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# Public health challenge: MDR/XDR epidemiology

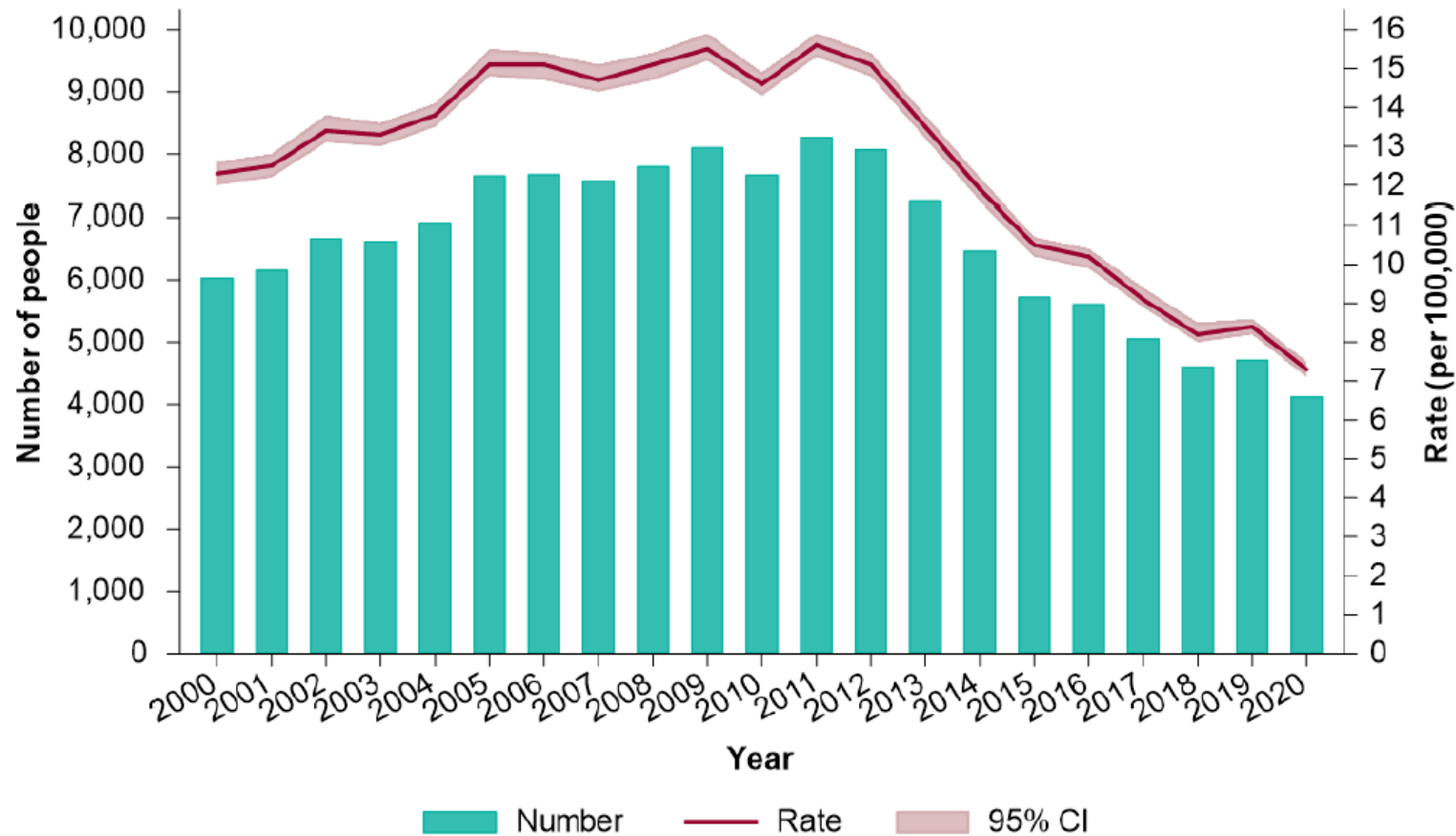
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# Tuberculosis in England, 2021 report

