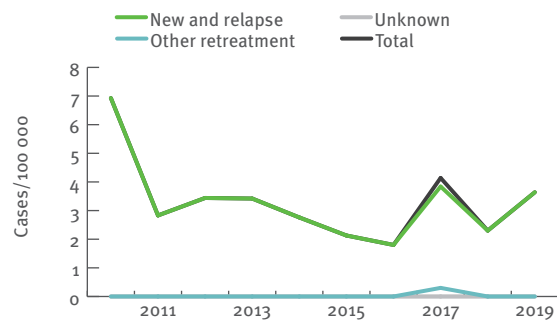
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	2	0
Success	2 (100.0%)	- -
Died	0 (0.0%)	- -
Failed	0 (0.0%)	- -
Lost to follow up	0 (0.0%)	- -
Still on treatment	0 (0.0%)	- -
Not evaluated	0 (0.0%)	- -

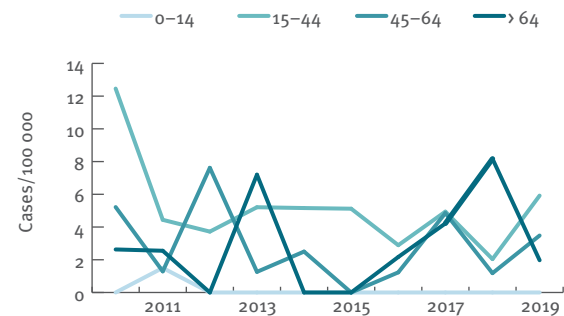
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

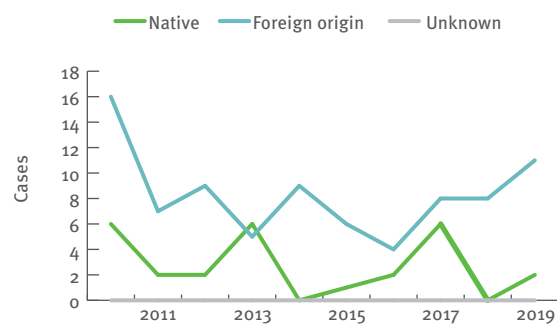
## TB notification rates by previous treatment history, 2010-2019



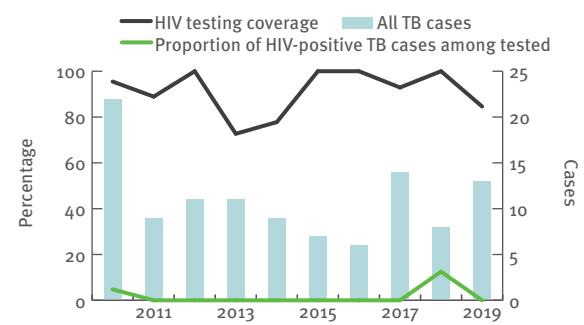
## New and relapse TB cases – notification rates by age group, 2010-2019



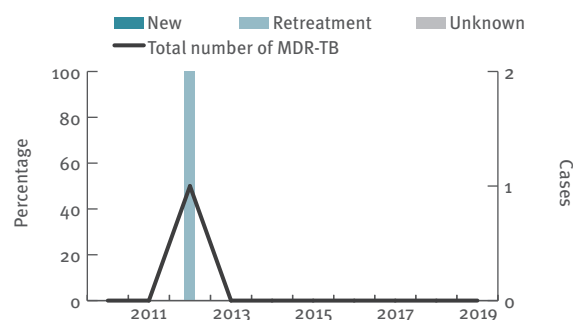
## TB cases by geographical origin, 2010-2019



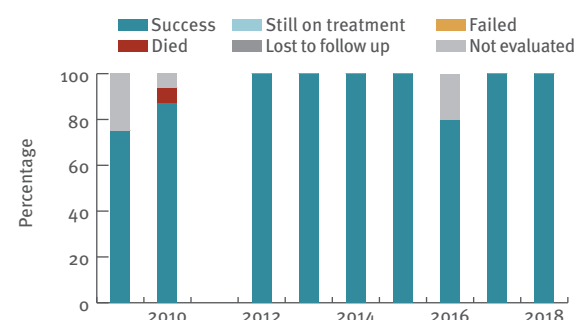
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018



# Ireland

Total population at 25 June 2020 by EUROSTAT: 4 904 240

## TB cases, 2019

### Notifications

Total number of cases	266	
Notification rate per 100 000	5.5	
New <sup>a</sup> and relapse	247	
New <sup>a</sup> and relapse notification rate per 100 000	5.0	
Pulmonary	171	(64.3%)
of which microscopy-positive	55	(32.2%)
of which laboratory-confirmed	142	(83.0%)
Laboratory-confirmed TB cases	197	(74.1%)
Mean age of new native TB cases	49.9 years	
Mean age of new foreign TB cases	37.7 years	
Foreign origin of all TB cases	119	(44.7%)
New (not previously treated)	154	(57.9%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low-high]	280	[240-330]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	No	
Case-linked data-reporting	Yes	
Cases with DST results	175	(88.8%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	3	[0-7]
Pulmonary MDR-TB cases notified	2	(1.6%)
of which XDR-TB cases	0	(0.0%)
Notified MDR-TB	3	(1.7%)
of which XDR-TB cases	0	(0.0%)
New <sup>a</sup> and relapse cases tested for HIV	93	(37.7%)
HIV-positive TB cases	9	(9.7%)
of these on ART	6	(66.7%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

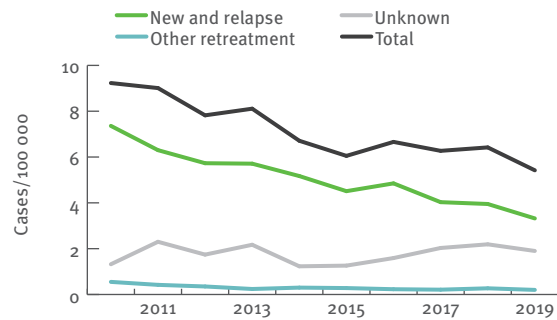
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	108	5
Success	43 (39.8%)	2 (40.0%)
Died	6 (5.6%)	0 (0.0%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	1 (0.9%)	0 (0.0%)
Still on treatment	4 (3.7%)	0 (0.0%)
Not evaluated	54 (50.0%)	3 (60.0%)

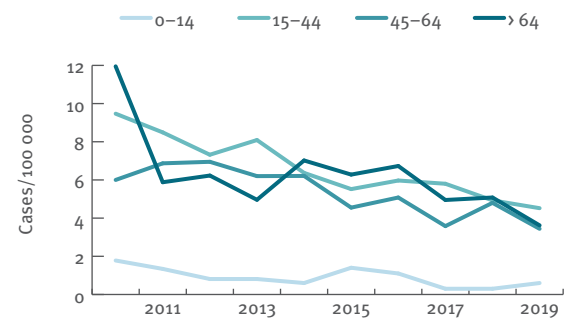
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

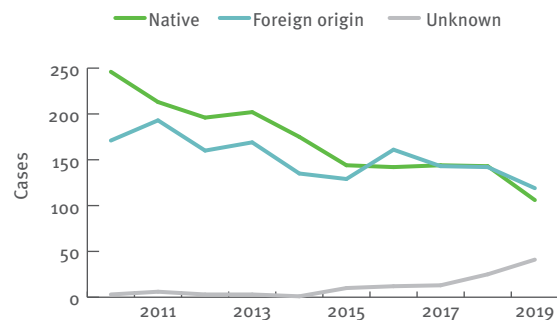
## TB notification rates by previous treatment history, 2010-2019



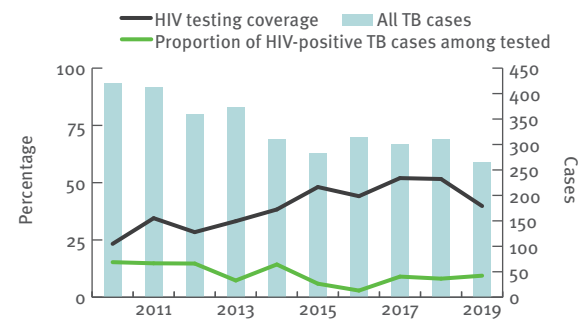
## New and relapse TB cases – notification rates by age group, 2010-2019



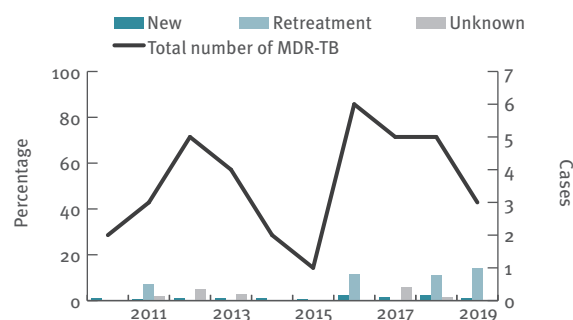
## TB cases by geographical origin, 2010-2019



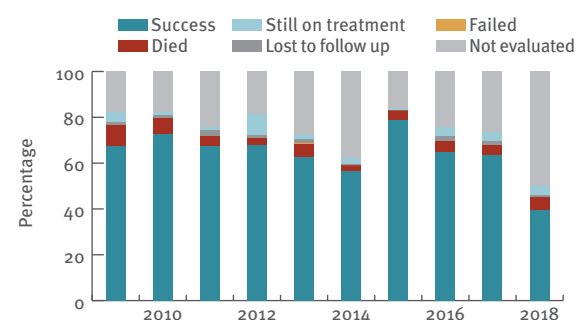
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018





# Israel

Total population estimate 2019 by United Nations Statistical Database: 8 519 373

## TB cases, 2019

### Notifications

Total number of cases	217
Notification rate per 100 000	2.5
New <sup>a</sup> and relapse	217
New <sup>a</sup> and relapse notification rate per 100 000	2.5
Pulmonary	159 (73.3%)
of which microscopy-positive	-
of which laboratory-confirmed	111 (69.8%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	44.3 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	188 (86.6%)
New (not previously treated)	211 (97.2%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	250 [210-290]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	105 (94.6%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	10 [4-17]
Pulmonary MDR-TB cases notified	9 (8.6%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	10 -
of which XDR-TB cases	1 -
TB cases tested for HIV	217 (100.0%)
HIV-positive TB cases	8 (3.7%)
of these on ART	8 (100.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

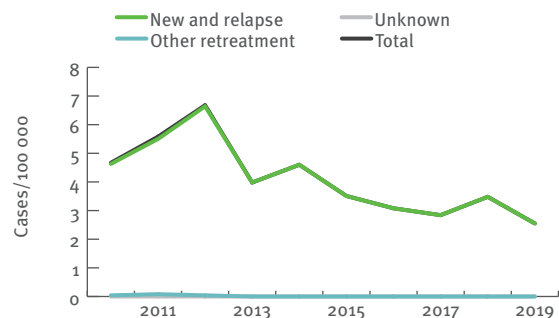
<sup>b</sup> More than 50% of TB cases with reported HIV status.

## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	292	7
Success	227 (77.7%)	5 (71.4%)
Died	27 (9.2%)	1 (14.3%)
Failed	8 (2.7%)	0 (0.0%)
Lost to follow up	10 (3.4%)	0 (0.0%)
Not evaluated	20 (6.8%)	1 (14.3%)

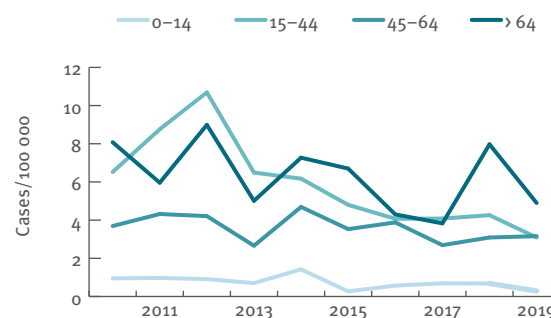
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



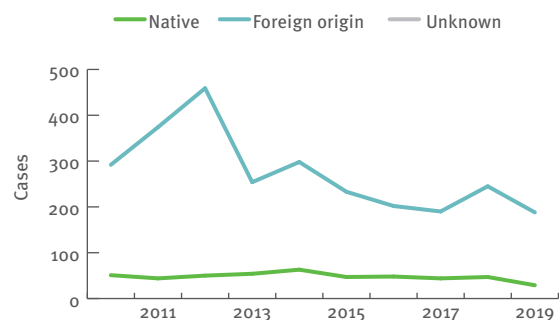
<sup>a</sup> Cases with unknown previous treatment included with new and relapse cases.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

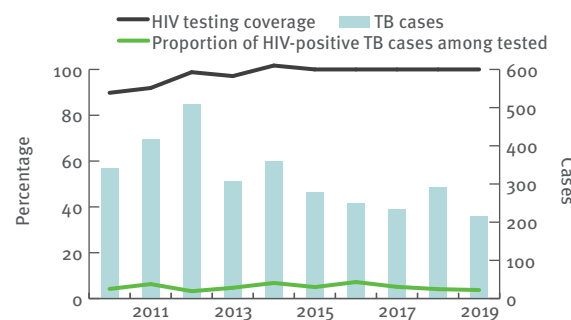


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

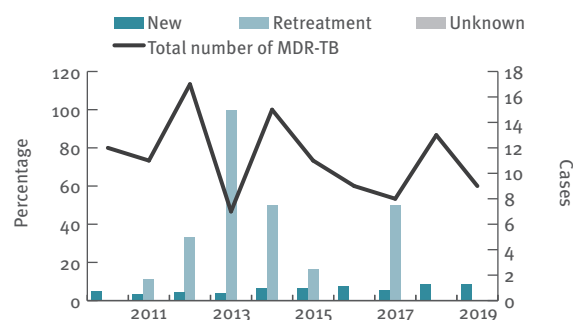


## TB/HIV coinfection, 2010-2019<sup>a</sup>

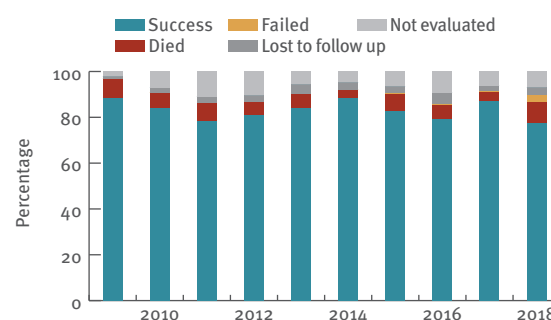


<sup>a</sup> Data up to 2014 includes all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Italy

Total population at 25 June 2020 by EUROSTAT: 60 359 546

## TB cases, 2019

### Notifications

Total number of cases	3 346	
Notification rate per 100 000	5.5	
New <sup>a</sup> and relapse	3 185	
New <sup>a</sup> and relapse notification rate per 100 000	5.3	
Pulmonary	2 537	(75.8%)
of which microscopy-positive	1 033	(40.7%)
of which laboratory-confirmed	2 134	(84.1%)
Laboratory-confirmed TB cases	2 361	(70.6%)
Mean age of new native TB cases	52.9 years	
Mean age of new foreign TB cases	37.2 years	
Foreign origin of all TB cases	1 882	(56.2%)
New (not previously treated)	2 661	(79.5%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low-high]	4 300	[3 700-5 000]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No	
Completeness of HIV data <sup>b</sup>	-	
Case-linked data-reporting	No	
Cases with DST results	-	-
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	72	[47-96]
Pulmonary MDR-TB cases notified	38	(2.2%)
of which XDR-TB cases	2	(5.4%)
Notified MDR-TB	46	-
of which XDR-TB cases	-	-
New <sup>a</sup> and relapse cases tested for HIV	-	-
HIV-positive TB cases	-	-
of these on ART	-	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

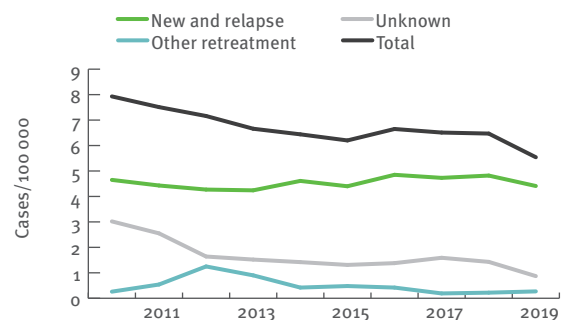
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	1508	0
Success	-	-
Died	-	-
Failed	-	-
Lost to follow up	-	-
Still on treatment	-	-
Not evaluated	-	-

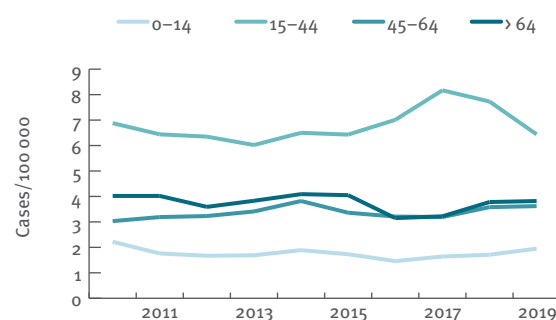
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

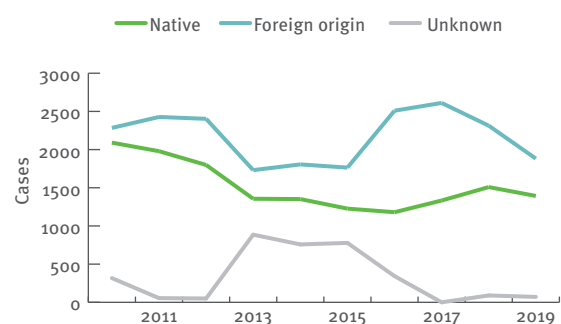
## TB notification rates by previous treatment history, 2010-2019



## New and relapse TB cases – notification rates by age group, 2010-2019



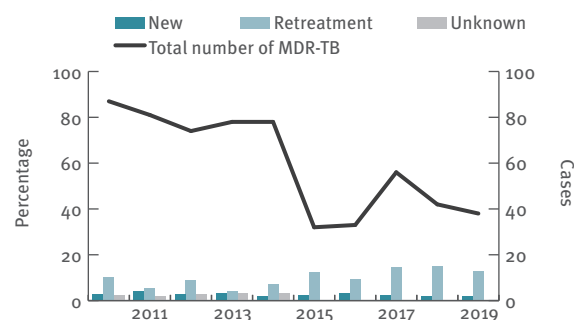
## TB cases by geographical origin, 2010-2019



## TB/HIV coinfection, 2010-2019

Data not reported

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018

Data not reported

# Kazakhstan

Total population estimate 2019 by United Nations Statistical Database: 18 551 428

## TB cases, 2019

### Notifications

Total number of cases	12 990
Notification rate per 100 000	70.0
New <sup>a</sup> and relapse	12 501
New <sup>a</sup> and relapse notification rate per 100 000	67.4
Pulmonary	11 723 (90.2%)
of which microscopy-positive	-
of which laboratory-confirmed	9 309 (79.4%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	40.9 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	161 (1.2%)
New (not previously treated)	8 687 (66.9%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	13 000 [8 200-18 000]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	6 527 (70.1%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	3 100 [3 000-3 200]
Pulmonary MDR-TB cases notified	1 569 (24.0%)
of which XDR-TB cases	-
Notified MDR-TB	1 714
of which XDR-TB cases	375
TB cases tested for HIV	12 375 (99.0%)
HIV-positive TB cases	666 (5.4%)
of these on ART	637 (95.6%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

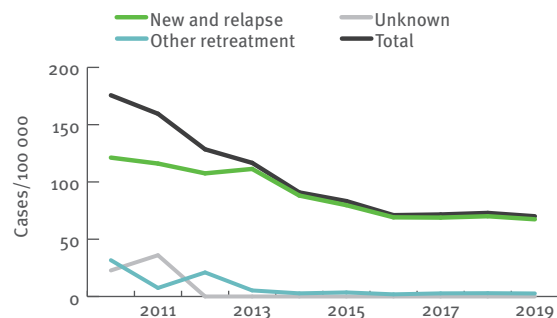
## Treatment outcome monitoring

Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	7 859	5 338
Success	7 093 (90.3%)	4 340 (81.3%)
Died	470 (6.0%)	475 (8.9%)
Failed	213 (2.7%)	224 (4.2%)
Lost to follow up	83 (1.1%)	263 (4.9%)
Not evaluated	0 (0.0%)	36 (0.7%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

