

## ANNEX 2

# Country profiles

FOR 30 HIGH TB BURDEN COUNTRIES

**20 high TB burden countries  
based on absolute number  
of incident cases**

**10 high TB burden countries  
based on severity of  
disease burden  
(incidence per capita)**

# Angola

POPULATION 2017 **30 MILLION**

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	20 (12–31)	67 (39–103)
Mortality (HIV+TB only)	7.8 (3.9–13)	26 (13–44)
Incidence (includes HIV+TB)	107 (69–153)	359 (232–512)
Incidence (HIV+TB only)	18 (9.1–30)	61 (31–102)
Incidence (MDR/RR-TB) <sup>b</sup>	3.9 (1.6–7.2)	13 (5.5–24)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	5.2 (4.7–5.6)	35 (27–43)	40 (31–50)
Males	5.7 (5.2–6.3)	61 (43–79)	67 (46–87)
Total	11 (9.5–12)	96 (60–131)	107 (69–153)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	57 877
Total new and relapse	54 401
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	59%
— % pulmonary	94%
— % bacteriologically confirmed among pulmonary	53%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	51% (36–79)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.27 (0.14–0.42)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	3 613	11%
— on antiretroviral therapy	1 401	39%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			2 000 (1 200–2 900)
Estimated % of TB cases with MDR/RR-TB	2.5% (1.1–4.3)	14% (10–18)	
% notified tested for rifampicin resistance	<1%	6%	534
MDR/RR-TB cases tested for resistance to second-line drugs			0
Laboratory-confirmed cases		MDR/RR-TB: 534, XDR-TB: 0	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 534, XDR-TB: 0	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New cases registered in 2016	27%	53 980
Previously treated cases registered in 2016	28%	7 069
HIV-positive TB cases registered in 2016	0%	2 773
MDR/RR-TB cases started on second-line treatment in 2015	72%	227
XDR-TB cases started on second-line treatment in 2015		0

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	13%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	

## TB FINANCING, 2018

National TB budget (US\$ millions)	46
Funding source:	7% domestic, 12% international, 80% unfunded

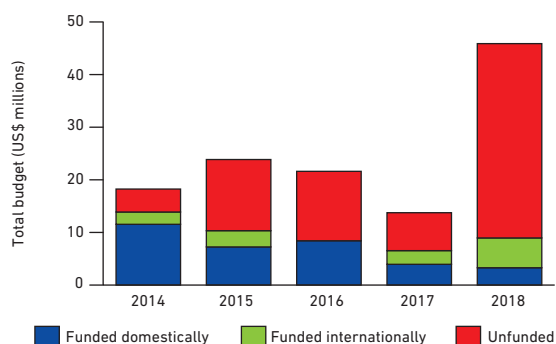
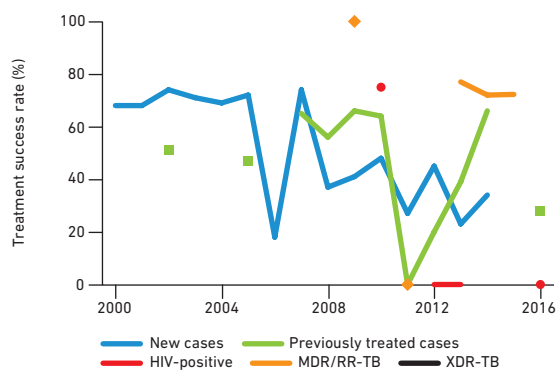
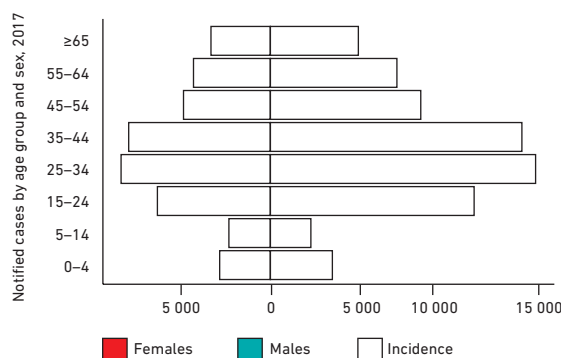
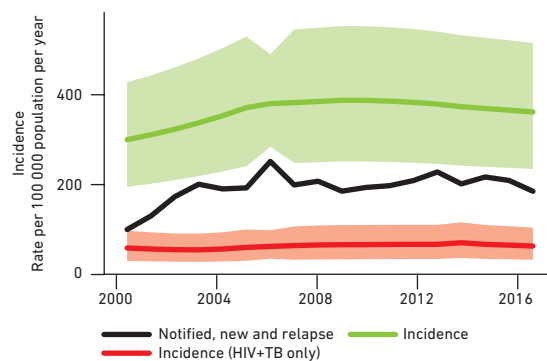
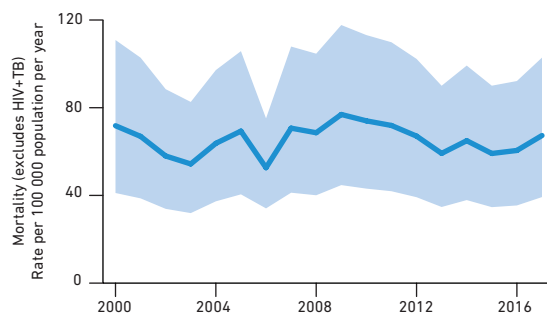
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

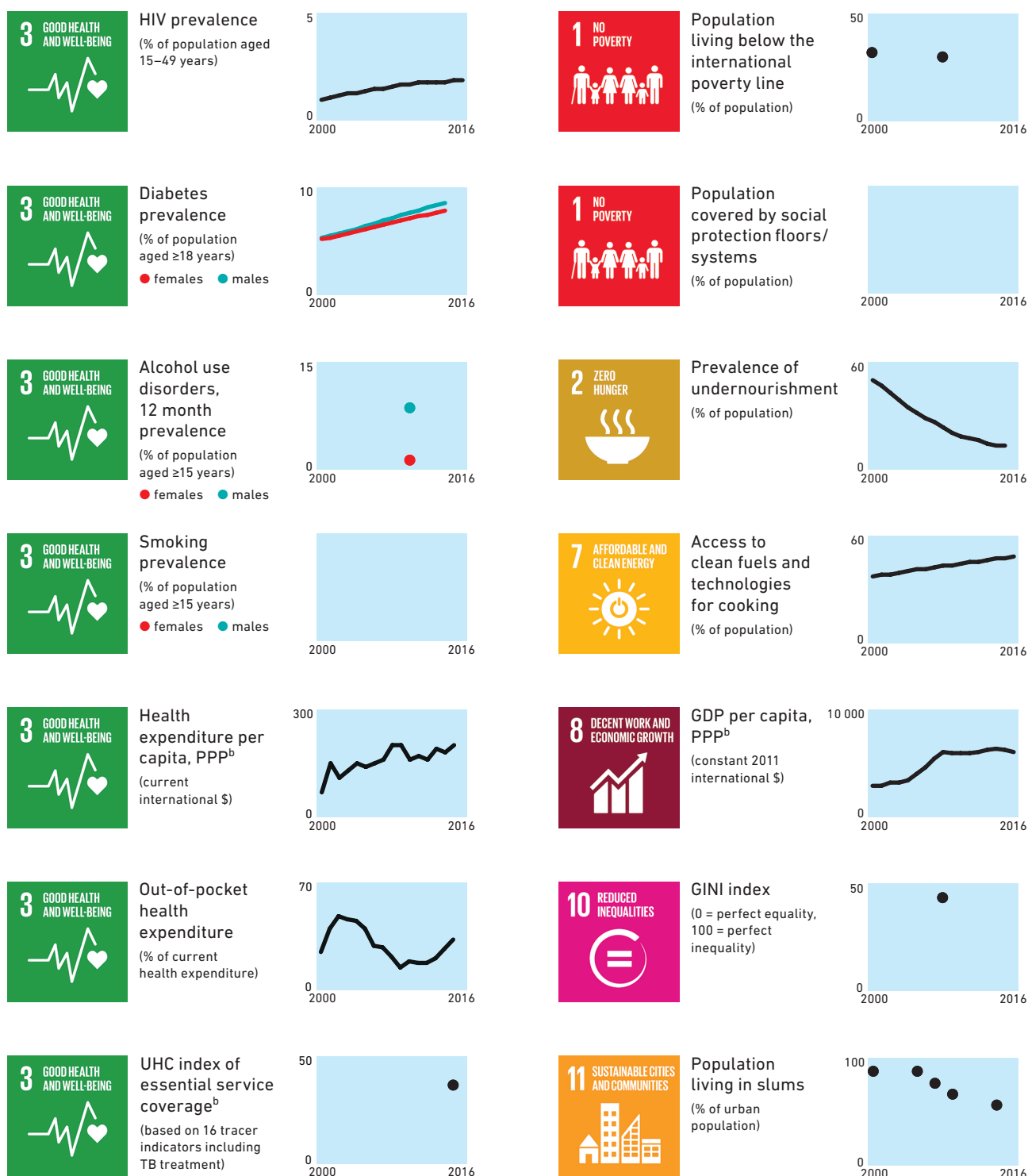
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Bangladesh

POPULATION 2017 **165 MILLION**

## ESTIMATES OF TB BURDEN, 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	59 (38–85)	36 (23–52)
Mortality (HIV+TB only)	0.17 (0.085–0.29)	0.11 (0.05–0.18)
Incidence (includes HIV+TB)	364 (265–479)	221 (161–291)
Incidence (HIV+TB only)	0.55 (0.27–0.92)	0.33 (0.17–0.56)
Incidence (MDR/RR-TB) <sup>b</sup>	8.4 (3.8–15)	5.1 (2.3–9)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS)\*, 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	17 (16–18)	118 (98–137)	134 (110–158)
Males	18 (17–19)	212 (164–259)	230 (176–284)
Total	35 (32–38)	329 (237–421)	364 (265–479)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	244 201
Total new and relapse	242 639
— % tested with rapid diagnostics at time of diagnosis	<1%
— % with known HIV status	2%
— % pulmonary	81%
— % bacteriologically confirmed among pulmonary	74%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	67% (51–92)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.17 (0.1–0.26)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	89	2%
— on antiretroviral therapy	84	94%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			5 800 (3 800–7 800)
Estimated % of TB cases with MDR/RR-TB	1.6% (0.74–2.8)	29% (24–35)	
% notified tested for rifampicin resistance	18%	63%	49 943
MDR/RR-TB cases tested for resistance to second-line drugs			362
Laboratory-confirmed cases			MDR/RR-TB: 944, XDR-TB: 6
Patients started on treatment <sup>d</sup>			MDR/RR-TB: 920, XDR-TB: 6

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	94%	222 252
Previously treated cases, excluding relapse, registered in 2016	86%	1 669
HIV-positive TB cases registered in 2016	49%	87
MDR/RR-TB cases started on second-line treatment in 2015	78%	880
XDR-TB cases started on second-line treatment in 2015		0

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	21% (19–23)

## TB FINANCING, 2018

National TB budget (US\$ millions)	66
Funding source:	14% domestic, 55% international, 31% unfunded

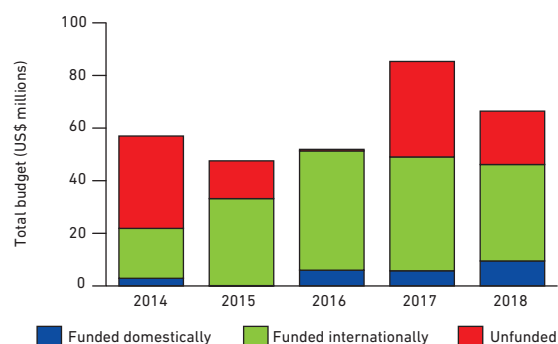
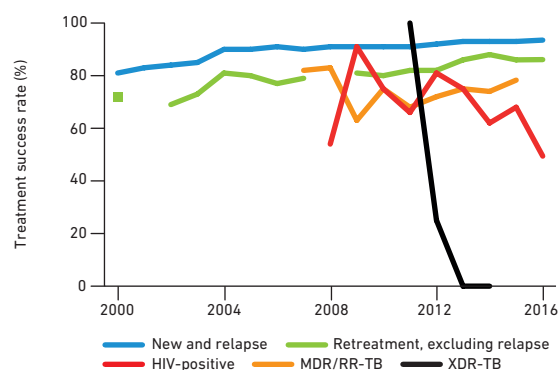
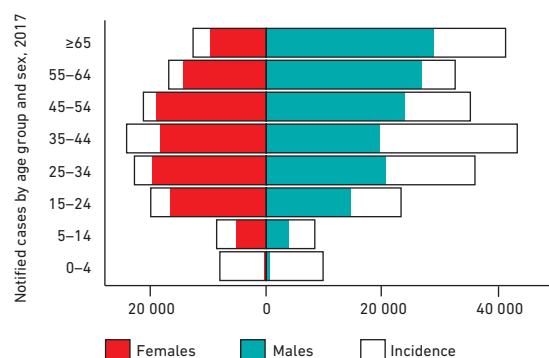
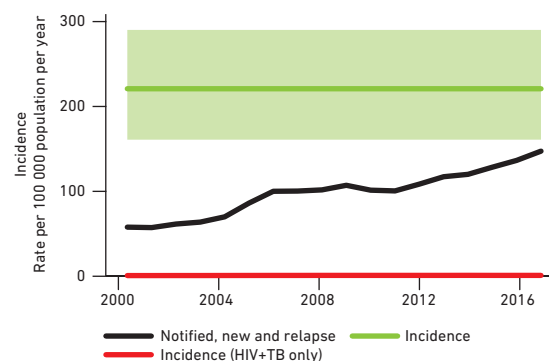
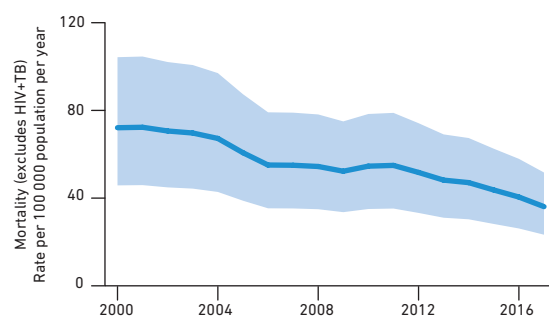
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

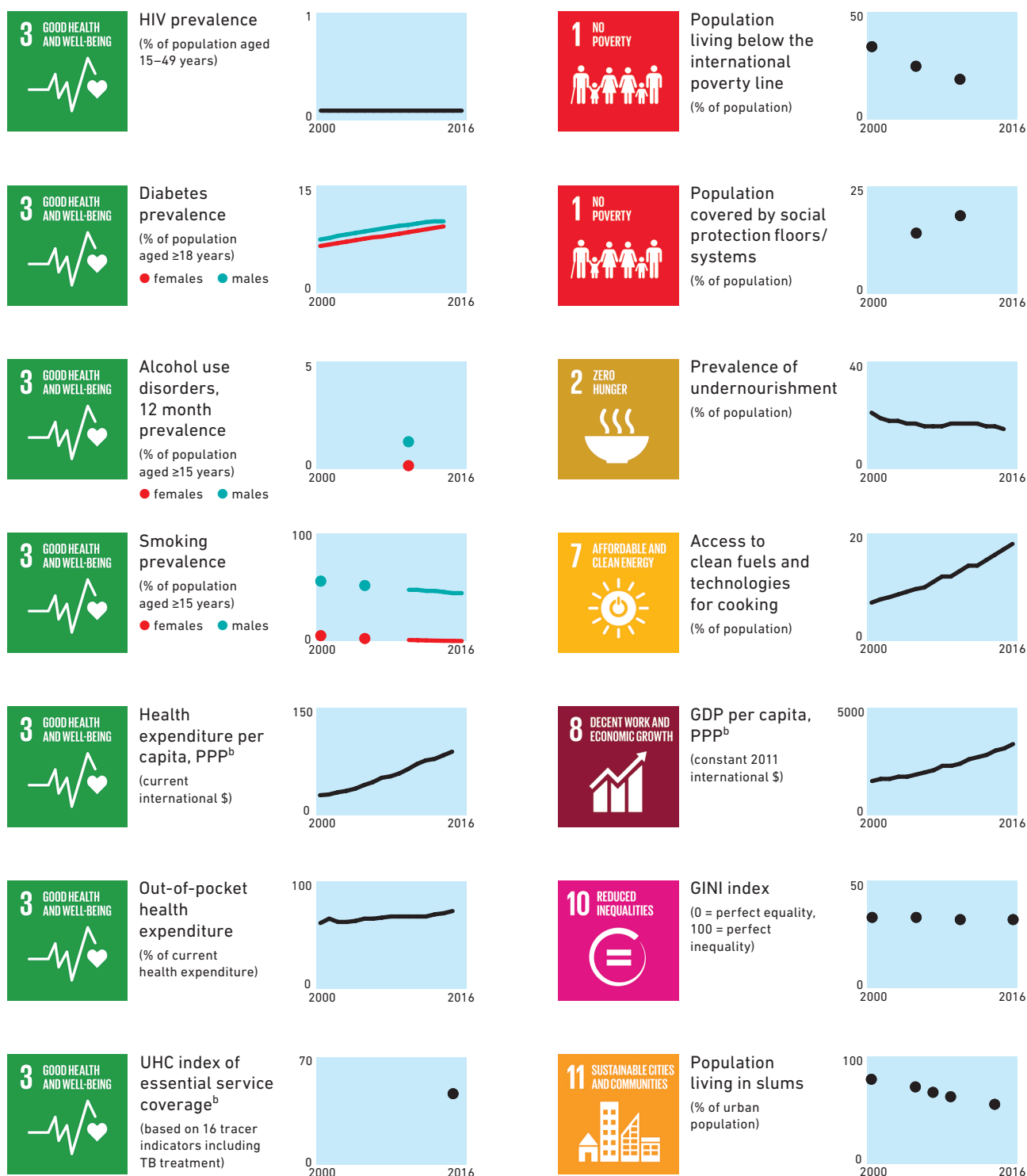
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	5.1 (4.8–5.3)	2.4 (2.3–2.5)
Mortality (HIV+TB only)	1.9 (1.4–2.5)	0.91 (0.67–1.2)
Incidence (includes HIV+TB)	91 (78–105)	44 (37–50)
Incidence (HIV+TB only)	11 (9.3–13)	5.3 (4.5–6.3)
Incidence (MDR/RR-TB) <sup>b</sup>	2.4 (1.8–3.1)	1.2 (0.86–1.5)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	5.2 (5–5.4)	24 (22–26)	29 (27–32)
Males	5.7 (5.5–5.9)	56 (50–63)	62 (54–70)
Total	11 (10–11)	80 (69–92)	91 (78–105)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	86 858
Total new and relapse	79 222
— % tested with rapid diagnostics at time of diagnosis	26%
— % with known HIV status	78%
— % pulmonary	87%
— % bacteriologically confirmed among pulmonary	72%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	87% (75–100)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.08 (0.06–0.09)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	7 831	13%
— on antiretroviral therapy	3 742	48%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			2 000 (1 600–2 400)
Estimated % of TB cases with MDR/RR-TB	1.5% (1.1–2)	8% (6–10)	
% notified tested for rifampicin resistance	30%	39%	27 716
MDR/RR-TB cases tested for resistance to second-line drugs			173
Laboratory-confirmed cases		MDR/RR-TB: 1 110, XDR-TB: 16	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 964, XDR-TB: 16	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	72%	75 223
Previously treated cases, excluding relapse, registered in 2016	39%	7 251
HIV-positive TB cases registered in 2016	53%	7 366
MDR/RR-TB cases started on second-line treatment in 2015	60%	954
XDR-TB cases started on second-line treatment in 2015	11%	27

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	

## TB FINANCING, 2018

National TB budget (US\$ millions)	57
Funding source:	85% domestic, 0% international, 15% unfunded

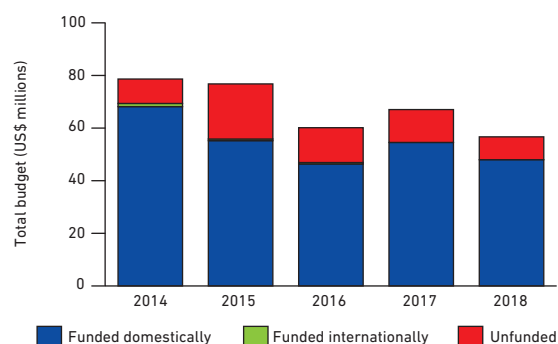
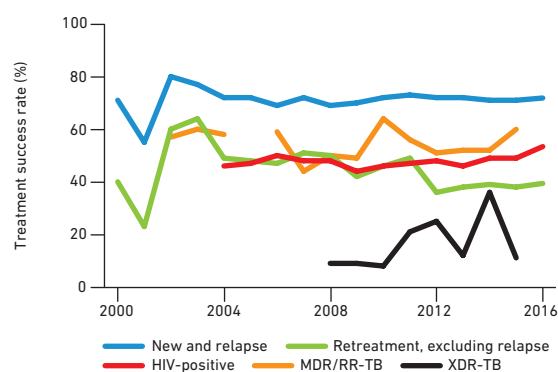
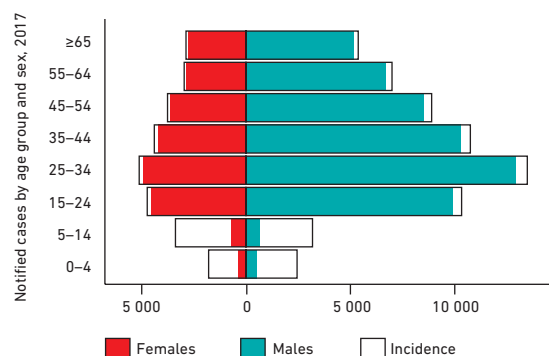
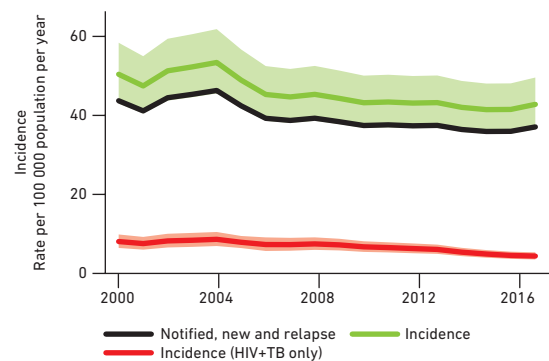
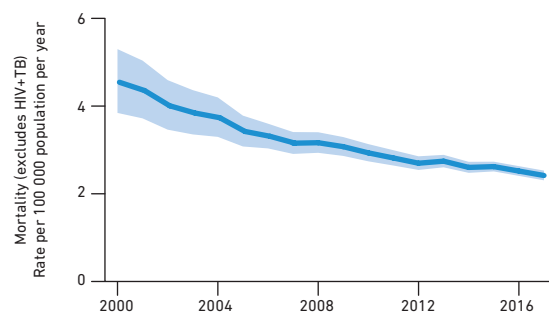
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