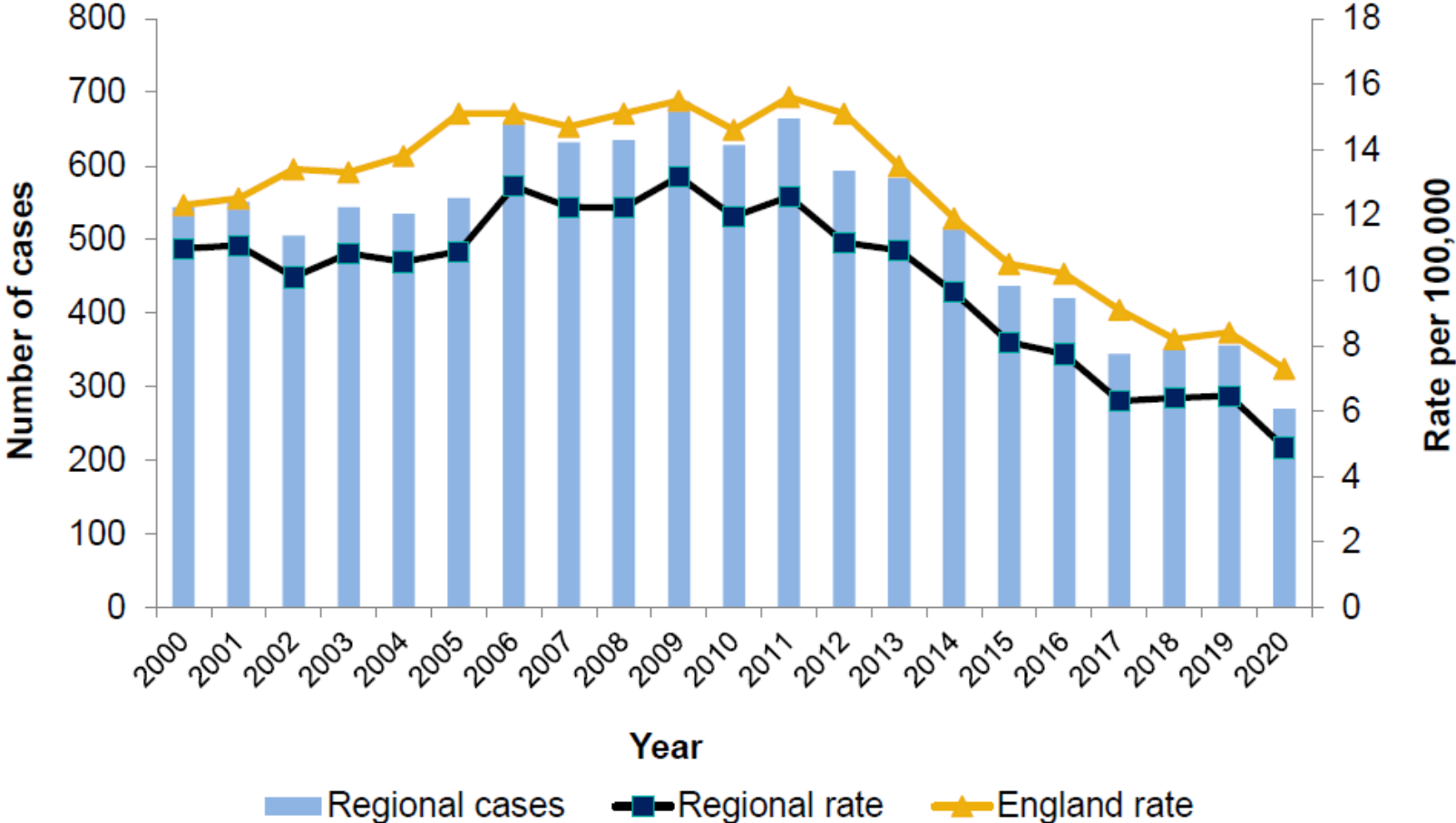
Figure 1.1. Number of TB notifications and rates, England, 2000 to 2020