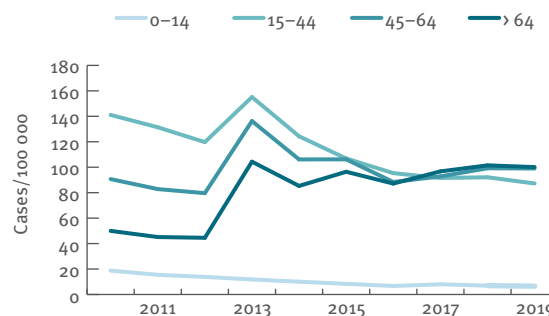
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



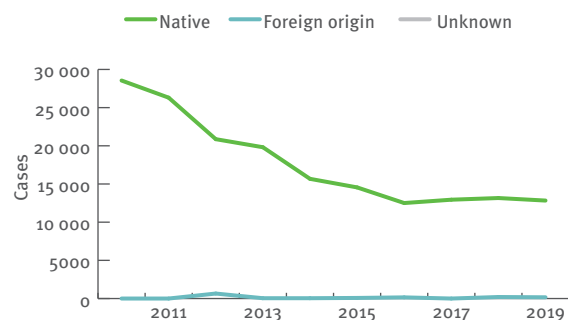
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

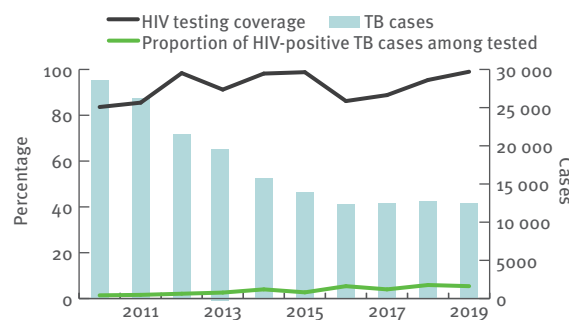


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

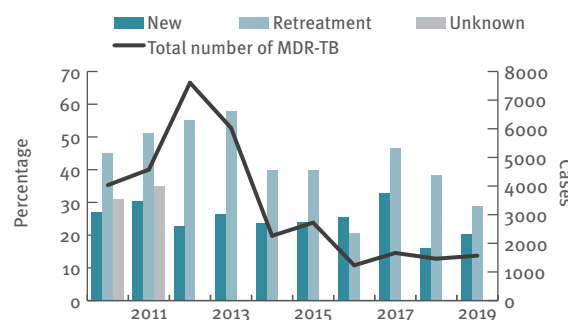


## TB/HIV coinfection, 2010-2019<sup>a</sup>

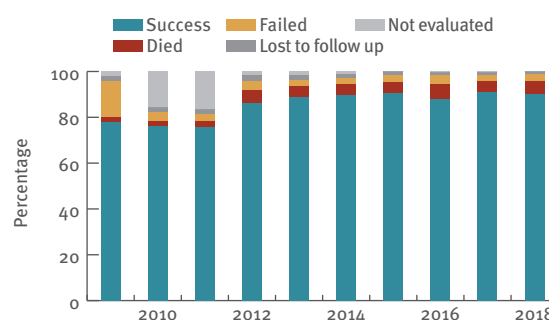


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases 2008-2017<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Kyrgyzstan

Total population estimate 2019 by United Nations Statistical Database: 6 415 851

## TB cases, 2019

### Notifications

Total number of cases	7 039
Notification rate per 100 000	109.7
New <sup>a</sup> and relapse	6 138
New <sup>a</sup> and relapse notification rate per 100 000	95.7
Pulmonary	5 378 (76.4%)
of which microscopy-positive	-
of which laboratory-confirmed	3 609 (67.1%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	38.5 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	0 (0.0%)
New (not previously treated)	5 096 (72.4%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	7 100 [6 000-8 200]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	3 310 (91.7%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	1 400 [1 300-1 400]
Pulmonary MDR-TB cases notified	1 097 (33.1%)
of which XDR-TB cases	93 (10.5%)
Notified MDR-TB	1 209 -
of which XDR-TB cases	109 -
TB cases tested for HIV	5 810 (94.7%)
HIV-positive TB cases	131 (2.3%)
of these on ART	94 (71.8%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

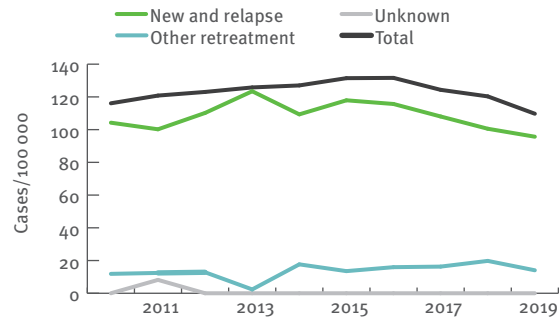
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	5 333	1 166
Success	4 321 (81.0%)	643 (55.1%)
Died	333 (6.2%)	131 (11.2%)
Failed	121 (2.3%)	121 (10.4%)
Lost to follow up	515 (9.7%)	269 (23.1%)
Not evaluated	43 (0.8%)	2 (0.2%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

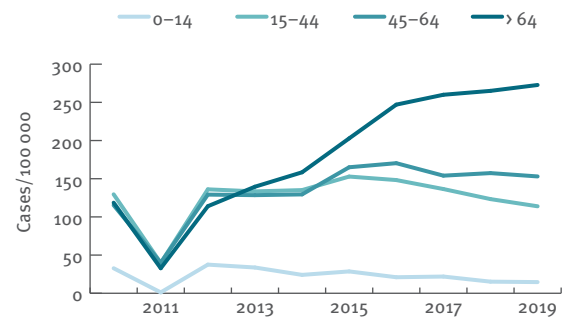
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



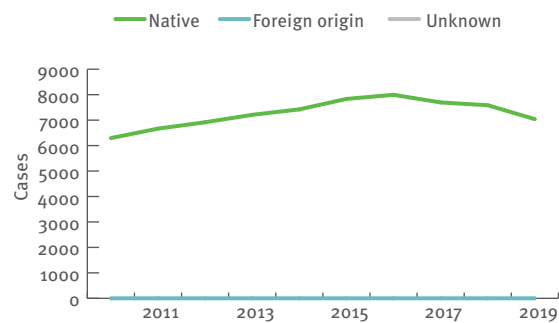
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2009-2018<sup>a</sup>

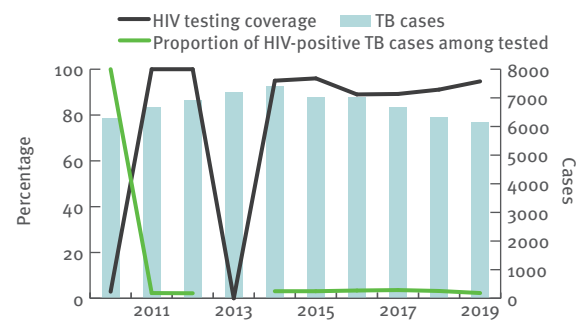


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

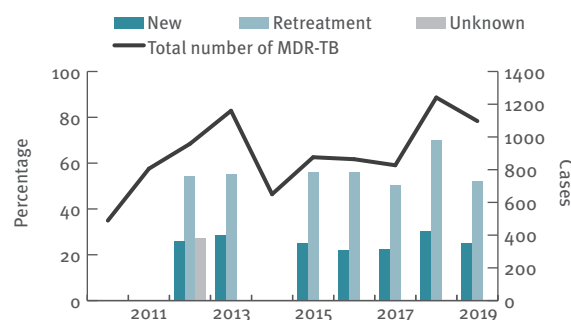


## TB/HIV coinfection, 2010-2019<sup>a</sup>

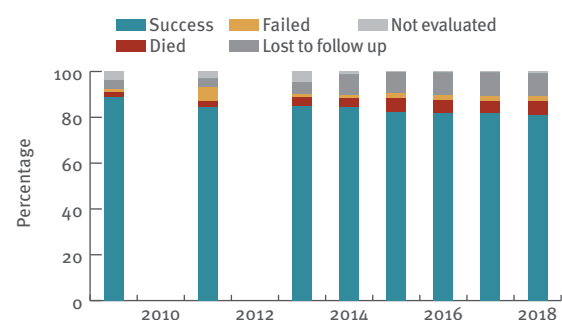


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Latvia

Total population at 25 June 2020 by EUROSTAT: 1 919 968

## TB cases, 2019

### Notifications

Total number of cases	-
Notification rate per 100 000	-
New <sup>a</sup> and relapse	-
New <sup>a</sup> and relapse notification rate per 100 000	-
Pulmonary	-
of which microscopy-positive	-
of which laboratory-confirmed	-
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	-
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	-
New (not previously treated)	-
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	490 [420-570]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	-
Case-linked data-reporting	No
Cases with DST results	-
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	-
Pulmonary MDR-TB cases notified	-
of which XDR-TB cases	-
Notified MDR-TB	-
of which XDR-TB cases	-
New <sup>c</sup> and relapse cases tested for HIV	-
HIV-positive TB cases	-
of these on ART	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

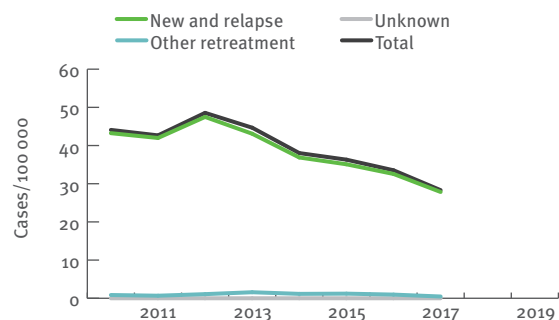
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	No	-
Cases notified	0	46
Success	-	-
Died	-	-
Failed	-	-
Lost to follow up	-	-
Still on treatment	-	-
Not evaluated	-	-

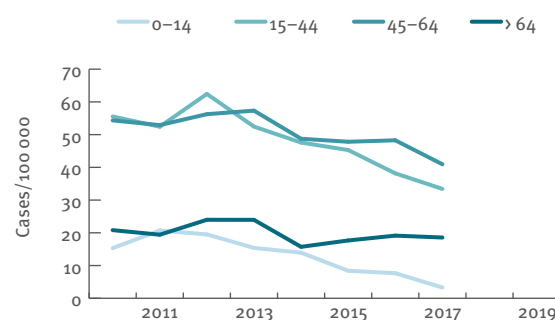
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

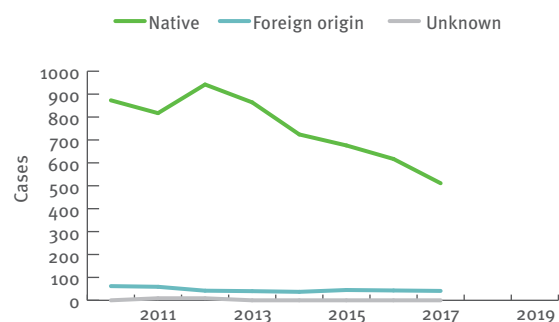
## TB notification rates by previous treatment history, 2010–2019



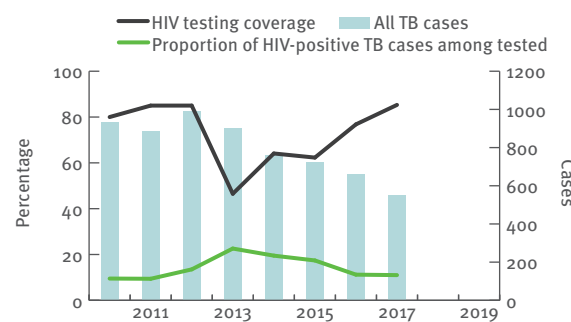
## New and relapse TB cases – notification rates by age group, 2010–2019



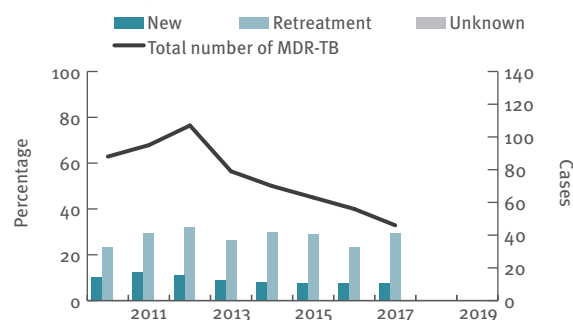
## TB cases by geographical origin, 2010–2019



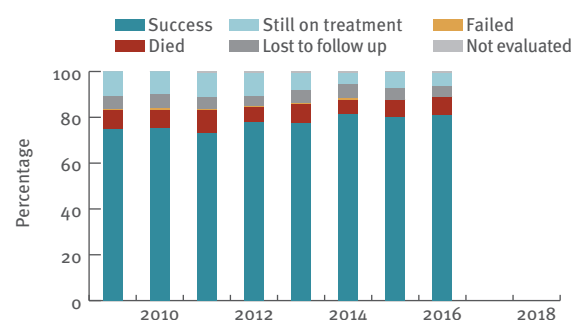
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Liechtenstein

Total population at 25 June 2020 by EUROSTAT: 38 378

## TB cases, 2019

### Notifications

Total number of cases	-
Notification rate per 100 000	-
New <sup>a</sup> and relapse	-
New <sup>a</sup> and relapse notification rate per 100 000	-
Pulmonary	-
of which microscopy-positive	-
of which laboratory-confirmed	-
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	-
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	-
New (not previously treated)	-
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	-

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	-
Case-linked data-reporting	No
Cases with DST results	-
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	-
Pulmonary MDR-TB cases notified	-
of which XDR-TB cases	-
Notified MDR-TB	-
of which XDR-TB cases	-
New <sup>c</sup> and relapse cases tested for HIV	-
HIV-positive TB cases	-
of these on ART	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

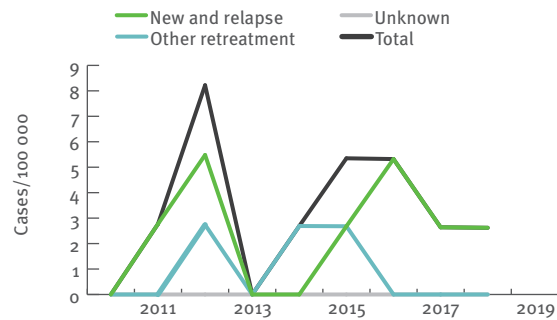
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	1	0
Success	-	-
Died	-	-
Failed	-	-
Lost to follow up	-	-
Still on treatment	-	-
Not evaluated	-	-

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

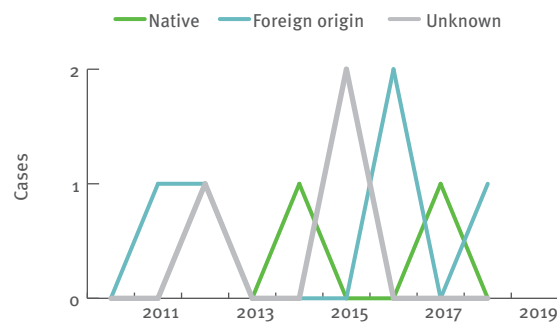
## TB notification rates by previous treatment history, 2010–2019



## New and relapse TB cases – notification rates by age group, 2009–2018



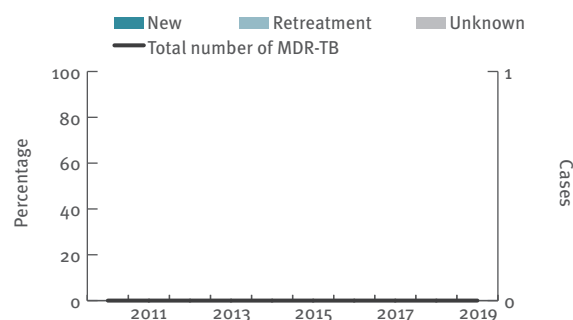
## TB cases by geographical origin, 2010–2019



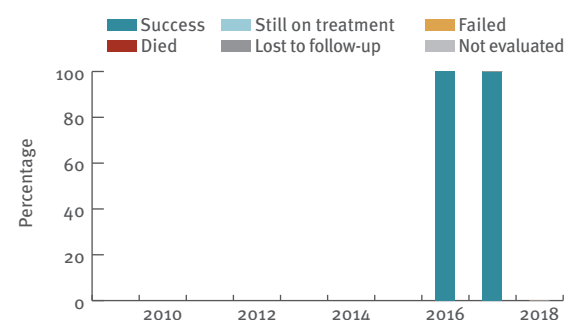
## TB/HIV coinfection, 2010–2019

Data not reported

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2008–2017



# Lithuania

Total population at 25 June 2020 by EUROSTAT: 2 794 184

## TB cases, 2019

### Notifications

Total number of cases	1 058	
Notification rate per 100 000	37.7	
New <sup>a</sup> and relapse	1 006	
New <sup>a</sup> and relapse notification rate per 100 000	36.0	
Pulmonary	982	(92.8%)
of which microscopy-positive	595	(60.6%)
of which laboratory-confirmed	905	(92.2%)
Laboratory-confirmed TB cases	935	(88.4%)
Mean age of new native TB cases	49.3 years	
Mean age of new foreign TB cases	43.0 years	
Foreign origin of all TB cases	16	(1.5%)
New (not previously treated)	875	(82.7%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low-high]	1 200	[990-1 300]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	Yes	
Case-linked data-reporting	Yes	
Cases with DST results	935	(100.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	170	[150-190]
Pulmonary MDR-TB cases notified	157	(17.3%)
of which XDR-TB cases	57	(36.3%)
Notified MDR-TB	159	(17.0%)
of which XDR-TB cases	58	(36.5%)
New <sup>c</sup> and relapse cases tested for HIV	968	(96.2%)
HIV-positive TB cases	25	(2.6%)
of these on ART	-	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

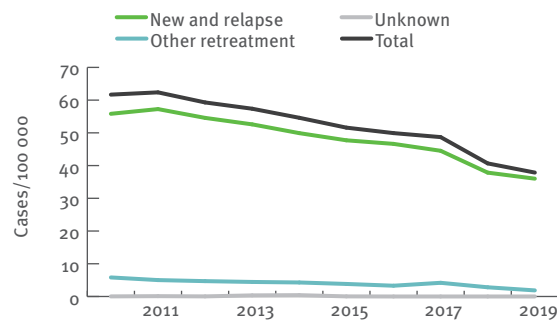
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	751	249
Success	562 (74.8%)	103 (41.4%)
Died	67 (8.9%)	46 (18.5%)
Failed	12 (1.6%)	18 (7.2%)
Lost to follow up	27 (3.6%)	46 (18.5%)
Still on treatment	82 (10.9%)	35 (14.1%)
Not evaluated	1 (0.1%)	1 (0.4%)

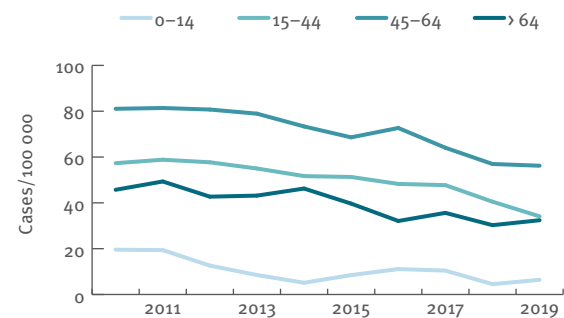
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

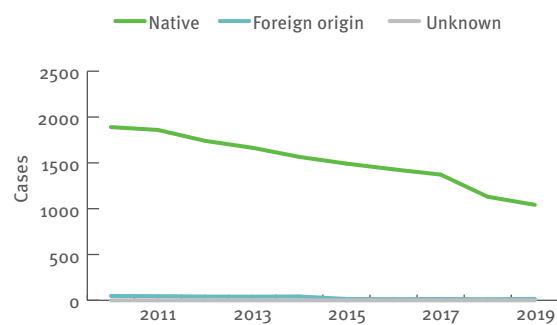
## TB notification rates by previous treatment history, 2010-2019



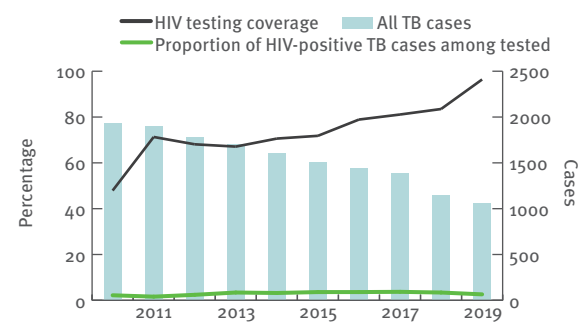
## New and relapse TB cases – notification rates by age group, 2010-2019