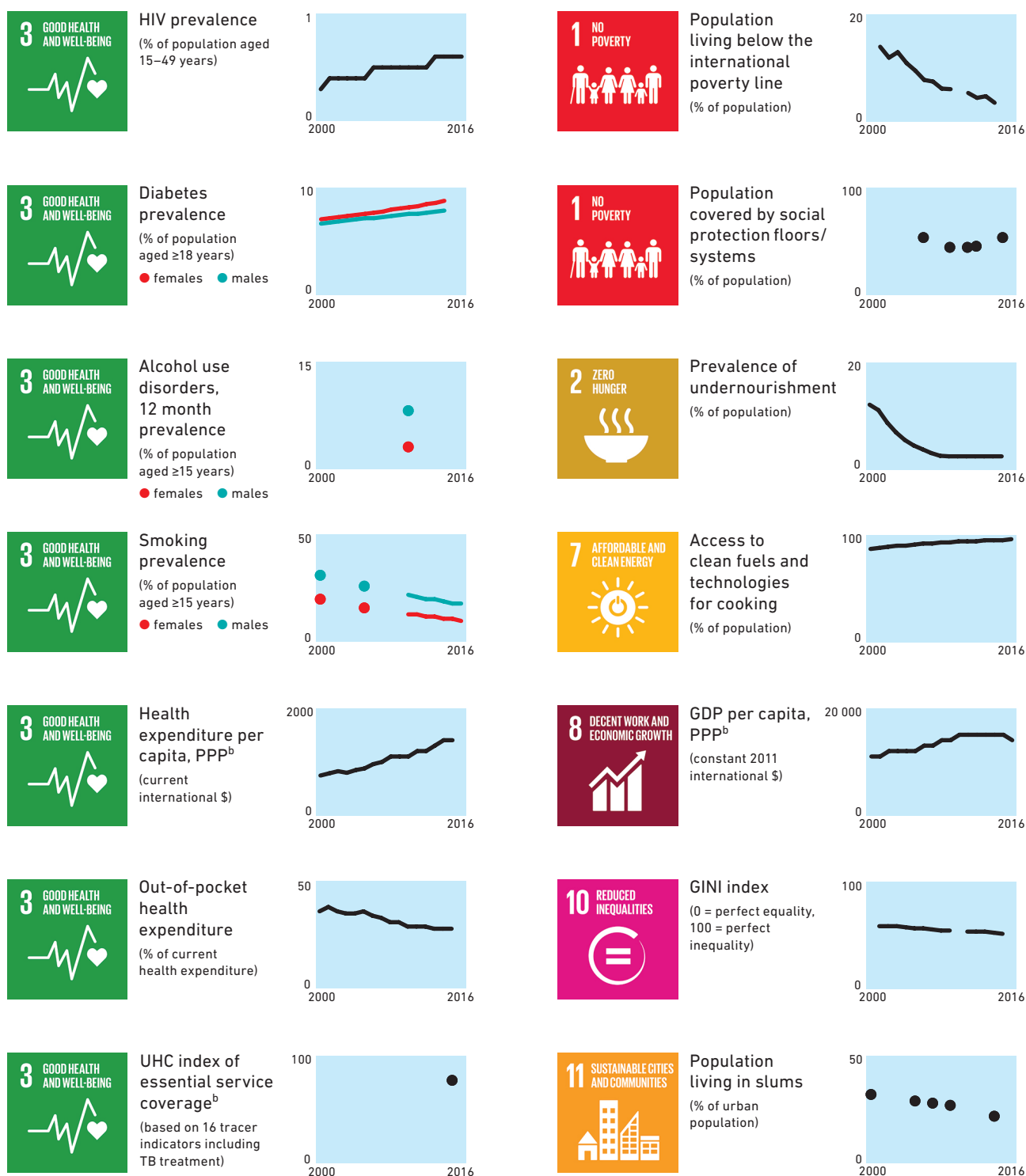
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

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<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

## ESTIMATES OF TB BURDEN, 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	37 (33–41)	2.6 (2.4–2.9)
Mortality (HIV+TB only)	1.8 (0.84–3.1)	0.13 (0.06–0.22)
Incidence (includes HIV+TB)	889 (761–1 030)	63 (54–73)
Incidence (HIV+TB only)	12 (6.3–18)	0.82 (0.45–1.3)
Incidence (MDR/RR-TB) <sup>b</sup>	73 (55–94)	5.2 (3.9–6.6)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	47 (46–49)	241 (223–260)	289 (264–313)
Males	52 (50–54)	548 (484–613)	600 (526–674)
Total	99 (94–104)	790 (678–901)	889 (761–1 030)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	778 390
Total new and relapse	773 150
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	55%
— % pulmonary	95%
— % bacteriologically confirmed among pulmonary	32%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	87% (75–100)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.04 (0.04–0.05)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	4 246	1%
— on antiretroviral therapy		

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases <sup>d</sup>			58 000 (46 000–69 000)
Estimated % of TB cases with MDR/RR-TB	7.1% (5.6–8.7)	24% (20–28)	
% notified tested for rifampicin resistance	12%	69%	108 270
MDR/RR-TB cases tested for resistance to second-line drugs			
Laboratory-confirmed cases		MDR/RR-TB: 13 069, XDR-TB:	
Patients started on treatment <sup>e</sup>		MDR/RR-TB: 5 943, XDR-TB:	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	93%	778 493
Previously treated cases, excluding relapse, registered in 2016	81%	5 349
HIV-positive TB cases registered in 2016	51%	4 612
MDR/RR-TB cases started on second-line treatment in 2015	41%	5 691
XDR-TB cases started on second-line treatment in 2015		

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	

## TB FINANCING, 2018

National TB budget (US\$ millions)	609
Funding source:	87% domestic, 2% international, 11% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

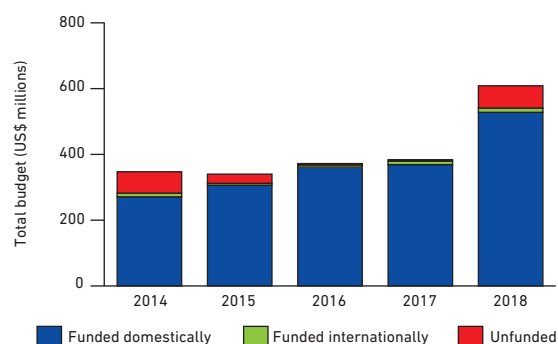
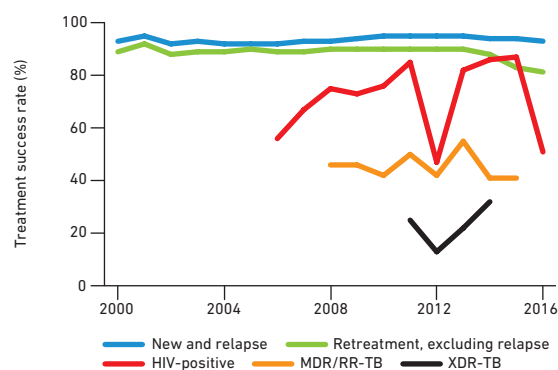
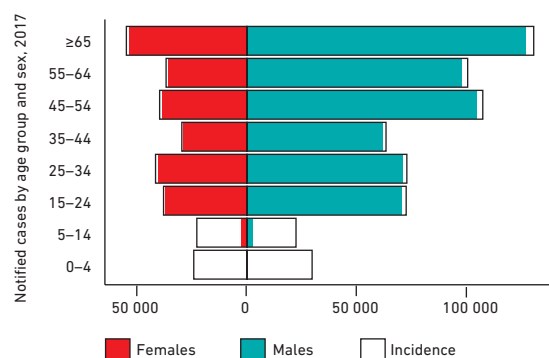
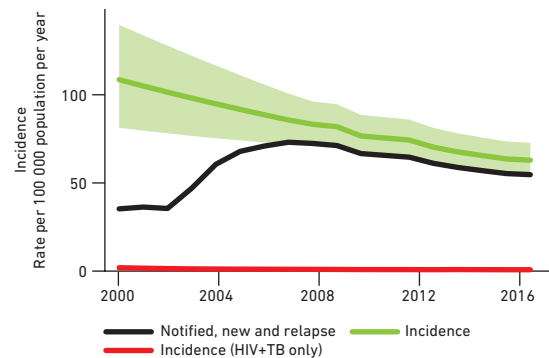
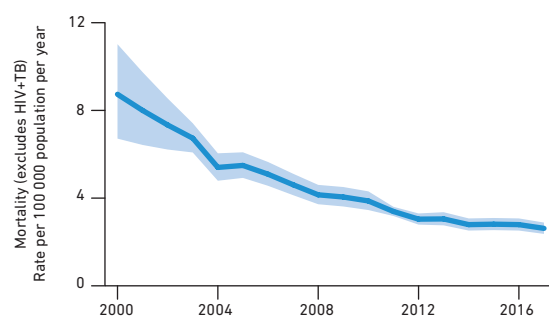
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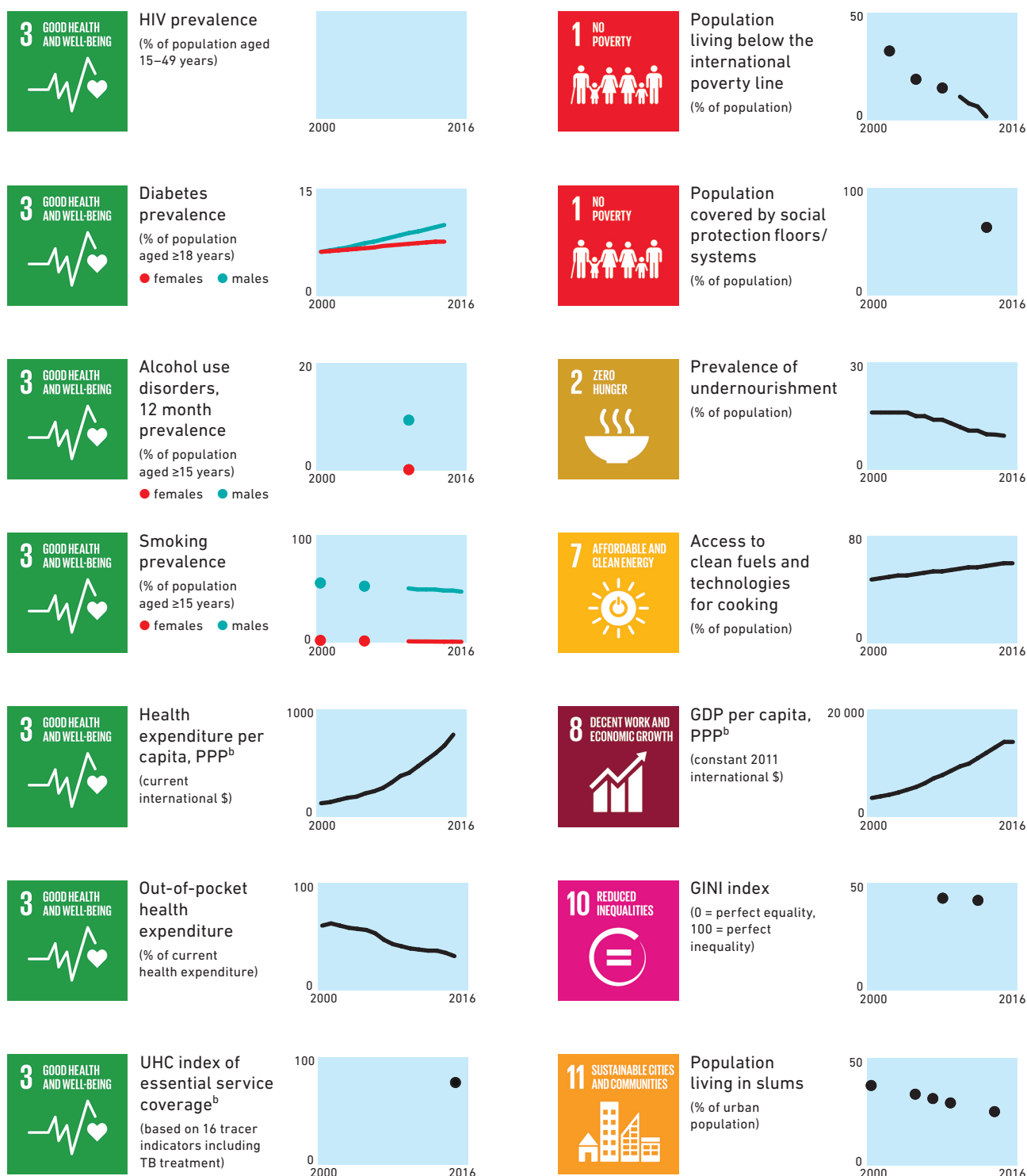
<sup>d</sup> The estimated number of MDR/RR-TB cases among bacteriologically confirmed pulmonary cases is 21 000 (17 000–25 000).

<sup>e</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.





## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



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<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	16 (11–22)	63 (43–86)
Mortality (HIV+TB only)	0.044 (0.022–0.072)	0.17 (0.09–0.28)
Incidence (includes HIV+TB)	131 (114–149)	513 (446–584)
Incidence (HIV+TB only)	0.17 (0.094–0.28)	0.69 (0.37–1.1)
Incidence (MDR/RR-TB) <sup>b</sup>	5.2 (2.6–8.8)	20 (10–34)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	6.2 (6–6.4)	43 (40–47)	50 (45–54)
Males	8.4 (8.1–8.6)	73 (66–80)	81 (73–90)
Total	15 (14–15)	116 (101–131)	131 (114–149)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	107 103
Total new and relapse	100 553
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	
— % pulmonary	81%
— % bacteriologically confirmed among pulmonary	50%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	77% (68–88)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.12 (0.08–0.17)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive		
— on antiretroviral therapy		

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			4 100 (2 300–5 800)
Estimated % of TB cases with MDR/RR-TB	2.2% (0.82–4.2)	16% (9.1–25)	
% notified tested for rifampicin resistance		14%	2 116
MDR/RR-TB cases tested for resistance to second-line drugs			0
Laboratory-confirmed cases		MDR/RR-TB: 1 515, XDR-TB: 0	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 1 732, XDR-TB: 19	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New cases registered in 2016		
Previously treated cases registered in 2016		
HIV-positive TB cases registered in 2016		
MDR/RR-TB cases started on second-line treatment in 2015	73%	325
XDR-TB cases started on second-line treatment in 2015		0

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment <sup>e</sup>	> 100%

## TB FINANCING, 2018

National TB budget (US\$ millions)	84
Funding source:	7% domestic, 1% international, 92% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

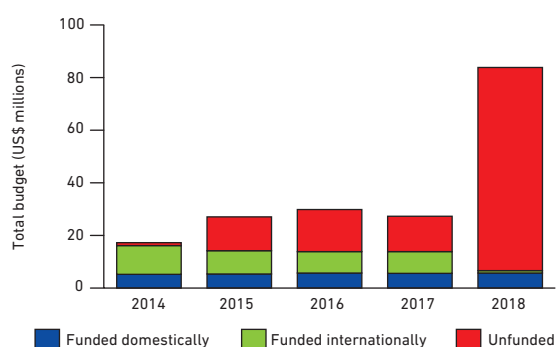
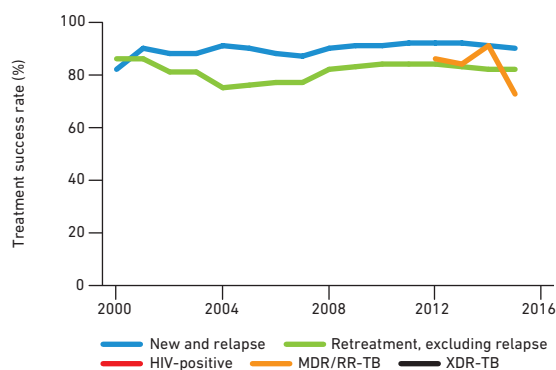
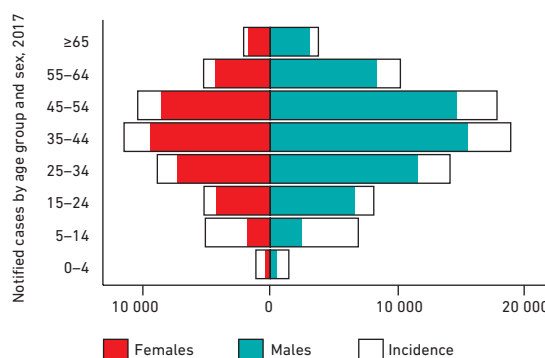
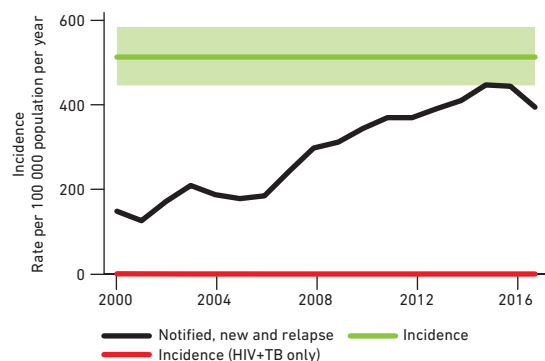
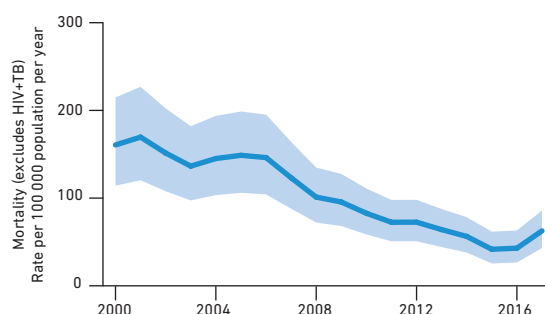
<sup>a</sup> Ranges represent uncertainty intervals.

<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

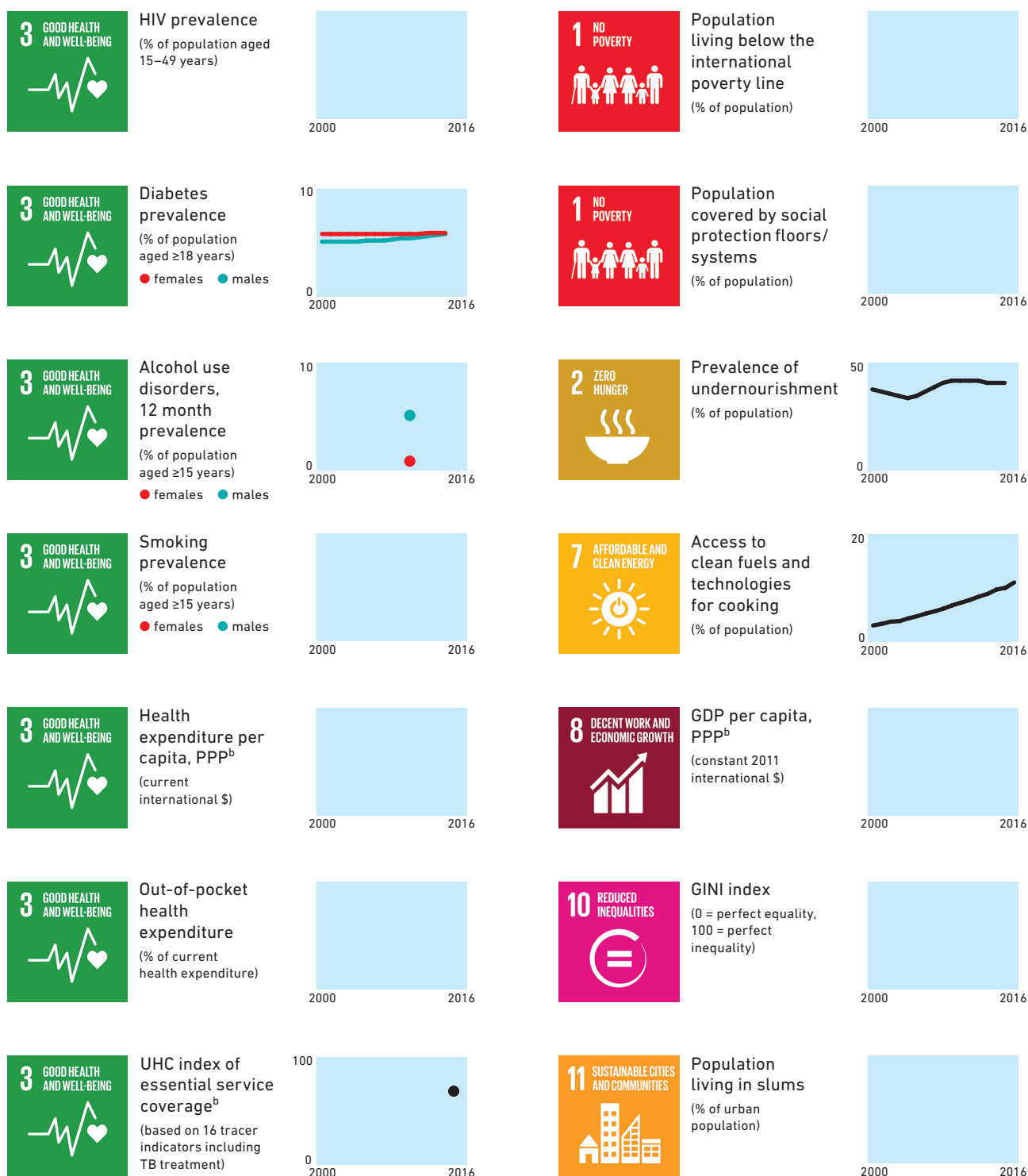
<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.