- Between 2019 and 2020, the number of people notified with TB decreased by ~13%
- Largest decrease since 2010
- Potential impact of COVID-19
- Unlikely to reflect a true reduction in the burden of disease

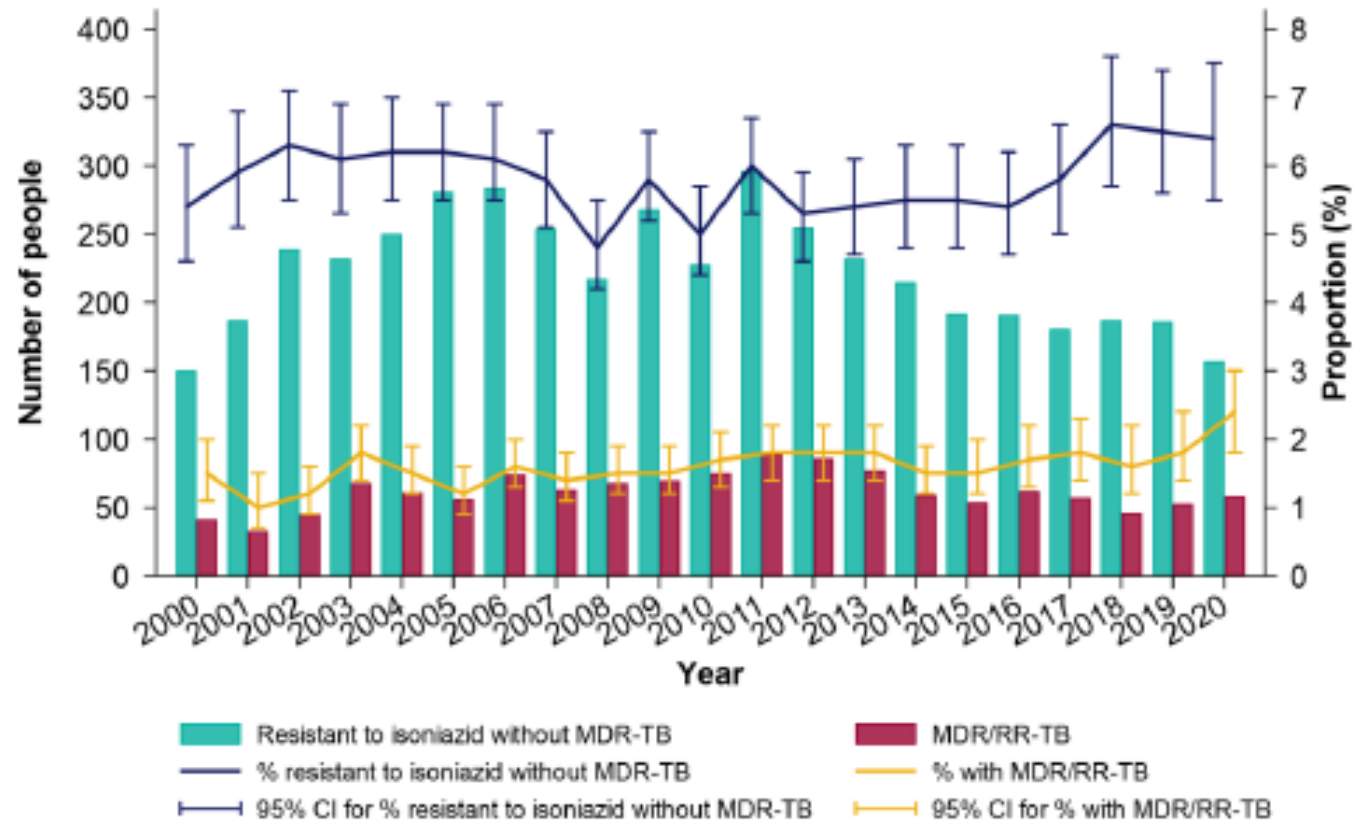
# Tuberculosis in Yorkshire and Humber, 2021 report