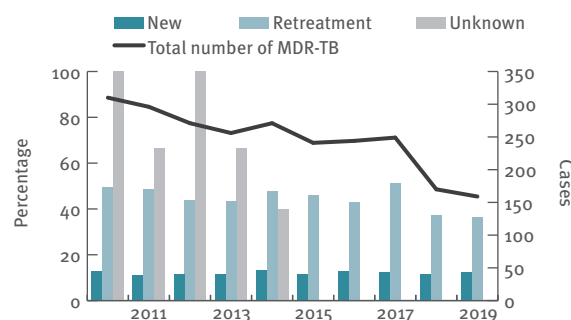
## TB cases by geographical origin, 2010-2019



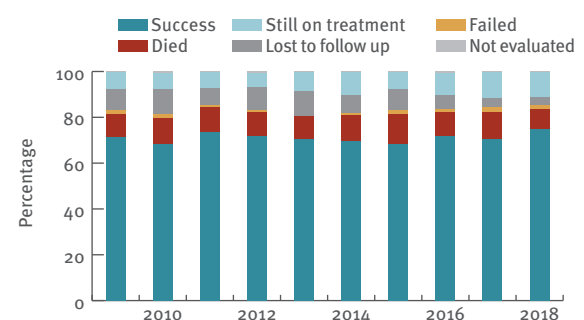
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018



# Luxembourg

Total population at 25 June 2020 by EUROSTAT: 613 894

## TB cases, 2019

### Notifications

Total number of cases	50
Notification rate per 100 000	8.3
New <sup>a</sup> and relapse	48
New <sup>a</sup> and relapse notification rate per 100 000	7.8
Pulmonary	40 (80.0%)
of which microscopy-positive	19 (47.5%)
of which laboratory-confirmed	33 (82.5%)
Laboratory-confirmed TB cases	40 (80.0%)
Mean age of new native TB cases	31.3 years
Mean age of new foreign TB cases	39.8 years
Foreign origin of all TB cases	45 (90.0%)
New (not previously treated)	29 (58.0%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	55 [47-64]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	32 (80.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	1 [0-1]
Pulmonary MDR-TB cases notified	1 (3.8%)
of which XDR-TB cases	0 -
Notified MDR-TB	1 (3.1%)
of which XDR-TB cases	0 -
New <sup>c</sup> and relapse cases tested for HIV	35 (72.9%)
HIV-positive TB cases	0 (0.0%)
of these on ART	- -

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

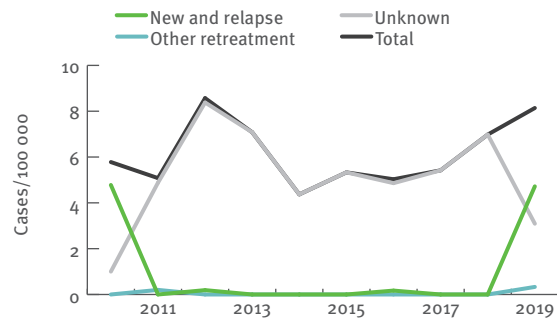
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	0	1
Success	-	-
Died	-	-
Failed	-	-
Lost to follow up	-	-
Still on treatment	-	-
Not evaluated	-	-

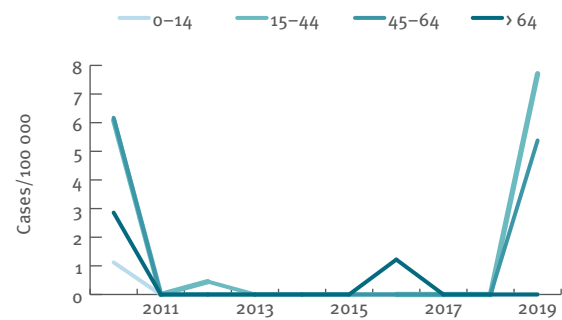
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

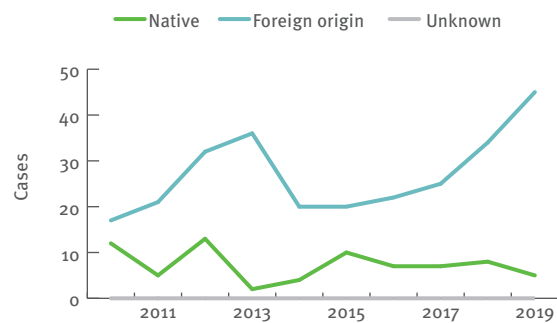
## TB notification rates by previous treatment history, 2010-2019



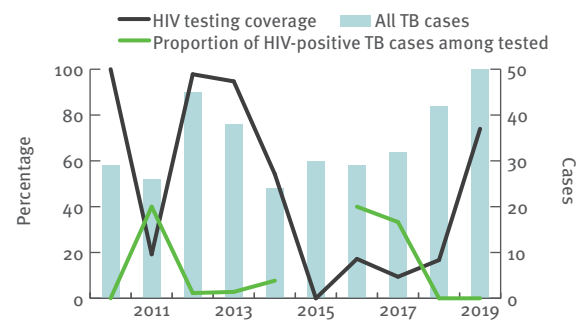
## New and relapse TB cases – notification rates by age group, 2010-2019



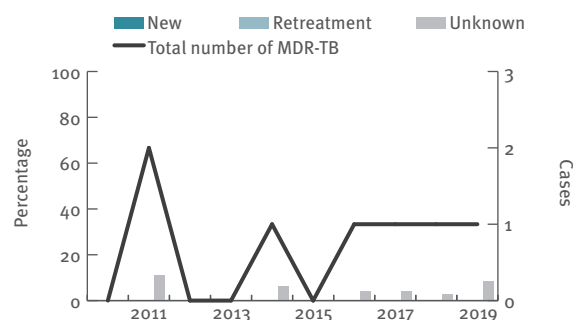
## TB cases by geographical origin, 2010-2019



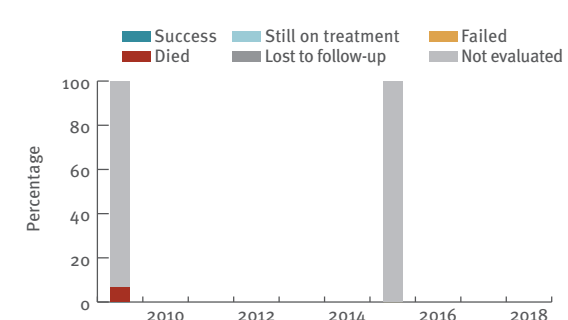
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018





# Malta

Total population at 25 June 2020 by EUROSTAT: 493 559

## TB cases, 2019

### Notifications

Total number of cases	98	
Notification rate per 100 000	20.6	
New <sup>a</sup> and relapse	98	
New <sup>a</sup> and relapse notification rate per 100 000	19.9	
Pulmonary	76	(77.6%)
of which microscopy-positive	23	(30.3%)
of which laboratory-confirmed	37	(48.7%)
Laboratory-confirmed TB cases	48	(49.0%)
Mean age of new native TB cases	65.8 years	
Mean age of new foreign TB cases	26.0 years	
Foreign origin of all TB cases	94	(95.9%)
New (not previously treated)	98	(100.0%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low–high]	60	[51–69]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	–	
Case-linked data-reporting	Yes	
Cases with DST results	46	(95.8%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	0	[0–6]
Pulmonary MDR-TB cases notified	0	(0.0%)
of which XDR-TB cases	0	–
Notified MDR-TB	0	(0.0%)
of which XDR-TB cases	0	–
New <sup>c</sup> and relapse cases tested for HIV	–	–
HIV-positive TB cases	–	–
of these on ART	–	–

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

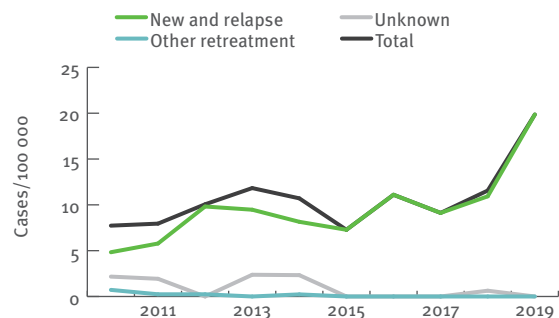
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	–
Cases notified	27	0
Success	–	–
Died	–	–
Failed	–	–
Lost to follow up	–	–
Still on treatment	–	–
Not evaluated	–	–

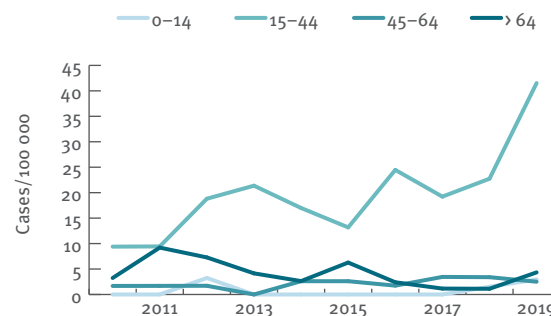
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

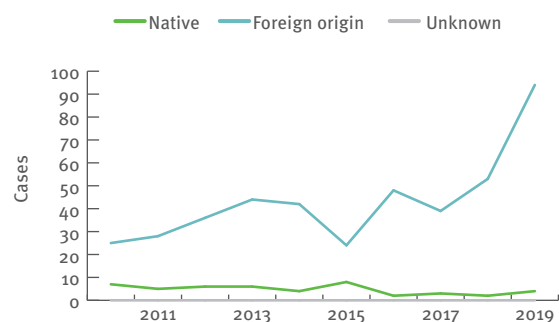
## TB notification rates by previous treatment history, 2010–2019



## New and relapse TB cases – notification rates by age group, 2010–2019

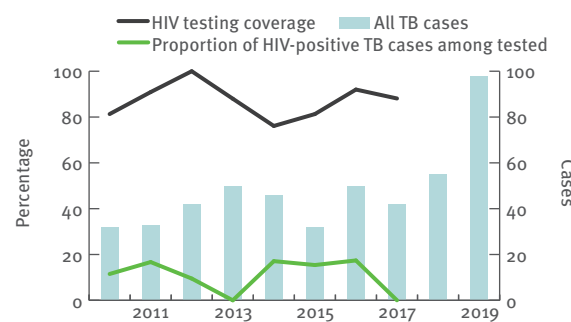


## TB cases by geographical origin, 2010–2019

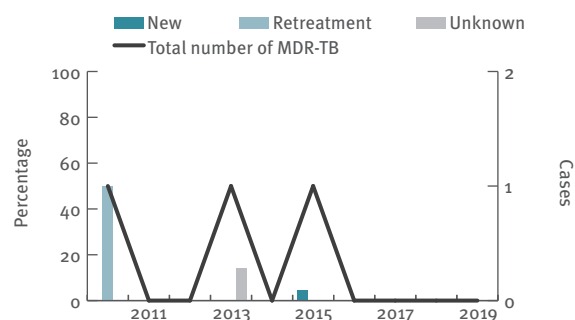


<sup>a</sup> By nationality for 2000–2006

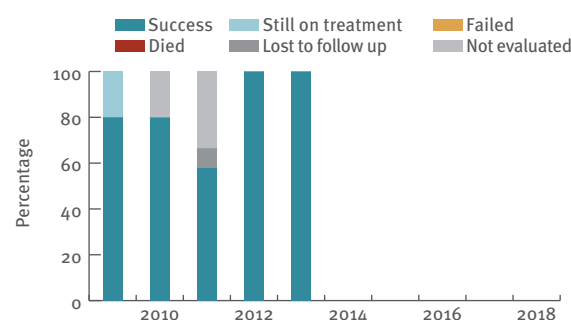
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Montenegro

Total population estimate 2019 by United Nations Statistical Database: 627 988

## TB cases, 2019

### Notifications

Total number of cases	82
Notification rate per 100 000	13.1
New <sup>a</sup> and relapse	80
New <sup>a</sup> and relapse notification rate per 100 000	12.7
Pulmonary	75 (91.5%)
of which microscopy-positive	-
of which laboratory-confirmed	71 (94.7%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	43.5 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	4 (4.9%)
New (not previously treated)	71 (86.6%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	92 [79-110]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	61 (85.9%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	0 [0-2]
Pulmonary MDR-TB cases notified	0 (0.0%)
of which XDR-TB cases	-
Notified MDR-TB	0
of which XDR-TB cases	-
TB cases tested for HIV	76 (95.0%)
HIV-positive TB cases	0 (0.0%)
of these on ART	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

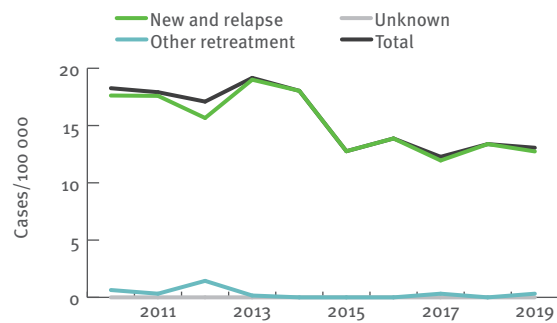
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	81	0
Success	77 (95.1%)	-
Died	3 (3.7%)	-
Failed	0 (0.0%)	-
Lost to follow up	1 (1.2%)	-
Not evaluated	0 (0.0%)	-

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

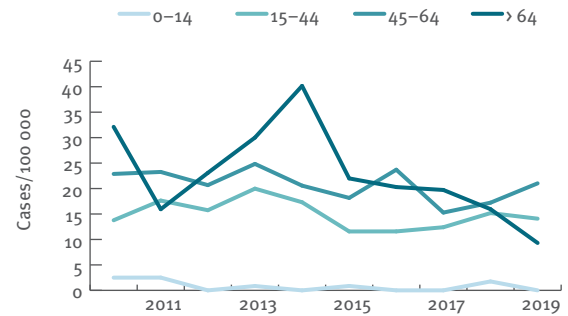
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



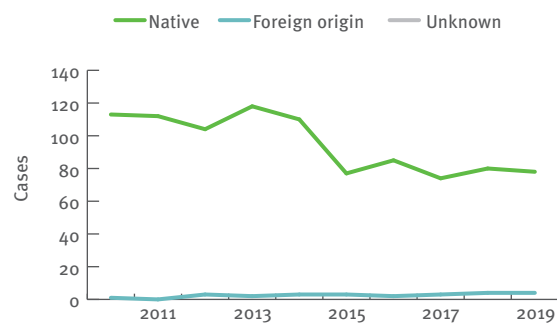
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

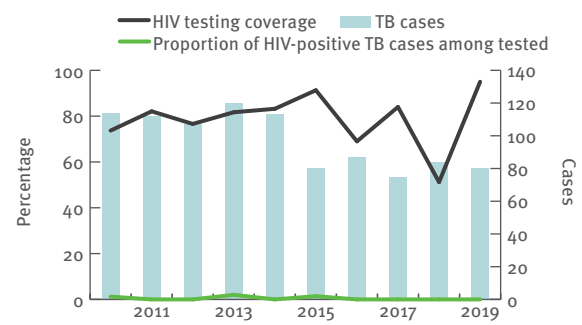


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

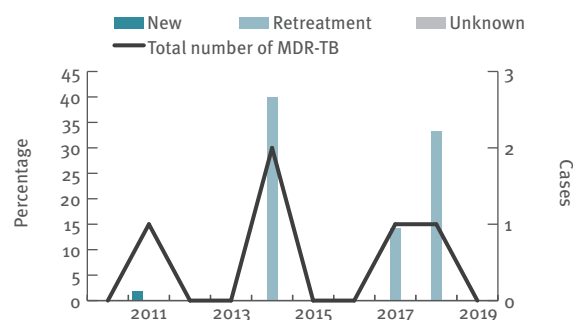


## TB/HIV coinfection, 2010-2019<sup>a</sup>

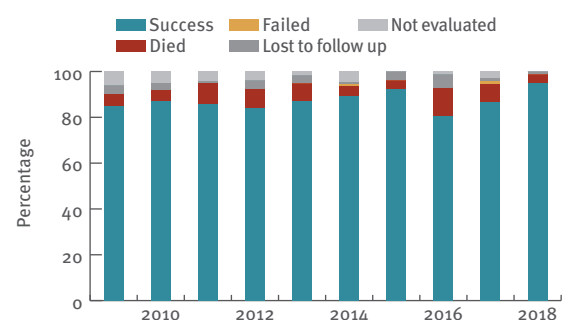


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Netherlands

Total population at 25 June 2020 by EUROSTAT: 17 282 163

## TB cases, 2019

### Notifications

Total number of cases	759
Notification rate per 100 000	4.4
New <sup>a</sup> and relapse	746
New <sup>a</sup> and relapse notification rate per 100 000	4.3
Pulmonary	432 (56.9%)
of which microscopy-positive	203 (47.0%)
of which laboratory-confirmed	333 (77.1%)
Laboratory-confirmed TB cases	507 (66.8%)
Mean age of new native TB cases	42.8 years
Mean age of new foreign TB cases	39.8 years
Foreign origin of all TB cases	567 (74.7%)
New (not previously treated)	728 (95.9%)

### Estimates

Estimated new and relapse cases N. best [low–high]	860 [730–990]
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<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	451 (89.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	9 [2–15]
Pulmonary MDR-TB cases notified	6 (2.0%)
of which XDR-TB cases	1 (16.7%)
Notified MDR-TB	7 (1.6%)
of which XDR-TB cases	1 (14.3%)
New <sup>a</sup> and relapse cases tested for HIV	566 (75.9%)
HIV-positive TB cases	20 (3.5%)
of these on ART	11 (55.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%. C+/all TB cases > 50%. DST done for C+ > 75%. EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

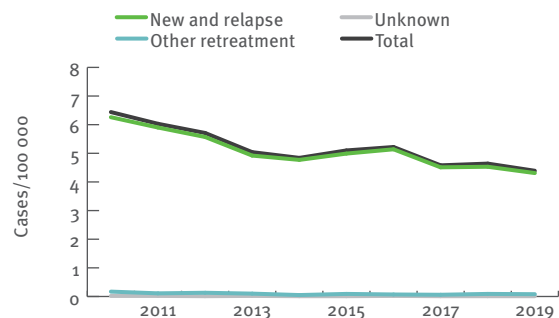
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	–
Cases notified	362	9
Success	300 (82.9%)	6 (66.7%)
Died	15 (4.1%)	0 (0.0%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	8 (2.2%)	1 (11.1%)
Still on treatment	9 (2.5%)	1 (11.1%)
Not evaluated	30 (8.3%)	1 (11.1%)

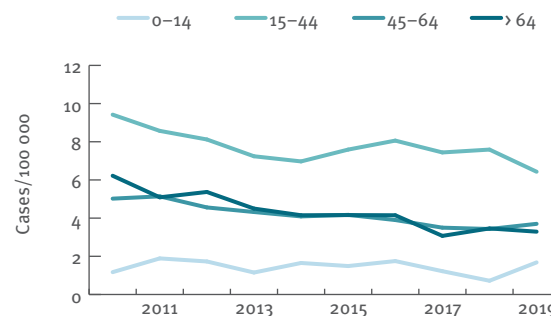
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

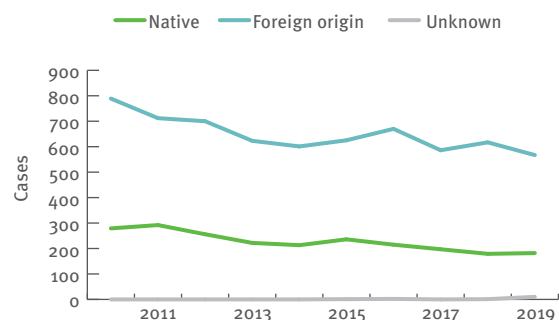
## TB notification rates by previous treatment history, 2010–2019



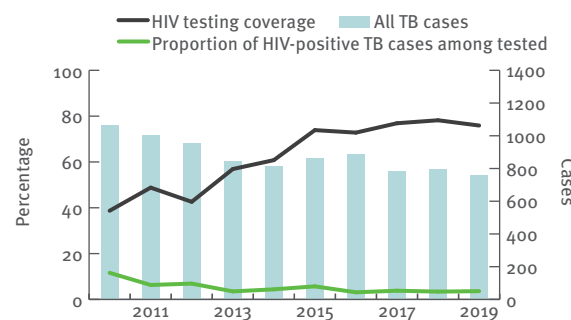
## New and relapse TB cases – notification rates by age group, 2010–2019



