Impact of COVID-19 anti-epidemic measures on anti-tuberculosis work: operational monitoring data

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Purpose of the report

- The COVID-19 pandemic has impacted all areas of public life, including the fight against tuberculosis.
- Since the beginning of the deployment of anti-epidemic measures, a team of Russian researchers has made an attempt to model the impact of COVID-19 on the epidemic situation of tuberculosis – «Possible impact of the COVID-19 pandemic on the epidemic situation for tuberculosis». DOI: 10.24411/2312-2935-2020-00042
- P. Glasiou, based on the results of an assessment of the impact of COVID-19, predicted a global decrease in the incidence of diseases within three months by 25% with an increase in mortality by 13%. – «Predicted impact of the COVID-19 pandemic on global tuberculosis deaths in 2020». DOI: 10.1101/2020.04.28.20079582.

Purpose of the report

Countries facing the COVID-19 pandemic (notably China, India, United Kingdom, Sierra Leone) report the following effects:

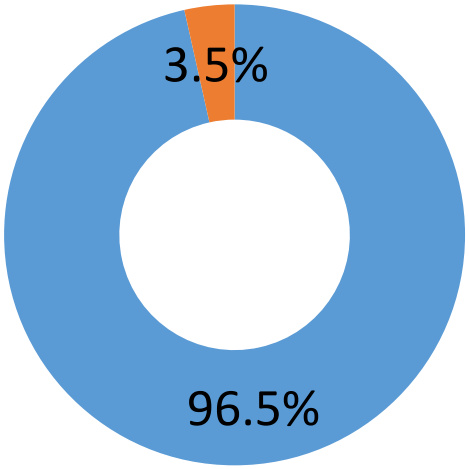
- decrease in the number of suspected tuberculosis and the number of diagnosed cases of the disease
- significant disturbances in the detection of tuberculosis in children up to zero detection
- accelerating TB transmission among household contacts
- shortage of medical personnel
- reduced availability of anti-tuberculosis drugs due to supply disruption
- deterioration of treatment outcomes for vulnerable groups of TB patients
- decreased controllability of treatment
- problems in diagnosing and managing the side effects of anti-TB drugs
- loss to follow-up
- TB incidence is also expected to increase due to lower incomes of the population

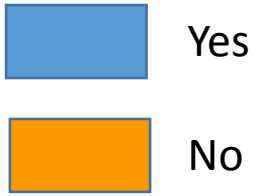
Methods

- Operational TB monitoring data (monthly and quarterly data).
- Data obtained through a survey of anti-tuberculosis organizations (as part of the collection of information for the WHO global TB report)
- Comparison of monthly (detection), quarterly (treatment) data and data with a cumulative total (notification rate) for 8 months.
- Comparison of indicators: expected (obtained by the method of regression analysis) and actual (obtained from reports).

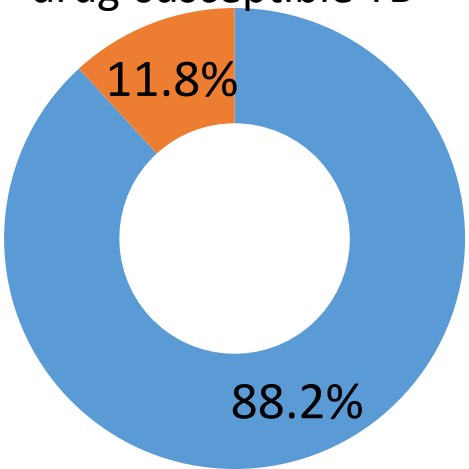
% regions (at the end of May 2020):