<sup>e</sup> Reasons for higher than expected coverage might be that the numerator did not exclude non-household contacts or children of five years and older.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Democratic Republic of the Congo

POPULATION 2017 **81 MILLION**

## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	49 (29–74)	60 (35–90)
Mortality (HIV+TB only)	7.5 (3.5–13)	9.2 (4.3–16)
Incidence (includes HIV+TB)	262 (169–374)	322 (208–460)
Incidence (HIV+TB only)	20 (13–29)	25 (16–35)
Incidence (MDR/RR-TB)**	7.5 (3.3–13)	9.2 (4–17)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	16 (14–17)	84 (65–102)	99 (76–123)
Males	17 (16–19)	145 (103–187)	162 (112–212)
Total	33 (28–37)	229 (145–313)	262 (169–374)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	151 832
Total new and relapse	150 085
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	64%
— % pulmonary	83%
— % bacteriologically confirmed among pulmonary	80%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	57% (40–89)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.22 (0.11–0.35)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	9 688	10%
— on antiretroviral therapy	7 982	82%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			3 400 (2 000–4 900)
Estimated % of TB cases with MDR/RR-TB	2.2% (1–3.5)	9.5% (8.8–10)	
% notified tested for rifampicin resistance	3%	57%	10 543
MDR/RR-TB cases tested for resistance to second-line drugs			147
Laboratory-confirmed cases		MDR/RR-TB: 893, XDR-TB: 19	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 839, XDR-TB: 15	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	89%	127 503
Previously treated cases, excluding relapse, registered in 2016	60%	789
HIV-positive TB cases registered in 2016		
MDR/RR-TB cases started on second-line treatment in 2015	90%	463
XDR-TB cases started on second-line treatment in 2015	10%	21

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	15% (14–17)

## TB FINANCING, 2018

National TB budget (US\$ millions)	74
Funding source:	2% domestic, 48% international, 49% unfunded

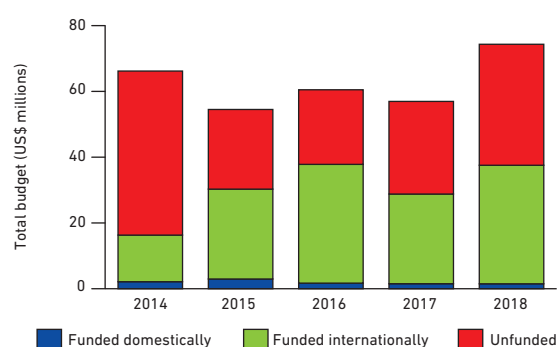
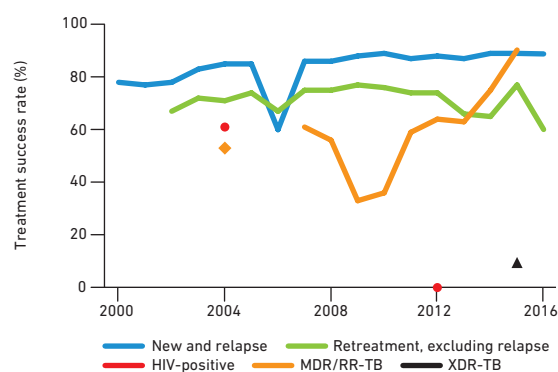
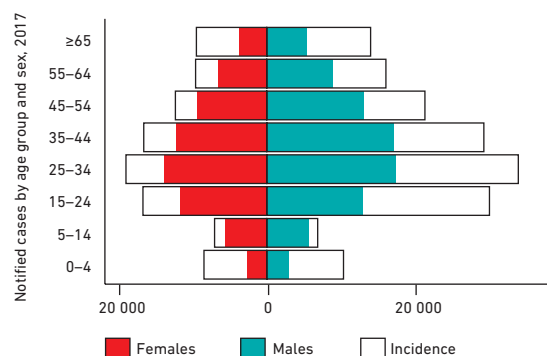
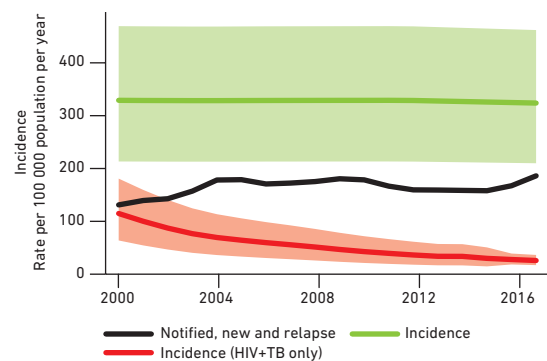
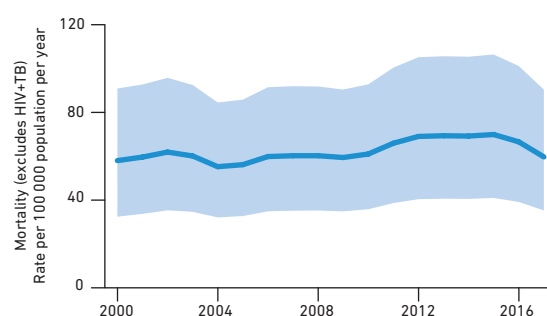
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

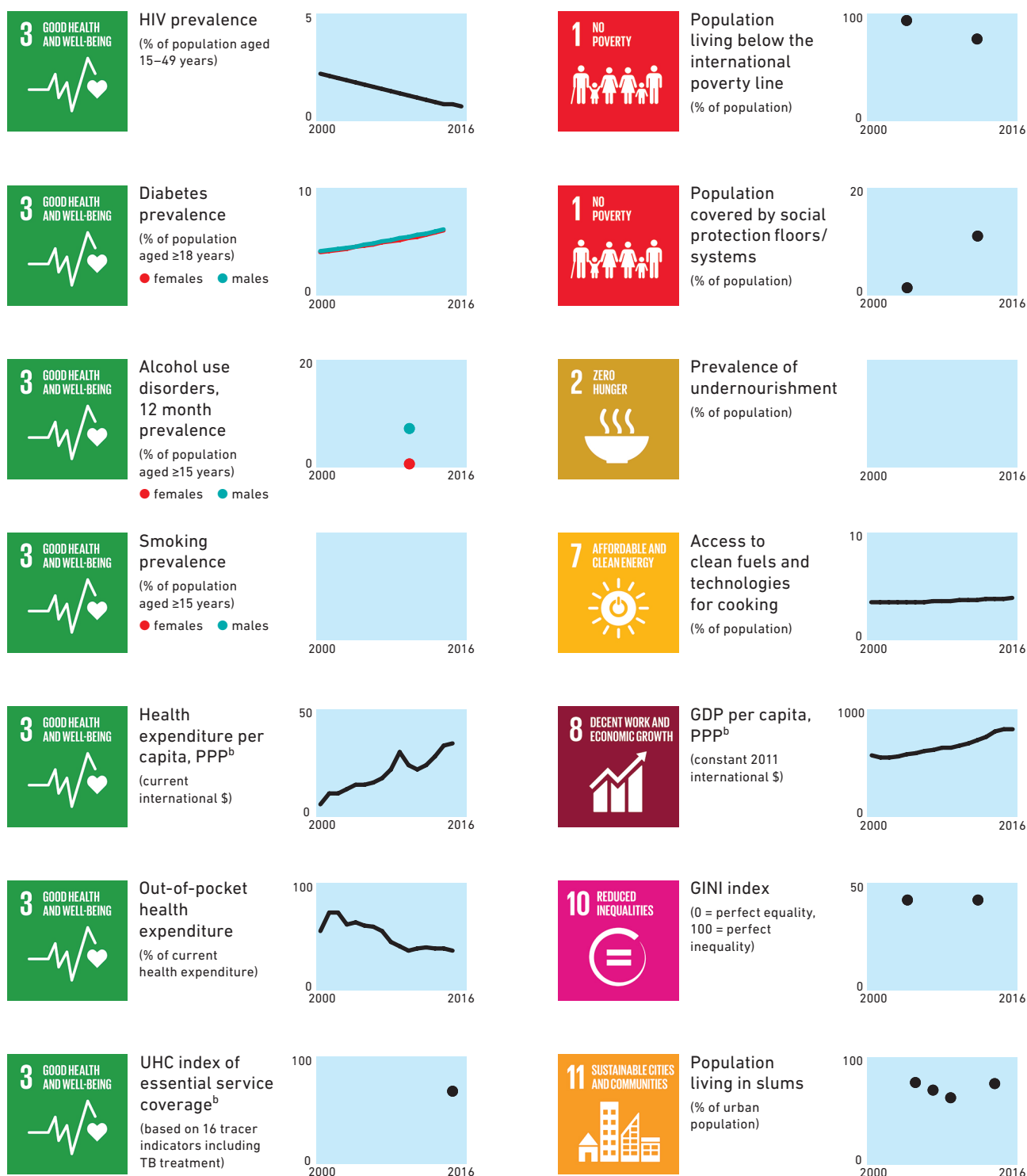
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Ethiopia

POPULATION 2017 **105 MILLION**

## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	25 (16–37)	24 (15–35)
Mortality (HIV+TB only)	3.6 (2.5–5)	3.5 (2.4–4.8)
Incidence (includes HIV+TB)	172 (121–232)	164 (115–221)
Incidence (HIV+TB only)	12 (8.6–17)	12 (8.2–16)
Incidence (MDR/RR-TB)**	5.5 (2.9–8.9)	5.2 (2.8–8.4)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	9.5 (8.7–10)	69 (55–83)	78 (61–95)
Males	10 (9.6–11)	83 (65–102)	94 (71–116)
Total	20 (18–22)	152 (106–198)	172 (121–232)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	117 705
Total new and relapse	116 725
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	86%
— % pulmonary	69%
— % bacteriologically confirmed among pulmonary	58%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	68% (50–96)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.17 (0.1–0.26)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	7 272	7%
— on antiretroviral therapy	6 673	92%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			2 700 (1 700–3 700)
Estimated % of TB cases with MDR/RR-TB	2.7% (1.6–4.1)	14% (6.7–25)	
% notified tested for rifampicin resistance			38 501
MDR/RR-TB cases tested for resistance to second-line drugs			205
Laboratory-confirmed cases		MDR/RR-TB: 680, XDR-TB: 4	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 680, XDR-TB: 4	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New cases registered in 2016	90%	123 004
Previously treated cases registered in 2016		
HIV-positive TB cases registered in 2016		
MDR/RR-TB cases started on second-line treatment in 2015	75%	660
XDR-TB cases started on second-line treatment in 2015		

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	45%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	11% (9.9–12)

## TB FINANCING, 2018

National TB budget (US\$ millions)	93
Funding source:	11% domestic, 33% international, 56% unfunded

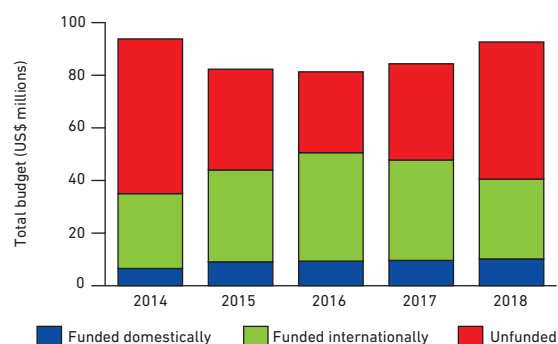
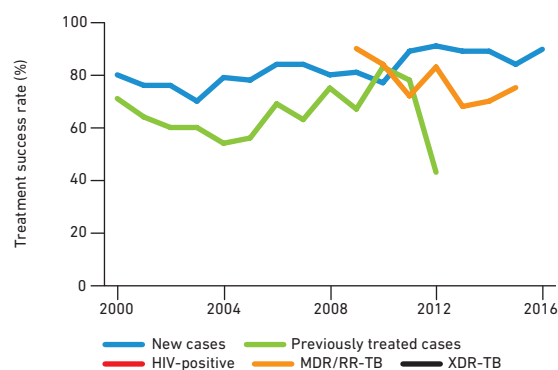
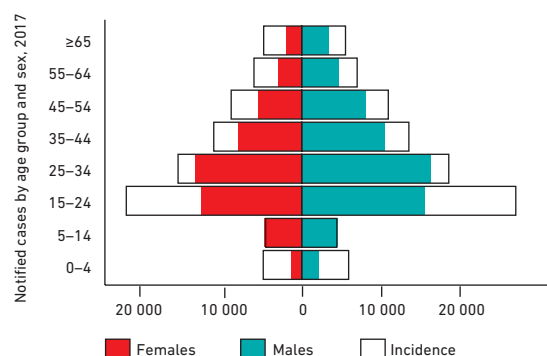
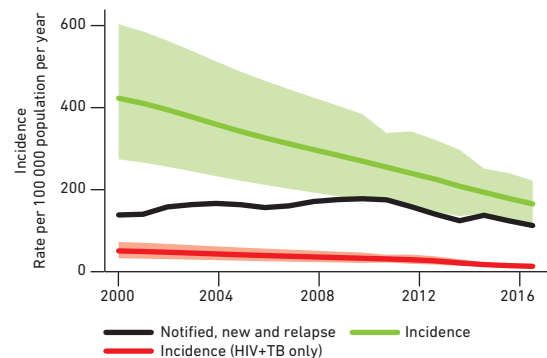
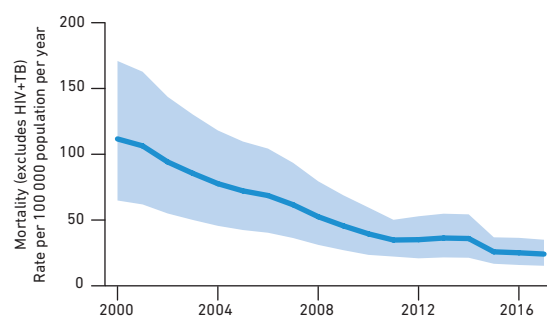
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

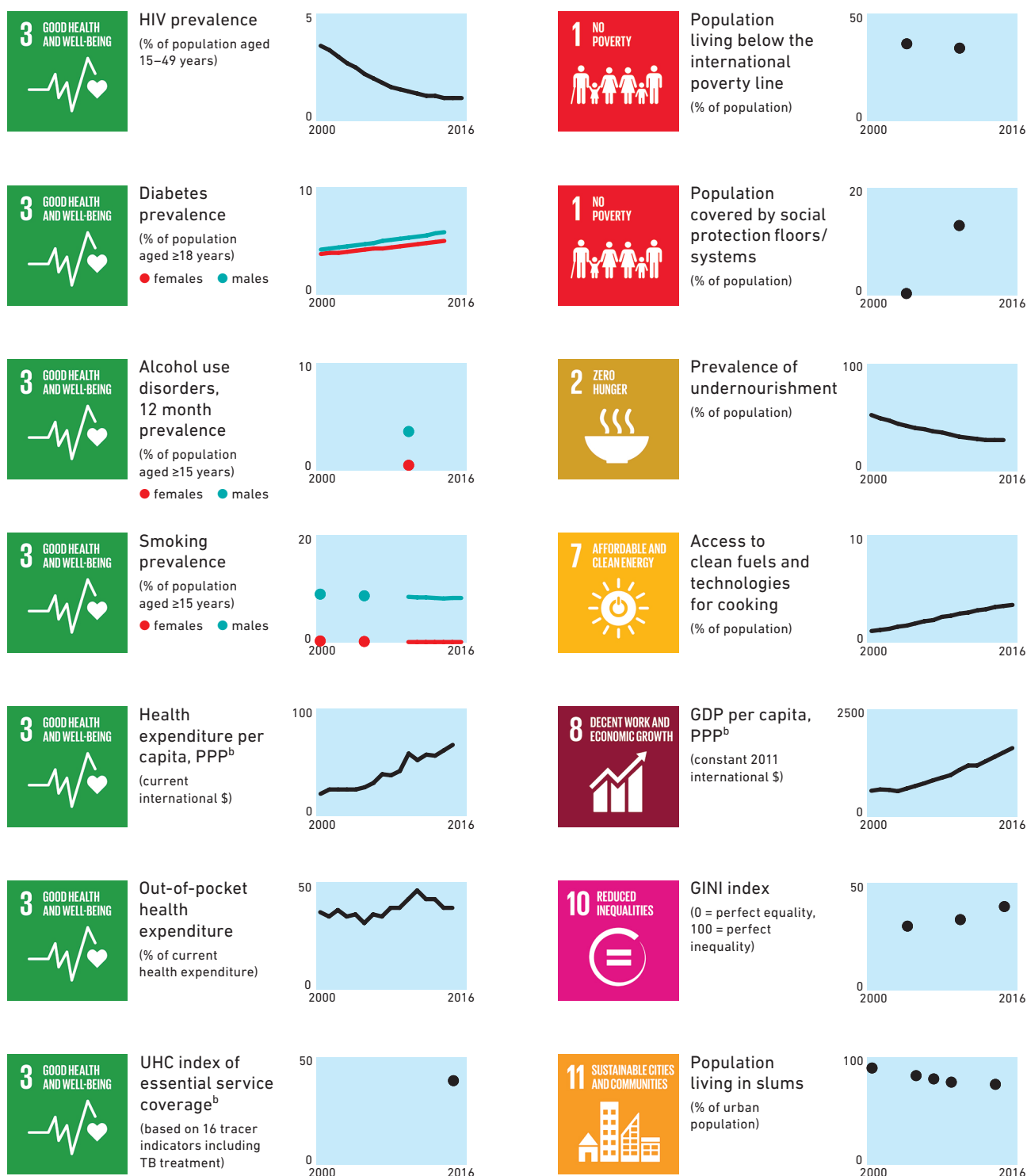
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage



ESTIMATES OF TB BURDEN, <sup>a</sup> 2017		
	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	410 (381–441)	31 (28–33)
Mortality (HIV+TB only)	11 (6.5–16)	0.79 (0.48–1.2)
Incidence (includes HIV+TB)	2 740 (1 870–3 770)	204 (140–281)
Incidence (HIV+TB only)	86 (57–120)	6.4 (4.3–9)
Incidence (MDR/RR-TB)**	135 (78–208)	10 (5.8–16)

ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017			
	0–14 YEARS	> 14 YEARS	TOTAL
Females	107 (100–114)	847 (684–1 010)	954 (759–1 150)
Males	117 (109–126)	1 670 (1 220–2 120)	1 780 (1 290–2 280)
Total	224 (202–247)	2 510 (1 680–3 350)	2 740 (1 870–3 770)

TB CASE NOTIFICATIONS, 2017	
Total cases notified	1 908 371
Total new and relapse	1 786 681
— % tested with rapid diagnostics at time of diagnosis	40%
— % with known HIV status	64%
— % pulmonary	85%
— % bacteriologically confirmed among pulmonary	60%

UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION	
TB treatment coverage (notified/estimated incidence), 2017	65% (47–96)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.16 (0.11–0.22)

TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017		
	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	36 440	3%
— on antiretroviral therapy	28 651	79%

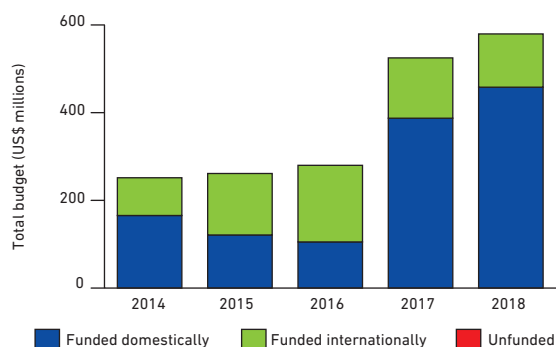
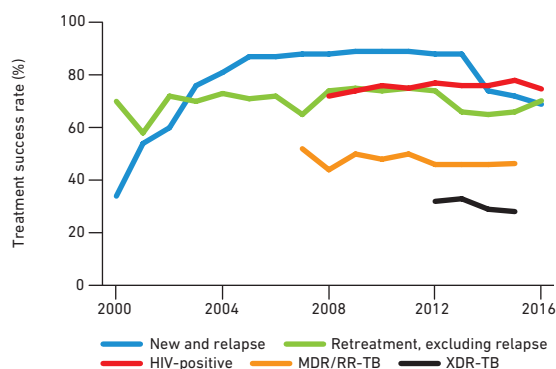
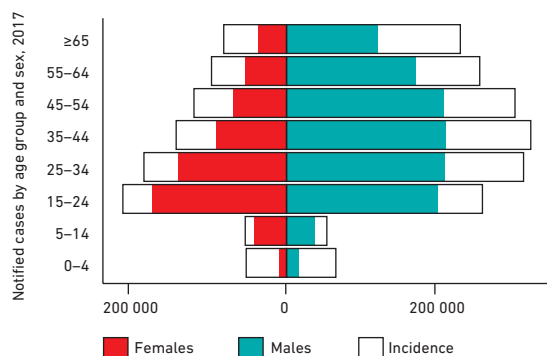
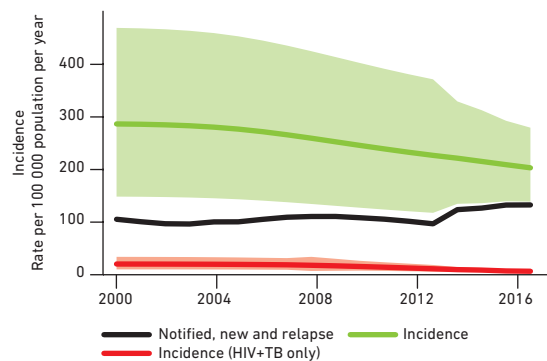
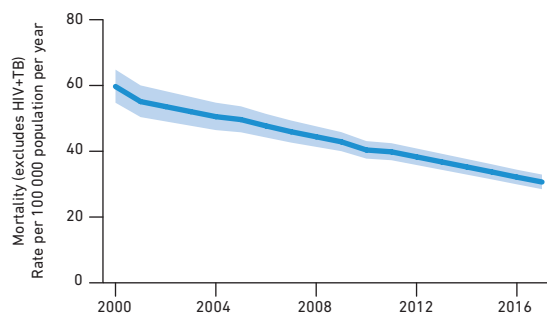
DRUG-RESISTANT TB CARE, 2017			
	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			65 000 (54 000–76 000)
Estimated % of TB cases with MDR/RR-TB	2.8% (2–3.5)	12% (10–13)	
% notified tested for rifampicin resistance	32%	82%	720 051
MDR/RR-TB cases tested for resistance to second-line drugs			26 832
Laboratory-confirmed cases		MDR/RR-TB: 39 009, XDR-TB: 2 650	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 35 950, XDR-TB: 2 838	

TREATMENT SUCCESS RATE AND COHORT SIZE		
	SUCCESS	COHORT
New and relapse cases registered in 2016	69%	1 763 876
Previously treated cases, excluding relapse, registered in 2016	70%	172 282
HIV-positive TB cases registered in 2016	75%	39 123
MDR/RR-TB cases started on second-line treatment in 2015	46%	26 966
XDR-TB cases started on second-line treatment in 2015	28%	2 130

TB PREVENTIVE TREATMENT, 2017	
% of HIV-positive people (newly enrolled in care) on preventive treatment	10%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	11% (10–12)

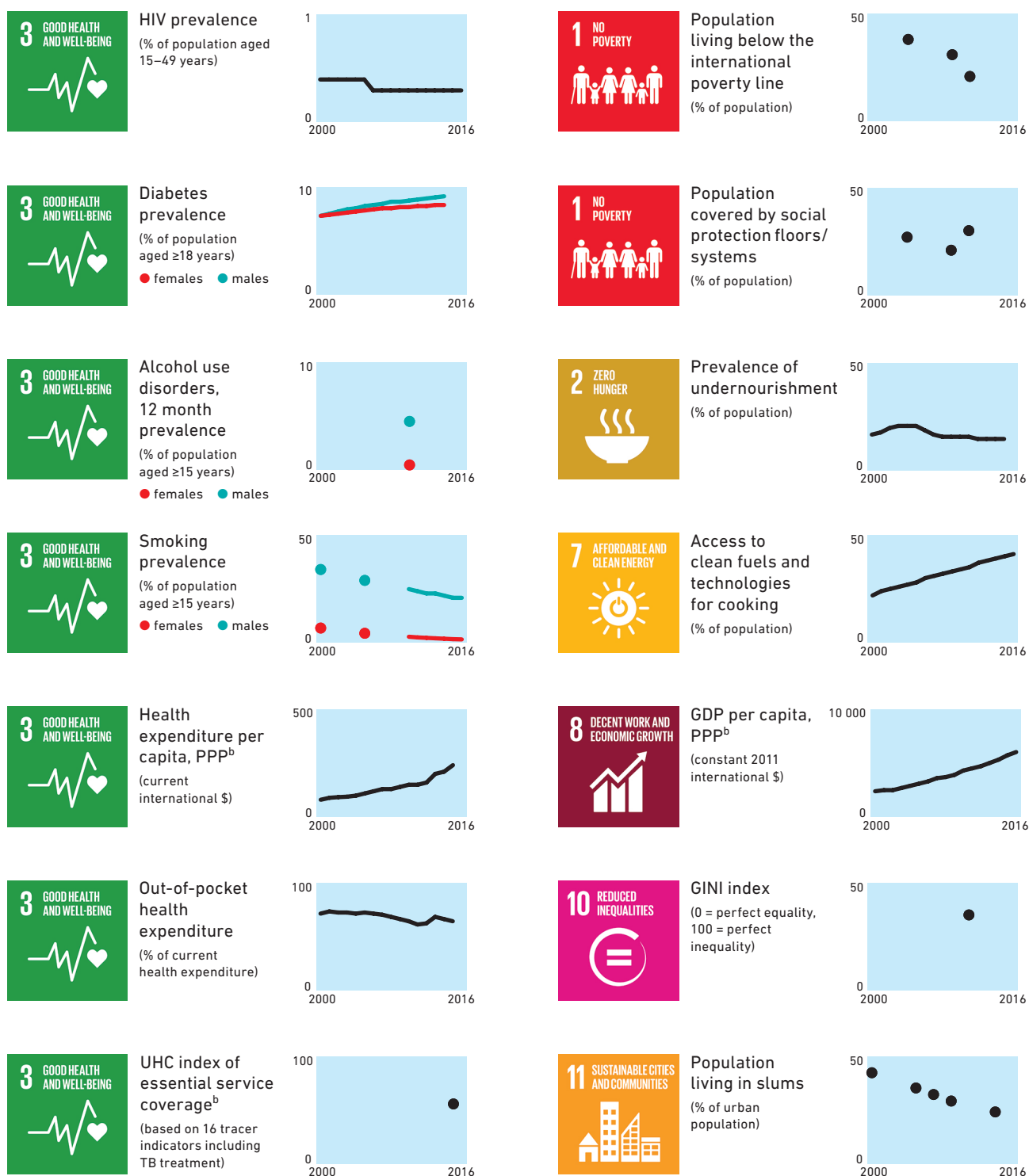
TB FINANCING, 2018	
National TB budget (US\$ millions)	580
Funding source:	79% domestic, 21% international, 0% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.  
<sup>a</sup> Ranges represent uncertainty intervals. Estimates of TB incidence and mortality for India are interim in nature, pending results from the national TB prevalence survey planned for 2019/2020.  
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.  
<sup>c</sup> Includes cases with unknown previous TB treatment history.  
<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.





## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

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<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Indonesia

POPULATION 2017 **264 MILLION**

## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	107 (100–114)	40 (38–43)
Mortality (HIV+TB only)	9.4 (5–15)	3.6 (1.9–5.8)
Incidence (includes HIV+TB)	842 (767–919)	319 (291–348)
Incidence (HIV+TB only)	36 (20–57)	14 (7.7–21)
Incidence (MDR/RR-TB) <sup>b</sup>	23 (16–31)	8.8 (6.2–12)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	23 (23–23)	326 (308–345)	349 (329–370)
Males	26 (26–27)	466 (435–497)	492 (458–526)
Total	49 (48–50)	792 (723–862)	842 (767–919)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	446 732
Total new and relapse	442 172
— % tested with rapid diagnostics at time of diagnosis	2%
— % with known HIV status	29%
— % pulmonary	90%
— % bacteriologically confirmed among pulmonary	54%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	53% (48–58)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.14 (0.12–0.15)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	7 729	6%
— on antiretroviral therapy	2 244	29%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			12 000 (8 600–15 000)
Estimated % of TB cases with MDR/RR-TB	2.4% (1.8–3.3)	13% (9–18)	
% notified tested for rifampicin resistance	16%	223%	112 743
MDR/RR-TB cases tested for resistance to second-line drugs			1 813
Laboratory-confirmed cases		MDR/RR-TB: 5 070, XDR-TB: 51	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 3 042, XDR-TB: 50	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	86%	364 671
Previously treated cases, excluding relapse, registered in 2016	71%	2 002
HIV-positive TB cases registered in 2016	64%	4 470
MDR/RR-TB cases started on second-line treatment in 2015	47%	1 565
XDR-TB cases started on second-line treatment in 2015	28%	32

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	16%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	8.5% (7.8–9.3)

## TB FINANCING, 2018

National TB budget (US\$ millions)	294
Funding source:	34% domestic, 16% international, 49% unfunded

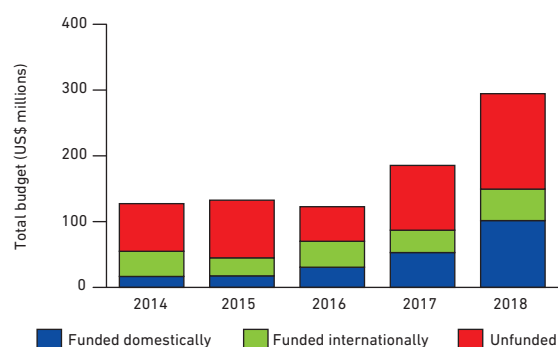
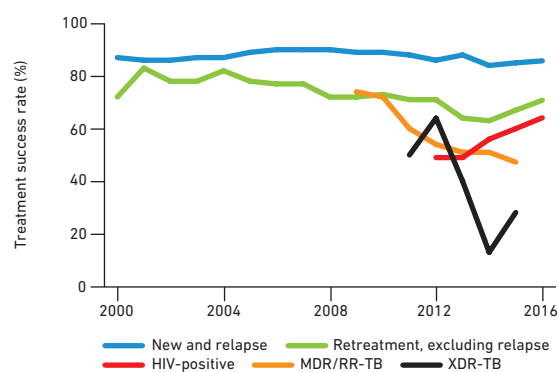
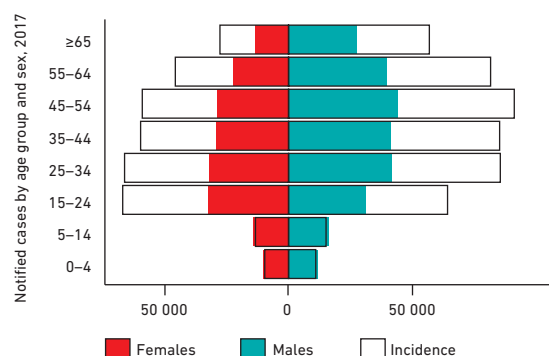
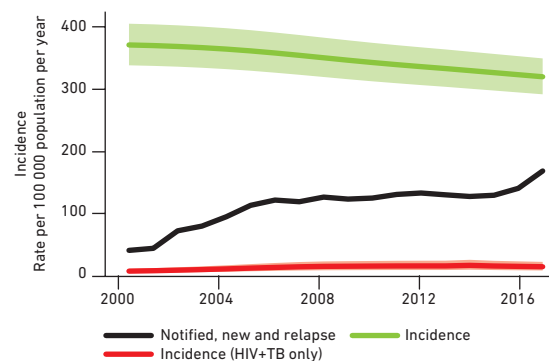
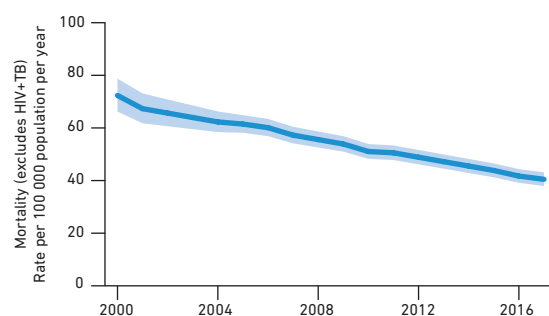
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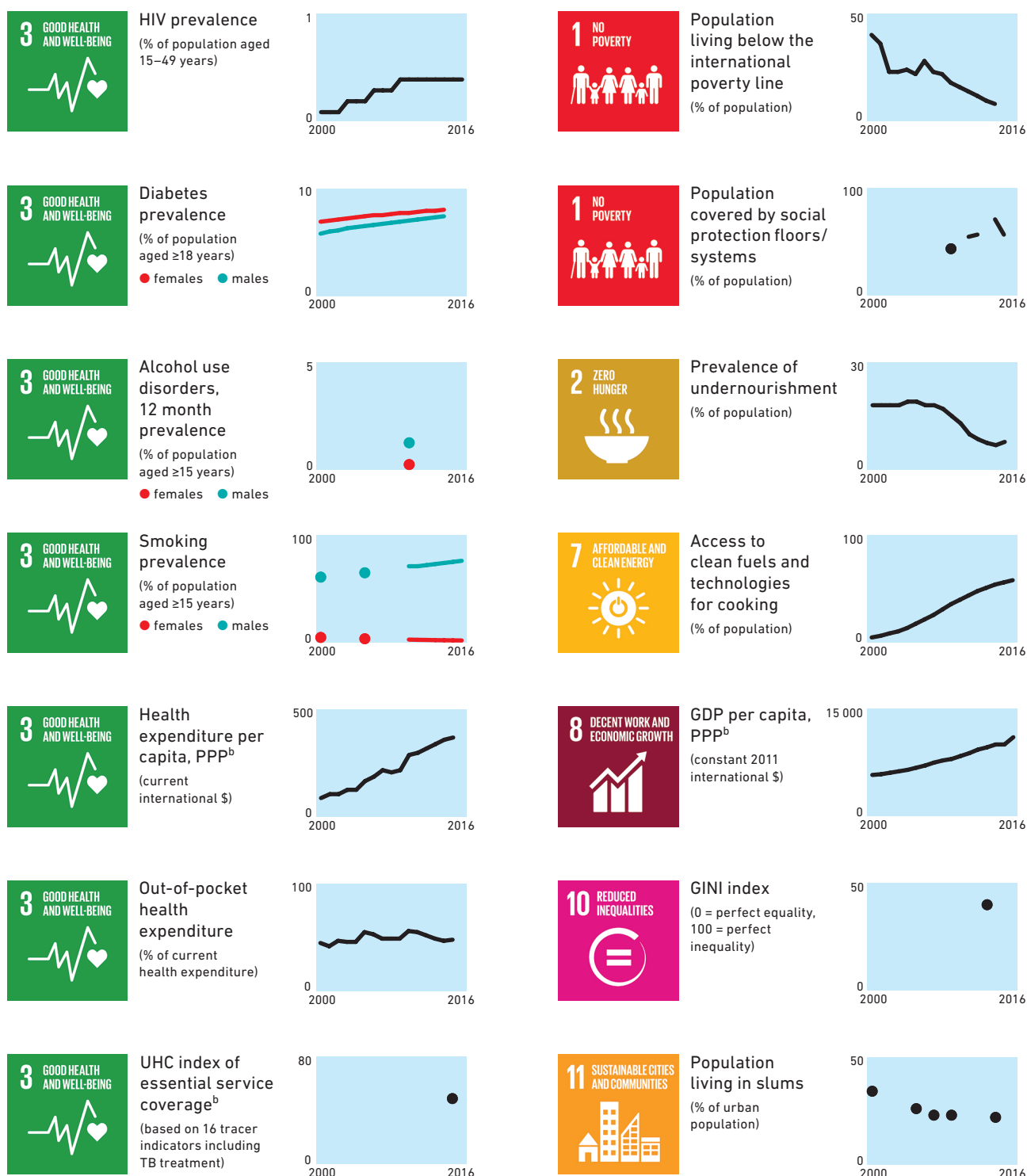
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<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

### ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	25 (14–39)	50 (28–78)
Mortality (HIV+TB only)	18 (11–27)	37 (22–55)
Incidence (includes HIV+TB)	158 (97–235)	319 (195–472)
Incidence (HIV+TB only)	45 (27–68)	91 (55–137)
Incidence (MDR/RR-TB) <sup>b</sup>	2.8 (1.2–4.9)	5.6 (2.5–9.9)

### ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	9.9 (8.8–11)	43 (33–53)	53 (39–66)
Males	11 (9.7–12)	95 (63–127)	106 (68–143)
Total	21 (18–24)	138 (82–193)	158 (97–235)

### TB CASE NOTIFICATIONS, 2017

Total cases notified	85 188
Total new and relapse	83 599
— % tested with rapid diagnostics at time of diagnosis	47%
— % with known HIV status	96%
— % pulmonary	84%
— % bacteriologically confirmed among pulmonary	67%

### UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	53% (36–86)
TB patients facing catastrophic total costs, 2017	27% (21–32)
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.28 (0.15–0.45)

### TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	22 992	29%
— on antiretroviral therapy	21 763	95%

### DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			1 100 (670–1 500)
Estimated % of TB cases with MDR/RR-TB	1.3% (0.74–2)	4.4% (3.7–5.2)	
% notified tested for rifampicin resistance	46%	52%	39 598
MDR/RR-TB cases tested for resistance to second-line drugs			198
Laboratory-confirmed cases			MDR/RR-TB: 390, XDR-TB: 1
Patients started on treatment <sup>d</sup>			MDR/RR-TB: 394, XDR-TB: 1

### TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	81%	75 705
Previously treated cases, excluding relapse, registered in 2016	70%	1 048
HIV-positive TB cases registered in 2016	77%	22 502
MDR/RR-TB cases started on second-line treatment in 2015	73%	330
XDR-TB cases started on second-line treatment in 2015	100%	1

### TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	26% (24–29)

### TB FINANCING, 2018

National TB budget (US\$ millions)	42
Funding source:	33% domestic, 31% international, 36% unfunded

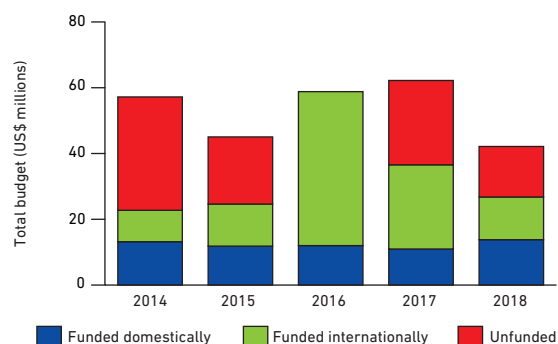
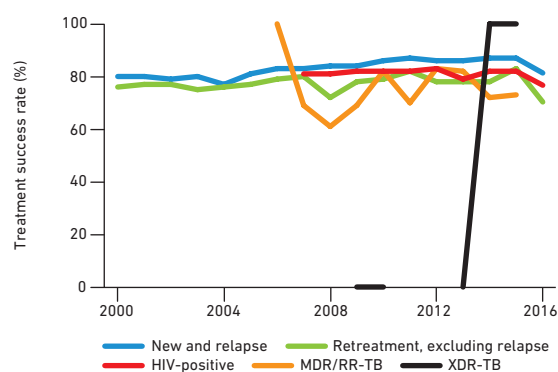
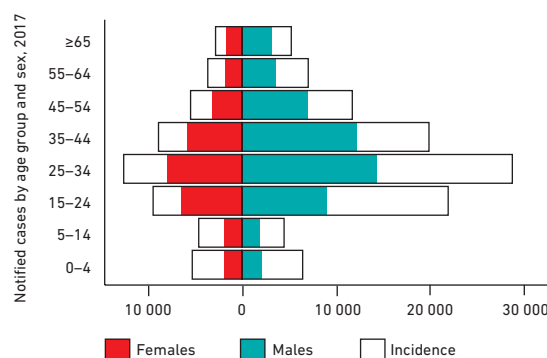
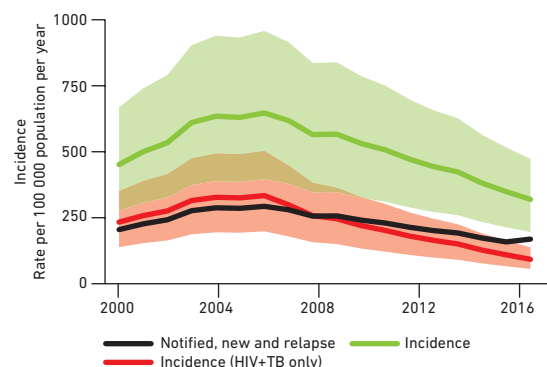
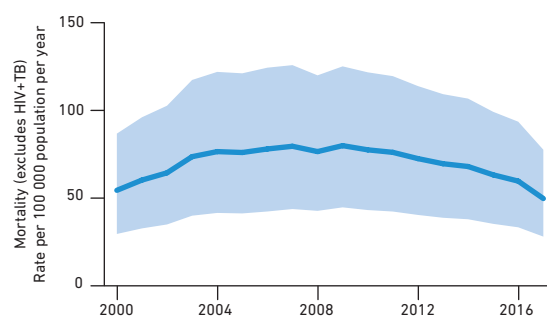
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

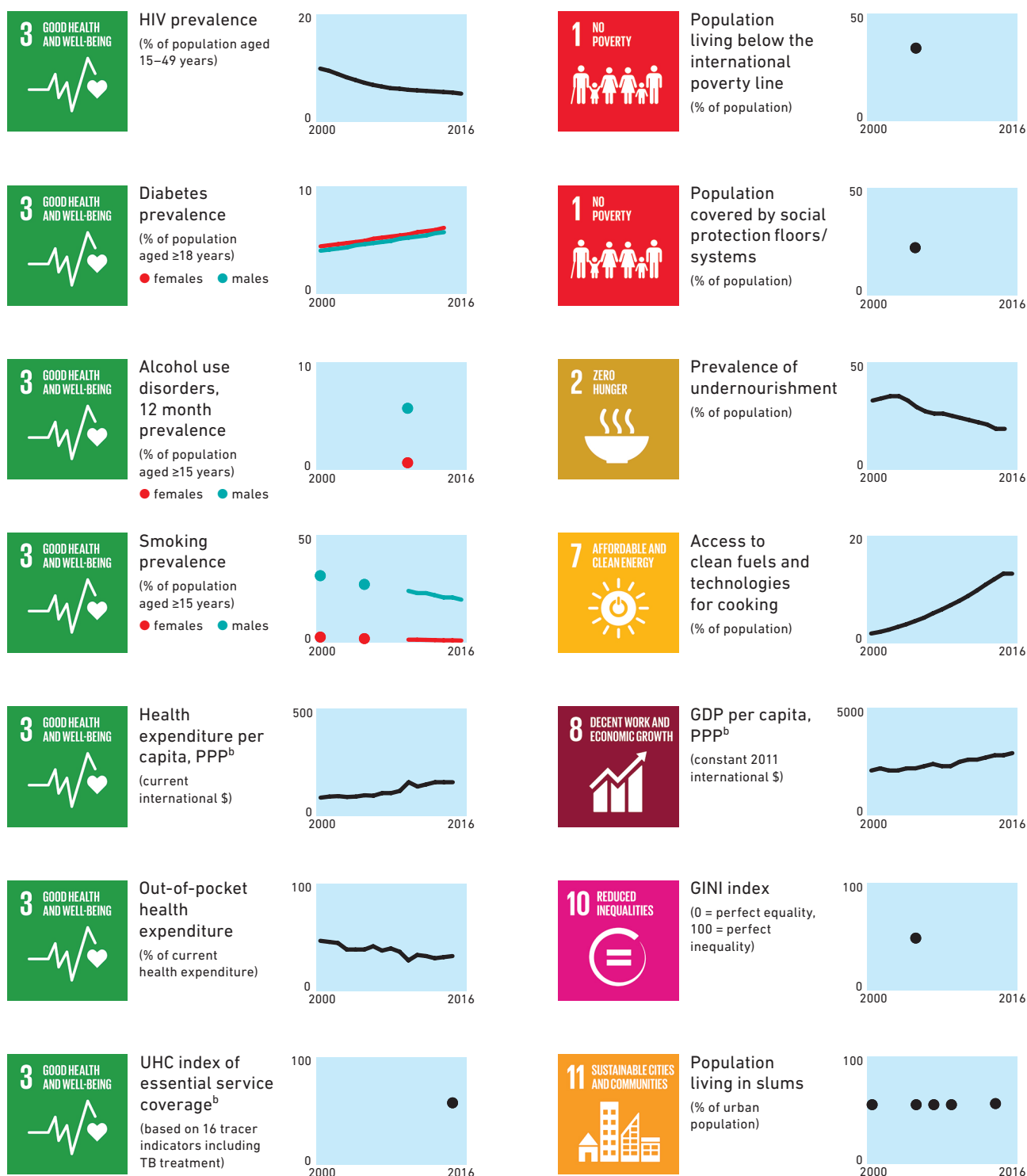
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Mozambique

POPULATION 2017 **30 MILLION**

## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	22 (13–33)	73 (43–111)
Mortality (HIV+TB only)	27 (17–39)	90 (56–131)
Incidence (includes HIV+TB)	163 (106–233)	551 (356–787)
Incidence (HIV+TB only)	66 (42–95)	221 (141–319)
Incidence (MDR/RR-TB)**	8.8 (4.6–14)	30 (15–48)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	11 (9.6–12)	51 (40–63)	62 (47–77)
Males	12 (11–13)	90 (64–115)	101 (70–133)
Total	23 (19–26)	141 (90–192)	163 (106–233)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	86 515
Total new and relapse	85 376
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	96%
— % pulmonary	93%
— % bacteriologically confirmed among pulmonary	40%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	52% (37–81)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.31 (0.17–0.46)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	33 514	40%
— on antiretroviral therapy	31 790	95%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			4 100 (2 500–5 700)
Estimated % of TB cases with MDR/RR-TB	3.7% (2.5–5.2)	20% (5.2–40)	
% notified tested for rifampicin resistance			
MDR/RR-TB cases tested for resistance to second-line drugs			209
Laboratory-confirmed cases		MDR/RR-TB: 861, XDR-TB: 31	
Patients started on treatment ****		MDR/RR-TB: 907, XDR-TB: 31	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	90%	70 510
Previously treated cases, excluding relapse, registered in 2016	86%	1 593
HIV-positive TB cases registered in 2016	87%	30 572
MDR/RR-TB cases started on second-line treatment in 2015	48%	646
XDR-TB cases started on second-line treatment in 2015	38%	16

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment <sup>e</sup>	> 100%

## TB FINANCING, 2018

National TB budget (US\$ millions)	30
Funding source:	5% domestic, 95% international, 0% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

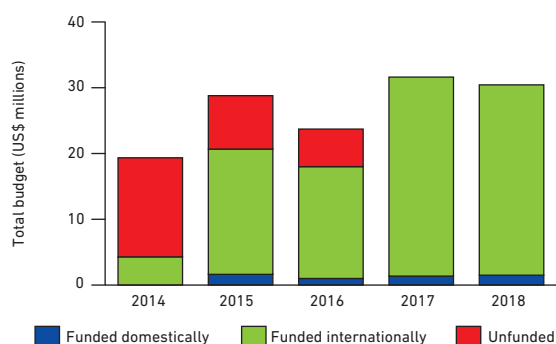
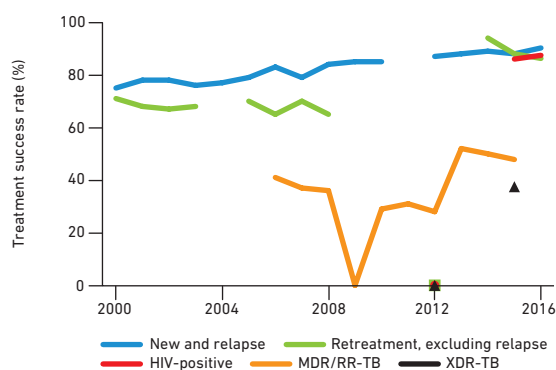
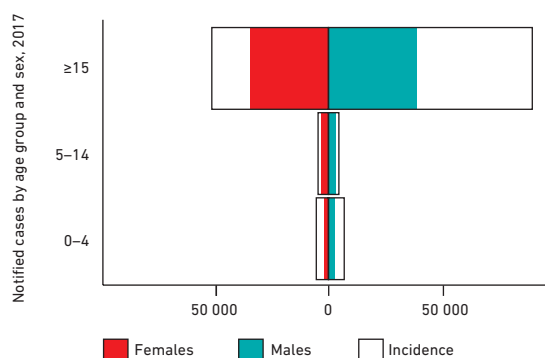
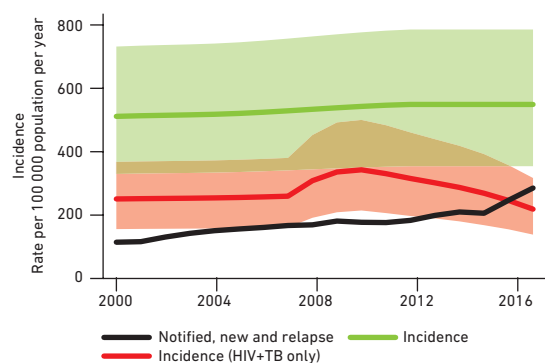
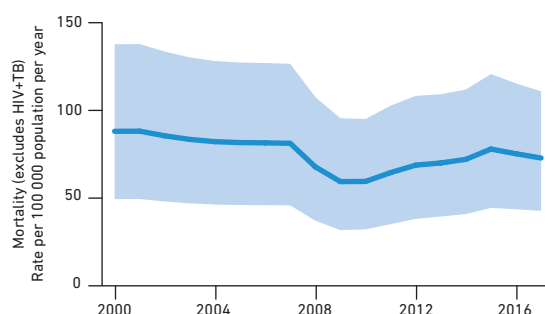
<sup>a</sup> Ranges represent uncertainty intervals. Estimates of TB incidence and mortality for Mozambique will be reviewed after final results from their national TB prevalence survey are available in 2019.