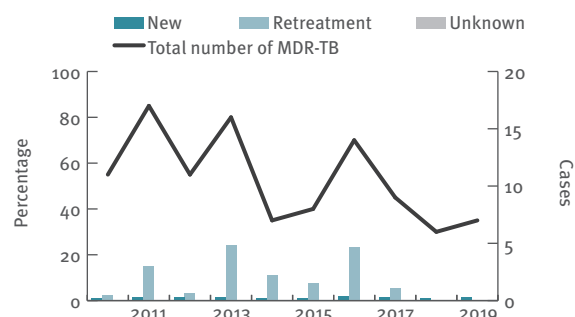
## TB cases by geographical origin, 2010–2019



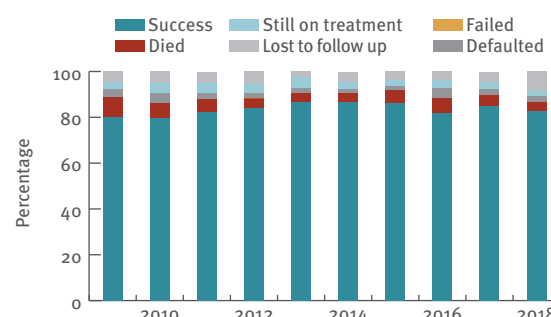
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# North Macedonia

Total population estimate 2019 by United Nations Statistical Database: 2 083 458

## TB cases, 2019

### Notifications

Total number of cases	199
Notification rate per 100 000	9.6
New <sup>a</sup> and relapse	199
New <sup>a</sup> and relapse notification rate per 100 000	9.6
Pulmonary	162 (81.4%)
of which microscopy-positive	-
of which laboratory-confirmed	140 (86.4%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	45.2 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	2 (1.0%)
New (not previously treated)	180 (90.5%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	250 [190-310]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	120 (85.7%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	1 [0-4]
Pulmonary MDR-TB cases notified	1 (0.8%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	1 -
of which XDR-TB cases	0 -
TB cases tested for HIV	152 (76.4%)
HIV-positive TB cases	1 (0.7%)
of these on ART	1 (100.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

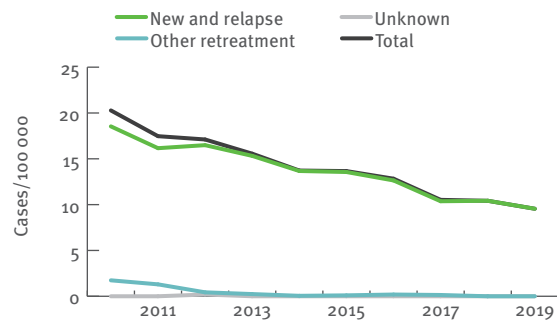
## Treatment outcome monitoring

Geographical coverage	National		
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>	
Case-linked data-reporting	Yes	-	
Cases notified	214	1	
Success	187 (87.4%)	0	(0.0%)
Died	14 (6.5%)	1	(100.0%)
Failed	1 (0.5%)	0	(0.0%)
Lost to follow up	12 (5.6%)	0	(0.0%)
Not evaluated	0 (0.0%)	0	(0.0%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

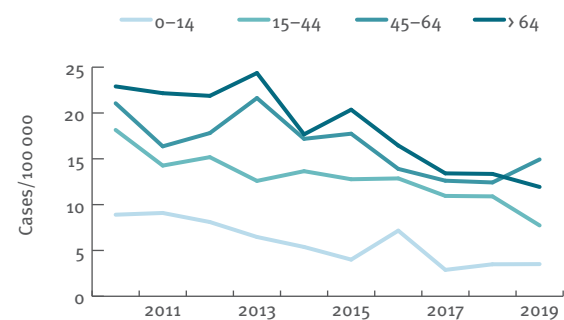
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



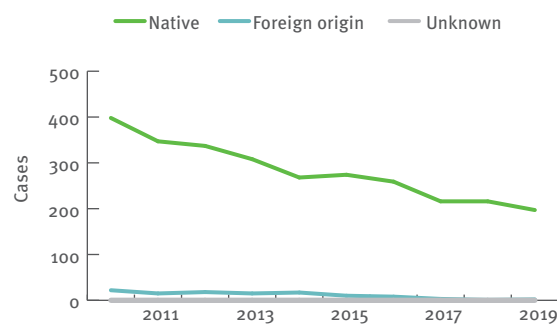
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

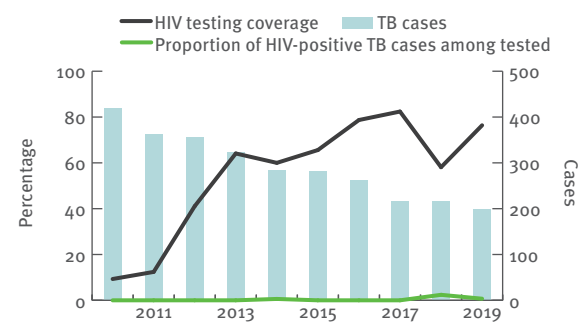


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

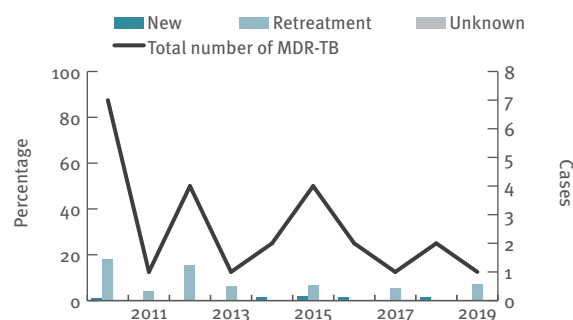


## TB/HIV coinfection, 2010-2019<sup>a</sup>

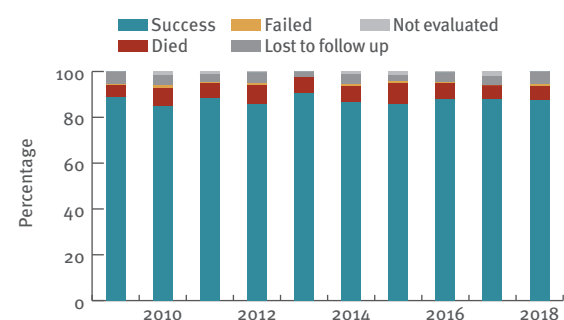


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Norway

Total population at 25 June 2020 by EUROSTAT: 5 328 212

## TB cases, 2019

### Notifications

Total number of cases	165
Notification rate per 100 000	3.1
New <sup>a</sup> and relapse	153
New <sup>a</sup> and relapse notification rate per 100 000	2.9
Pulmonary	109 (66.1%)
of which microscopy-positive	46 (42.2%)
of which laboratory-confirmed	94 (86.2%)
Laboratory-confirmed TB cases	137 (83.0%)
Mean age of new native TB cases	60.8 years
Mean age of new foreign TB cases	37.2 years
Foreign origin of all TB cases	146 (88.5%)
New (not previously treated)	153 (92.7%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low–high]	180 [150–200]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	130 (94.9%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	1 [0–4]
Pulmonary MDR-TB cases notified	2 (2.3%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	2 (1.5%)
of which XDR-TB cases	0 (0.0%)
New <sup>c</sup> and relapse cases tested for HIV	119 (77.8%)
HIV-positive TB cases	4 (3.4%)
of these on ART	–

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

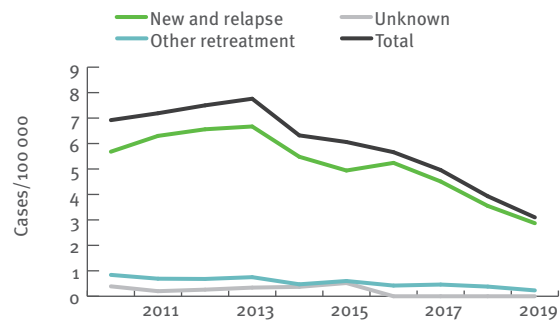
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	–
Cases notified	99	9
Success	76 (76.8%)	8 (88.9%)
Died	5 (5.1%)	0 (0.0%)
Failed	2 (2.0%)	0 (0.0%)
Lost to follow up	0 (0.0%)	1 (11.1%)
Still on treatment	2 (2.0%)	0 (0.0%)
Not evaluated	14 (14.1%)	0 (0.0%)

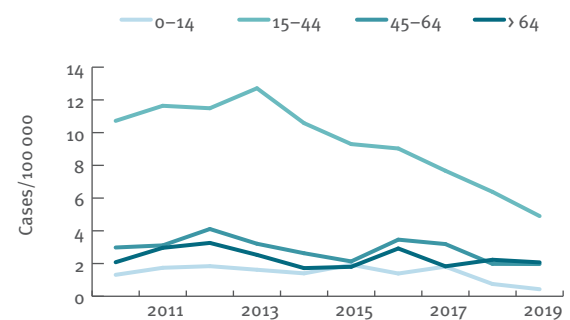
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

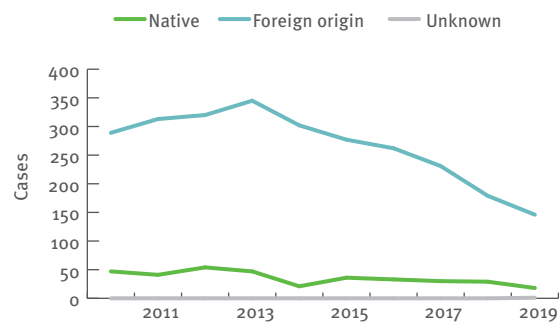
## TB notification rates by previous treatment history, 2010–2019



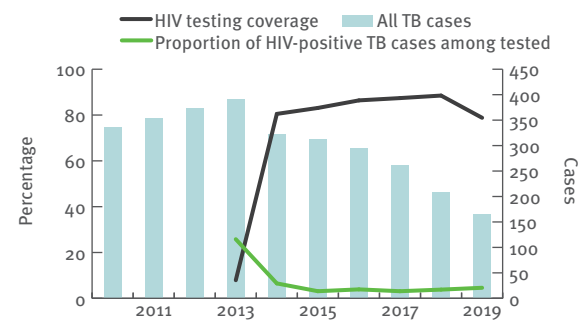
## New and relapse TB cases – notification rates by age group, 2010–2019



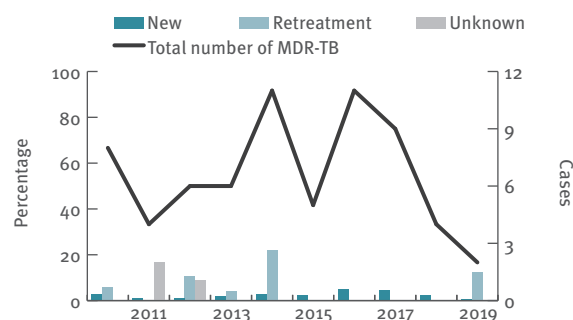
## TB cases by geographical origin, 2010–2019



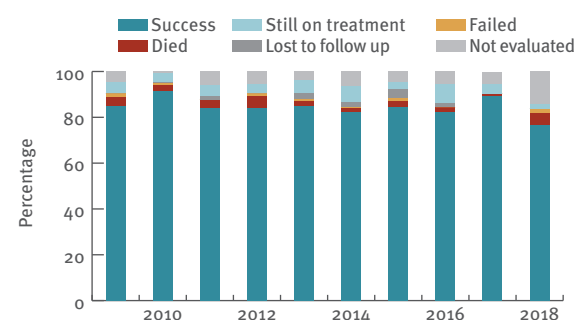
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Poland

Total population at 25 June 2020 by EUROSTAT: 37 972 812

## TB cases, 2019

### Notifications

Total number of cases	5 321	
Notification rate per 100 000	14.0	
New <sup>a</sup> and relapse	4 983	
New <sup>a</sup> and relapse notification rate per 100 000	13.1	
Pulmonary	5 075	(95.4%)
of which microscopy-positive	2 577	(50.8%)
of which laboratory-confirmed	3 926	(77.4%)
Laboratory-confirmed TB cases	4 054	(76.2%)
Mean age of new native TB cases	53.9 years	
Mean age of new foreign TB cases	36.2 years	
Foreign origin of all TB cases	121	(2.3%)
New (not previously treated)	4 717	(88.6%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low–high]	5 700	[4 900–6 600]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	–	
Case-linked data-reporting	Yes	
Cases with DST results	3 690	(91.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	49	[34–63]
Pulmonary MDR-TB cases notified	40	(1.1%)
of which XDR-TB cases	4	(12.9%)
Notified MDR-TB	41	(1.1%)
of which XDR-TB cases	5	(15.6%)
New <sup>c</sup> and relapse cases tested for HIV	–	
HIV-positive TB cases	–	
of these on ART	–	

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

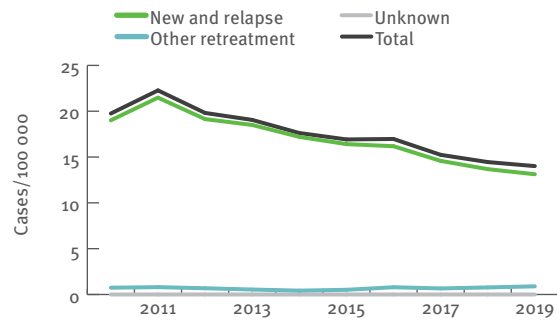
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	–
Cases notified	3 451	44
Success	–	–
Died	–	–
Failed	–	–
Lost to follow up	–	–
Still on treatment	–	–
Not evaluated	–	–

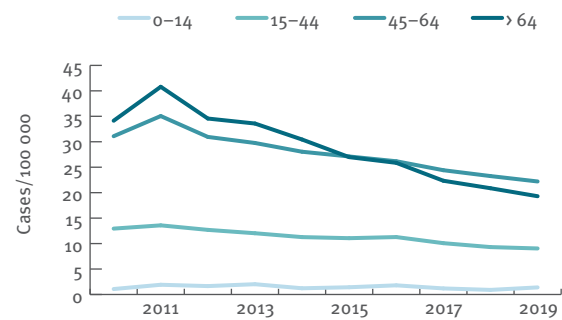
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

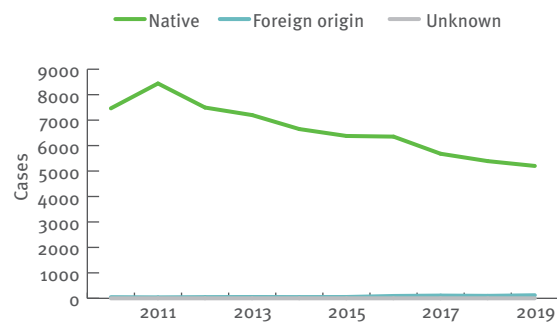
## TB notification rates by previous treatment history, 2010–2019



## New and relapse TB cases – notification rates by age group, 2010–2019



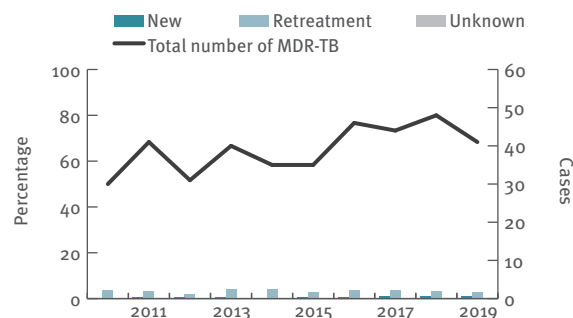
## TB cases by geographical origin, 2010–2019



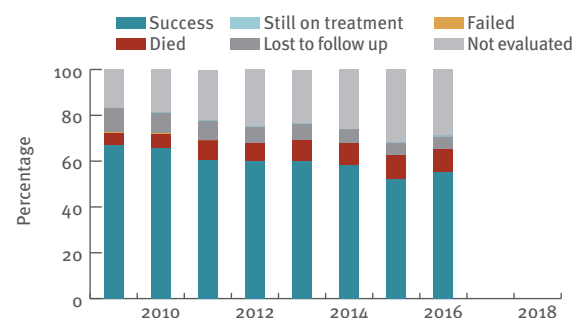
## TB/HIV coinfection, 2010–2019

Data not reported

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Portugal

Total population at 25 June 2020 by EUROSTAT: 10 276 617

## TB cases, 2019

### Notifications

Total number of cases	1 771
Notification rate per 100 000	17.2
New <sup>a</sup> and relapse	1 720
New <sup>a</sup> and relapse notification rate per 100 000	16.7
Pulmonary	1 311 (74.0%)
of which microscopy-positive	590 (45.0%)
of which laboratory-confirmed	863 (65.8%)
Laboratory-confirmed TB cases	998 (56.4%)
Mean age of new native TB cases	51.8 years
Mean age of new foreign TB cases	37.7 years
Foreign origin of all TB cases	419 (23.7%)
New (not previously treated)	1 644 (92.8%)

### Estimates

Estimated new and relapse cases N, best [low-high]	2 000 [1 700-2 300]
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<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	572 (57.3%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	16 [9-23]
Pulmonary MDR-TB cases notified	5 (1.0%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	5 (0.9%)
of which XDR-TB cases	0 (0.0%)
New <sup>a</sup> and relapse cases tested for HIV	1 166 (67.8%)
HIV-positive TB cases	123 (10.5%)
of these on ART	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

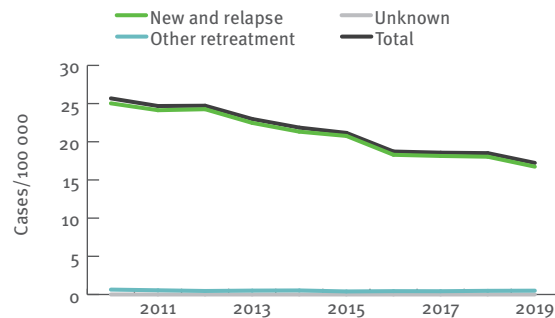
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	1 022	10
Success	762 (74.6%)	7 (70.0%)
Died	63 (6.2%)	0 (0.0%)
Failed	1 (0.1%)	0 (0.0%)
Lost to follow up	24 (2.3%)	0 (0.0%)
Still on treatment	152 (14.9%)	0 (0.0%)
Not evaluated	20 (2.0%)	3 (30.0%)

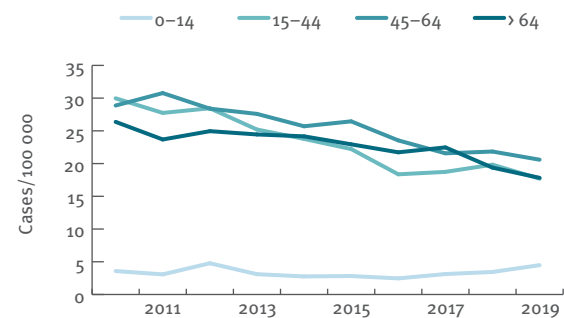
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

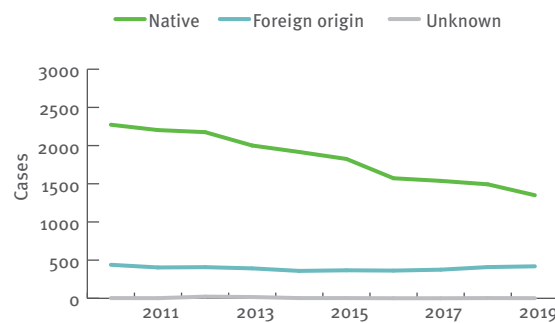
## TB notification rates by previous treatment history, 2010-2019



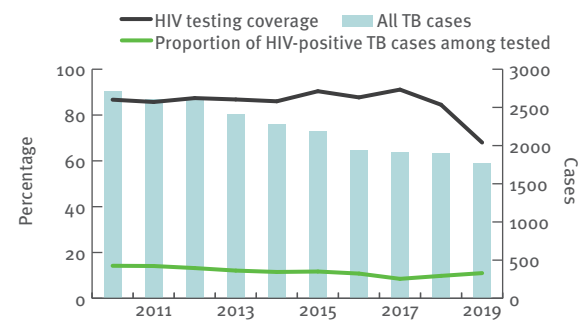
## New and relapse TB cases – notification rates by age group, 2010-2019