Asked patients to self-isolate

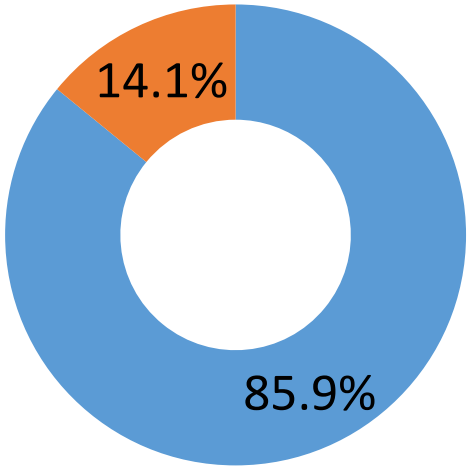




Reduced outpatient visits for drug-susceptible TB

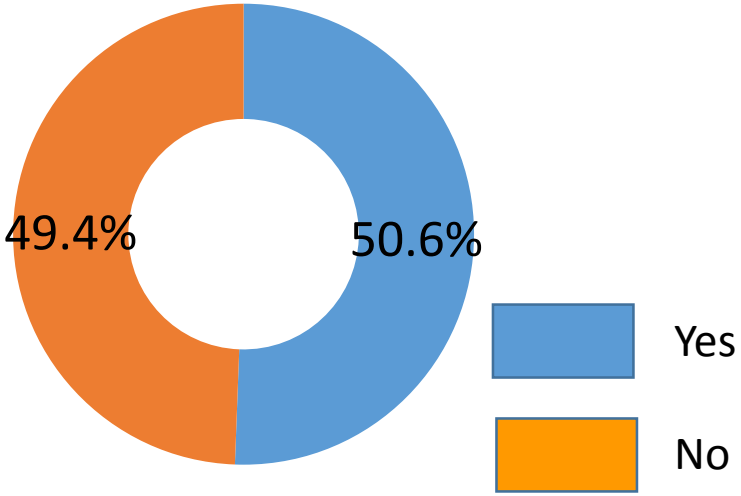


Reduced the number of outpatient visits for MDR-TB

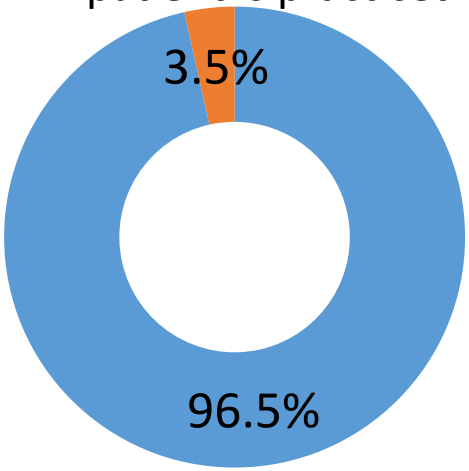


% regions (at the end of May 2020):

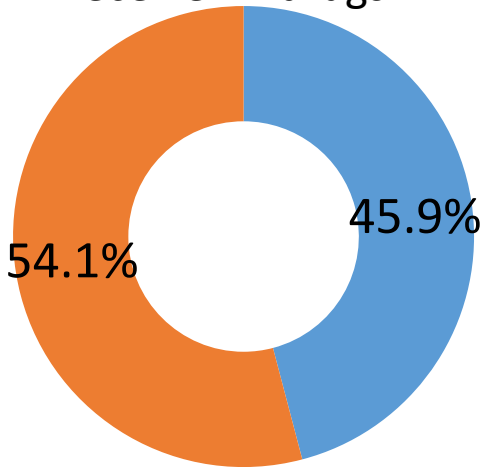
Patients received TB drugs for more than a month



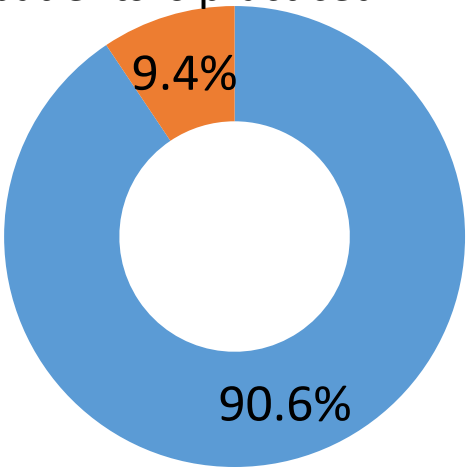
Home delivery of TB drugs to a TB patient is practiced



Non-TB patient is allowed to receive TB drugs

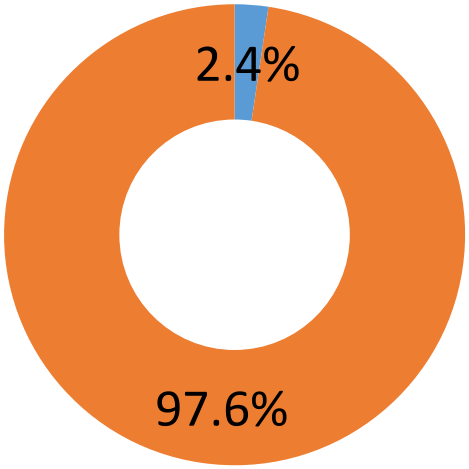


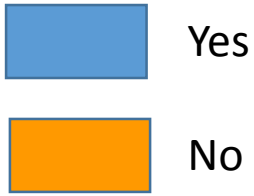
Remote counseling of TB patients is practiced



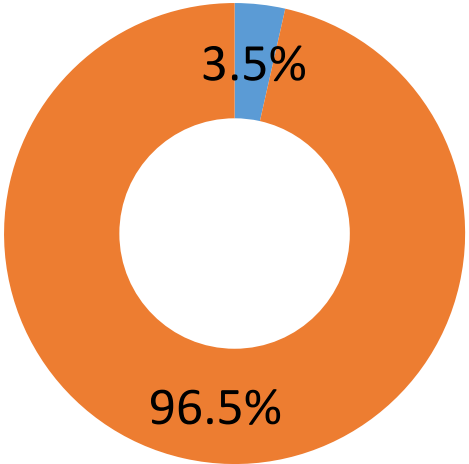
% regions (at the end of May 2020):