<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

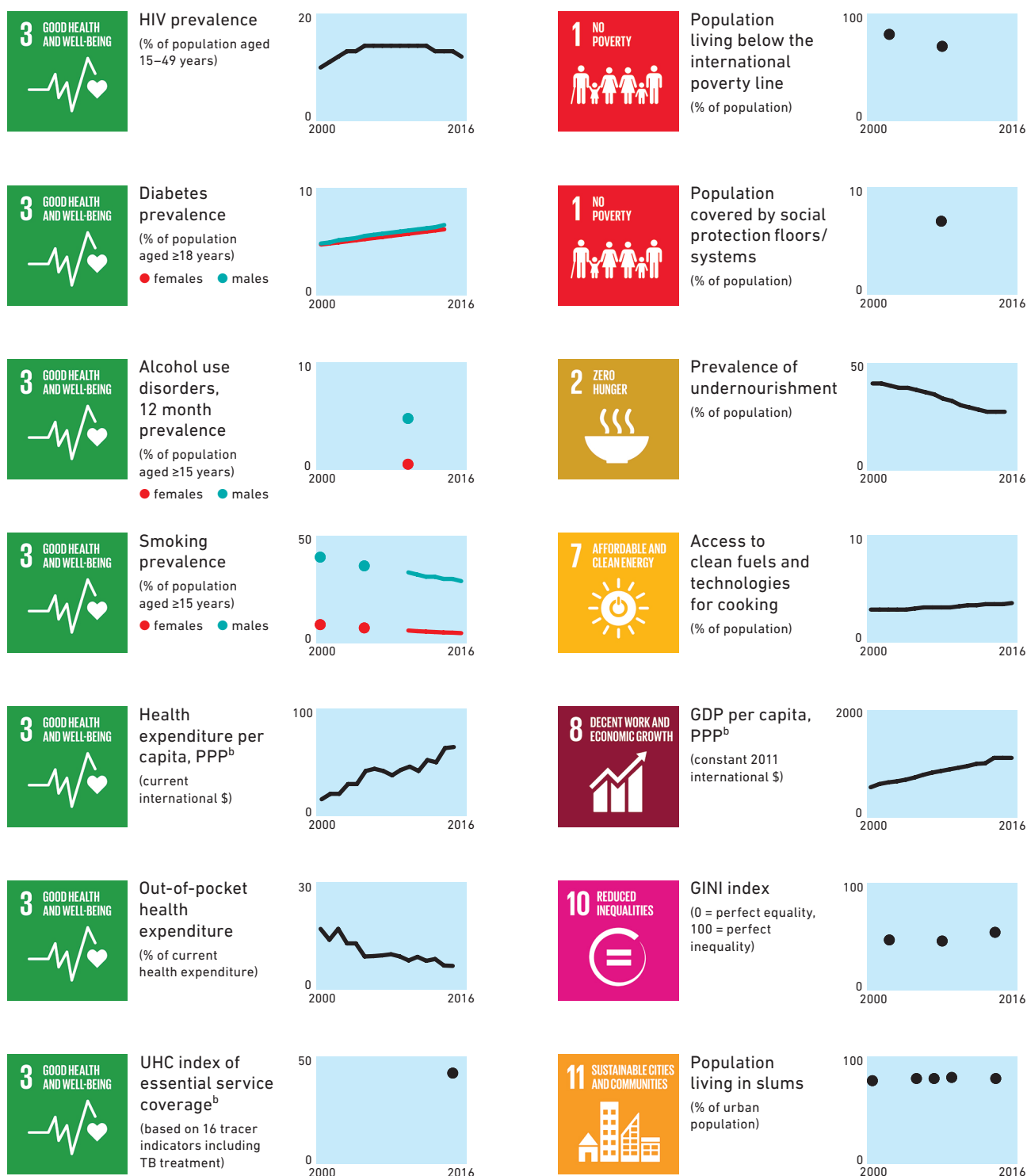
<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.

<sup>e</sup> Reasons for higher than expected coverage might be that the numerator did not exclude non-household contacts or children of five years and older.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage



# Myanmar

POPULATION 2017 **53 MILLION**

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	27 (18–39)	51 (33–73)
Mortality (HIV+TB only)	4.9 (3.5–6.6)	9.2 (6.6–12)
Incidence (includes HIV+TB)	191 (141–249)	358 (263–466)
Incidence (HIV+TB only)	17 (12–22)	31 (23–41)
Incidence (MDR/RR-TB) <sup>b</sup>	14 (8–21)	26 (15–39)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	11 (10–12)	57 (48–66)	68 (57–80)
Males	12 (11–13)	110 (87–134)	123 (95–150)
Total	23 (21–26)	168 (123–212)	191 (141–249)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	132 025
Total new and relapse	130 418
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	90%
— % pulmonary	90%
— % bacteriologically confirmed among pulmonary	41%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	68% (52–93)
TB patients facing catastrophic total costs, 2015	60% (57–63)
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.17 (0.11–0.25)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	10 164	9%
— on antiretroviral therapy	6 371	63%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			8 700 (6 200–11 000)
Estimated % of TB cases with MDR/RR-TB	5.1% (3.4–7.2)	27% (16–40)	
% notified tested for rifampicin resistance	29%	63%	43 548
MDR/RR-TB cases tested for resistance to second-line drugs			165
Laboratory-confirmed cases		MDR/RR-TB: 3 281, XDR-TB: 28	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 2 666, XDR-TB: 9	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	88%	136 221
Previously treated cases, excluding relapse, registered in 2016	77%	2 051
HIV-positive TB cases registered in 2016	73%	10 489
MDR/RR-TB cases started on second-line treatment in 2015	80%	2 180
XDR-TB cases started on second-line treatment in 2015	43%	7

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	17%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	2.1% (1.9–2.3)

## TB FINANCING, 2018

National TB budget (US\$ millions)	58
Funding source:	4% domestic, 52% international, 45% unfunded

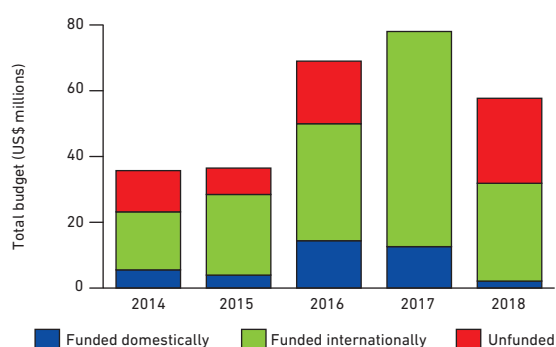
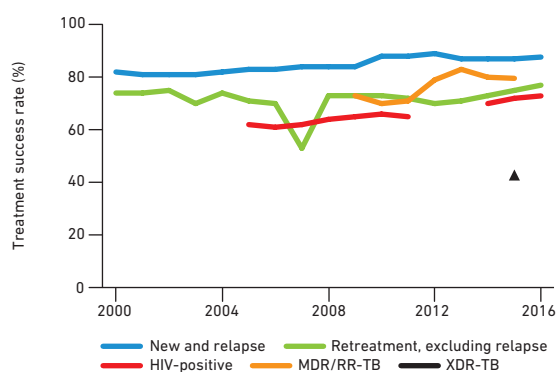
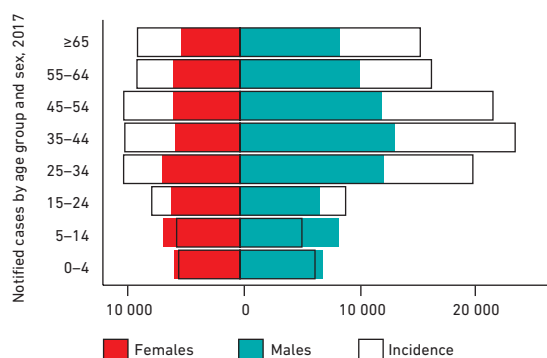
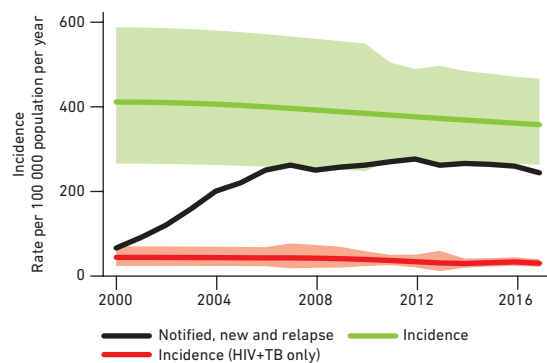
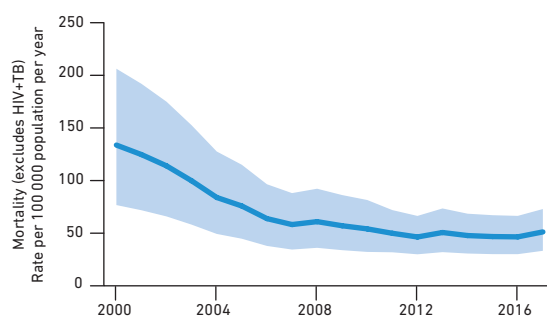
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals. Estimates of TB incidence and mortality for Myanmar will be reviewed after final results from their national TB prevalence survey are available in 2019.

<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

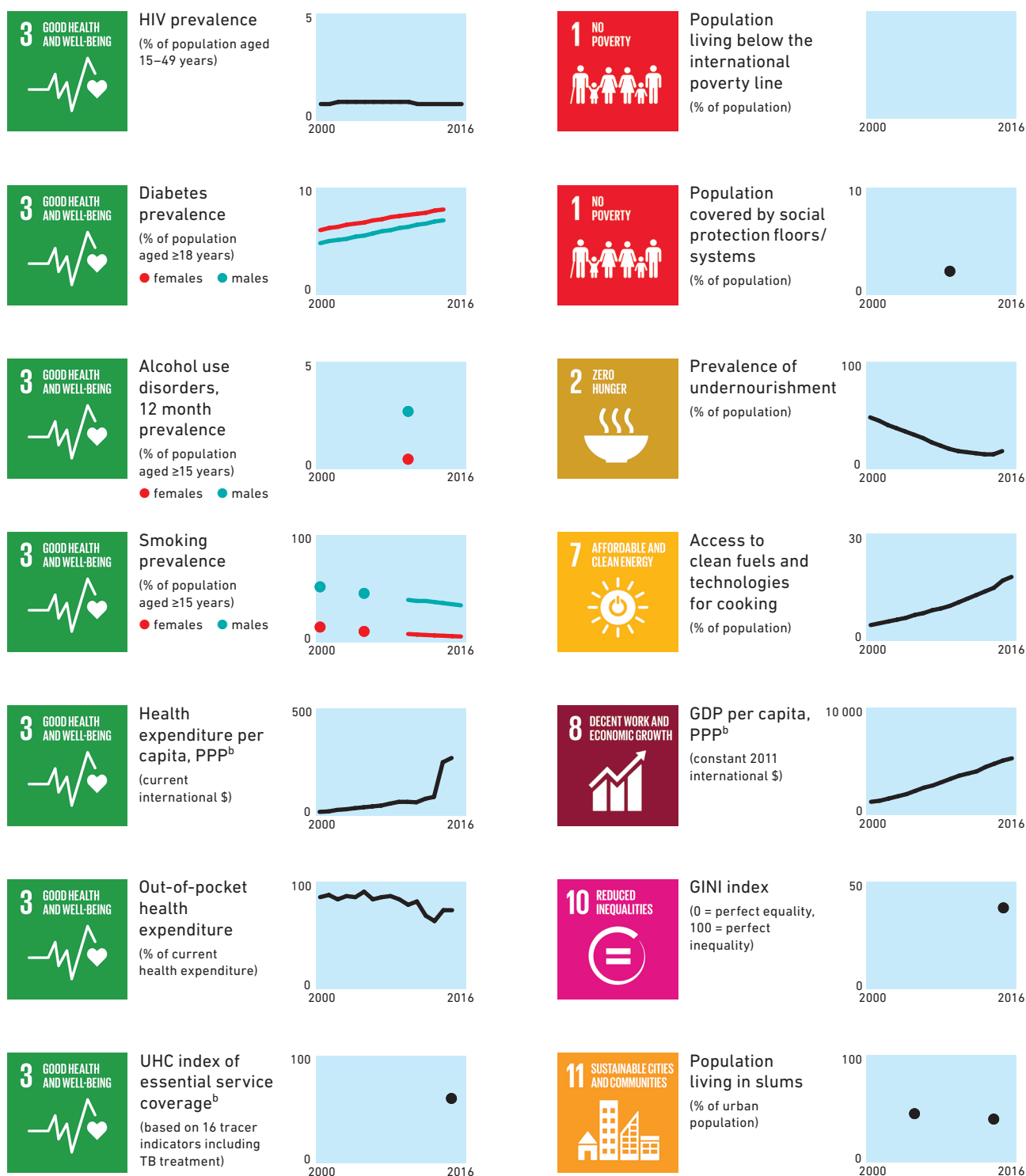
<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.





## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

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<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Nigeria

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	120 (70–183)	63 (36–96)
Mortality (HIV+TB only)	35 (21–52)	18 (11–27)
Incidence (includes HIV+TB)	418 (273–594)	219 (143–311)
Incidence (HIV+TB only)	58 (37–85)	30 (19–44)
Incidence (MDR/RR-TB) <sup>b</sup>	24 (14–36)	12 (7.3–19)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	27 (24–30)	123 (97–148)	150 (115–184)
Males	30 (27–33)	238 (169–307)	268 (186–351)
Total	57 (49–65)	361 (232–490)	418 (273–594)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	104 904
Total new and relapse	102 387
— % tested with rapid diagnostics at time of diagnosis	41%
— % with known HIV status	95%
— % pulmonary	96%
— % bacteriologically confirmed among pulmonary	78%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	24% (17–38)
TB patients facing catastrophic total costs, 2017	71% (68–73)
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.38 (0.2–0.59)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	13 516	14%
— on antiretroviral therapy	11 438	85%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			5 400 (4 200–6 500)
Estimated % of TB cases with MDR/RR-TB	4.3% (3.2–5.5)	25% (19–31)	
% notified tested for rifampicin resistance	41%	61%	43 829
MDR/RR-TB cases tested for resistance to second-line drugs			691
Laboratory-confirmed cases			MDR/RR-TB: 2 286, XDR-TB: 14
Patients started on treatment <sup>d</sup>			MDR/RR-TB: 1 786, XDR-TB: 10

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	86%	97 240
Previously treated cases, excluding relapse, registered in 2016	83%	3 193
HIV-positive TB cases registered in 2016	77%	14 794
MDR/RR-TB cases started on second-line treatment in 2015	78%	656
XDR-TB cases started on second-line treatment in 2015		0

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	39%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	20% (18–21)

## TB FINANCING, 2018

National TB budget (US\$ millions)	409
Funding source:	8% domestic, 16% international, 76% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

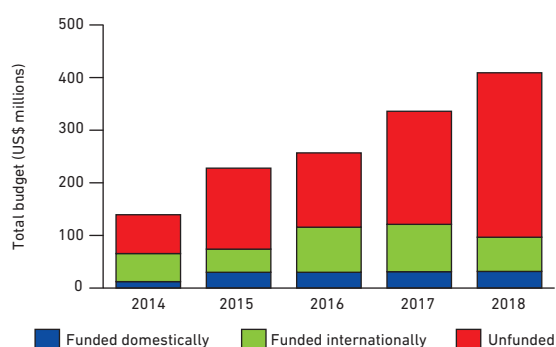
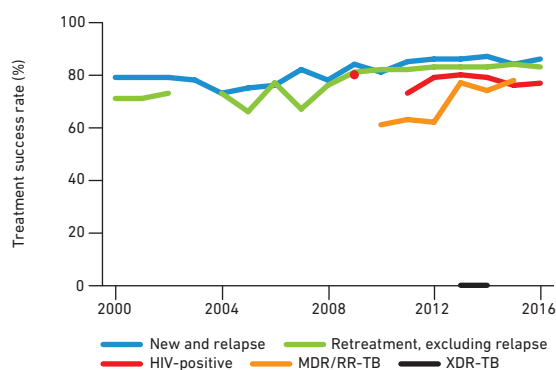
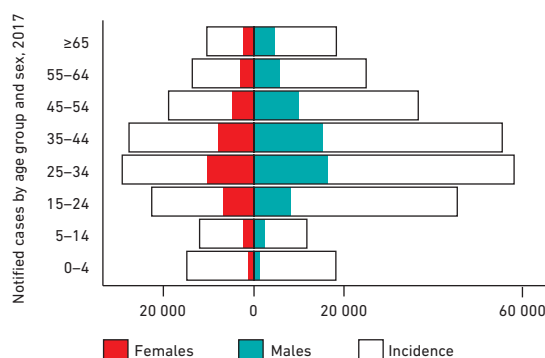
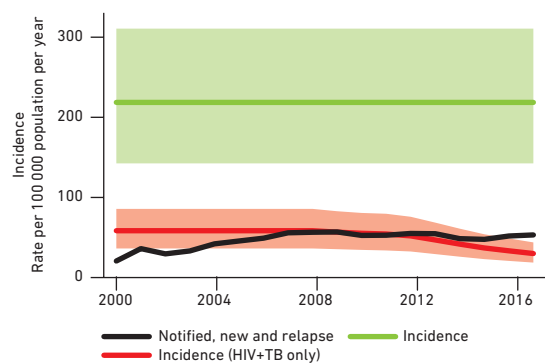
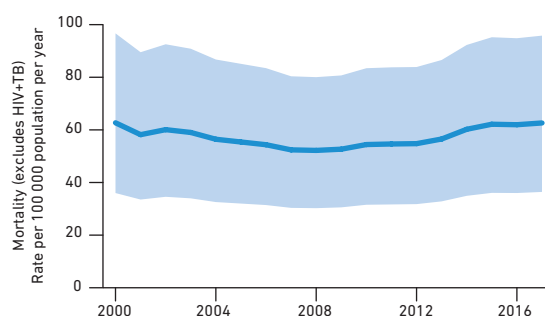
<sup>a</sup> Ranges represent uncertainty intervals.

<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.