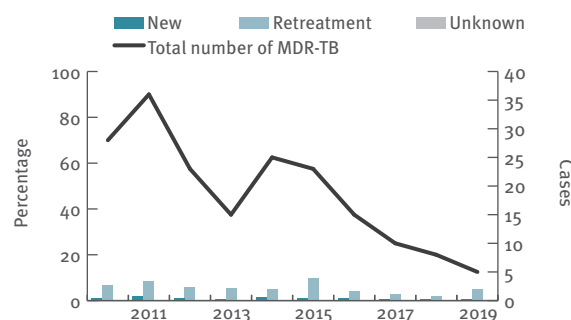
## TB cases by geographical origin, 2010-2019



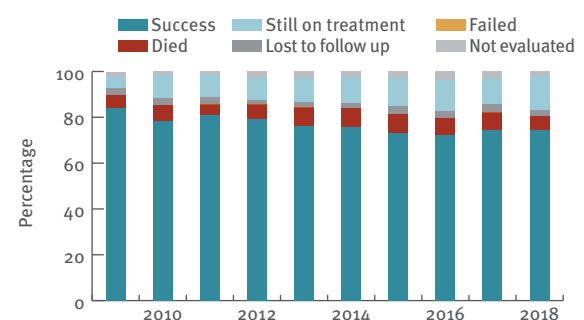
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018



# Republic of Moldova

Total population estimate 2019 by United Nations Statistical Database: 4 043 258

## TB cases, 2019

### Notifications

Total number of cases	3 255
Notification rate per 100 000	80.5
New <sup>a</sup> and relapse	2 809
New <sup>a</sup> and relapse notification rate per 100 000	69.5
Pulmonary	2 967 (91.2%)
of which microscopy-positive	-
of which laboratory-confirmed	2 180 (73.5%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	42.7 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	19 (0.6%)
New (not previously treated)	2 239 (68.8%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	3 200 [2 800-3 700]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	1 539 (70.6%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	930 [880-970]
Pulmonary MDR-TB cases notified	441 (28.7%)
of which XDR-TB cases	49 (11.1%)
Notified MDR-TB	441 -
of which XDR-TB cases	49 -
TB cases tested for HIV	2 792 (99.4%)
HIV-positive TB cases	295 (10.6%)
of these on ART	260 (88.1%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+ /all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

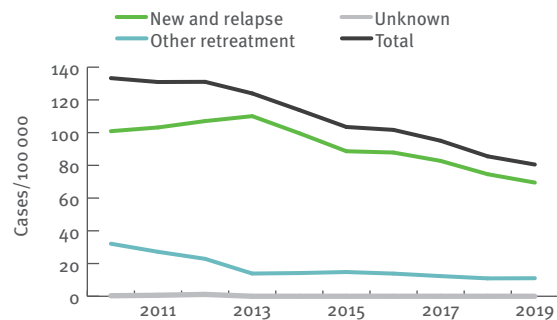
## Treatment outcome monitoring

Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	2 312	962
Success	1 954 (84.5%)	537 (55.8%)
Died	183 (7.9%)	117 (12.2%)
Failed	56 (2.4%)	124 (12.9%)
Lost to follow up	62 (2.7%)	183 (19.0%)
Not evaluated	57 (2.5%)	1 (0.1%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

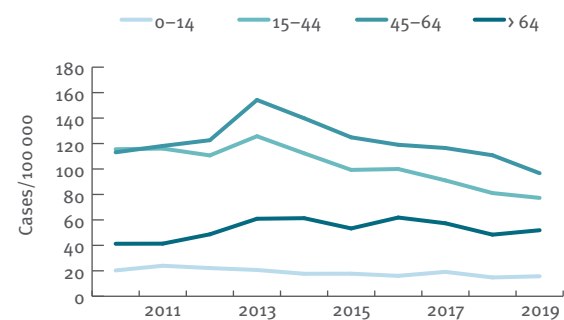
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



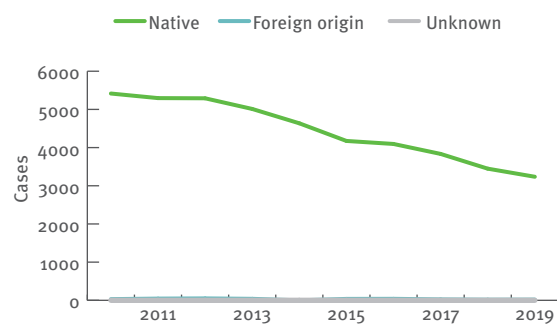
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

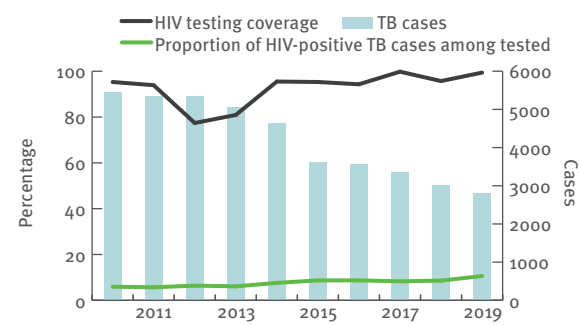


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

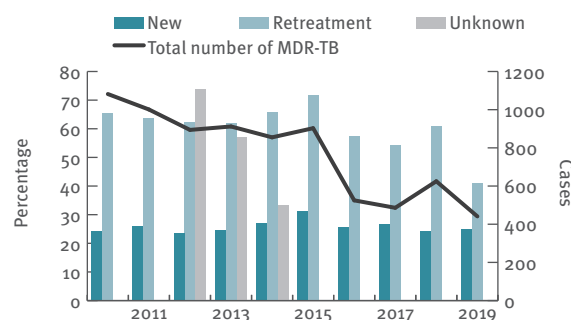


## TB/HIV coinfection, 2010-2019<sup>a</sup>

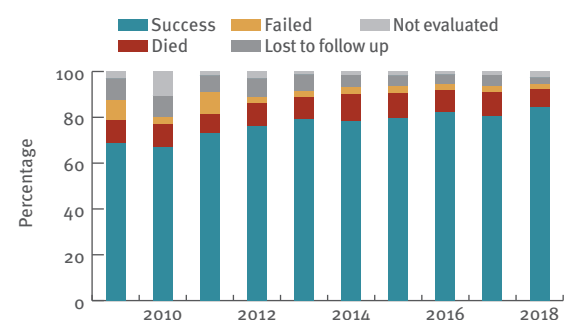


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.



# Romania

Total population at 25 June 2020 by EUROSTAT: 19 414 458

## TB cases, 2019

### Notifications

Total number of cases	11 633
Notification rate per 100 000	59.6
New <sup>a</sup> and relapse	11 083
New <sup>a</sup> and relapse notification rate per 100 000	57.1
Pulmonary	10 067 (86.5%)
of which microscopy-positive	6 534 (64.9%)
of which laboratory-confirmed	8 161 (81.1%)
Laboratory-confirmed TB cases	8 499 (73.1%)
Mean age of new native TB cases	45.9 years
Mean age of new foreign TB cases	32.5 years
Foreign origin of all TB cases	42 (0.4%)
New (not previously treated)	9 342 (80.3%)

### Estimates

Estimated new and relapse cases N, best [low–high]	13 000 [11 000–15 000]
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<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	7 694 (90.5%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	430 [390–480]
Pulmonary MDR-TB cases notified	302 (4.1%)
of which XDR-TB cases	38 (30.9%)
Notified MDR-TB	304 (4.0%)
of which XDR-TB cases	38 (30.9%)
New <sup>a</sup> and relapse cases tested for HIV	9 574 (86.4%)
HIV-positive TB cases	179 (1.9%)
of these on ART	161 (89.9%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

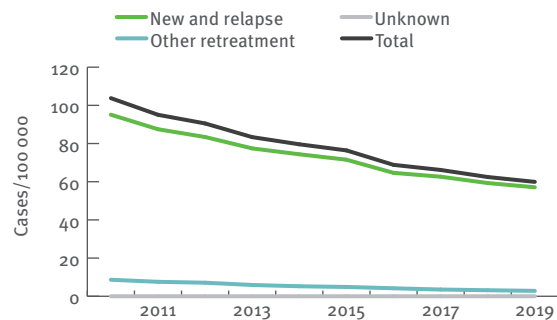
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	–
Cases notified	6 399	372
Success	5 297 (82.8%)	134 (36.0%)
Died	571 (8.9%)	76 (20.4%)
Failed	100 (1.6%)	85 (22.8%)
Lost to follow up	312 (4.9%)	48 (12.9%)
Still on treatment	117 (1.8%)	29 (7.8%)
Not evaluated	2 (0.0%)	0 (0.0%)

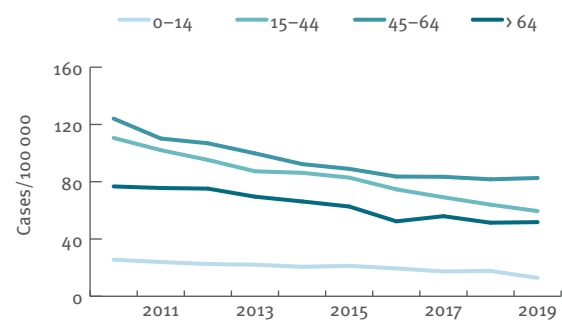
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

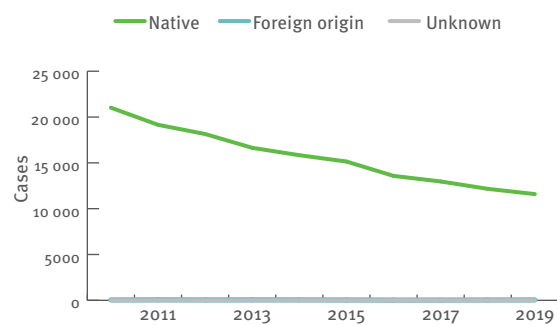
## TB notification rates by previous treatment history, 2010–2019



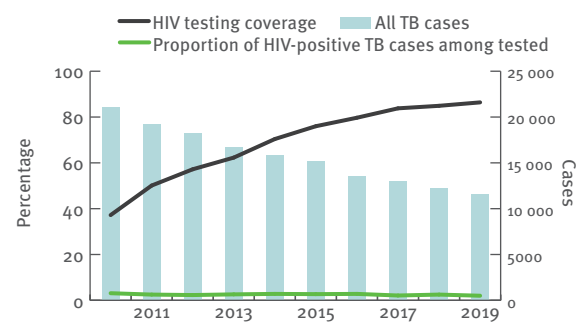
## New and relapse TB cases – notification rates by age group, 2010–2019



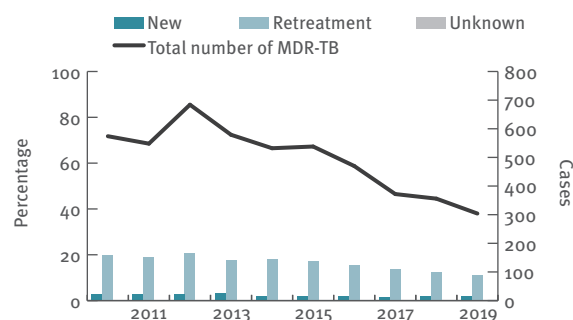
## TB cases by geographical origin, 2010–2019



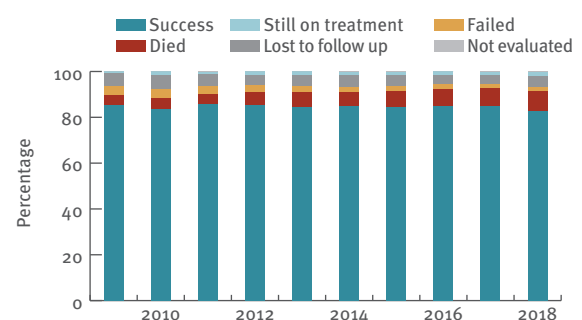
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Russian Federation

Total population estimate 2019 by United Nations Statistical Database: 145 872 260

## TB cases, 2019

### Notifications

Total number of cases	103 979
Notification rate per 100 000	71.3
New <sup>a</sup> and relapse	73 328
New <sup>a</sup> and relapse notification rate per 100 000	50.3
Pulmonary	86 181 (82.9%)
of which microscopy-positive	-
of which laboratory-confirmed	54 751 (63.5%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	41.4 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	2 070 (2.0%)
New (not previously treated)	60 531 (58.2%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	73 000 [47 000-104 000]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	50 476 (92.2%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	28 000 [28 000-29 000]
Pulmonary MDR-TB cases notified	24 443 (48.4%)
of which XDR-TB cases	5 559 (23.5%)
Notified MDR-TB	25 153
of which XDR-TB cases	5 699
TB cases tested for HIV	70 610 (96.3%)
HIV-positive TB cases	16 453 (23.3%)
of these on ART	11 761 (71.5%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

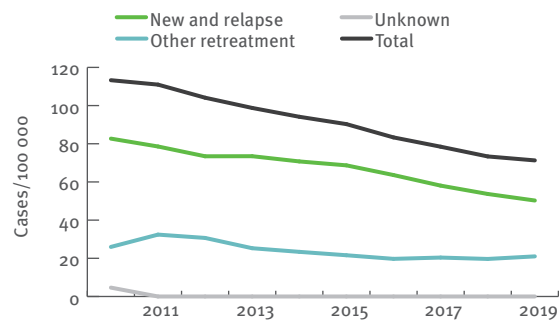
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	59 850	22 901
Success	41 154 (68.8%)	12 629 (55.1%)
Died	6 351 (10.6%)	3 488 (15.2%)
Failed	4 052 (6.8%)	2 692 (11.8%)
Lost to follow up	3 408 (5.7%)	2 165 (9.5%)
Not evaluated	4 885 (8.2%)	1 927 (8.4%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

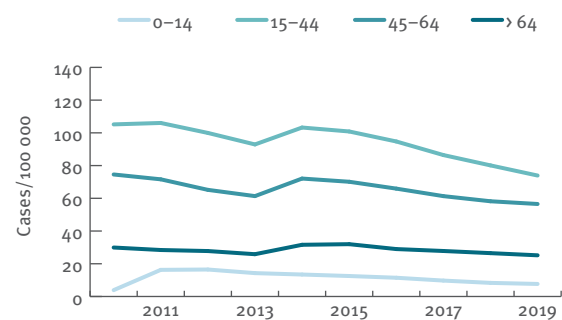
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



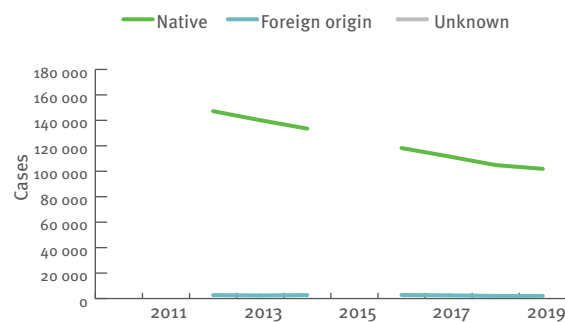
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

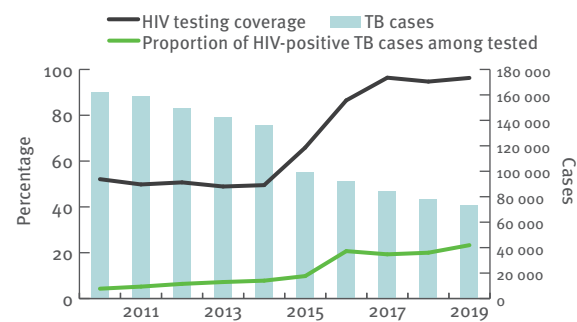


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

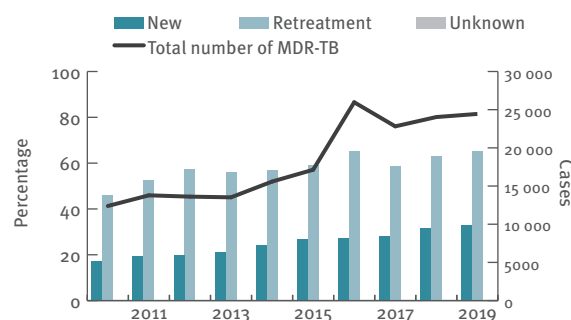


## TB/HIV coinfection, 2010-2019<sup>a</sup>

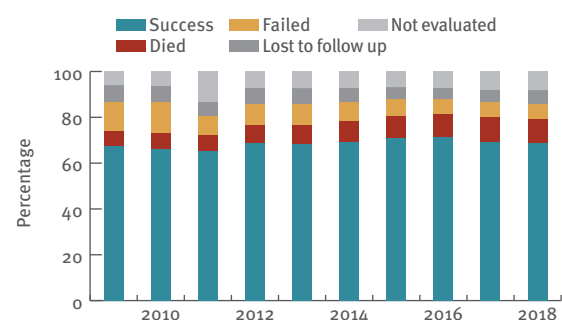


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Serbia

Total population estimate 2019 by United Nations Statistical Database: 8 772 228

## TB cases, 2019

### Notifications

Total number of cases	1179
Notification rate per 100 000	13.4
New <sup>a</sup> and relapse	1106
New <sup>a</sup> and relapse notification rate per 100 000	12.6
Pulmonary	637 (54.0%)
of which microscopy-positive	-
of which laboratory-confirmed	577 (90.6%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	46.9 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	5 (0.4%)
New (not previously treated)	1017 (86.3%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	1300 [1100-1500]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	No
Case-linked data-reporting	Yes
Cases with DST results	485 (84.1%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	7 [3-11]
Pulmonary MDR-TB cases notified	2 (0.8%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	2 -
of which XDR-TB cases	0 -
TB cases tested for HIV	39 (3.5%)
HIV-positive TB cases	3 (7.7%)
of these on ART	3 (100.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

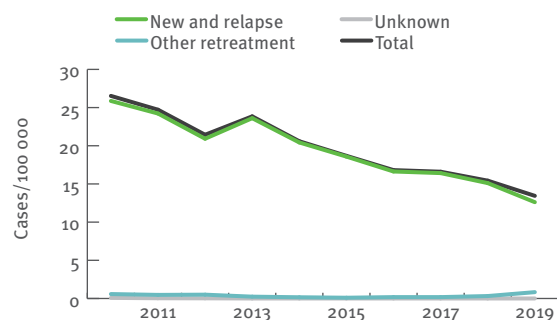
<sup>b</sup> More than 50% of TB cases with reported HIV status.