Reduction of TB facilities

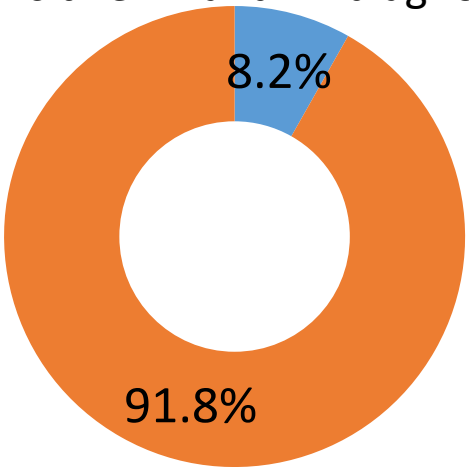




Reduction of hospitals for RR / MDR-TB

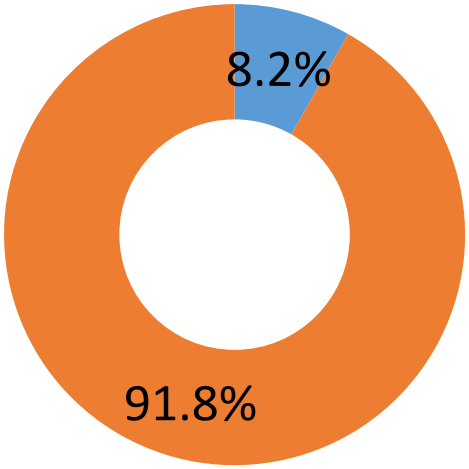


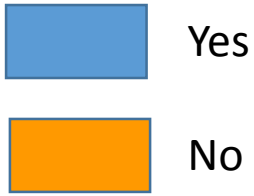
Reduction of hospitals for sensitive TB and TB diagnosis



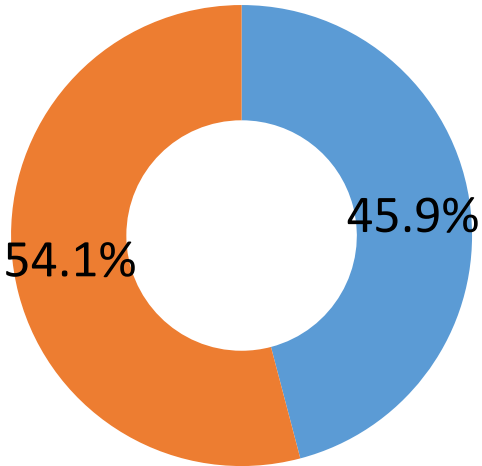
% regions (at the end of May 2020):