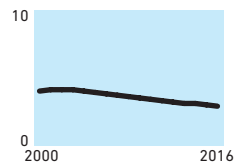
## POPULATION 2017 191 MILLION



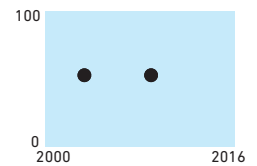
## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



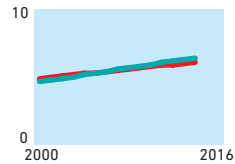
**HIV prevalence**  
(% of population aged 15–49 years)



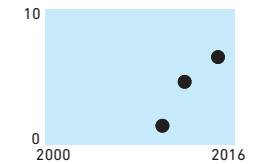
**Population living below the international poverty line**  
(% of population)



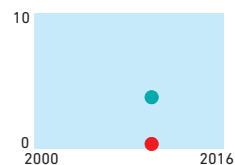
**Diabetes prevalence**  
(% of population aged ≥18 years)  
● females ● males



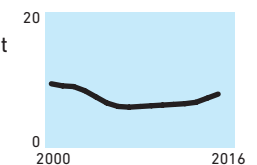
**Population covered by social protection floors/systems**  
(% of population)



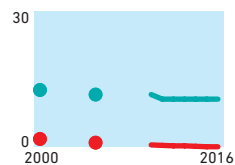
**Alcohol use disorders, 12 month prevalence**  
(% of population aged ≥15 years)  
● females ● males



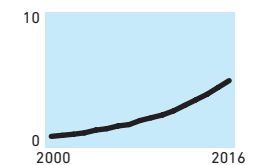
**Prevalence of undernourishment**  
(% of population)



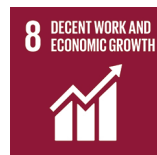
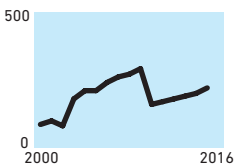
**Smoking prevalence**  
(% of population aged ≥15 years)  
● females ● males



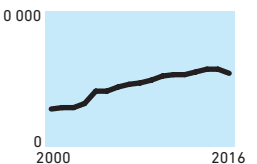
**Access to clean fuels and technologies for cooking**  
(% of population)



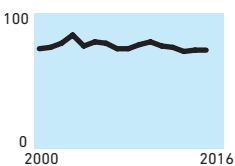
**Health expenditure per capita, PPP<sup>b</sup>**  
(current international \$)



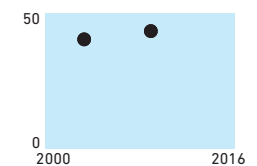
**GDP per capita, PPP<sup>b</sup>**  
(constant 2011 international \$)



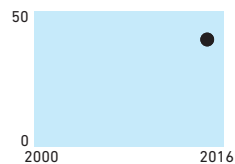
**Out-of-pocket health expenditure**  
(% of current health expenditure)



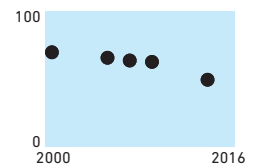
**GINI index**  
(0 = perfect equality, 100 = perfect inequality)



**UHC index of essential service coverage<sup>b</sup>**  
(based on 16 tracer indicators including TB treatment)



**Population living in slums**  
(% of urban population)



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Pakistan

POPULATION 2017 **197 MILLION**

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	54 (42–67)	27 (21–34)
Mortality (HIV+TB only)	2.2 (1.1–3.8)	1.1 (0.56–1.9)
Incidence (includes HIV+TB)	525 (373–704)	267 (189–357)
Incidence (HIV+TB only)	7.3 (3.6–12)	3.7 (1.8–6.2)
Incidence (MDR/RR-TB) <sup>b</sup>	27 (17–39)	14 (8.8–20)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	27 (25–29)	207 (166–248)	235 (185–284)
Males	30 (28–32)	261 (203–319)	291 (223–359)
Total	57 (51–63)	468 (329–607)	525 (373–704)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	368 897
Total new and relapse	359 224
— % tested with rapid diagnostics at time of diagnosis	3%
— % with known HIV status	7%
— % pulmonary	80%
— % bacteriologically confirmed among pulmonary	48%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	68% (51–96)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.11 (0.07–0.15)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	121	<1%
— on antiretroviral therapy	97	80%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			15 000 (12 000–18 000)
Estimated % of TB cases with MDR/RR-TB	4.2% (3.2–5.3)	16% (15–17)	
% notified tested for rifampicin resistance	11%	47%	54 991
MDR/RR-TB cases tested for resistance to second-line drugs			2 887
Laboratory-confirmed cases		MDR/RR-TB: 3 475, XDR-TB: 128	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 3 016, XDR-TB: 65	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	Success	Cohort
New and relapse cases registered in 2016	94%	356 390
Previously treated cases, excluding relapse, registered in 2016	78%	9 671
HIV-positive TB cases registered in 2016		
MDR/RR-TB cases started on second-line treatment in 2015	64%	2 544
XDR-TB cases started on second-line treatment in 2015	29%	77

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	

## TB FINANCING, 2018

National TB budget (US\$ millions)	118
Funding source:	3% domestic, 54% international, 43% unfunded

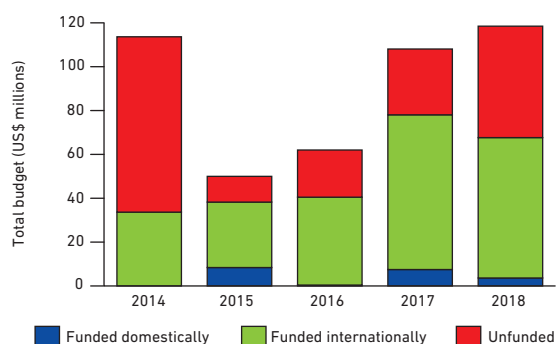
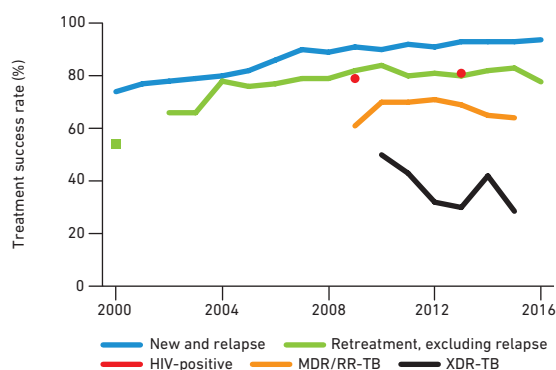
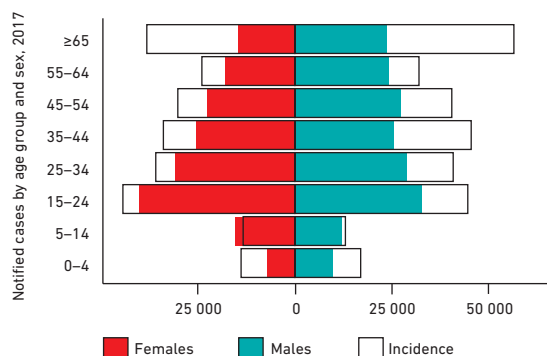
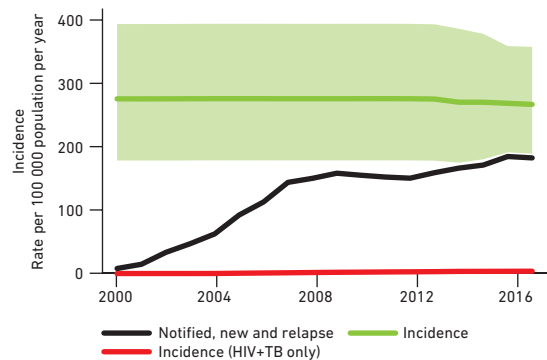
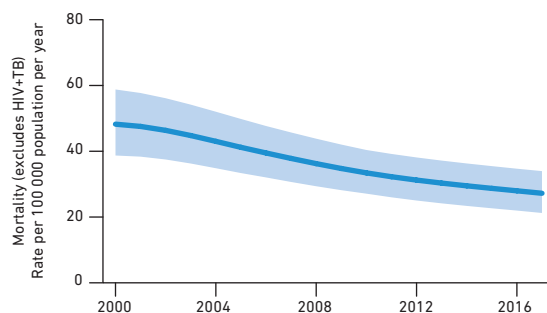
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

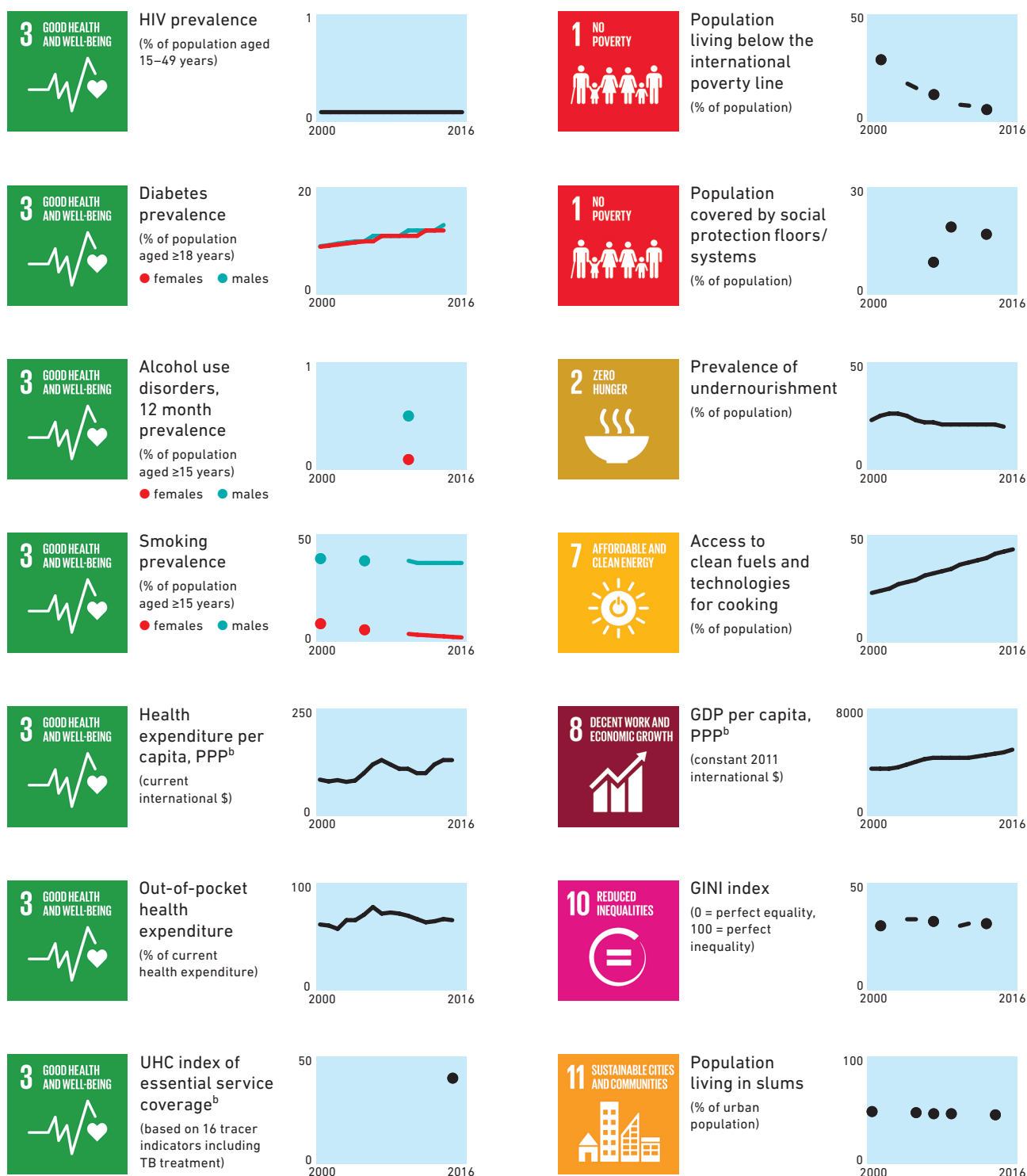
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Philippines

POPULATION 2017 **105 MILLION**

## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	26 (23–31)	25 (22–29)
Mortality (HIV+TB only)	0.38 (0–3.3)	0.36 (0–3.1)
Incidence (includes HIV+TB)	581 (326–909)	554 (311–866)
Incidence (HIV+TB only)	7.1 (2.9–13)	6.7 (2.8–12)
Incidence (MDR/RR-TB) <sup>b</sup>	27 (12–47)	26 (12–45)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	34 (30–38)	139 (105–173)	173 (126–220)
Males	37 (33–42)	371 (223–519)	408 (237–580)
Total	71 (59–84)	510 (271–749)	581 (326–909)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	328 773
Total new and relapse	317 266
— % tested with rapid diagnostics at time of diagnosis	26%
— % with known HIV status	24%
— % pulmonary	98%
— % bacteriologically confirmed among pulmonary	39%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	55% (35–97)
TB patients facing catastrophic total costs, 2017	35%
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.05 (0.03–0.08)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	1 335	2%
— on antiretroviral therapy	1 185	89%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			20 000 (18 000–22 000)
Estimated % of TB cases with MDR/RR-TB	2.6% (1.9–3.4)	28% (27–28)	
% notified tested for rifampicin resistance	19%	83%	93 058
MDR/RR-TB cases tested for resistance to second-line drugs			2 401
Laboratory-confirmed cases		MDR/RR-TB: 6 438, XDR-TB: 15	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 5 623, XDR-TB: 16	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	91%	332 308
Previously treated cases, excluding relapse, registered in 2016	80%	10 097
HIV-positive TB cases registered in 2016	82%	989
MDR/RR-TB cases started on second-line treatment in 2015	54%	3 851
XDR-TB cases started on second-line treatment in 2015	33%	9

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	57%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	12% (11–13)

## TB FINANCING, 2018

National TB budget (US\$ millions)	160
Funding source:	37% domestic, 21% international, 42% unfunded

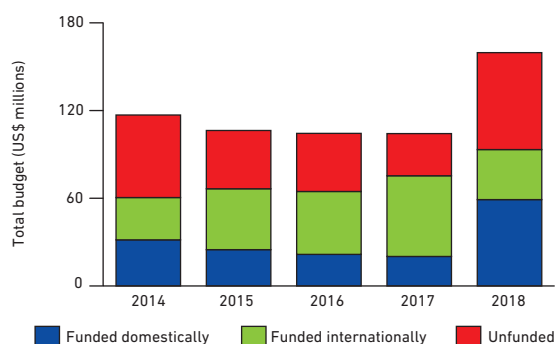
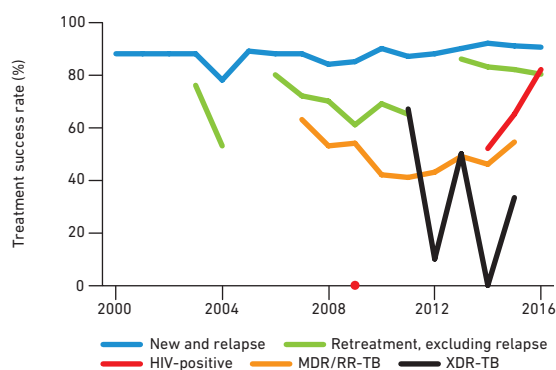
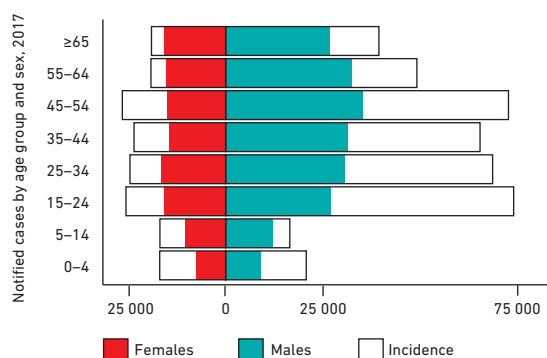
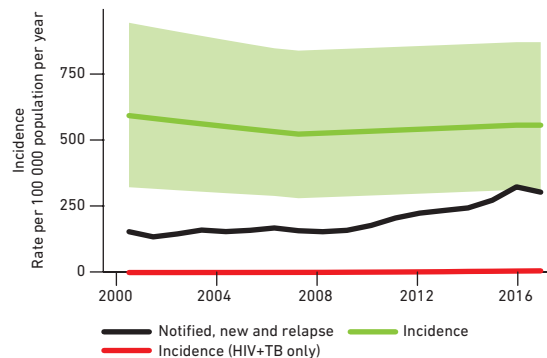
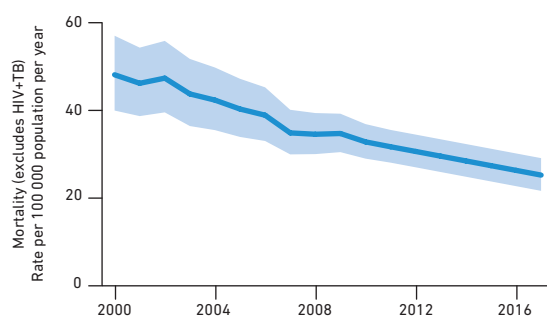
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

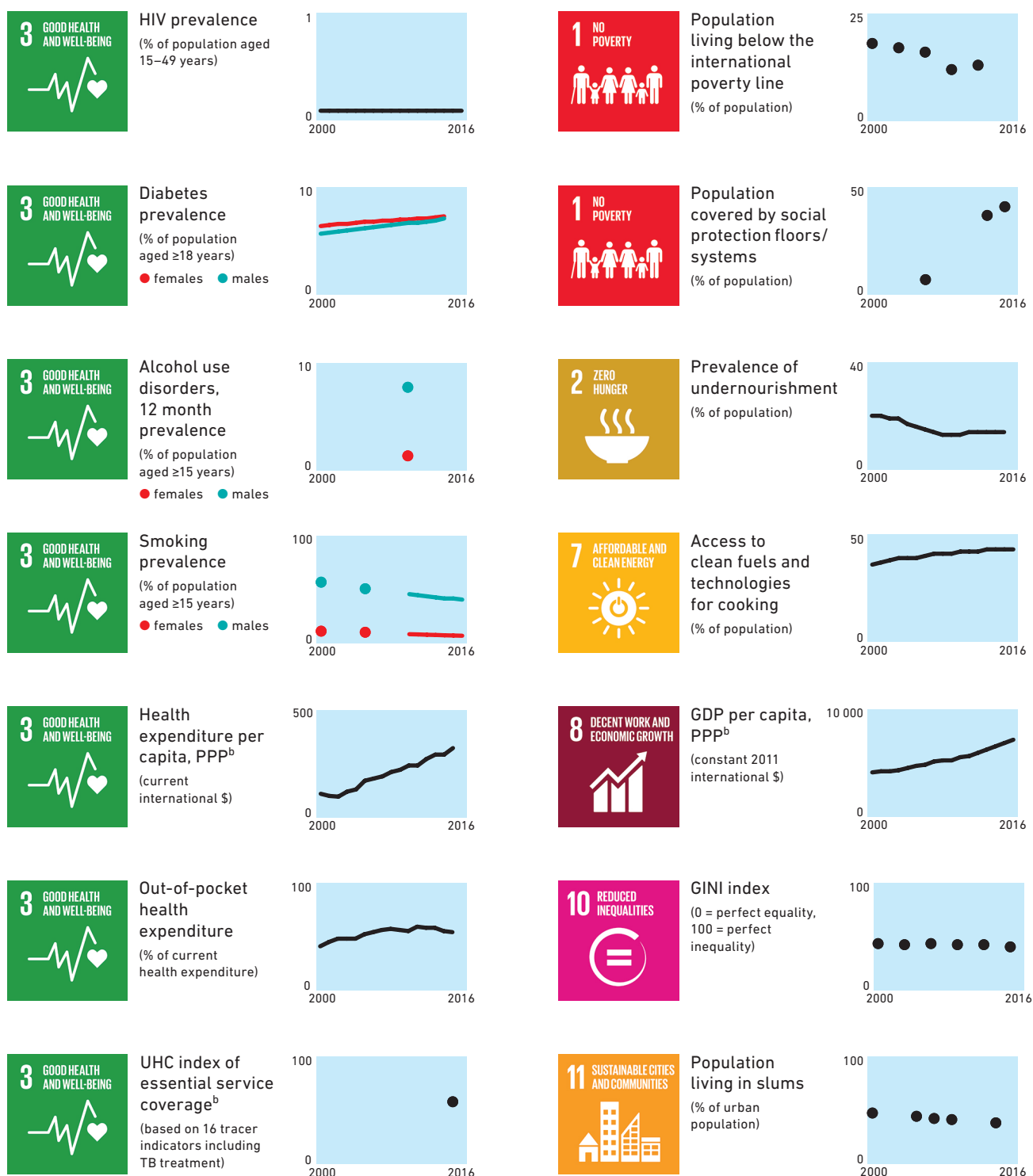
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage



# Russian Federation

POPULATION 2017<sup>a</sup> 144 MILLION

## ESTIMATES OF TB BURDEN, <sup>b</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	10 (9.4–12)	7.3 (6.6–8)
Mortality (HIV+TB only)	1.7 (0.85–2.8)	1.2 (0.59–1.9)
Incidence (includes HIV+TB)	86 (56–123)	60 (39–85)
Incidence (HIV+TB only)	18 (12–26)	13 (8.3–18)
Incidence (MDR/RR-TB) <sup>c</sup>	56 (36–82)	39 (25–57)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>b</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	1.4 (1.3–1.4)	25 (20–30)	26 (21–32)
Males	1.2 (1.1–1.3)	59 (40–78)	60 (40–79)
Total	2.6 (2.4–2.7)	84 (51–116)	86 (56–123)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	114 187
Total new and relapse	84 510
— % tested with rapid diagnostics at time of diagnosis	78%
— % with known HIV status	96%
— % pulmonary	92%
— % bacteriologically confirmed among pulmonary	52%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	98% (69–150)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.15 (0.09–0.21)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	15 695	19%
— on antiretroviral therapy	9 748	62%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>d</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			49 000 (49 000–50 000)
Estimated % of TB cases with MDR/RR-TB	32% (31–33)	67% (66–67)	
% notified tested for rifampicin resistance	42%	58%	55 344
MDR/RR-TB cases tested for resistance to second-line drugs			23 098
Laboratory-confirmed cases		MDR/RR-TB: 26 602, XDR-TB: 3 661	
Patients started on treatment <sup>e</sup>		MDR/RR-TB: 26 457, XDR-TB: 2 770	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	72%	73 137
Previously treated cases, excluding relapse, registered in 2016	49%	9 245
HIV-positive TB cases registered in 2016	53%	1 328
MDR/RR-TB cases started on second-line treatment in 2015	54%	22 607
XDR-TB cases started on second-line treatment in 2015	33%	2 882

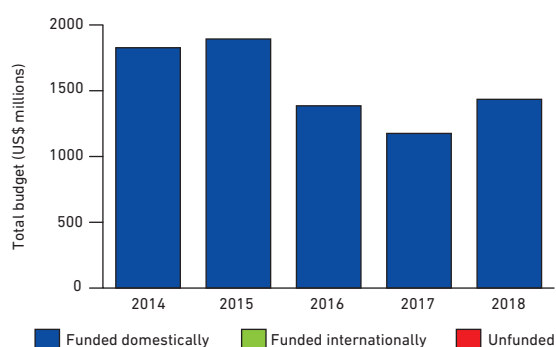
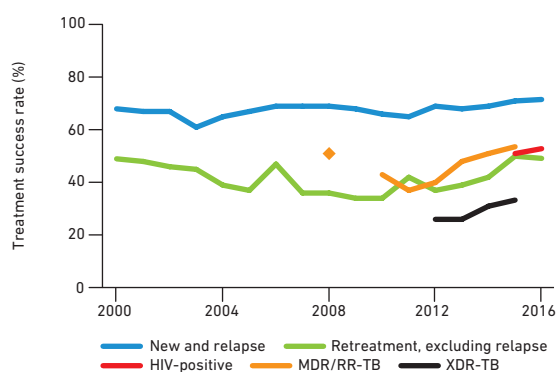
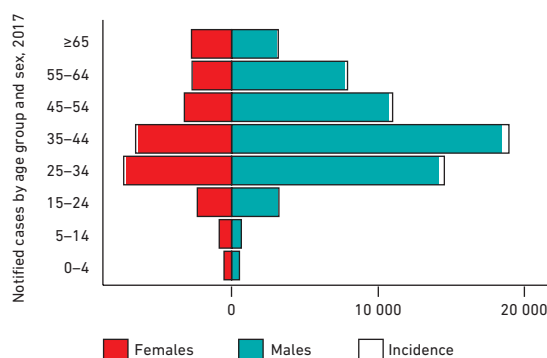
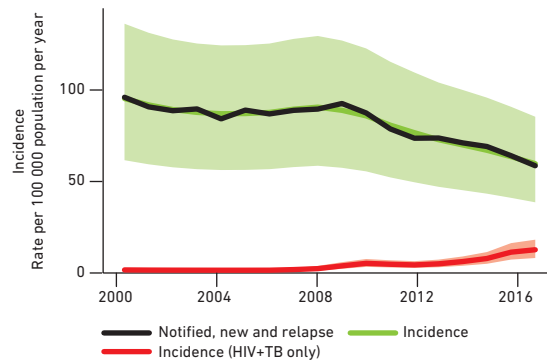
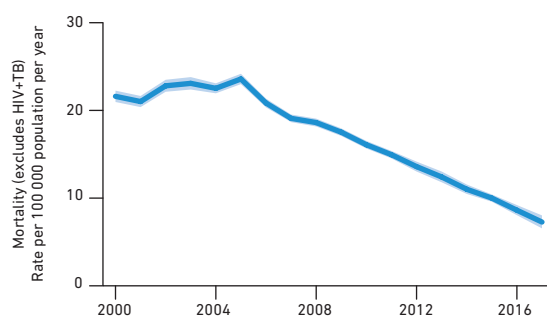
## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	97%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment <sup>f</sup>	> 100%