Figure 1. TB case reports and rates, Yorkshire and Humber, 2000 to 2020



# Tuberculosis in England, 2021 report

Figure 2.1. Number and proportion<sup>a</sup> of people notified with TB with initial drug resistance, England, 2000 to 2020



- 2.4% of cases were multi-drug resistant (MDR) or rifampicin-resistant (RR)
- Highest recorded percentage of drug resistant cases since the current enhanced surveillance scheme in 2000

<sup>a</sup> People with culture confirmed TB with a result (DST or WGS) for at least isoniazid and rifampicin.

# Drug resistance in England

Of cases with laboratory-confirmed TB:

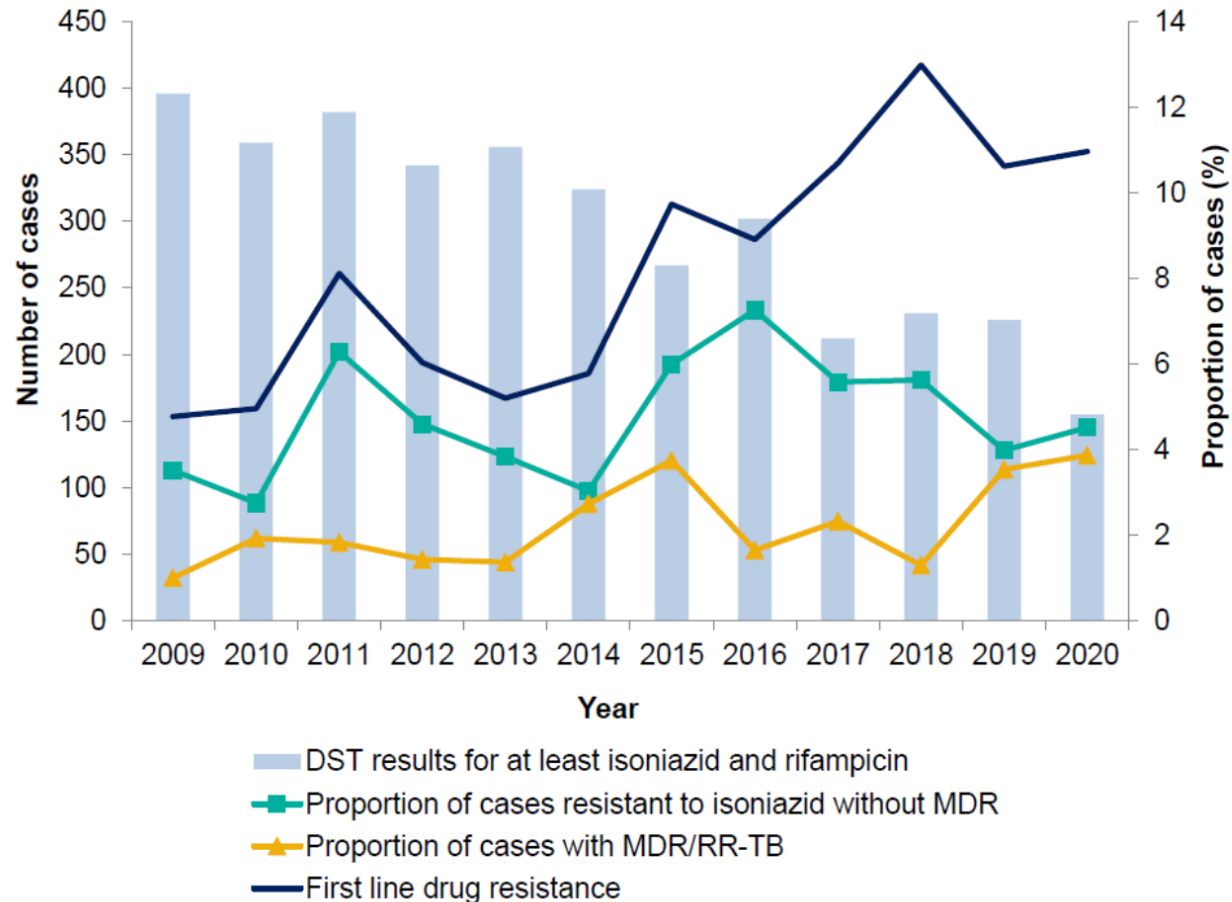
- 11.6% had resistance to at least one first-line drug
- 1.7% of all TB cases had confirmed initial, compared to 1.3% in 2019
- Four people had confirmed initial XDR-TB, the same number as in 2019