Redirecting PCR diagnostics from TB to COVID-19

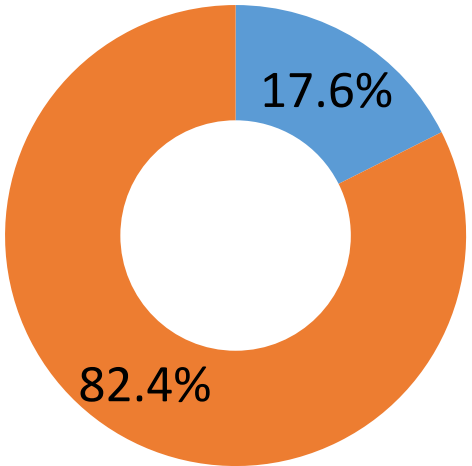




TB staff redirected to COVID-19

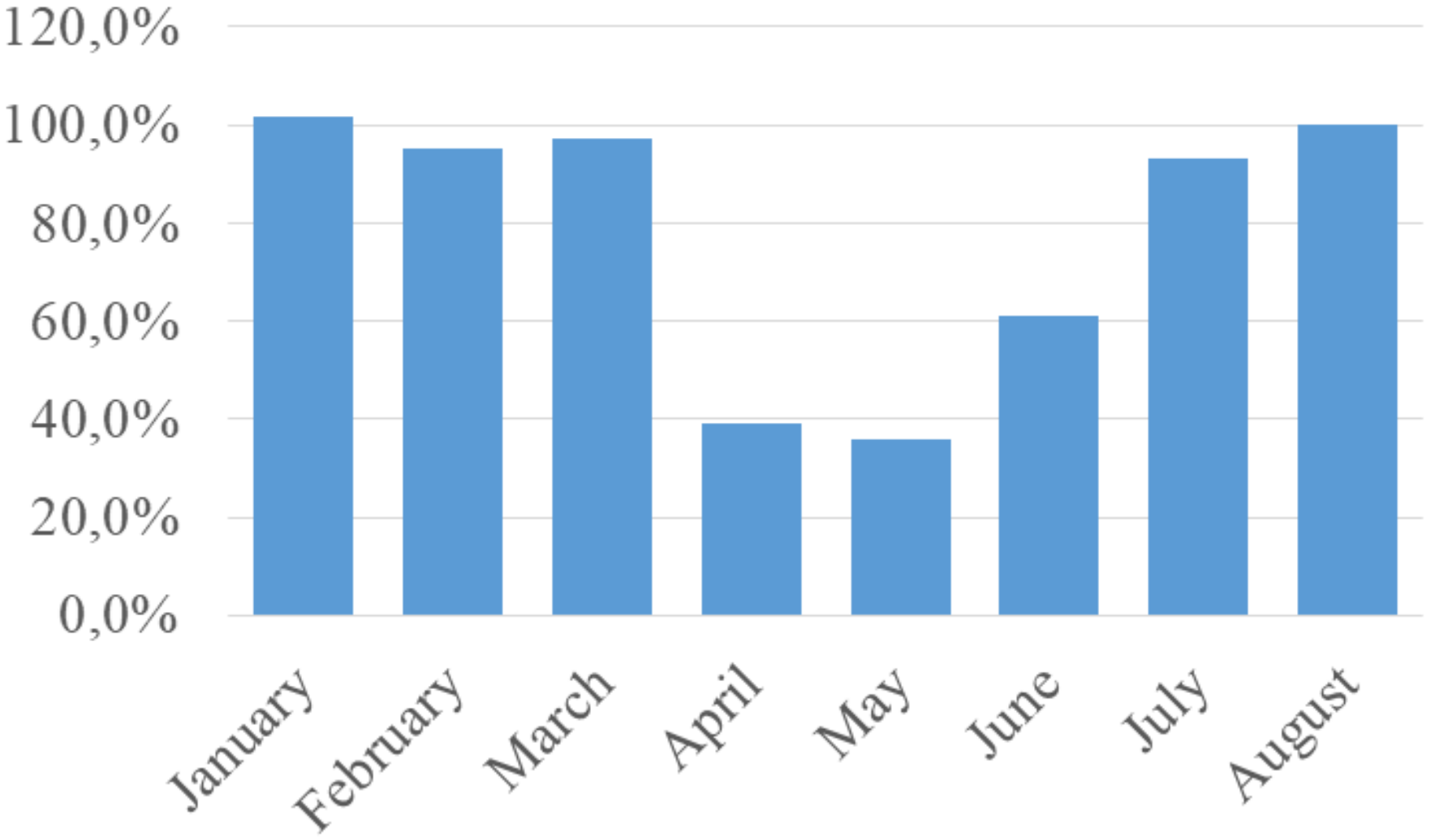


Reallocation of funding to COVID-19