## TB FINANCING, 2018

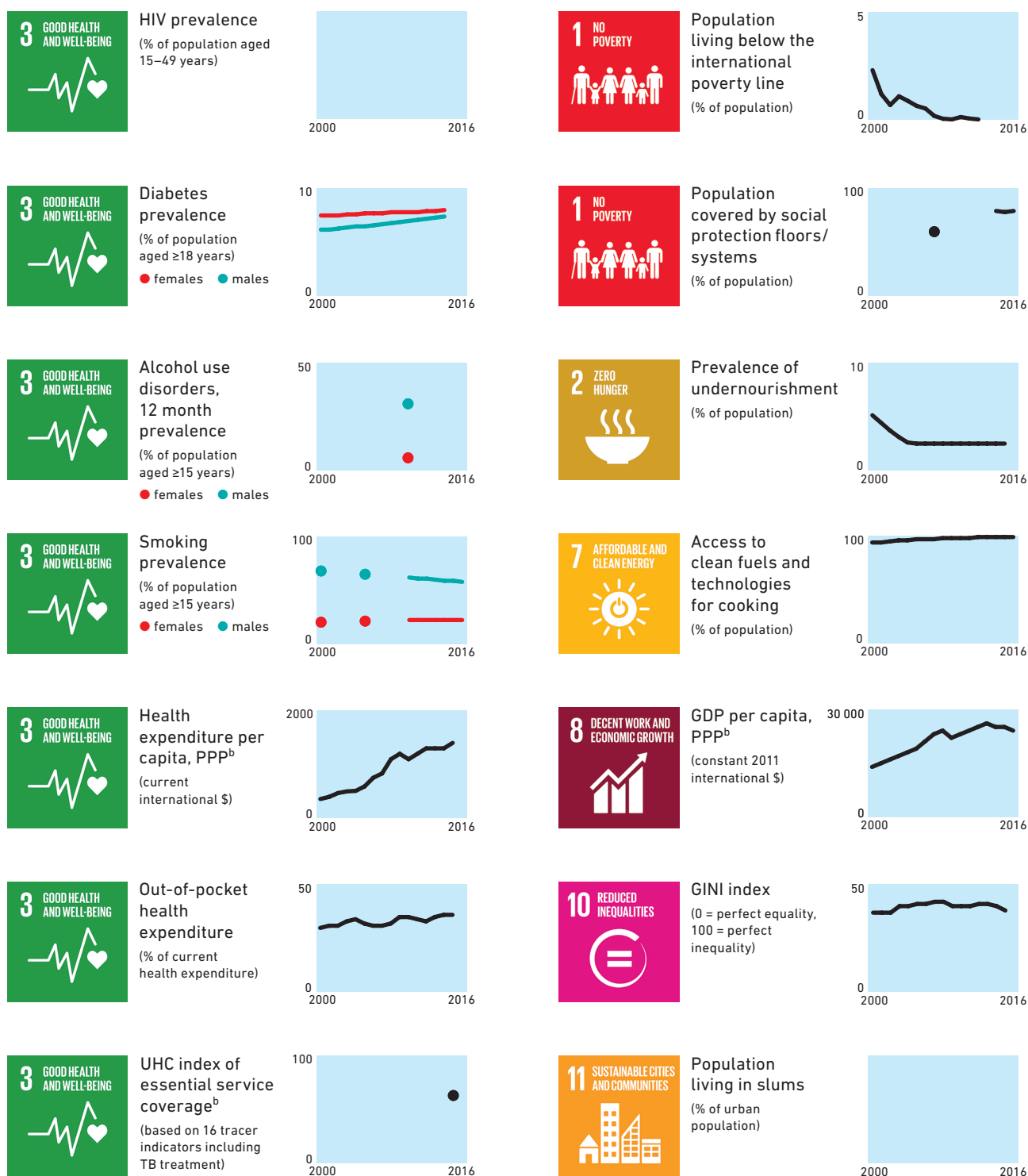
National TB budget (US\$ millions)	1 435
Funding source:	100% domestic, 0% international, 0% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.  
<sup>a</sup> UN Population Division estimates are lower than the population registered by the Federal State Statistics Service of the Russian Federation.  
<sup>b</sup> Ranges represent uncertainty intervals.  
<sup>c</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.  
<sup>d</sup> Includes cases with unknown previous TB treatment history.  
<sup>e</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.  
<sup>f</sup> Reasons for higher than expected coverage might be that the numerator did not exclude non-household contacts or children of five years and older.





## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

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<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# South Africa

POPULATION 2017 **57 MILLION**

## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	22 (20–24)	39 (35–43)
Mortality (HIV+TB only)	56 (39–77)	99 (68–135)
Incidence (includes HIV+TB)	322 (230–428)	567 (406–754)
Incidence (HIV+TB only)	193 (137–258)	340 (241–455)
Incidence (MDR/RR-TB) <sup>b</sup>	14 (8.9–20)	25 (16–36)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	18 (17–19)	117 (95–138)	135 (108–161)
Males	20 (18–21)	167 (130–204)	187 (143–231)
Total	38 (34–42)	284 (202–366)	322 (230–428)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	227 224
Total new and relapse	220 163
— % tested with rapid diagnostics at time of diagnosis	66%
— % with known HIV status	94%
— % pulmonary	89%
— % bacteriologically confirmed among pulmonary	65%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	68% (51–96)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.25 (0.16–0.35)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	123 148	60%
— on antiretroviral therapy	109 799	89%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			7 700 (6 000–9 400)
Estimated % of TB cases with MDR/RR-TB	3.4% (2.5–4.3)	7.1% (4.8–9.5)	
% notified tested for rifampicin resistance	64%	68%	150 548
MDR/RR-TB cases tested for resistance to second-line drugs			
Laboratory-confirmed cases		MDR/RR-TB: 15 986, XDR-TB: 747	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 10 259, XDR-TB: 463	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	82%	236 702
Previously treated cases, excluding relapse, registered in 2016	62%	5 129
HIV-positive TB cases registered in 2016	80%	133 710
MDR/RR-TB cases started on second-line treatment in 2015	55%	9 750
XDR-TB cases started on second-line treatment in 2015	48%	427

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	53%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	79% (72–86)

## TB FINANCING, 2018

National TB budget (US\$ millions)	271
Funding source:	91% domestic, 8% international, <1% unfunded

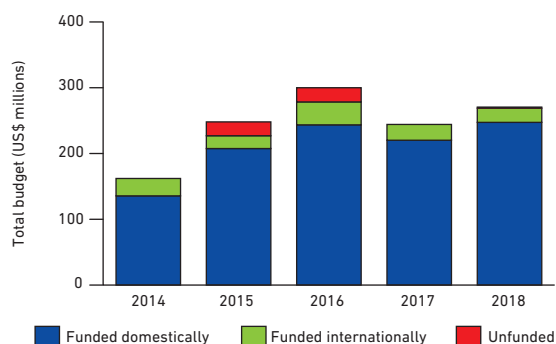
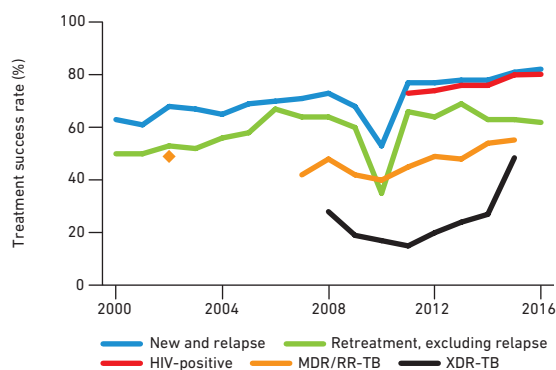
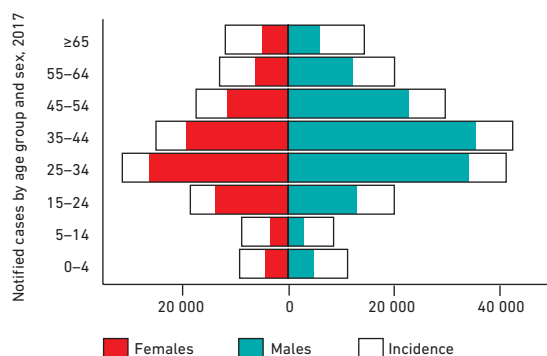
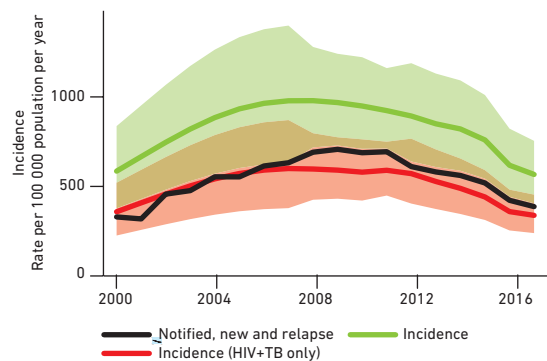
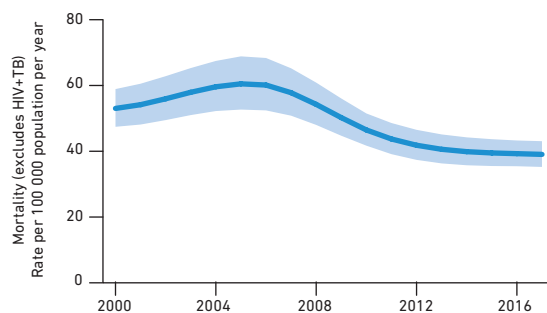
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals. Estimates of TB incidence and mortality for South Africa will be reviewed after final results from their national TB prevalence survey are available in 2019.

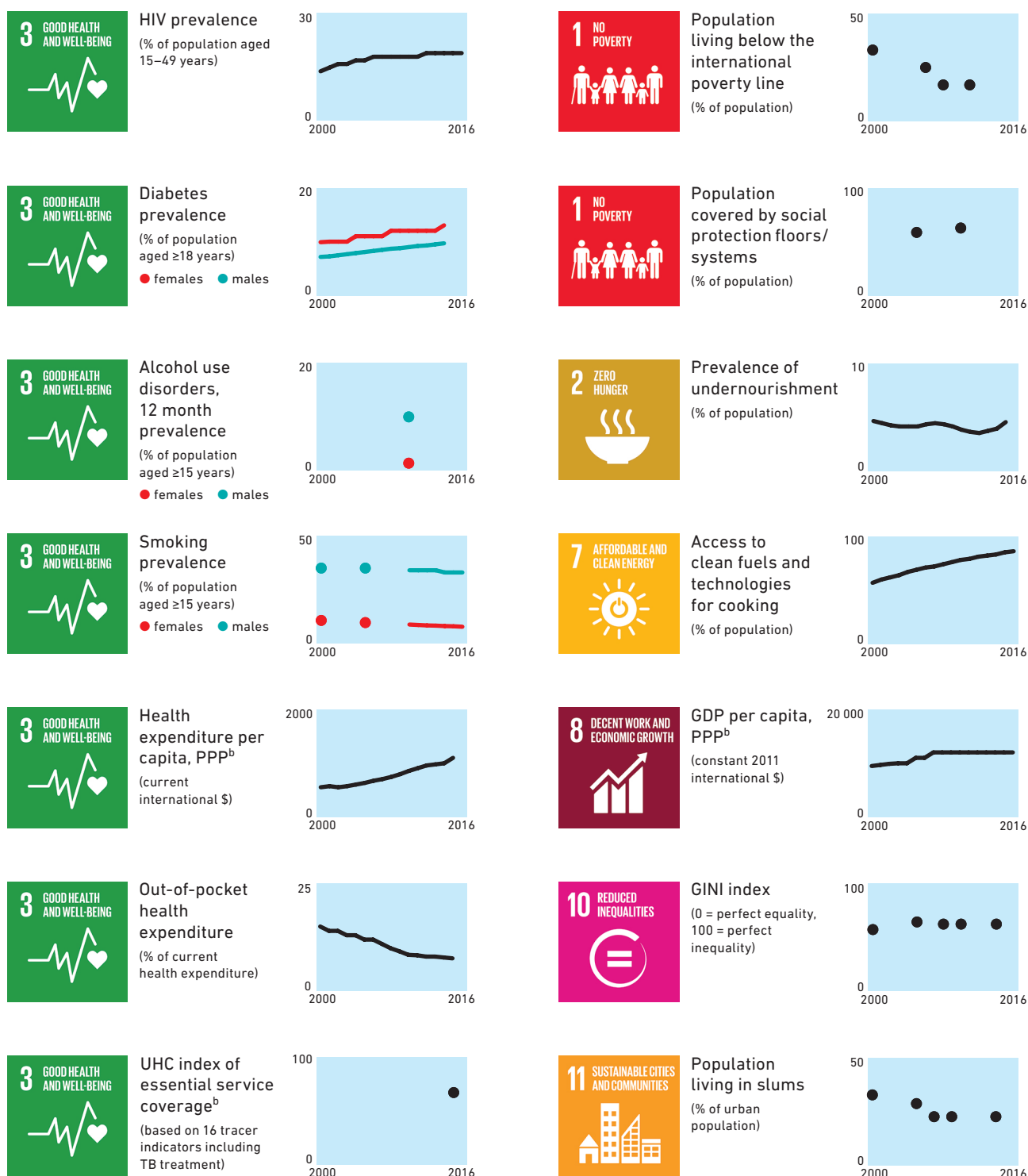
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Thailand

POPULATION 2017 **69 MILLION**

## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	9.3 (7–12)	13 (10–17)
Mortality (HIV+TB only)	2.9 (2.1–3.8)	4.2 (3.1–5.6)
Incidence (includes HIV+TB)	108 (82–138)	156 (119–199)
Incidence (HIV+TB only)	11 (8.5–15)	16 (12–21)
Incidence (MDR/RR-TB)**	3.9 (2.5–5.7)	5.7 (3.6–8.2)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	4.1 (3.9–4.3)	33 (28–37)	37 (31–42)
Males	4.4 (4.2–4.7)	67 (53–81)	71 (56–86)
Total	8.5 (7.9–9.1)	100 (75–124)	108 (82–138)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	82 008
Total new and relapse	80 160
— % tested with rapid diagnostics at time of diagnosis	12%
— % with known HIV status	82%
— % pulmonary	83%
— % bacteriologically confirmed among pulmonary	55%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	74% (58–98)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.11 (0.08–0.16)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	7 130	11%
— on antiretroviral therapy	4 577	64%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			2 700 (2 100–3 300)
Estimated % of TB cases with MDR/RR-TB	2.2% (1.5–3)	24% (18–31)	
% notified tested for rifampicin resistance	24%	37%	24 470
MDR/RR-TB cases tested for resistance to second-line drugs			272
Laboratory-confirmed cases			MDR/RR-TB: 1 339, XDR-TB: 7
Patients started on treatment <sup>d</sup>			MDR/RR-TB: 851, XDR-TB: 8

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	83%	68 146
Previously treated cases, excluding relapse, registered in 2016	71%	3 806
HIV-positive TB cases registered in 2016	72%	6 552
MDR/RR-TB cases started on second-line treatment in 2015	60%	352
XDR-TB cases started on second-line treatment in 2015		

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	5% (4.6–5.5)

## TB FINANCING, 2018

National TB budget (US\$ millions)	26
Funding source:	87% domestic, 13% international, 0% unfunded

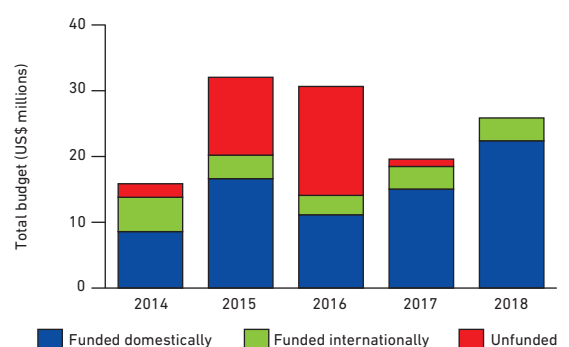
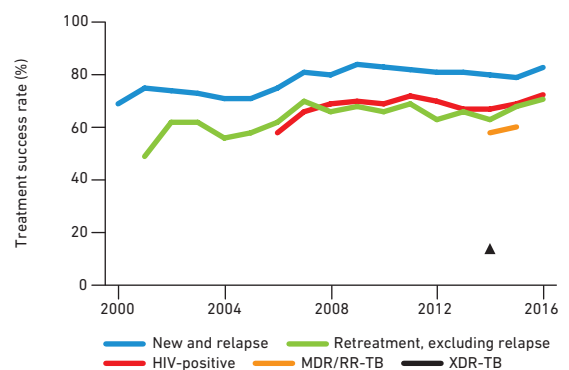
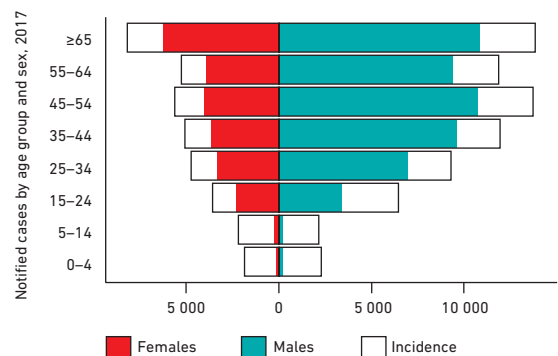
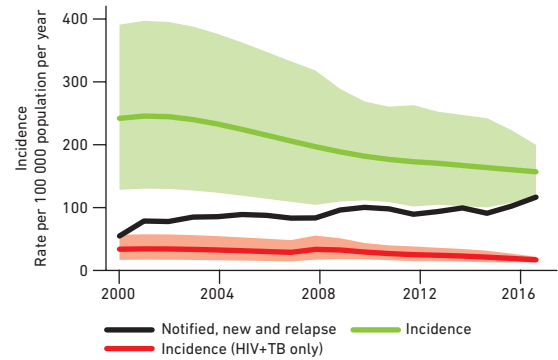
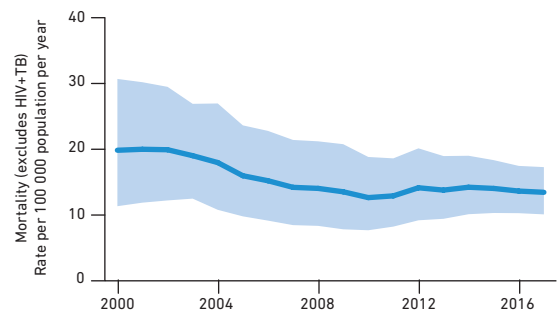
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

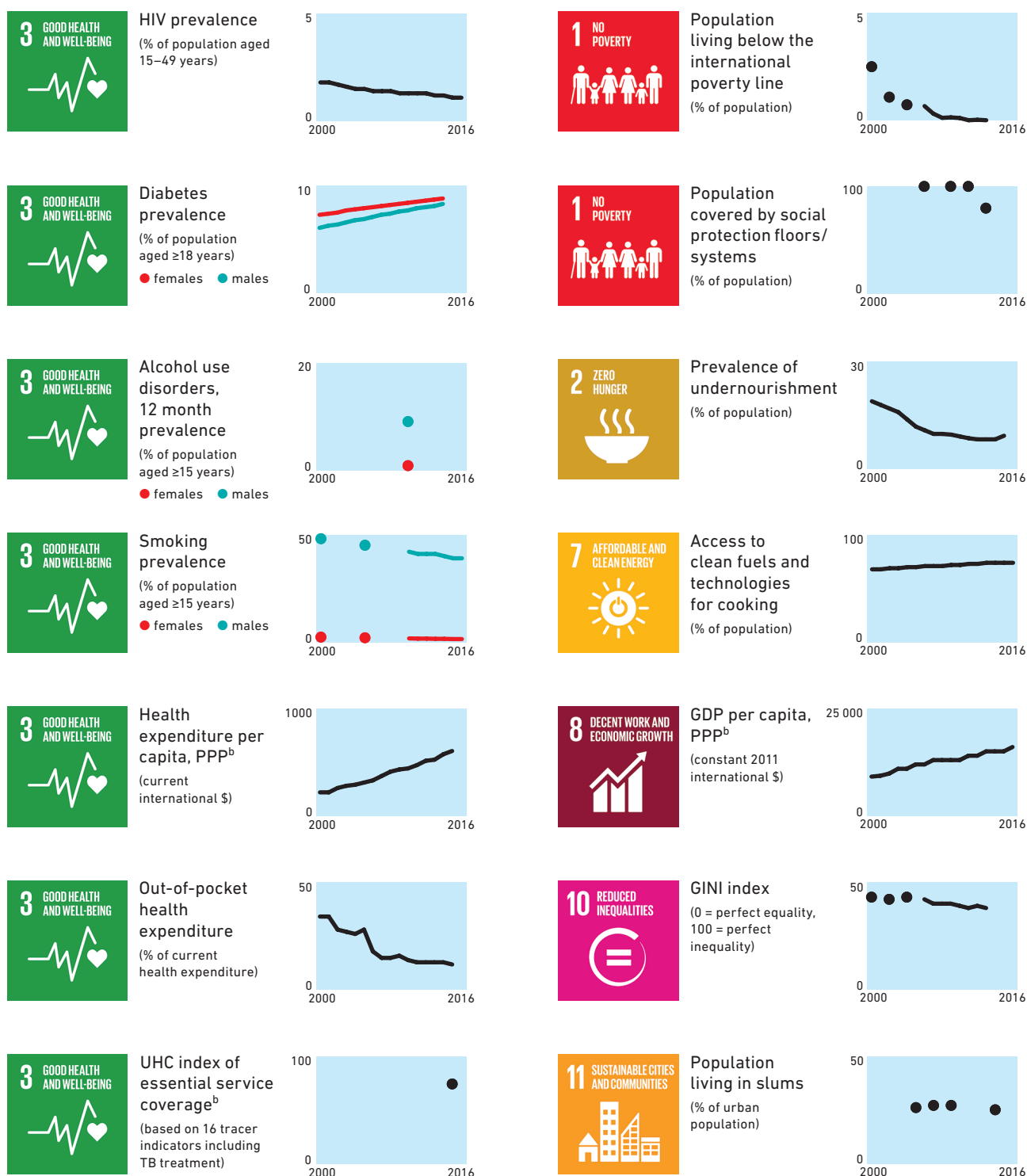
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