## Treatment outcome monitoring

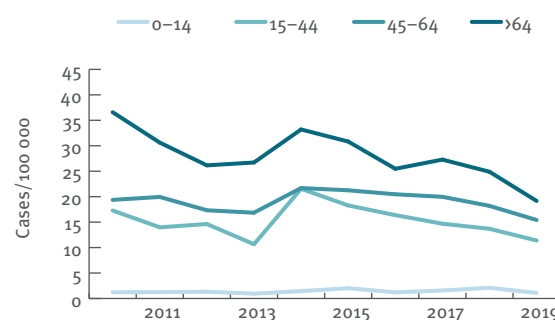
Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	1 265	10
Success	1 032 (81.6%)	7 (70.0%)
Died	65 (5.1%)	2 (20.0%)
Failed	5 (0.4%)	1 (10.0%)
Lost to follow up	84 (6.6%)	0 (0.0%)
Not evaluated	79 (6.2%)	0 (0.0%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

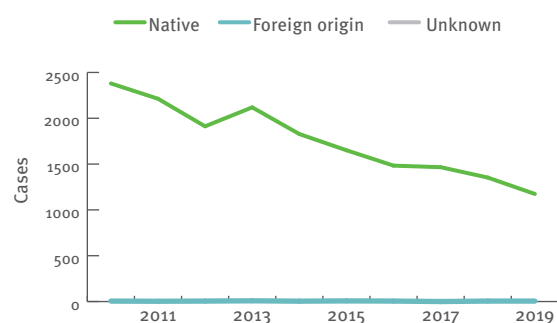
## TB notification rates by previous treatment history, 2010-2019



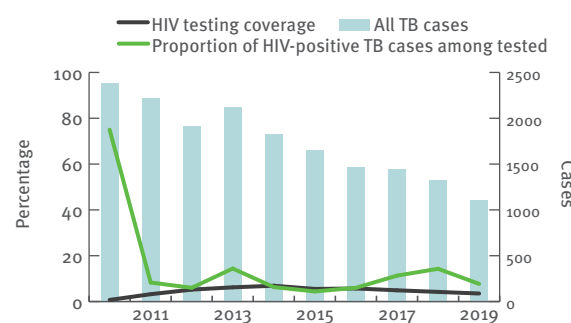
## New and relapse TB cases – notification rates by age group, 2010-2019



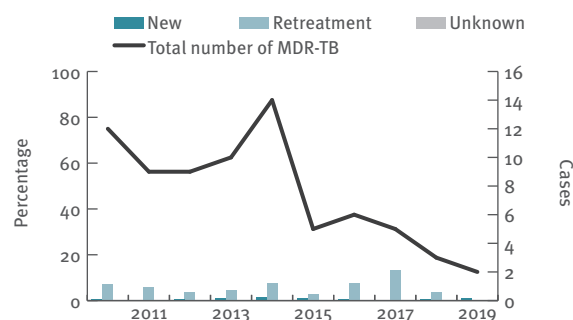
## TB cases by geographical origin, 2010-2019



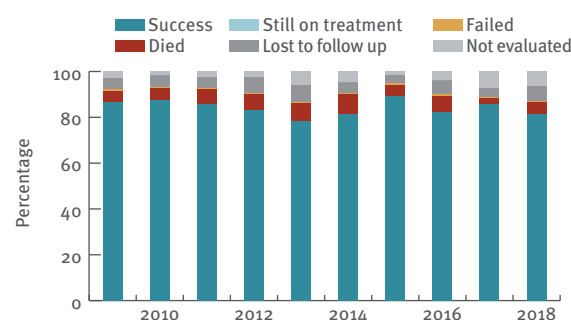
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Slovakia

Total population at 25 June 2020 by EUROSTAT: 5 450 421

## TB cases, 2019

### Notifications

Total number of cases	214
Notification rate per 100 000	3.9
New <sup>a</sup> and relapse	214
New <sup>a</sup> and relapse notification rate per 100 000	3.9
Pulmonary	179 (83.6%)
of which microscopy-positive	53 (29.6%)
of which laboratory-confirmed	107 (59.8%)
Laboratory-confirmed TB cases	113 (52.8%)
Mean age of new native TB cases	45.4 years
Mean age of new foreign TB cases	25.0 years
Foreign origin of all TB cases	7 (3.3%)
New (not previously treated)	170 (79.4%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low–high]	250 [210–280]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	113 (100.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	6 [1–10]
Pulmonary MDR-TB cases notified	5 (4.7%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	5 (4.4%)
of which XDR-TB cases	0 (0.0%)
New <sup>c</sup> and relapse cases tested for HIV	148 (69.2%)
HIV-positive TB cases	4 (2.7%)
of these on ART	3 (75.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

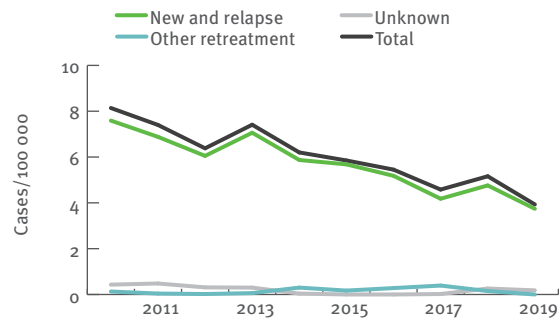
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	–
Cases notified	116	6
Success	100 (86.2%)	1 (16.7%)
Died	14 (12.1%)	4 (66.7%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	0 (0.0%)	0 (0.0%)
Still on treatment	0 (0.0%)	1 (16.7%)
Not evaluated	2 (1.7%)	0 (0.0%)

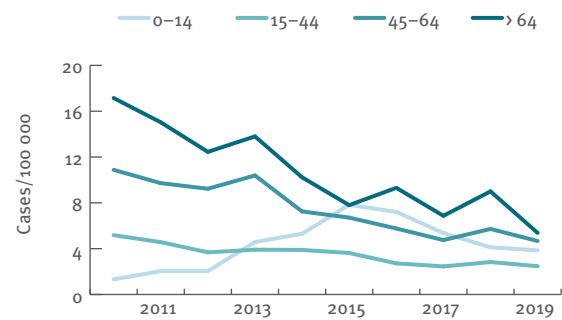
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

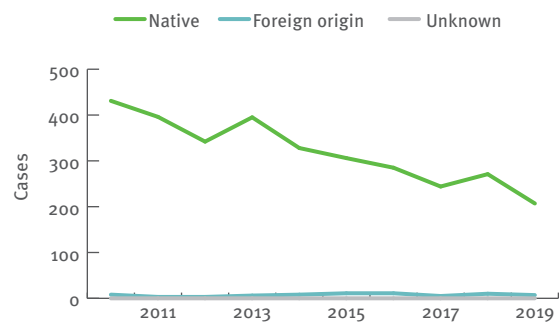
## TB notification rates by previous treatment history, 2010–2019



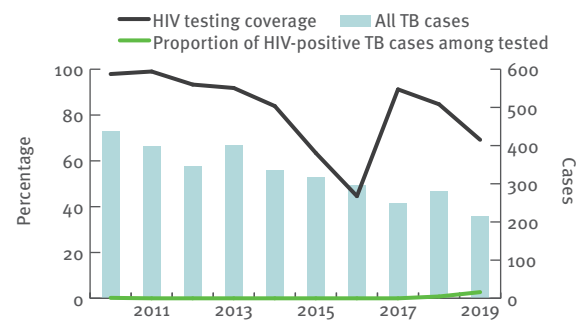
## New and relapse TB cases – notification rates by age group, 2010–2019



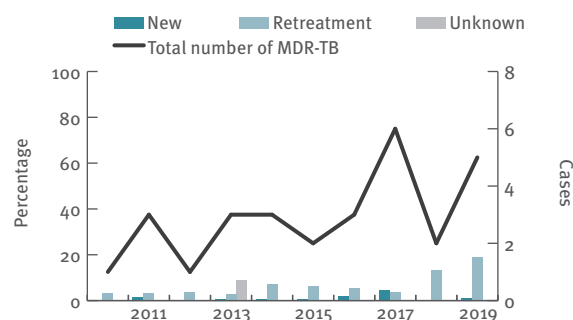
## TB cases by geographical origin, 2010–2019



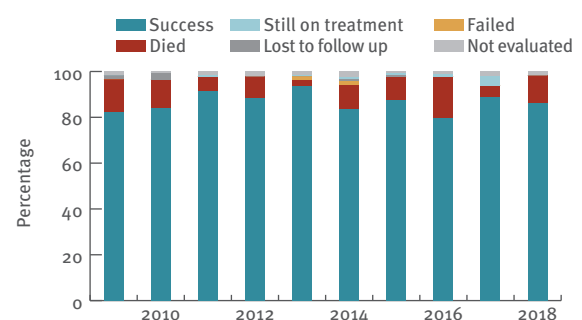
## TB/HIV coinfection, 2010–2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Slovenia

Total population at 25 June 2020 by EUROSTAT: 2 080 908

## TB cases, 2019

### Notifications

Total number of cases	101	
Notification rate per 100 000	4.9	
New <sup>a</sup> and relapse	98	
New <sup>a</sup> and relapse notification rate per 100 000	4.7	
Pulmonary	89	(88.1%)
of which microscopy-positive	48	(53.9%)
of which laboratory-confirmed	82	(92.1%)
Laboratory-confirmed TB cases	93	(92.1%)
Mean age of new native TB cases	67.0 years	
Mean age of new foreign TB cases	45.9 years	
Foreign origin of all TB cases	36	(35.6%)
New (not previously treated)	96	(95.0%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low-high]	110	[96-130]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	Yes	
Case-linked data-reporting	Yes	
Cases with DST results	93	(100.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	0	[0-2]
Pulmonary MDR-TB cases notified	0	(0.0%)
of which XDR-TB cases	0	-
Notified MDR-TB	0	(0.0%)
of which XDR-TB cases	0	-
New <sup>a</sup> and relapse cases tested for HIV	70	(71.4%)
HIV-positive TB cases	1	(1.4%)
of these on ART	1	(100.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

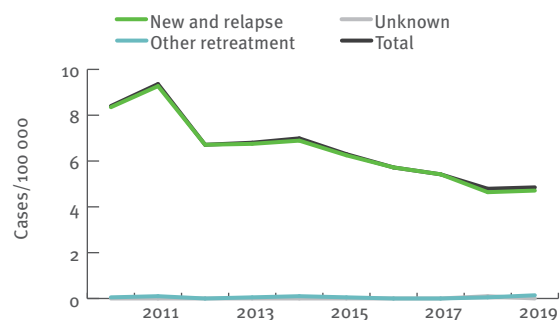
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	70	1
Success	56 (80.0%)	0 (0.0%)
Died	8 (11.4%)	0 (0.0%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	3 (4.3%)	0 (0.0%)
Still on treatment	2 (2.9%)	0 (0.0%)
Not evaluated	1 (1.4%)	1 (100.0%)

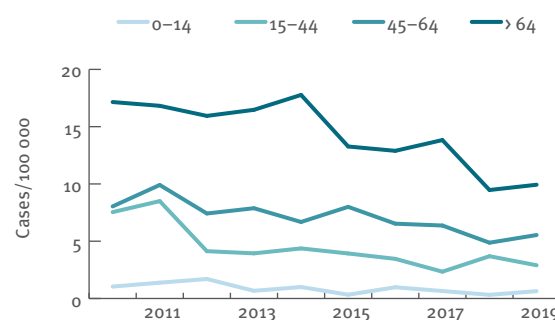
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

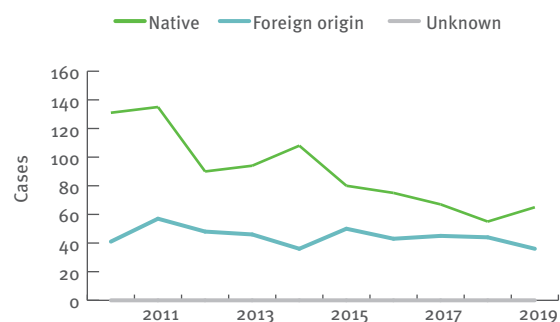
## TB notification rates by previous treatment history, 2010-2019



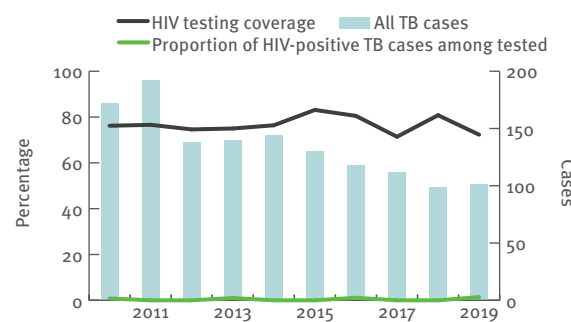
## New and relapse TB cases – notification rates by age group, 2010-2019



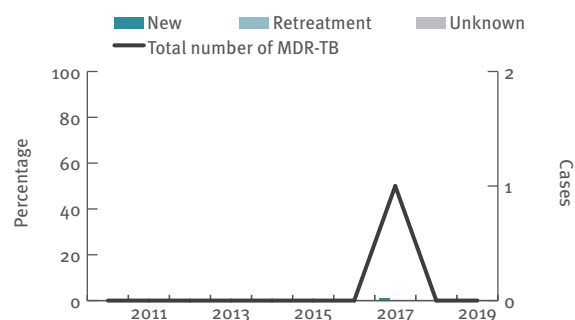
## TB cases by geographical origin, 2010-2019



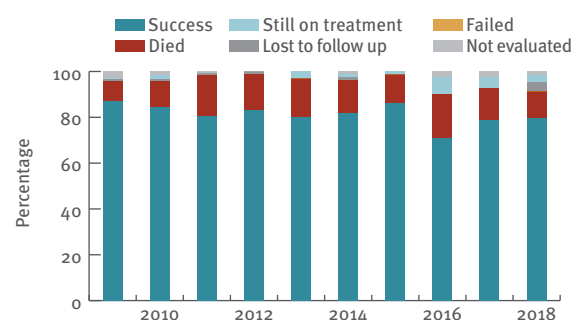
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018



# Spain

Total population at 25 June 2020 by EUROSTAT: 46 937 060

## TB cases, 2019

### Notifications

Total number of cases	4 150	
Notification rate per 100 000	8.9	
New <sup>a</sup> and relapse	4 071	
New <sup>a</sup> and relapse notification rate per 100 000	8.7	
Pulmonary	3 009	(72.5%)
of which microscopy-positive	1 362	(45.3%)
of which laboratory-confirmed	2 236	(74.3%)
Laboratory-confirmed TB cases	2 797	(67.4%)
Mean age of new native TB cases	50.0 years	
Mean age of new foreign TB cases	37.2 years	
Foreign origin of all TB cases	1 539	(37.1%)
New (not previously treated)	2 517	(60.7%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low–high]	4 300	[3 700–5 000]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	–	
Case-linked data-reporting	Yes	
Cases with DST results	811	(29.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low–high]	110	[78–150]
Pulmonary MDR-TB cases notified	8	(1.0%)
of which XDR-TB cases	0	(0.0%)
Notified MDR-TB	9	(1.1%)
of which XDR-TB cases	0	(0.0%)
New <sup>c</sup> and relapse cases tested for HIV	–	–
HIV-positive TB cases	–	–
of these on ART	–	–

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

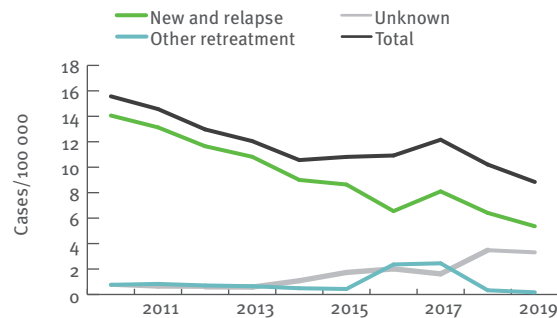
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	–
Cases notified	1 700	29
Success	1 015 (59.7%)	–
Died	123 (7.2%)	–
Failed	1 (0.1%)	–
Lost to follow up	6 (0.4%)	–
Still on treatment	58 (3.4%)	–
Not evaluated	497 (29.2%)	–

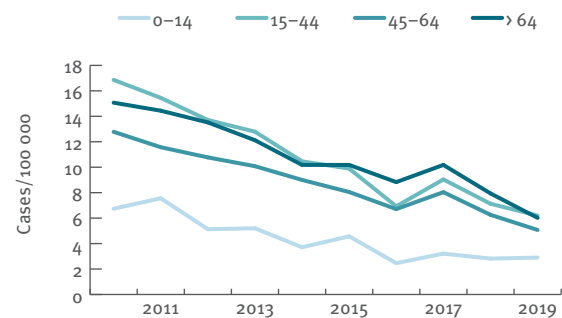
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

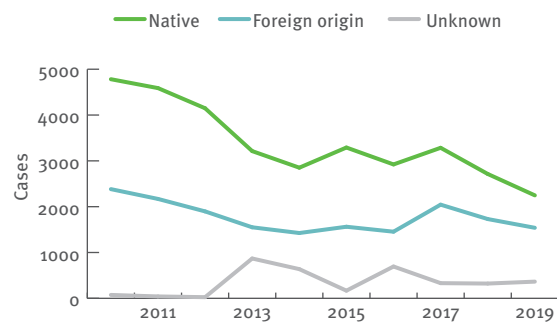
## TB notification rates by previous treatment history, 2010–2019



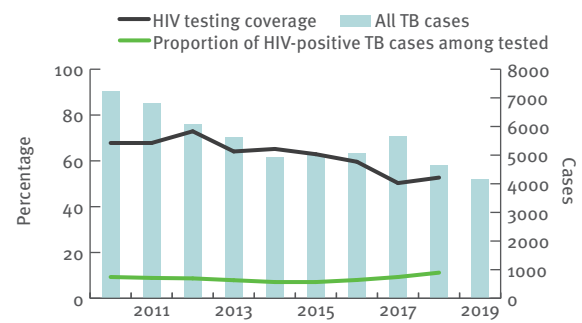
## New and relapse TB cases – notification rates by age group, 2010–2019



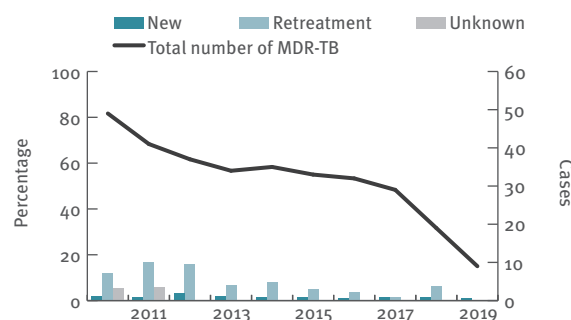
## TB cases by geographical origin, 2010–2019



## TB/HIV coinfection, 2010–2019

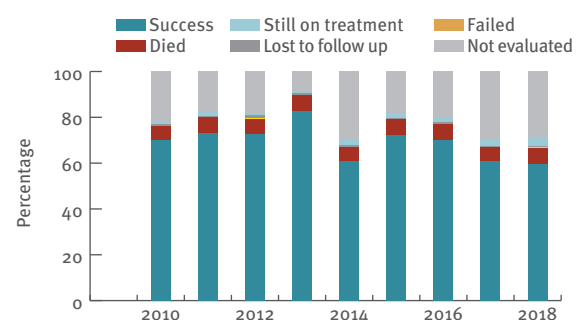


## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010–2019<sup>a</sup>



<sup>a</sup> In 2013, 2015 and 2016, only pulmonary MDR-TB cases were reported.

## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009–2018



# Sweden

Total population at 25 June 2020 by EUROSTAT: 10 230 185

## TB cases, 2019

### Notifications

Total number of cases	479	
Notification rate per 100 000	4.7	
New <sup>a</sup> and relapse	478	
New <sup>a</sup> and relapse notification rate per 100 000	4.7	
Pulmonary	301	(62.8%)
of which microscopy-positive	102	(33.9%)
of which laboratory-confirmed	265	(88.0%)
Laboratory-confirmed TB cases	399	(83.3%)
Mean age of new native TB cases	48.7 years	
Mean age of new foreign TB cases	35.7 years	
Foreign origin of all TB cases	415	(86.6%)
New (not previously treated)	418	(87.3%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low-high]	550	[470-640]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	-	
Case-linked data-reporting	Yes	
Cases with DST results	396	(99.2%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	6	[1-12]
Pulmonary MDR-TB cases notified	4	(1.5%)
of which XDR-TB cases	0	(0.0%)
Notified MDR-TB	7	(1.8%)
of which XDR-TB cases	0	(0.0%)
New <sup>c</sup> and relapse cases tested for HIV	-	-
HIV-positive TB cases	-	-
of these on ART	-	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

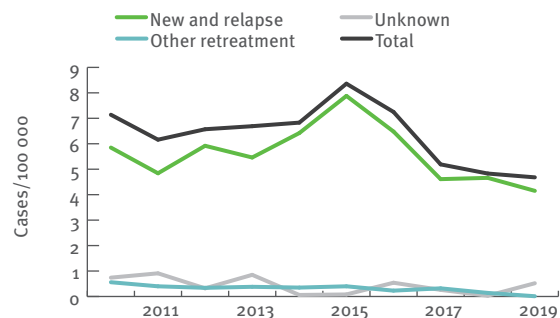
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	278	11
Success	212 (76.3%)	9 (81.8%)
Died	12 (4.3%)	0 (0.0%)
Failed	3 (1.1%)	0 (0.0%)
Lost to follow up	3 (1.1%)	0 (0.0%)
Still on treatment	7 (2.5%)	0 (0.0%)
Not evaluated	41 (14.7%)	2 (18.2%)

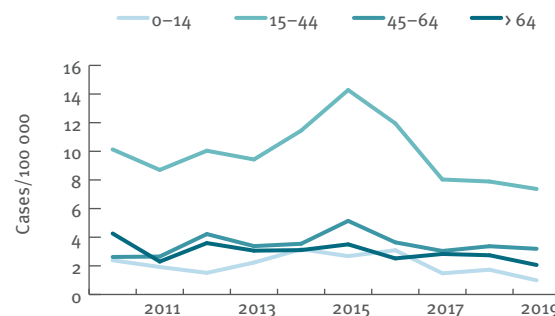
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

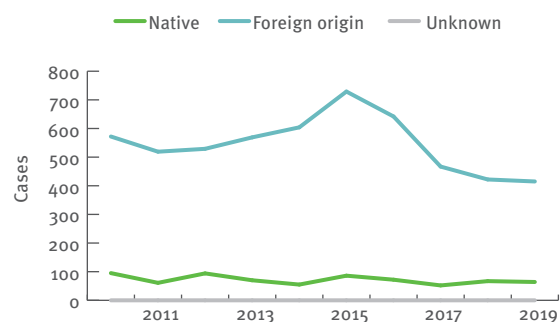
## TB notification rates by previous treatment history, 2010-2019



## New and relapse TB cases – notification rates by age group, 2010-2019



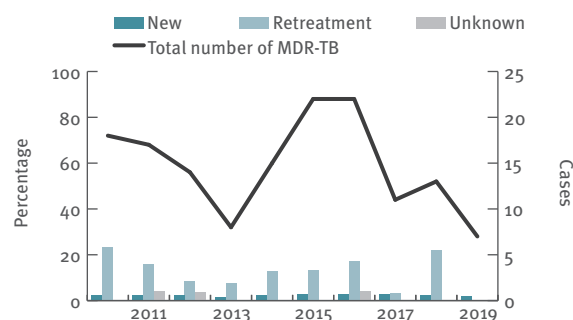
## TB cases by geographical origin, 2010-2019



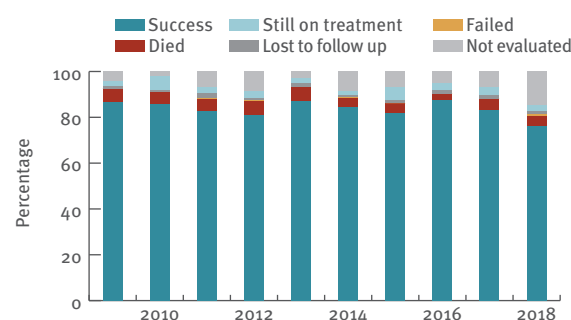
## TB/HIV coinfection, 2010-2019

Data not reported

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018



# Switzerland

Total population estimate 2019 by United Nations Statistical Database: 8 591 361

## TB cases, 2019

### Notifications

Total number of cases	435
Notification rate per 100 000	5.1
New <sup>a</sup> and relapse	402
New <sup>a</sup> and relapse notification rate per 100 000	4.7
Pulmonary	340 (78.2%)
of which microscopy-positive	-
of which laboratory-confirmed	294 (86.5%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	40.7 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	318 (73.1%)
New (not previously treated)	402 (92.4%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	460 [400-530]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	No
Case-linked data-reporting	Yes
Cases with DST results	216 (73.5%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	12 [4-19]
Pulmonary MDR-TB cases notified	7 (3.2%)
of which XDR-TB cases	0 (0.0%)
Notified MDR-TB	10 -
of which XDR-TB cases	0 -
TB cases tested for HIV	- (0.0%)
HIV-positive TB cases	-
of these on ART	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

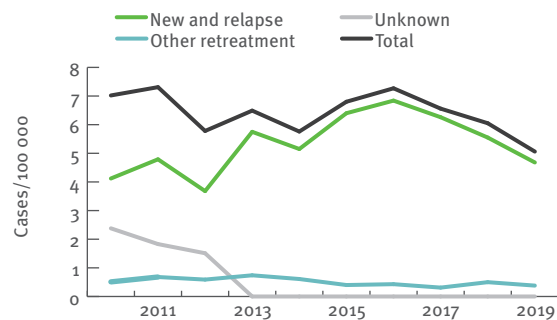
## Treatment outcome monitoring

Geographical coverage	National	
Outcome cohort	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Case-linked data-reporting	Yes	-
Cases notified	376	12
Success	309 (82.2%)	10 (83.3%)
Died	6 (1.6%)	0 (0.0%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	2 (0.5%)	0 (0.0%)
Not evaluated	59 (15.7%)	2 (16.7%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

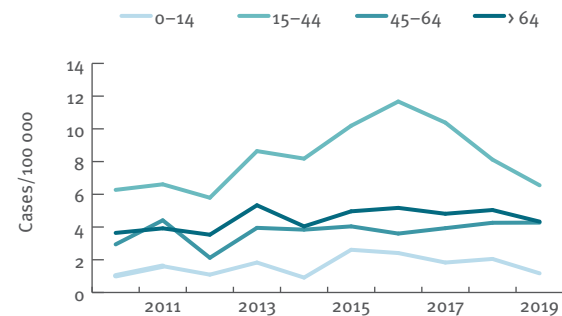
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



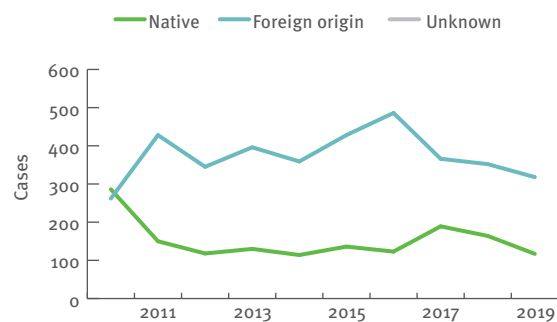
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

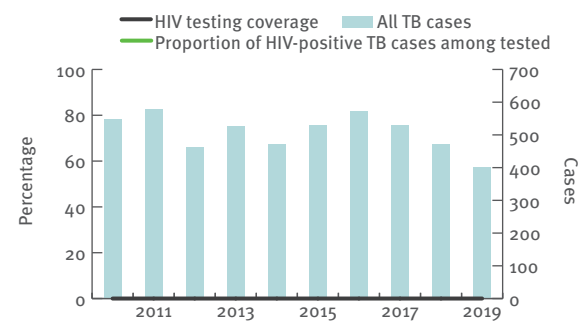


<sup>a</sup> Data up to 2012 includes new TB cases only.

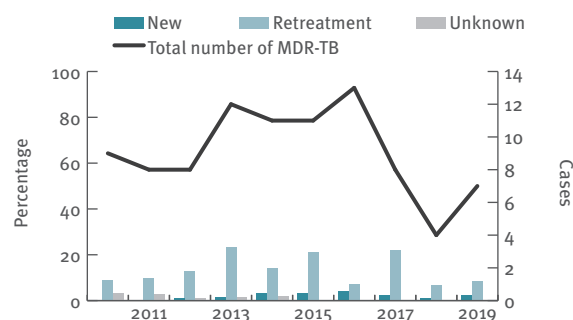
## TB cases by geographical origin, 2010-2019



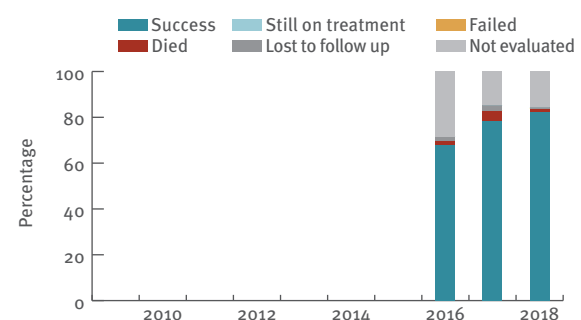
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.



# Tajikistan

Total population estimate 2019 by United Nations Statistical Database: 9 321 023

## TB cases, 2019

### Notifications

Total number of cases	5 976
Notification rate per 100 000	64.1
New <sup>a</sup> and relapse	5 755
New <sup>a</sup> and relapse notification rate per 100 000	61.7
Pulmonary	4 209 (70.4%)
of which microscopy-positive	-
of which laboratory-confirmed	2 828 (67.2%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	33.9 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	0 (0.0%)
New (not previously treated)	5 159 (86.3%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	7 700 [6 000-9 700]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	2 002 (70.8%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	880 [830-930]
Pulmonary MDR-TB cases notified	308 (15.4%)
of which XDR-TB cases	75 (26.1%)
Notified MDR-TB	308 -
of which XDR-TB cases	75 -
TB cases tested for HIV	5 660 (98.3%)
HIV-positive TB cases	167 (3.0%)
of these on ART	127 (76.0%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

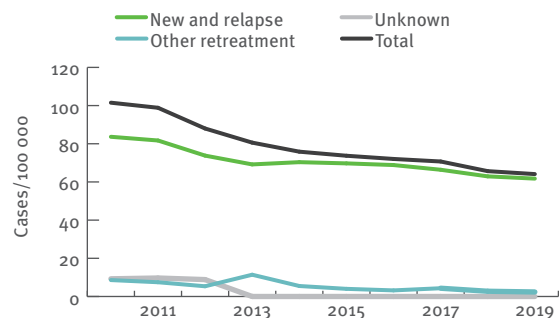
<sup>b</sup> More than 50% of TB cases with reported HIV status.

## Treatment outcome monitoring

Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	4 995	546
Success	4 452 (89.1%)	352 (64.5%)
Died	204 (4.1%)	81 (14.8%)
Failed	60 (1.2%)	39 (7.1%)
Lost to follow up	215 (4.3%)	67 (12.3%)
Not evaluated	64 (1.3%)	7 (1.3%)

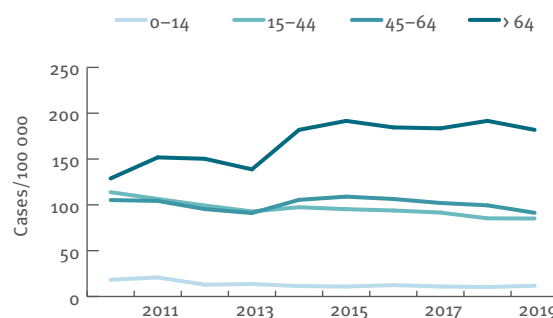
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



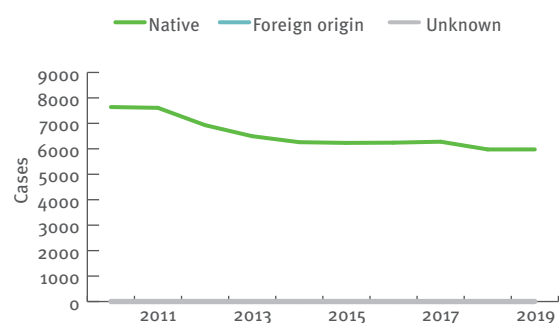
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

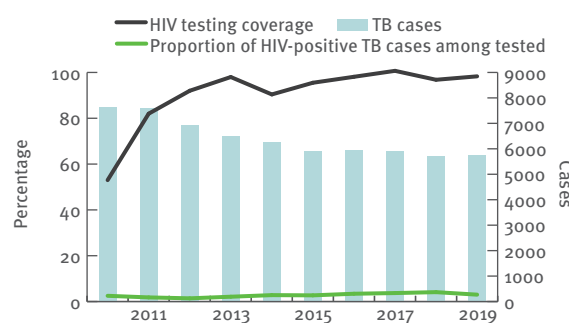


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

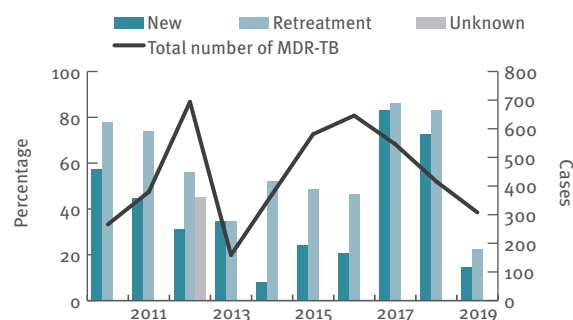


## TB/HIV coinfection, 2010-2019<sup>a</sup>

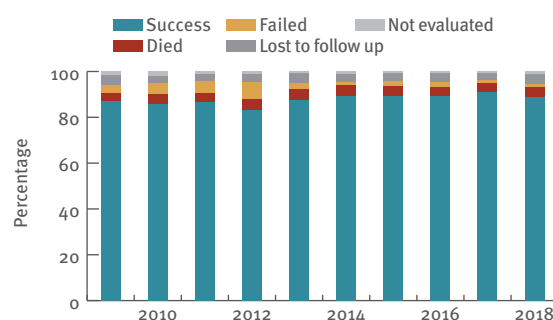


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Turkey

Total population estimate 2019 by United Nations Statistical Database: 83 429 607

## TB cases, 2019

### Notifications

Total number of cases	11 401	
Notification rate per 100 000	13.7	
New <sup>a</sup> and relapse	11 247	
New <sup>a</sup> and relapse notification rate per 100 000	13.5	
Pulmonary	7 433	(65.2%)
of which microscopy-positive	-	-
of which laboratory-confirmed	5 915	(79.6%)
Laboratory-confirmed TB cases	-	-
Mean age of new native TB cases	43.4 years	
Mean age of new foreign TB cases	-	
Foreign origin of all TB cases	1454	(12.8%)
New (not previously treated)	10 669	(93.6%)
<b>Estimates</b>		
Estimated new and relapse cases N, best [low-high]	13 000	[11 000-15 000]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	Yes	
Case-linked data-reporting	Yes	
Cases with DST results	5 087	(86.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	170	[150-200]
Pulmonary MDR-TB cases notified	121	(2.4%)
of which XDR-TB cases	8	(10.5%)
Notified MDR-TB	127	-
of which XDR-TB cases	8	-
TB cases tested for HIV	8 814	(78.4%)
HIV-positive TB cases	104	(1.2%)
of these on ART	84	(80.8%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

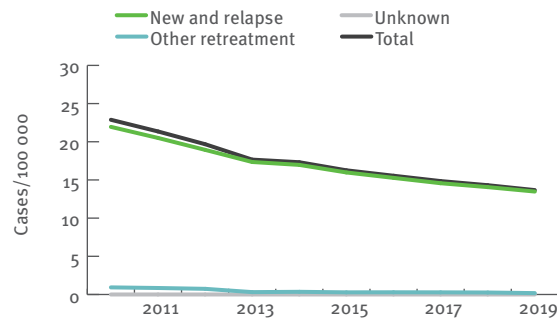
## Treatment outcome monitoring

Geographical coverage	National			
Outcome cohort	New and relapse TB cases notified in 2018 <sup>a</sup>		All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>	
Case-linked data-reporting	Yes		-	
Cases notified	11 407		202	
Success	9 691	(85.0%)	139	(68.8%)
Died	885	(7.8%)	21	(10.4%)
Failed	34	(0.3%)	8	(4.0%)
Lost to follow up	225	(2.0%)	20	(9.9%)
Not evaluated	572	(5.0%)	14	(6.9%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

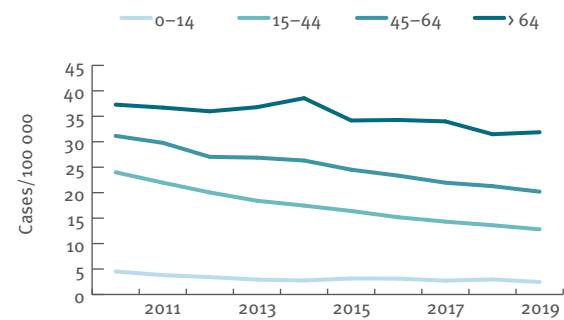
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



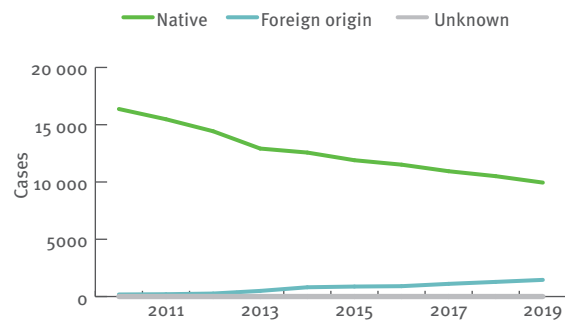
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

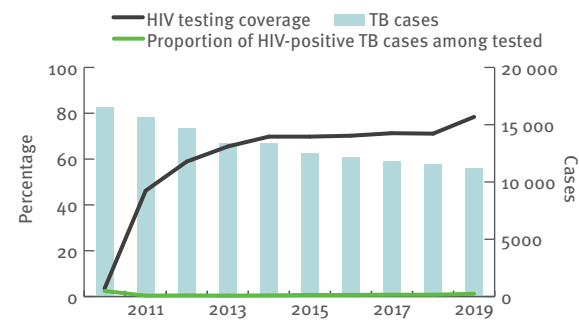


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

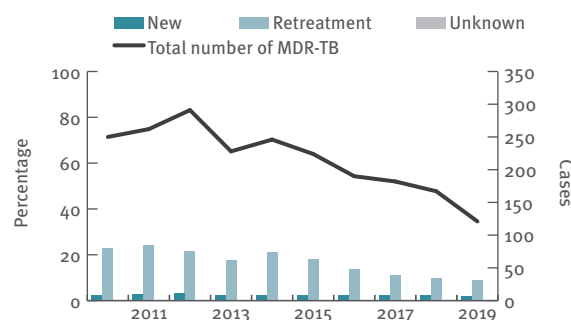


## TB/HIV coinfection, 2010-2019<sup>a</sup>

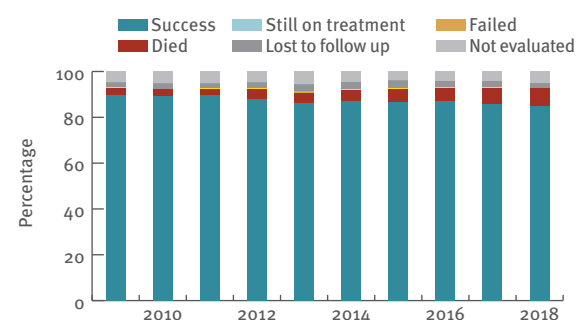


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Turkmenistan

Total population estimate 2019 by United Nations Statistical Database: 5 942 094

## TB cases, 2019

### Notifications

Total number of cases	2 863
Notification rate per 100 000	48.2
New <sup>a</sup> and relapse	2 117
New <sup>a</sup> and relapse notification rate per 100 000	35.6
Pulmonary	2 357 (82.3%)
of which microscopy-positive	-
of which laboratory-confirmed	890 (37.8%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	39.0 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	0 (0.0%)
New (not previously treated)	1 900 (66.4%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	2 600 [2 000-3 300]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	No
Completeness of HIV data <sup>b</sup>	No
Case-linked data-reporting	Yes
Cases with DST results	0 (0.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	300 [280-330]
Pulmonary MDR-TB cases notified	-
of which XDR-TB cases	-
Notified MDR-TB	649
of which XDR-TB cases	55
TB cases tested for HIV	-
HIV-positive TB cases	-
of these on ART	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

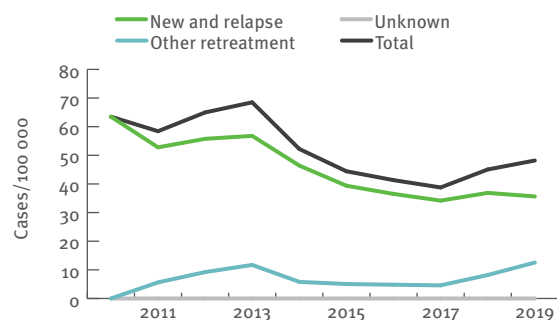
<sup>b</sup> More than 50% of TB cases with reported HIV status.

## Treatment outcome monitoring

Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	2 157	343
Success	1 780 (82.5%)	226 (65.9%)
Died	76 (3.5%)	31 (9.0%)
Failed	172 (8.0%)	43 (12.5%)
Lost to follow up	84 (3.9%)	38 (11.1%)
Not evaluated	45 (2.1%)	5 (1.5%)

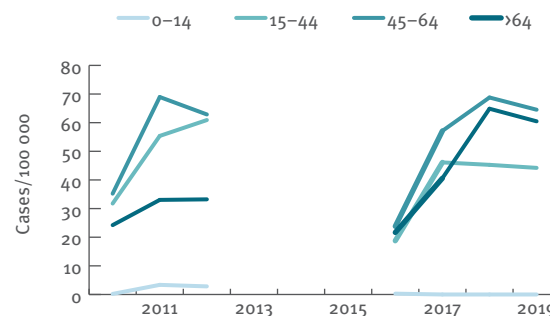
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.  
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



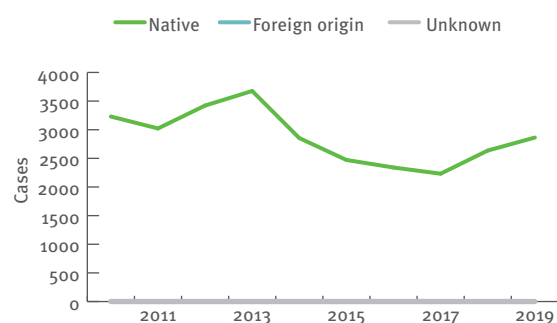
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

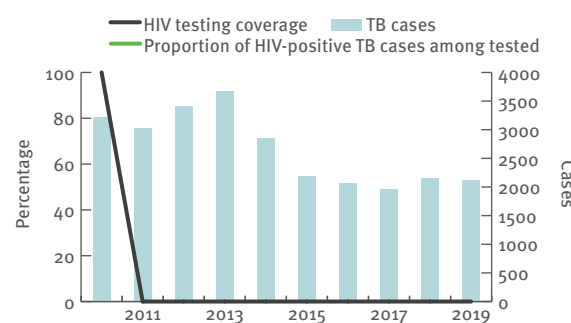


<sup>a</sup> Data up to 2012 includes new TB cases only.