# Drug resistance in England (MDR)

- More people with a previous diagnosis of TB had MDR/RR-TB compared to those without (5.5%, 7 out of 128 versus 2.2%, 48/2,199, respectively)
- No difference between the sex of MDR/RR-TB cases in 2020 (previous years higher number of males)
- Proportion of people with at least one social risk factor was equal to those without a SRF (2.2%) (greater in previous years)

# Tuberculosis in Yorkshire and Humber, 2021 report

Figure 11. Proportion of TB cases with initial first line drug resistance, Yorkshire and Humber, 2009 to 2020



- First line drug resistance similar to England
- MDR/RR-TB ~4% (2.4% nationally)
- Based on small numbers so subject to wider fluctuations

**Table Ai.2.6. Number and proportion of people with TB with drug resistance by PHE Centre, England, 2016 to 2020**

PHE Centre <sup>a</sup>	Isoniazid resistance without MDR-TB		MDR/RR-TB (including XDR-TB)		MDR-TB (including XDR-TB)		XDR-TB		Total <sup>b</sup>
	n	%	n	%	n	%	n	%	n
London	416	7.6	88	1.6	72	1.3	5	0.1	5,484
West Midlands	76	4.2	33	1.8	23	1.3	0	0.0	1,822
South East	87	5.6	27	1.7	23	1.5	1	0.1	1,556
North West	92	5.6	27	1.7	21	1.3	3	0.2	1,636
East of England	63	5.2	29	2.4	23	1.9	3	0.2	1,209
East Midlands	50	5.0	27	2.7	20	2.0	5	0.5	1,003
Yorkshire and the Humber	63	5.6	27	2.4	18	1.6	5	0.4	1,126
South West	40	6.2	14	2.2	10	1.6	1	0.2	644
North East	15	4.0	4	1.1	3	0.8	0	0.0	376
<b>England</b>	<b>902</b>	<b>6.1</b>	<b>276</b>	<b>1.9</b>	<b>213</b>	<b>1.4</b>	<b>23</b>	<b>0.2</b>	<b>14,856</b>

<sup>a</sup> Ordered by decreasing total number of TB notifications in 2020.

<sup>b</sup> People with culture confirmed TB with a result (DST or WGS) for at least isoniazid and rifampicin.