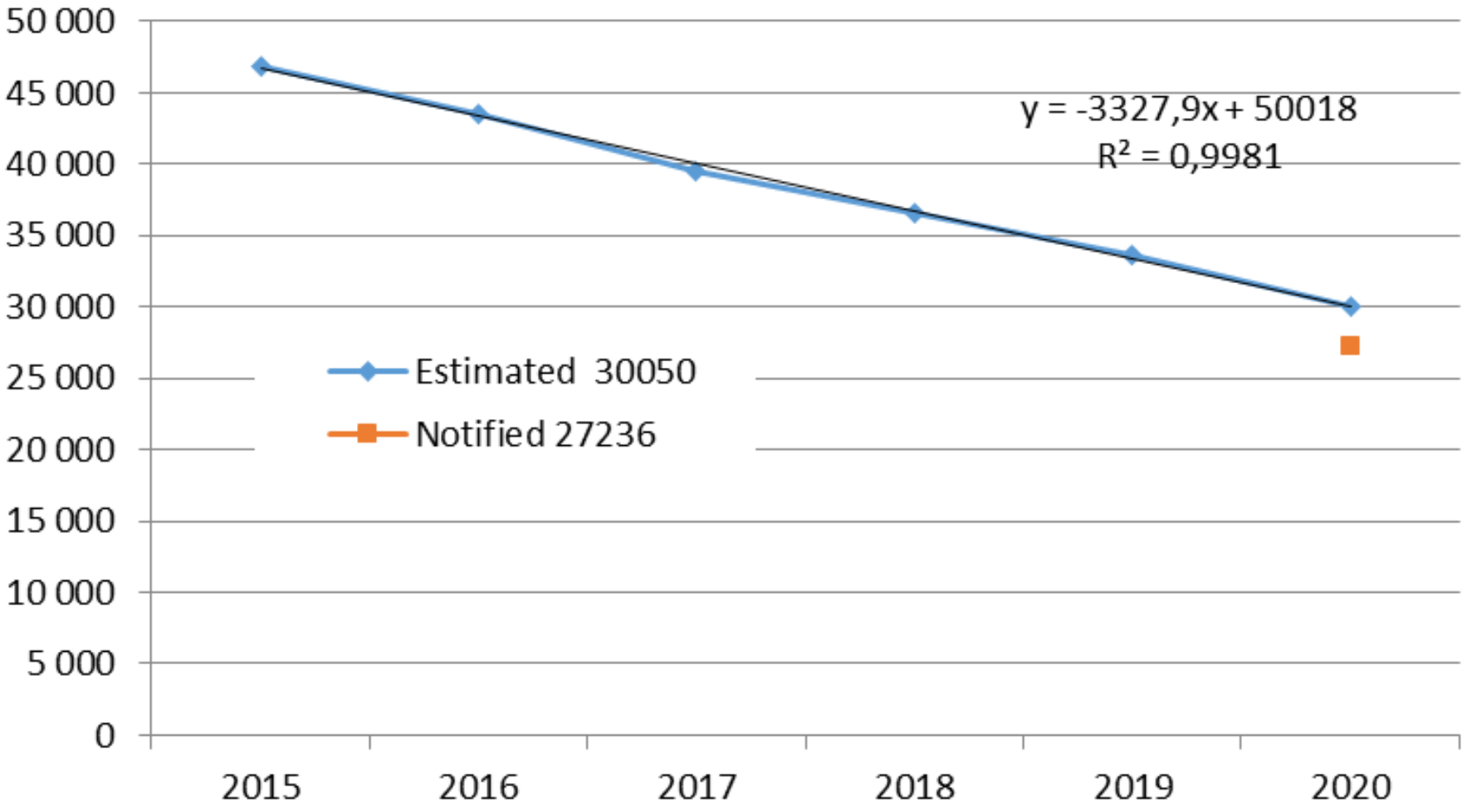


Coverage by active detection of tuberculosis cases in 2020, in % by 2019

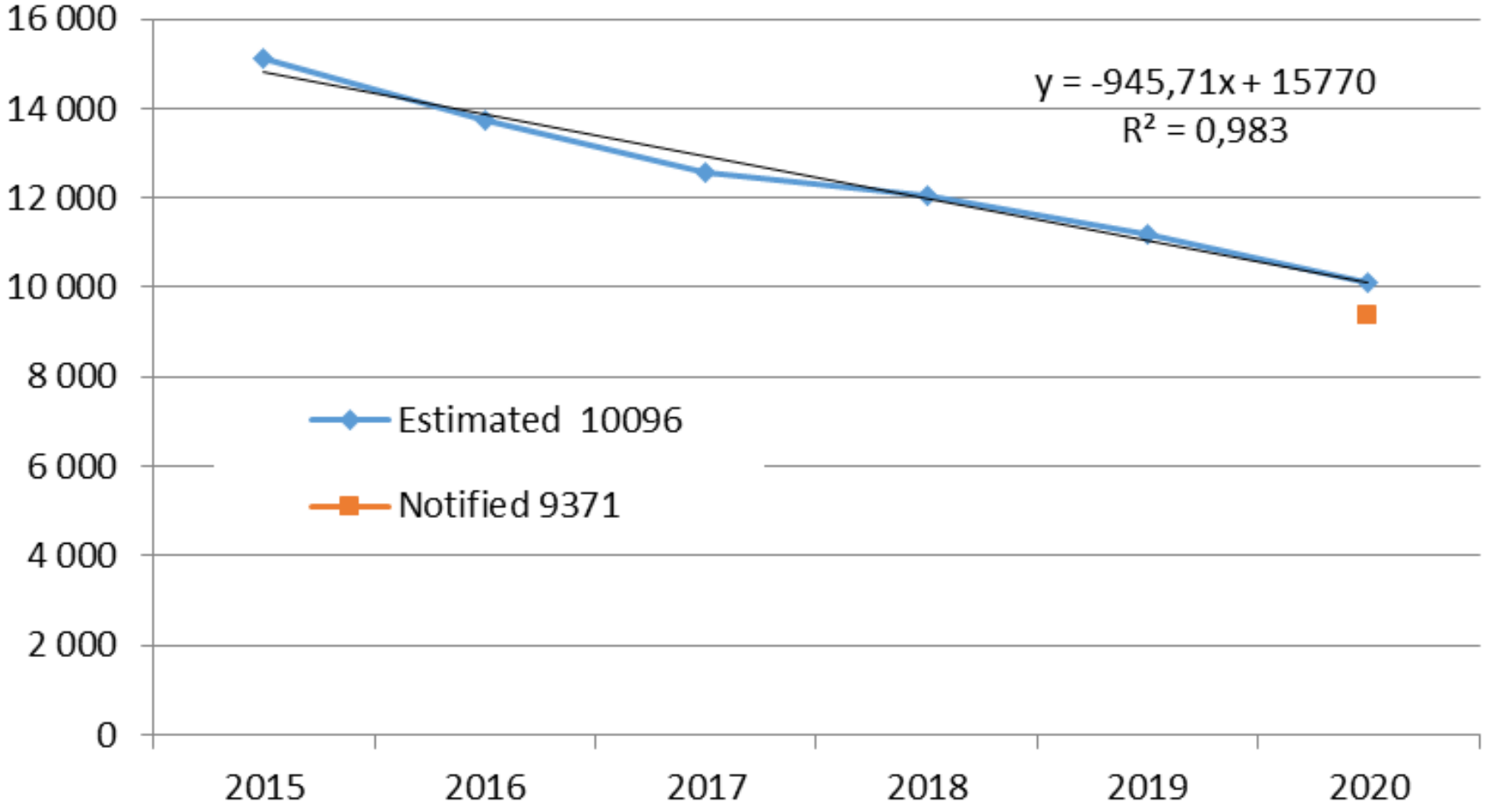
(public healthcare)