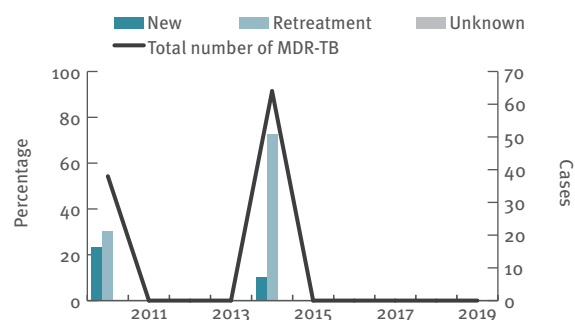
## TB cases by geographical origin, 2010-2019



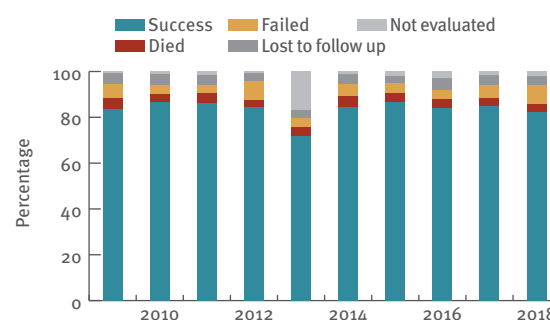
## TB/HIV coinfection, 2006-2014



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# Ukraine

Total population estimate 2019 by United Nations Statistical Database: 43 993 643

## TB cases, 2019

### Notifications

Total number of cases	28 539
Notification rate per 100 000	64.9
New <sup>a</sup> and relapse	25 379
New <sup>a</sup> and relapse notification rate per 100 000	57.7
Pulmonary	26 032 (91.2%)
of which microscopy-positive	-
of which laboratory-confirmed	19 129 (73.5%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	42.9 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	36 (0.1%)
New (not previously treated)	20 632 (72.3%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	34 000 [22 000-48 000]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	18 459 (96.5%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	6 200 [6 000-6 300]
Pulmonary MDR-TB cases notified	4 490 (24.3%)
of which XDR-TB cases	853 (19.0%)
Notified MDR-TB	4 490 -
of which XDR-TB cases	895 -
TB cases tested for HIV	25 210 (99.3%)
HIV-positive TB cases	5 800 (23.0%)
of these on ART	4 860 (83.8%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

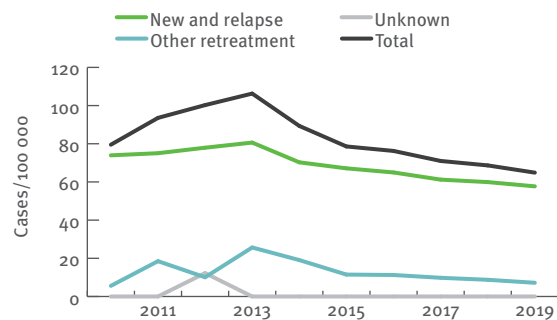
## Treatment outcome monitoring

Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	20 221	6 685
Success	15 607 (77.2%)	3 407 (51.0%)
Died	1 993 (9.9%)	1 014 (15.2%)
Failed	1 446 (7.2%)	1 196 (17.9%)
Lost to follow up	1 114 (5.5%)	1 037 (15.5%)
Not evaluated	61 (0.3%)	31 (0.5%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

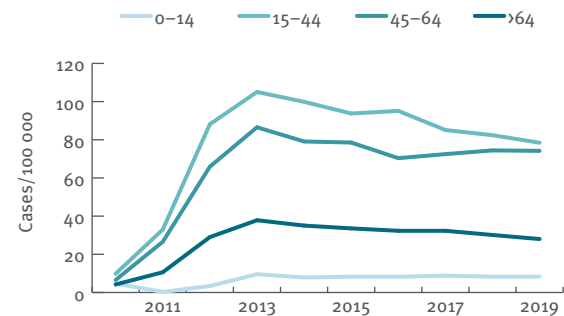
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



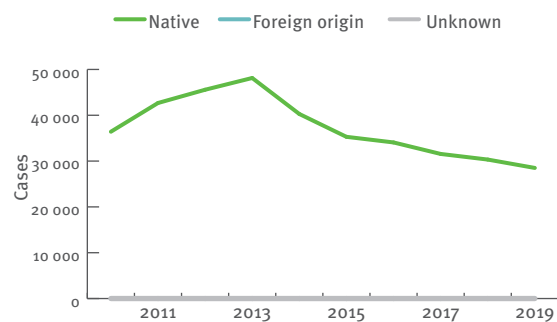
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

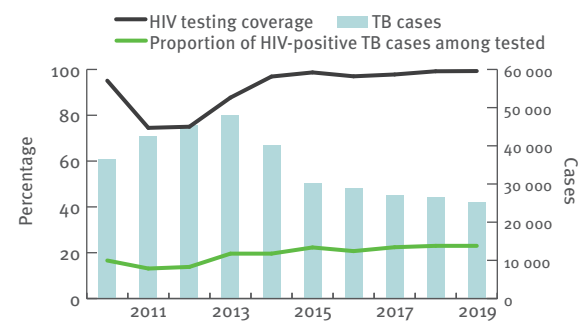


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

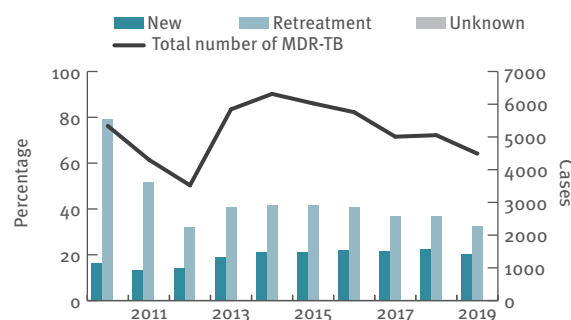


## TB/HIV coinfection, 2010-2019<sup>a</sup>

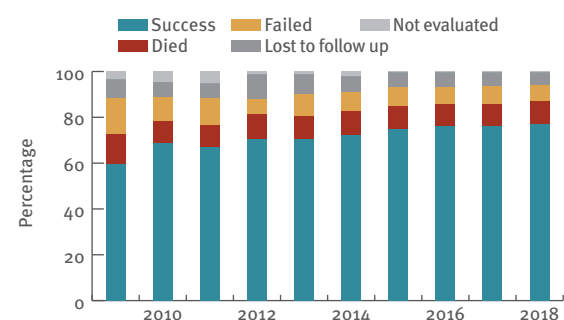


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.

# United Kingdom

Total population at 25 June 2020 by EUROSTAT: 66 647 112

## TB cases, 2019

### Notifications

Total number of cases	5 132	
Notification rate per 100 000	7.7	
New <sup>a</sup> and relapse	4 803	
New <sup>a</sup> and relapse notification rate per 100 000	7.2	
Pulmonary	2 914	(56.8%)
of which microscopy-positive	1 141	(39.2%)
of which laboratory-confirmed	2 182	(74.9%)
Laboratory-confirmed TB cases	3 185	(62.1%)
Mean age of new native TB cases	43.2 years	
Mean age of new foreign TB cases	41.9 years	
Foreign origin of all TB cases	3 612	(70.4%)
New (not previously treated)	4 529	(88.3%)

### Estimates

Estimated new and relapse cases N, best [low-high]	5 400	[4 900-6 000]
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<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes	
Completeness of HIV data <sup>b</sup>	-	
Case-linked data-reporting	Yes	
Cases with DST results	3 148	(98.8%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	35	[23-47]
Pulmonary MDR-TB cases notified	27	(1.3%)
of which XDR-TB cases	1	(4.0%)
Notified MDR-TB	37	(1.2%)
of which XDR-TB cases	1	(2.9%)
New <sup>c</sup> and relapse cases tested for HIV	-	-
HIV-positive TB cases	-	-
of these on ART	-	-

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

<sup>c</sup> Cases with unknown previous TB treatment history included in new cases.

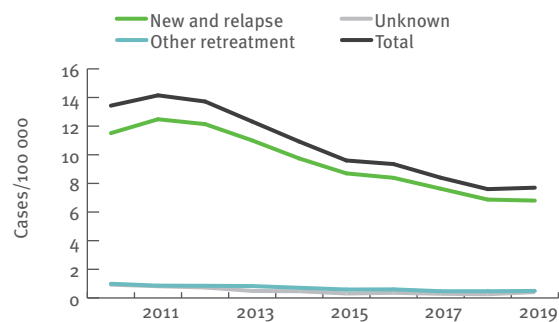
## Treatment outcome monitoring

Geographical coverage	National	
	New culture-positive pulmonary TB cases notified in 2018 <sup>a</sup>	All MDR-TB cases notified in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	1 969	50
Success	1 510 (76.7%)	29 (58.0%)
Died	130 (6.6%)	5 (10.0%)
Failed	0 (0.0%)	0 (0.0%)
Lost to follow up	100 (5.1%)	4 (8.0%)
Still on treatment	157 (8.0%)	5 (10.0%)
Not evaluated	72 (3.7%)	7 (14.0%)

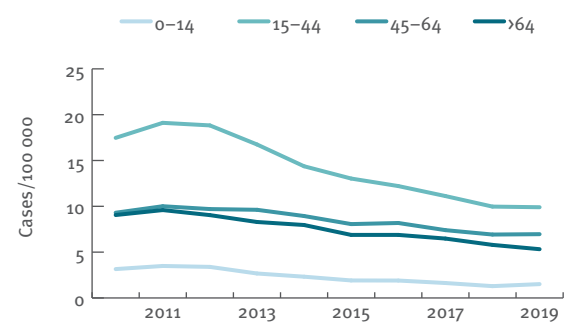
<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

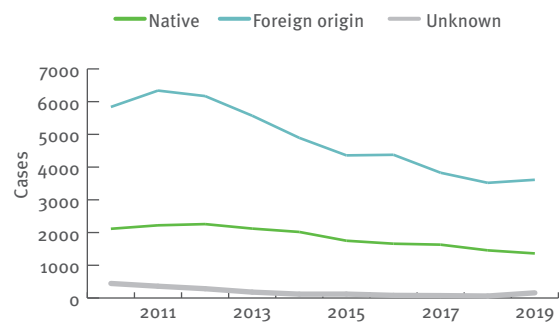
## TB notification rates by previous treatment history, 2010-2019



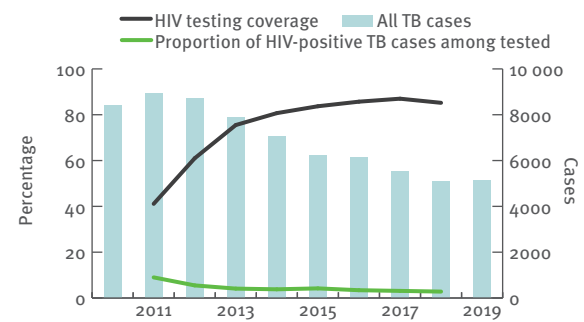
## New and relapse TB cases – notification rates by age group, 2010-2019



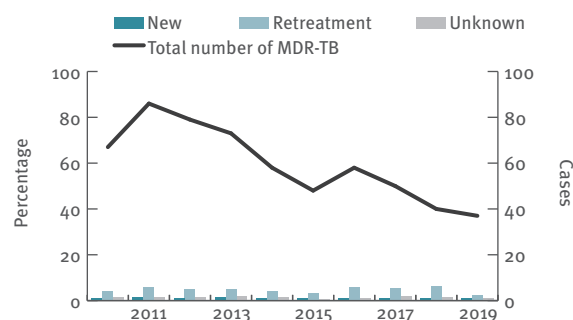
## TB cases by geographical origin, 2010-2019



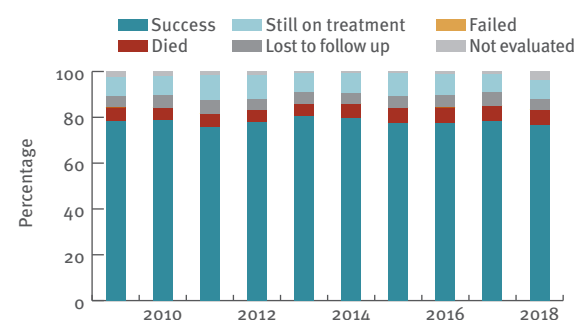
## TB/HIV coinfection, 2010-2019



## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new culture-confirmed pulmonary TB cases, 2009-2018



# Uzbekistan

Total population estimate 2019 by United Nations Statistical Database: 32 981 715

## TB cases, 2019

### Notifications

Total number of cases	18 774
Notification rate per 100 000	56.9
New <sup>a</sup> and relapse	16 272
New <sup>a</sup> and relapse notification rate per 100 000	49.3
Pulmonary	12 008 (64.0%)
of which microscopy-positive	-
of which laboratory-confirmed	7 394 (61.6%)
Laboratory-confirmed TB cases	-
Mean age of new native TB cases	38.8 years
Mean age of new foreign TB cases	-
Foreign origin of all TB cases	0 (0.0%)
New (not previously treated)	14 517 (77.3%)
<b>Estimates</b>	
Estimated new and relapse cases N, best [low-high]	22 000 [15 000-30 000]

<sup>a</sup> Cases with unknown previous TB history included in new cases.

## Drug-resistance surveillance and TB/HIV coinfection, 2019

Completeness of DRS data <sup>a</sup>	Yes
Completeness of HIV data <sup>b</sup>	Yes
Case-linked data-reporting	Yes
Cases with DST results	7 394 (100.0%)
Estimated RR-TB among notified bacteriologically confirmed pulmonary TB cases N, best [low-high]	1100 [1 000-1 100]
Pulmonary MDR-TB cases notified	978 (13.2%)
of which XDR-TB cases	179 (34.8%)
Notified MDR-TB	1594
of which XDR-TB cases	602
TB cases tested for HIV	16 272 (100.0%)
HIV-positive TB cases	647 (4.0%)
of these on ART	481 (74.3%)

<sup>a</sup> National coverage 100% or culturing ≥ 90%, C+/all TB cases > 50%, DST done for C+ > 75%, EQA ≥ 95%.

<sup>b</sup> More than 50% of TB cases with reported HIV status.

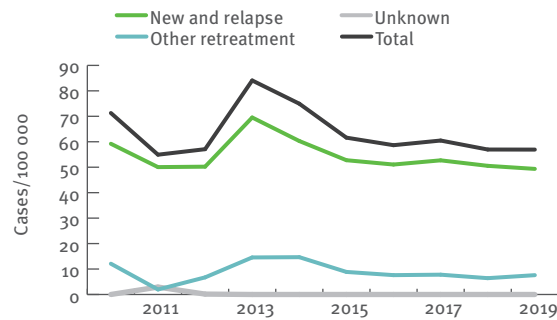
## Treatment outcome monitoring

Geographical coverage	National	
	New and relapse TB cases notified in 2018 <sup>a</sup>	All RR/MDR-TB cases enrolled into second-line treatment in 2017 <sup>b</sup>
Outcome cohort		
Case-linked data-reporting	Yes	-
Cases notified	14 423	2265
Success	13 217 (91.6%)	1372 (60.6%)
Died	478 (3.3%)	308 (13.6%)
Failed	166 (1.2%)	115 (5.1%)
Lost to follow up	307 (2.1%)	187 (8.3%)
Not evaluated	430 (2.8%)	182 (9.2%)

<sup>a</sup> Treatment outcome as presented is treatment outcome after 12 months.

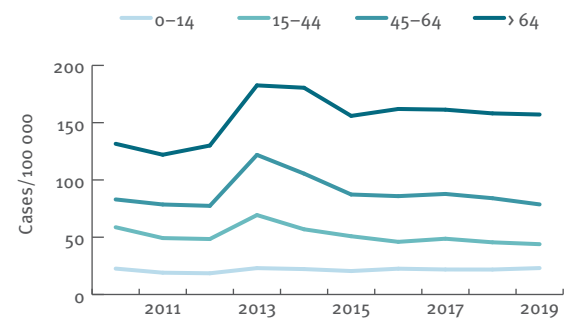
<sup>b</sup> Treatment outcome as presented is treatment outcome after 24 months.

## TB notification rates by previous treatment history, 2010-2019<sup>a</sup>



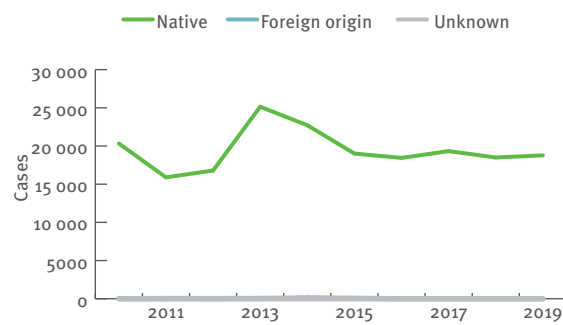
<sup>a</sup> Starting from 2013 onward, cases with unknown history are included in new and relapse.

## New and relapse TB cases – notification rates by age group, 2010-2019<sup>a</sup>

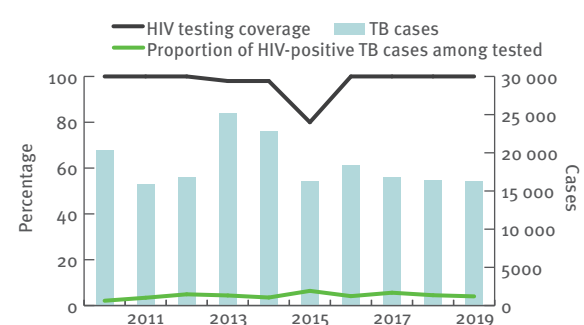


<sup>a</sup> Data up to 2012 includes new TB cases only.

## TB cases by geographical origin, 2010-2019

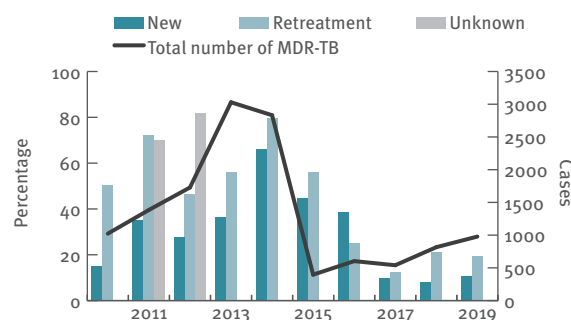


## TB/HIV coinfection, 2010-2019<sup>a</sup>

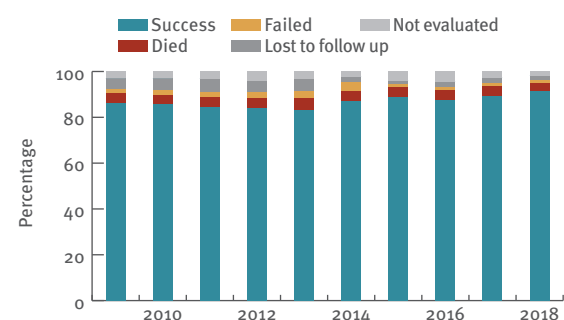


<sup>a</sup> Data up to 2014 include all TB cases.

## MDR-TB cases and percentage of MDR-TB cases by previous treatment history among all TB cases, 2010-2019



## Treatment outcome, new and relapse TB cases, 2009-2018<sup>a</sup>



<sup>a</sup> 2009-2011 cohorts include new cases only.



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