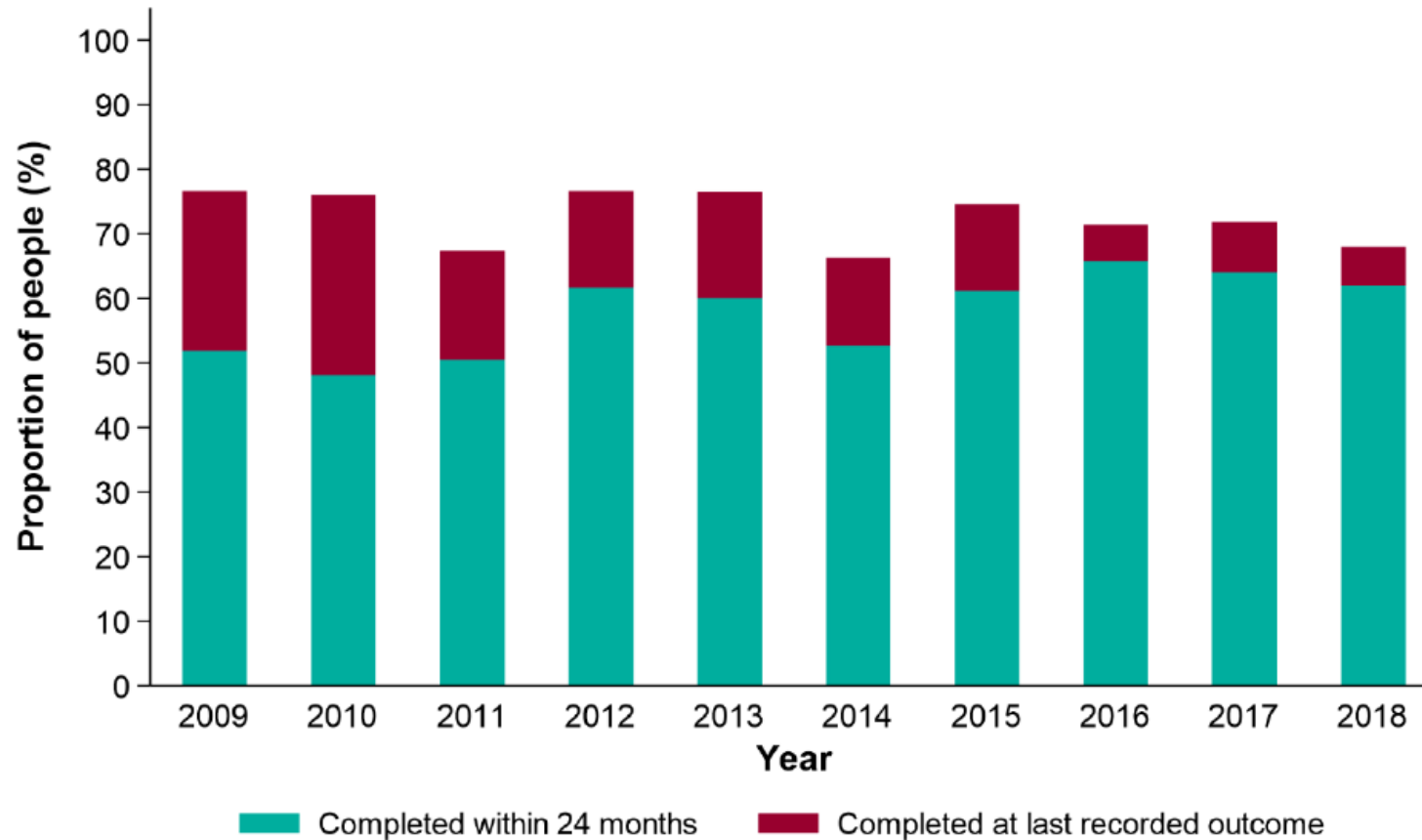


# Tuberculosis in Yorkshire and Humber

- Of cases with first initial line drug-resistant disease:
  - A total of 53% of cases with first line drug-resistant disease were male
  - 65% were in the 15 to 44 year age group
  - A higher proportion of people born outside the UK had drug-resistant disease (82%)
- Two cases notified in 2020 were pre-XDR, and one case was XDR-TB

# Tuberculosis in England, 2021 report

Figure 3.6. Treatment completion for the MDR/RR cohort<sup>a</sup>, England, 2009 to 2018



- 12.0% of the 2018 MDR/RR cohort were still on treatment
- More than double those in 2017 (4.7%)
- Access and engagement to healthcare services due to the COVID pandemic?
- Requires further investigation

<sup>a</sup> Includes people with initial and acquired MDR/RR-TB and people treated with a second line regimen.



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