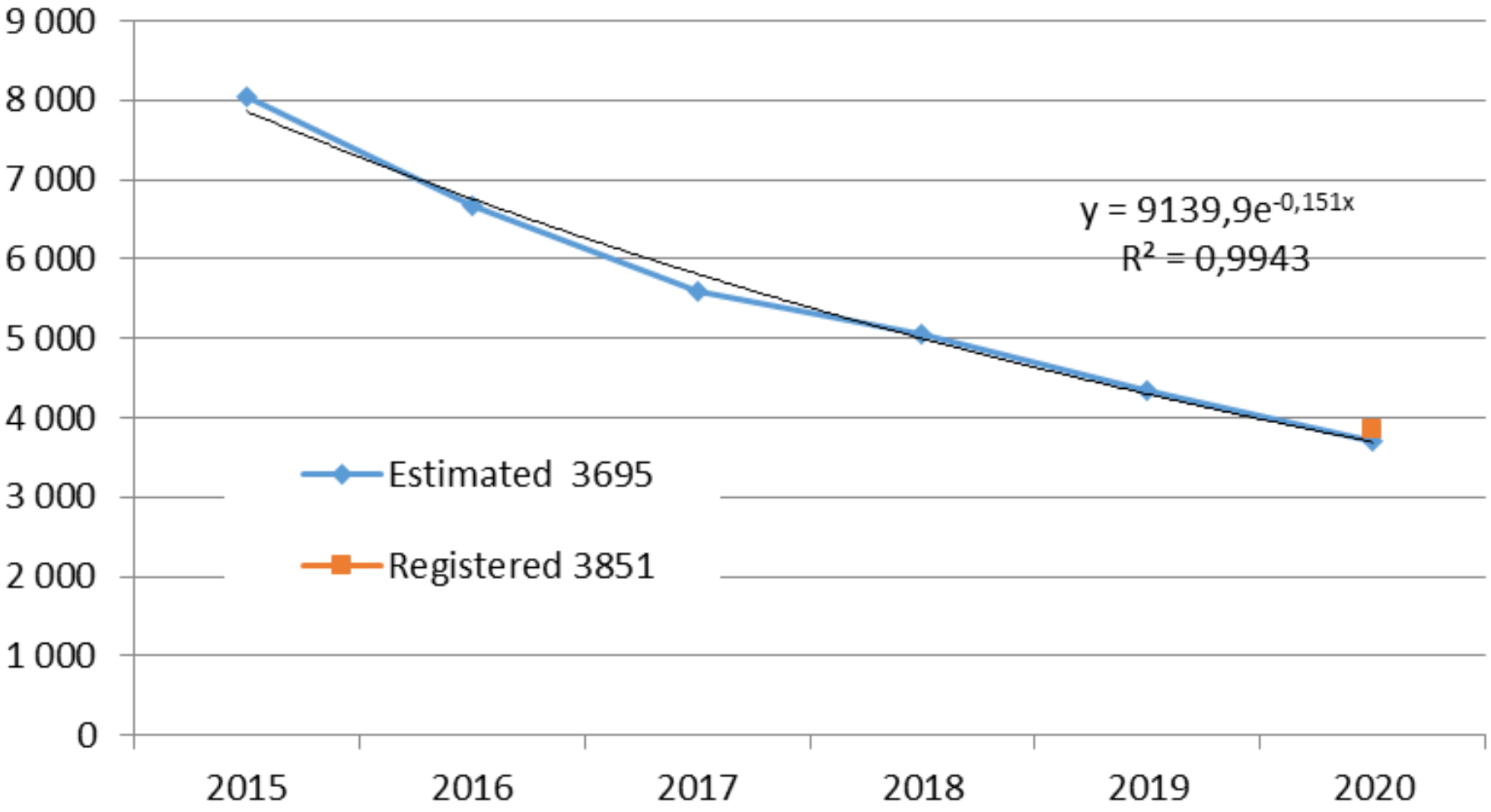
Reduction in the number of new TB cases (public healthcare) – 9,4%



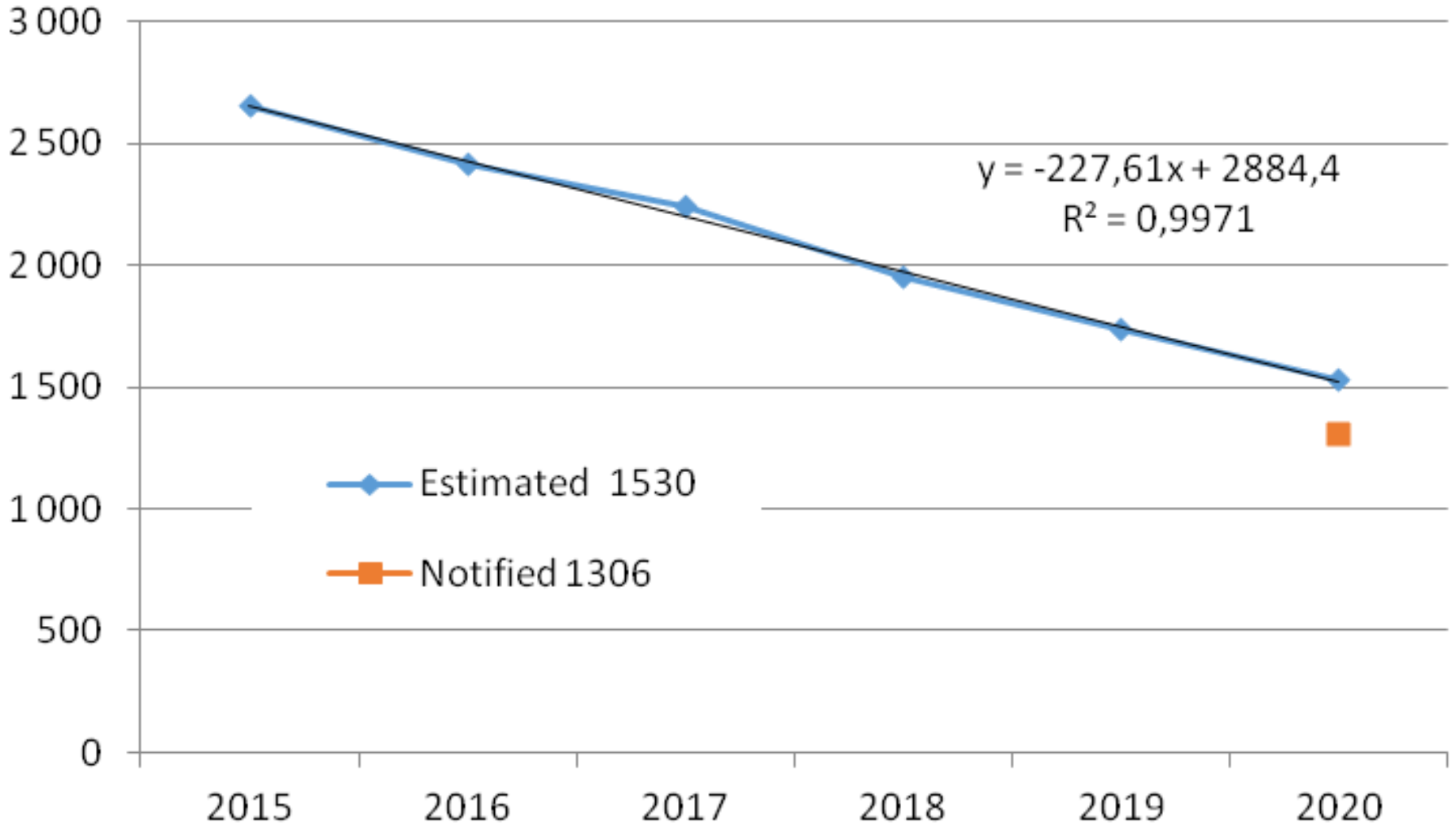
Reduction in the number of smear positive new TB cases (public healthcare) – 7,2%



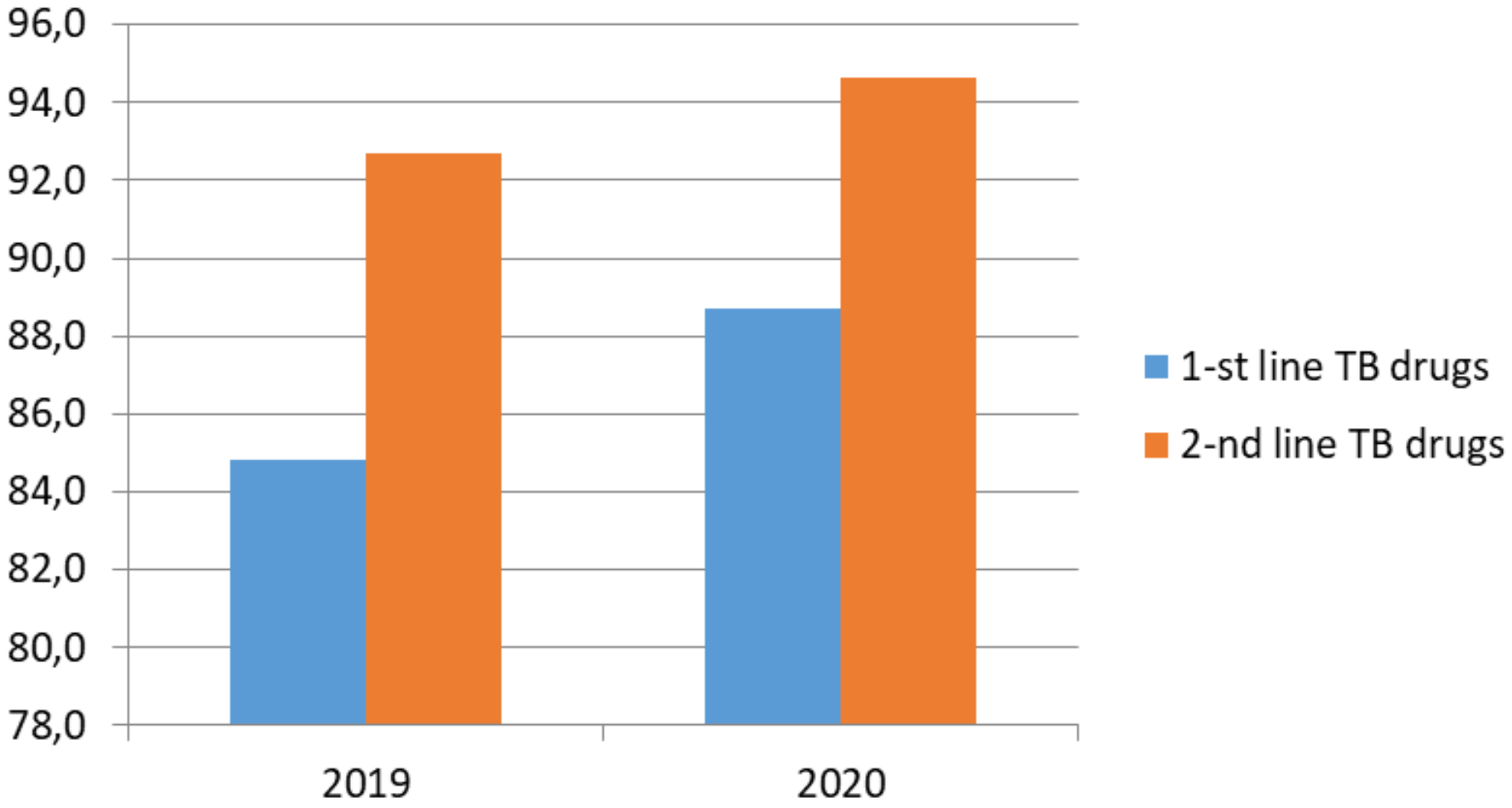
Increase in the number of deaths from tuberculosis (public healthcare) – 4,2%



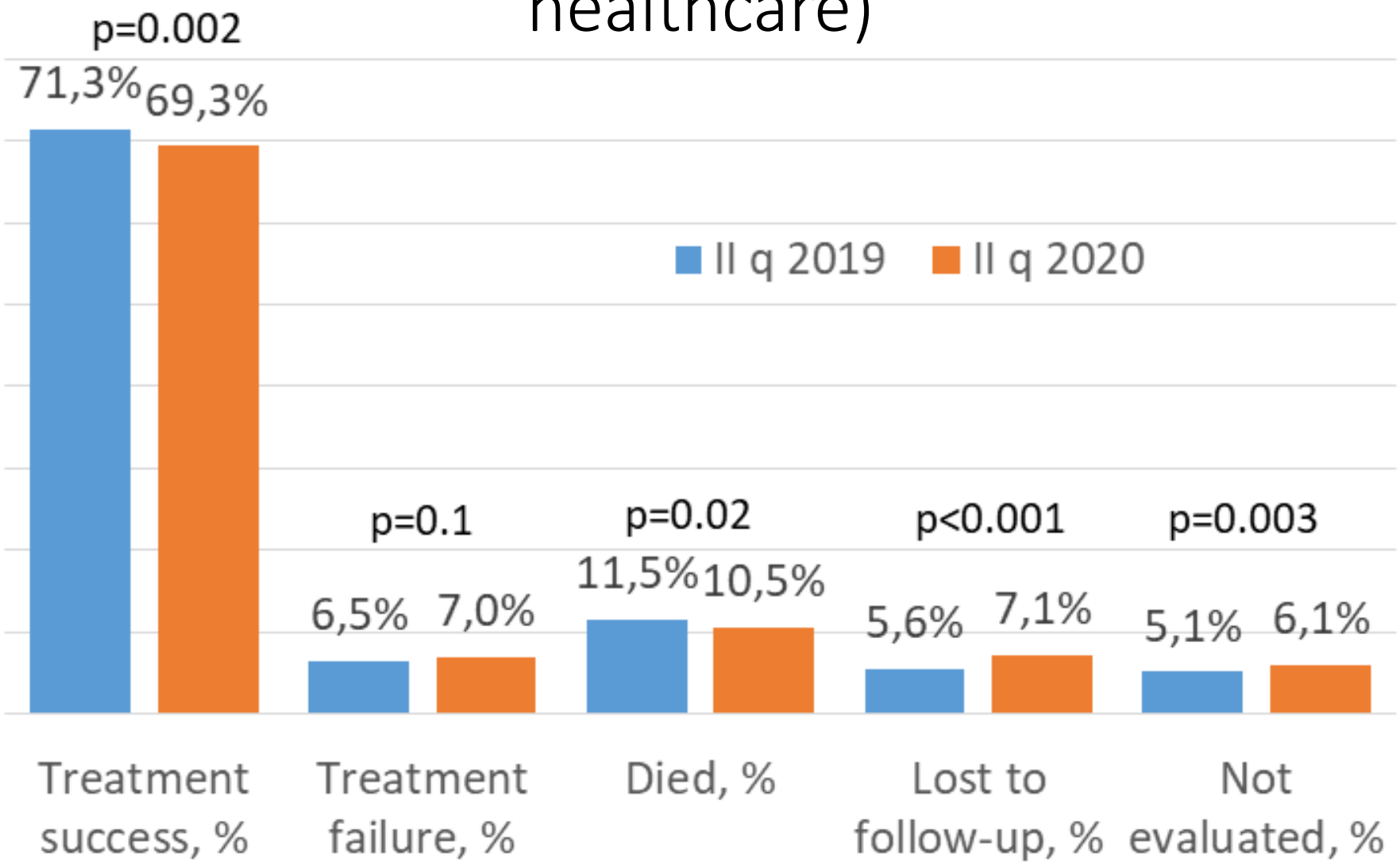
Reducing the number of new TB cases in children – 14,6%



Availability of TB drugs



Treatment outcomes of new pulmonary TB cases, notified in II q. 2018 and 2019 (public healthcare)



There is no impact of COVID-19 on the dynamics of epidemic indicators for tuberculosis in Russian prisons

Indicator	R^2	Estimated value	Registered	p
TB notification rate (new TB cases)	0,97	318,4	335,9	0,09
% of new TB patients identified in pre-trial detention centers	0,98	54,7	55,0	0,8
Incidence of TB/HIV	0,83	110,2	99,2	0,08
TB Mortality rate (per 100 000 prison population)	0,99	2,6	2,7	0,7

There is no effect of anti-epidemic measures for COVID-19 on the results of microbiological diagnostics and treatment in Russian prisons.

Indicator	II q 2019	II q 2020	p
% of new smear-positive tuberculosis cases	18,6%	14,1%	0,01
... of which were identified in primary care	3,3%	2,5%	0,5
% of destructive tuberculosis among newly diagnosed pulmonary TB patients	23,5%	20,6%	0,1
Newly diagnosed pulmonary TB patients lost to follow-up	4,1%	3,4%	0,3

Conclusion

- The damage from anti-epidemic measures related to COVID-19 affected public health: there was a redistribution of resources (primarily personnel), decreased DOT.
- The lockdown had a negative impact on active TB cases finding. Now the situation has recovered.
- The biggest decrease was in the number of smear negative new TB cases and in children 0-14 years old.
- No decline in anti-TB drug supply.
- Treatment success rate decreased due to the increase in patients lost to follow-up and not evaluated, but the relationship of this to COVID-19 is not clear.
- In Russian prisons, COVID-19 has not led to significant changes; it is possible that patients began to be detected at earlier stages.