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<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# United Republic of Tanzania

POPULATION 2017 **57 MILLION**

## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	27 (12–48)	47 (21–83)
Mortality (HIV+TB only)	22 (10–38)	39 (18–67)
Incidence (includes HIV+TB)	154 (73–266)	269 (127–464)
Incidence (HIV+TB only)	48 (31–69)	84 (54–120)
Incidence (MDR/RR-TB)**	1.7 (0.52–3.5)	2.9 (0.91–6)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	4.1 (3.7–4.5)	46 (30–62)	50 (32–68)
Males	4.6 (4.1–5)	100 (50–150)	104 (51–158)
Total	8.7 (7.4–9.9)	146 (57–234)	154 (73–266)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	69 818
Total new and relapse	68 473
— % tested with rapid diagnostics at time of diagnosis	14%
— % with known HIV status	98%
— % pulmonary	80%
— % bacteriologically confirmed among pulmonary	52%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	44% (26–94)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.35 (0.13–0.62)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	21 449	31%
— on antiretroviral therapy	20 314	95%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			640 (290–980)
Estimated % of TB cases with MDR/RR-TB	0.9% (0.3–1.5)	4.7% (0.7–8.6)	
% notified tested for rifampicin resistance	14%	56%	11 769
MDR/RR-TB cases tested for resistance to second-line drugs			44
Laboratory-confirmed cases		MDR/RR-TB: 200, XDR-TB: 0	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 167, XDR-TB: 0	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	90%	64 609
Previously treated cases, excluding relapse, registered in 2016	81%	1 334
HIV-positive TB cases registered in 2016	85%	22 642
MDR/RR-TB cases started on second-line treatment in 2015	74%	119
XDR-TB cases started on second-line treatment in 2015	100%	1

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	35% (32–38)

## TB FINANCING, 2018

National TB budget (US\$ millions)	64
Funding source:	3% domestic, 46% international, 52% unfunded

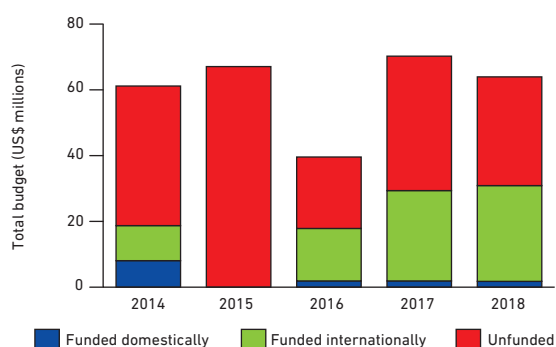
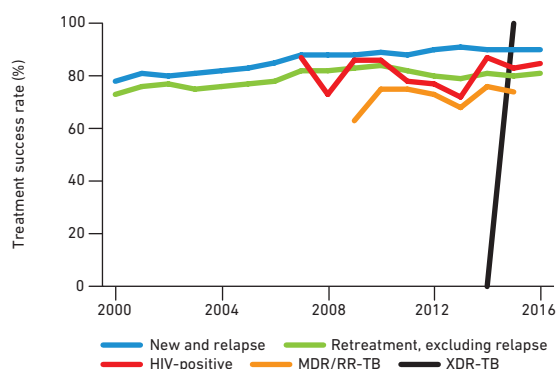
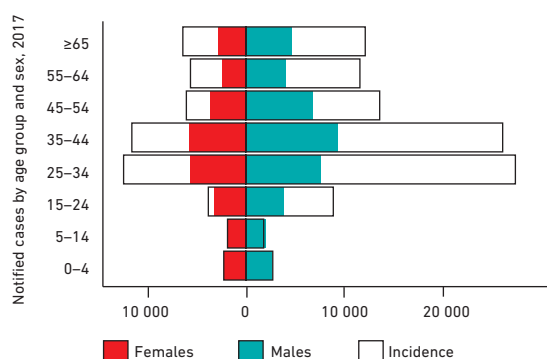
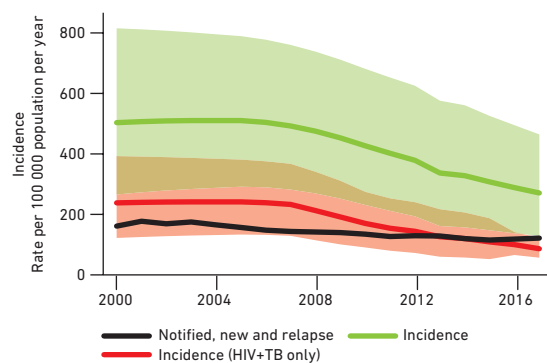
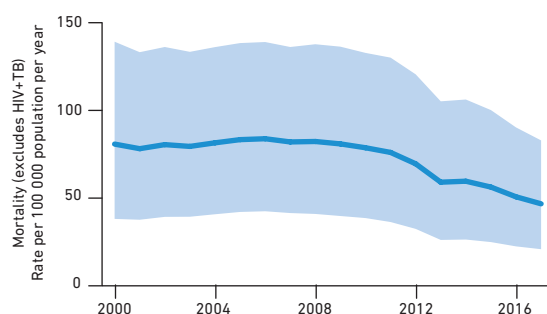
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

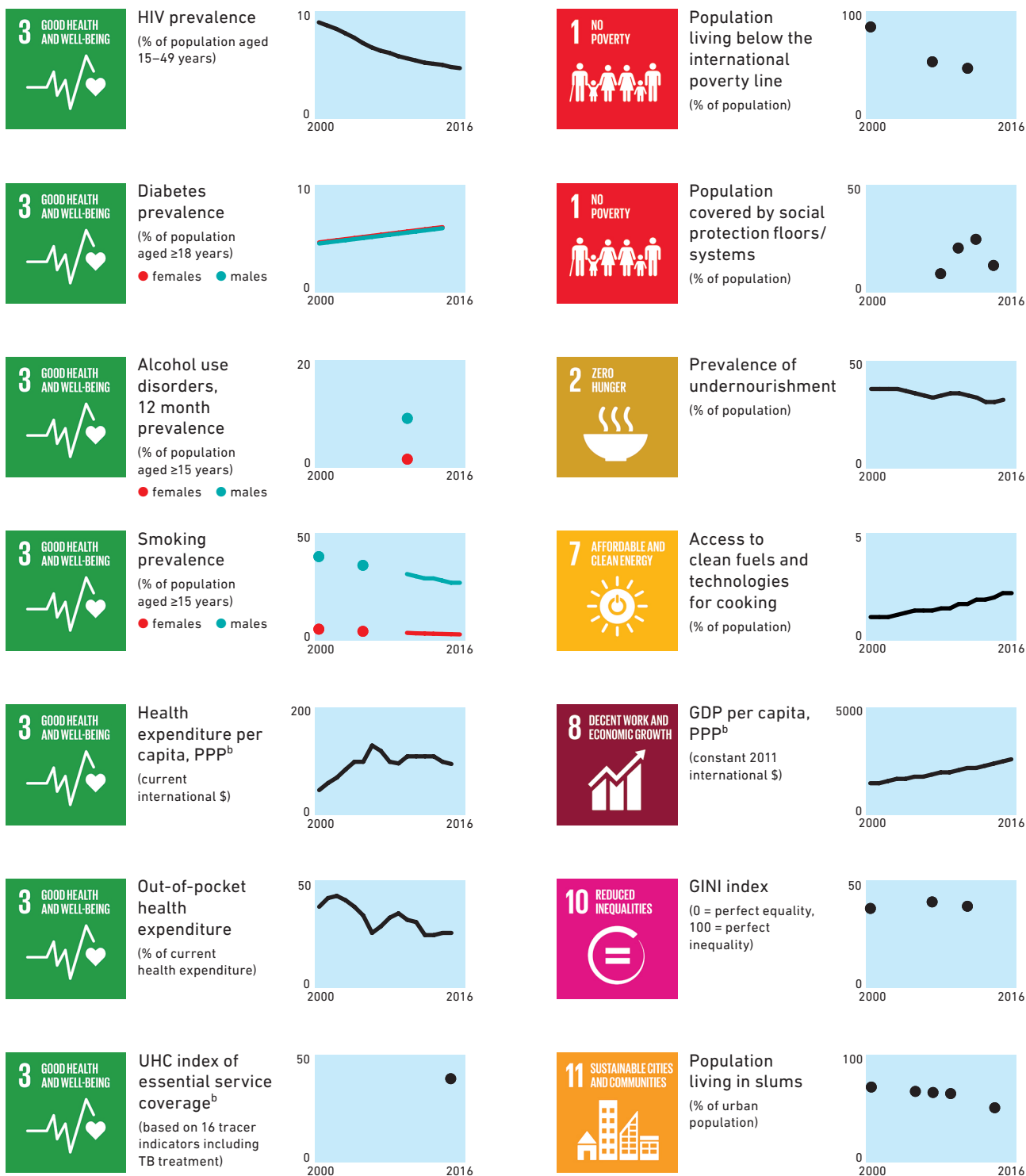
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

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<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage



## ESTIMATES OF TB BURDEN,<sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	12 (7.5–17)	12 (7.8–17)
Mortality (HIV+TB only)	0.84 (0.61–1.1)	0.88 (0.64–1.2)
Incidence (includes HIV+TB)	124 (101–148)	129 (106–155)
Incidence (HIV+TB only)	4.5 (3.7–5.4)	4.7 (3.8–5.7)
Incidence (MDR/RR-TB)**	7.1 (4.6–10)	7.4 (4.8–11)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS),<sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	6.6 (6.3–6.9)	30 (27–33)	37 (33–40)
Males	8.5 (8.1–8.9)	79 (67–90)	87 (73–101)
Total	15 (14–16)	109 (89–128)	124 (101–148)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	105 733
Total new and relapse	102 725
— % tested with rapid diagnostics at time of diagnosis	26%
— % with known HIV status	85%
— % pulmonary	80%
— % bacteriologically confirmed among pulmonary	70%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	83% (69–100)
TB patients facing catastrophic total costs, 2016	63% (58–67)
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.1 (0.06–0.15)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	3 239	4%
— on antiretroviral therapy	3 054	94%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			4 900 (3 800–6 000)
Estimated % of TB cases with MDR/RR-TB	4.1% (2.7–5.7)	17% (17–18)	
% notified tested for rifampicin resistance	32%	67%	41 595
MDR/RR-TB cases tested for resistance to second-line drugs			1 484
Laboratory-confirmed cases		MDR/RR-TB: 3 071, XDR-TB: 50	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 2 694, XDR-TB: 12	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	92%	99 869
Previously treated cases, excluding relapse, registered in 2016	86%	4 430
HIV-positive TB cases registered in 2016	49%	2 669
MDR/RR-TB cases started on second-line treatment in 2015	74%	2 045
XDR-TB cases started on second-line treatment in 2015		

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	31%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	26% (24–29)

## TB FINANCING, 2018

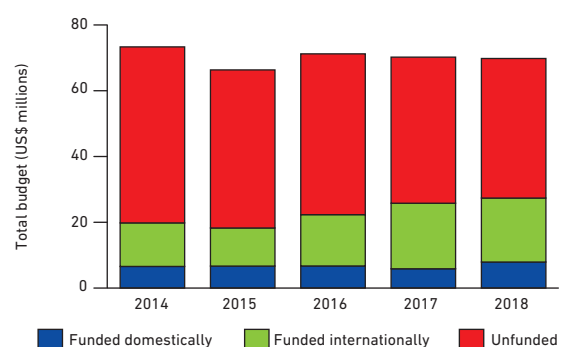
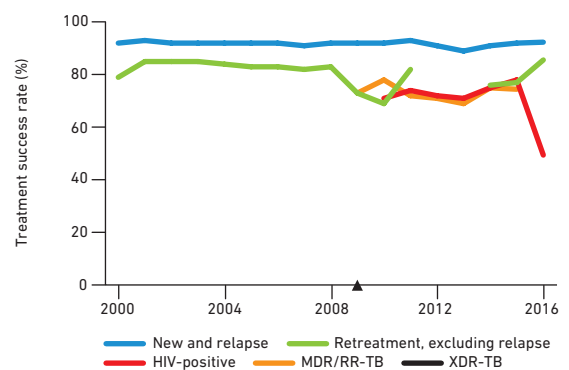
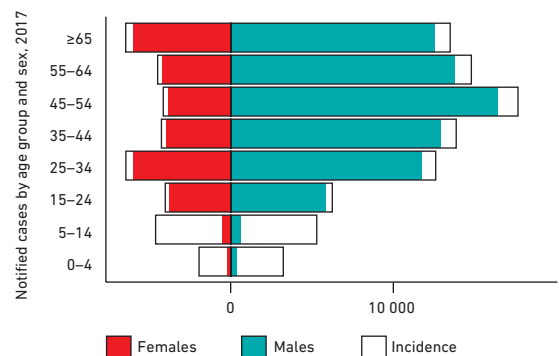
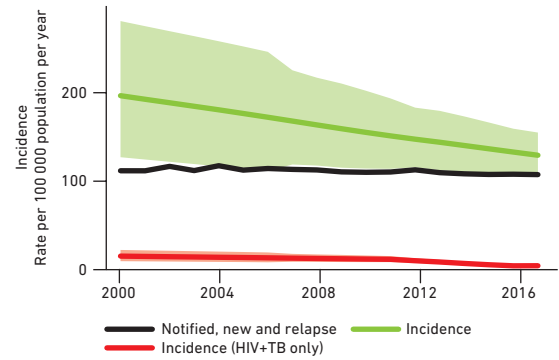
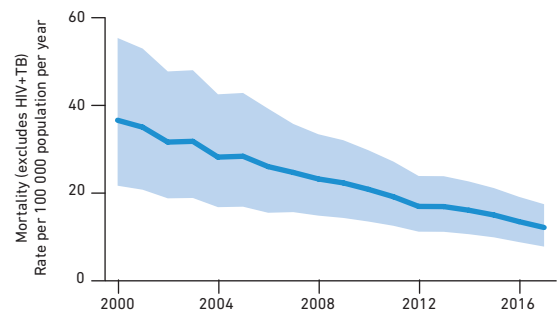
National TB budget (US\$ millions)	70
Funding source:	11% domestic, 28% international, 61% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.  
<sup>a</sup> Ranges represent uncertainty intervals. Estimates of TB incidence and mortality for Viet Nam will be reviewed after final results from their national TB prevalence survey are available in 2019.

<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

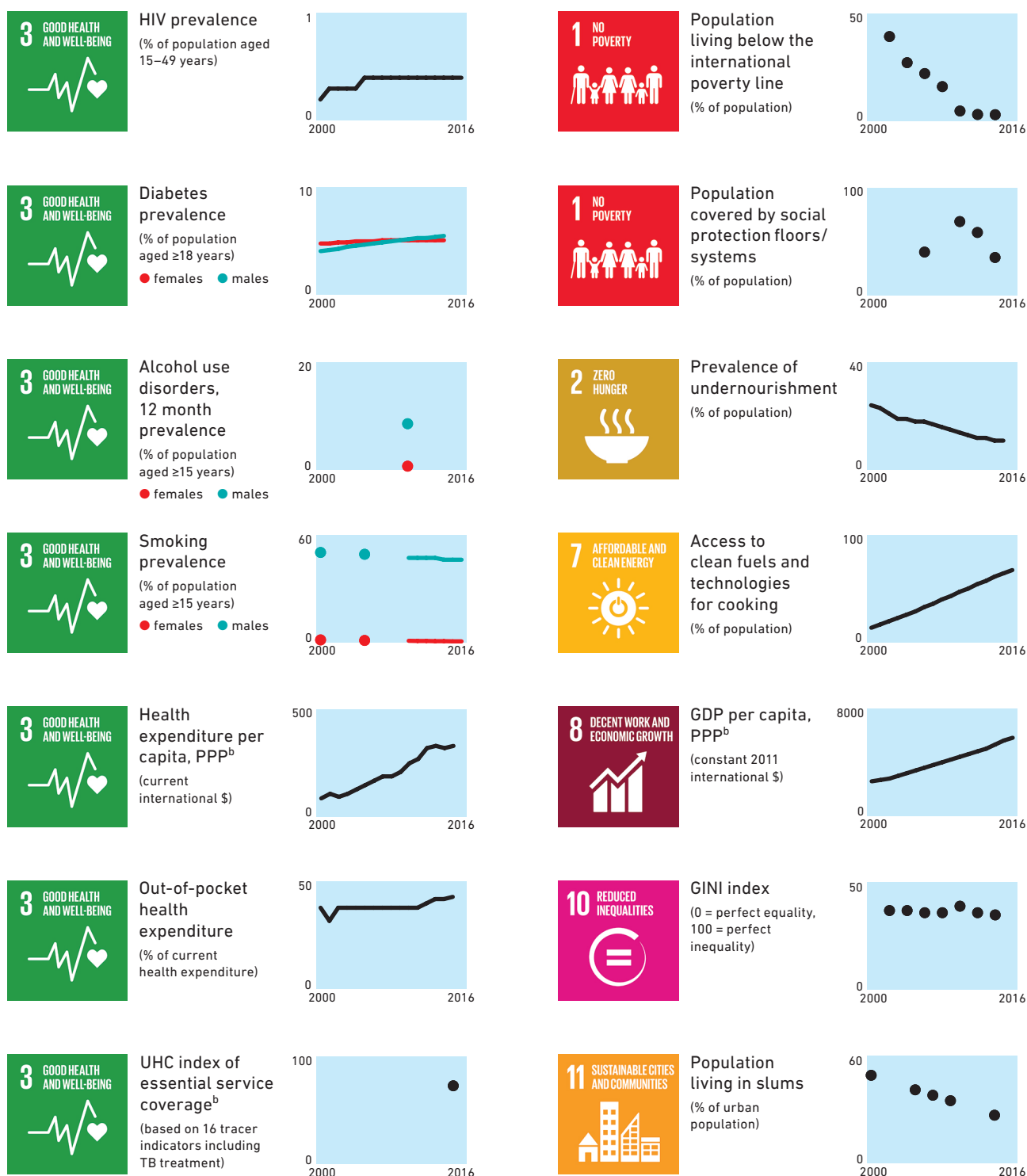
<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.





## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

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<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Cambodia

POPULATION 2017 **16 MILLION**

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	3.1 (2–4.3)	19 (13–27)
Mortality (HIV+TB only)	0.41 (0.27–0.57)	2.6 (1.7–3.6)
Incidence (includes HIV+TB)	52 (36–72)	326 (224–447)
Incidence (HIV+TB only)	1.3 (0.89–1.8)	8.2 (5.6–11)
Incidence (MDR/RR-TB)**	1.2 (0.52–2.1)	7.2 (3.2–13)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	3.1 (2.9–3.4)	19 (15–22)	22 (17–27)
Males	3.4 (3.1–3.7)	27 (20–34)	30 (22–38)
Total	6.6 (5.8–7.4)	46 (31–60)	52 (36–72)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	34 467
Total new and relapse	34 238
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	87%
— % pulmonary	66%
— % bacteriologically confirmed among pulmonary	54%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	66% (48–96)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.07 (0.04–0.1)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	748	3%
— on antiretroviral therapy	698	93%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			560 (290–840)
Estimated % of TB cases with MDR/RR-TB	1.8% (0.9–3)	11% (3.2–22)	
% notified tested for rifampicin resistance		33%	1 313
MDR/RR-TB cases tested for resistance to second-line drugs			100
Laboratory-confirmed cases		MDR/RR-TB: 136, XDR-TB: 1	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 143, XDR-TB: 1	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	94%	32 478
Previously treated cases, excluding relapse, registered in 2016	92%	38
HIV-positive TB cases registered in 2016		
MDR/RR-TB cases started on second-line treatment in 2015	71%	75
XDR-TB cases started on second-line treatment in 2015		0

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	21%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	44% (40–48)

## TB FINANCING, 2018

National TB budget (US\$ millions)	37
Funding source:	12% domestic, 24% international, 64% unfunded

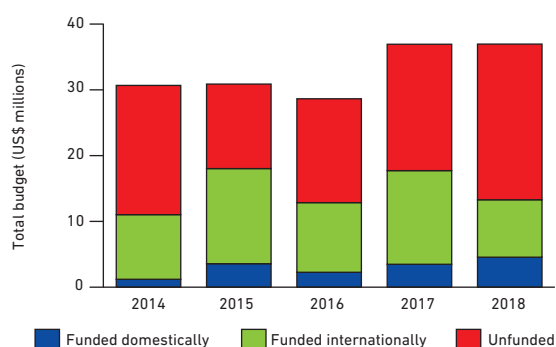
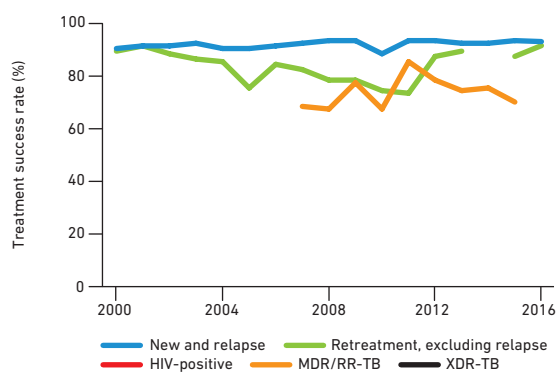
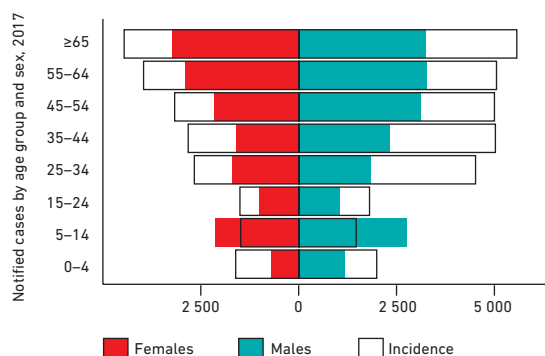
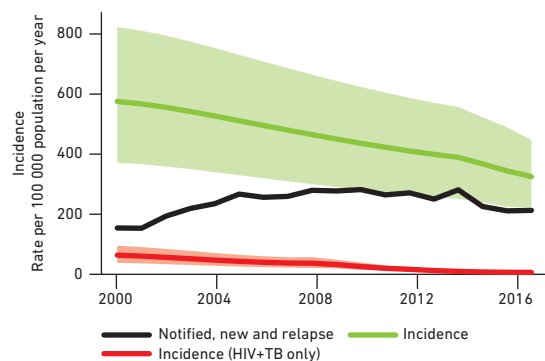
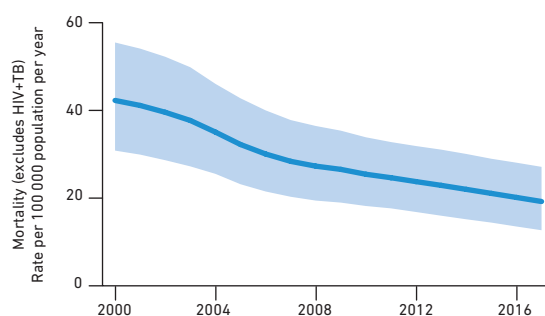
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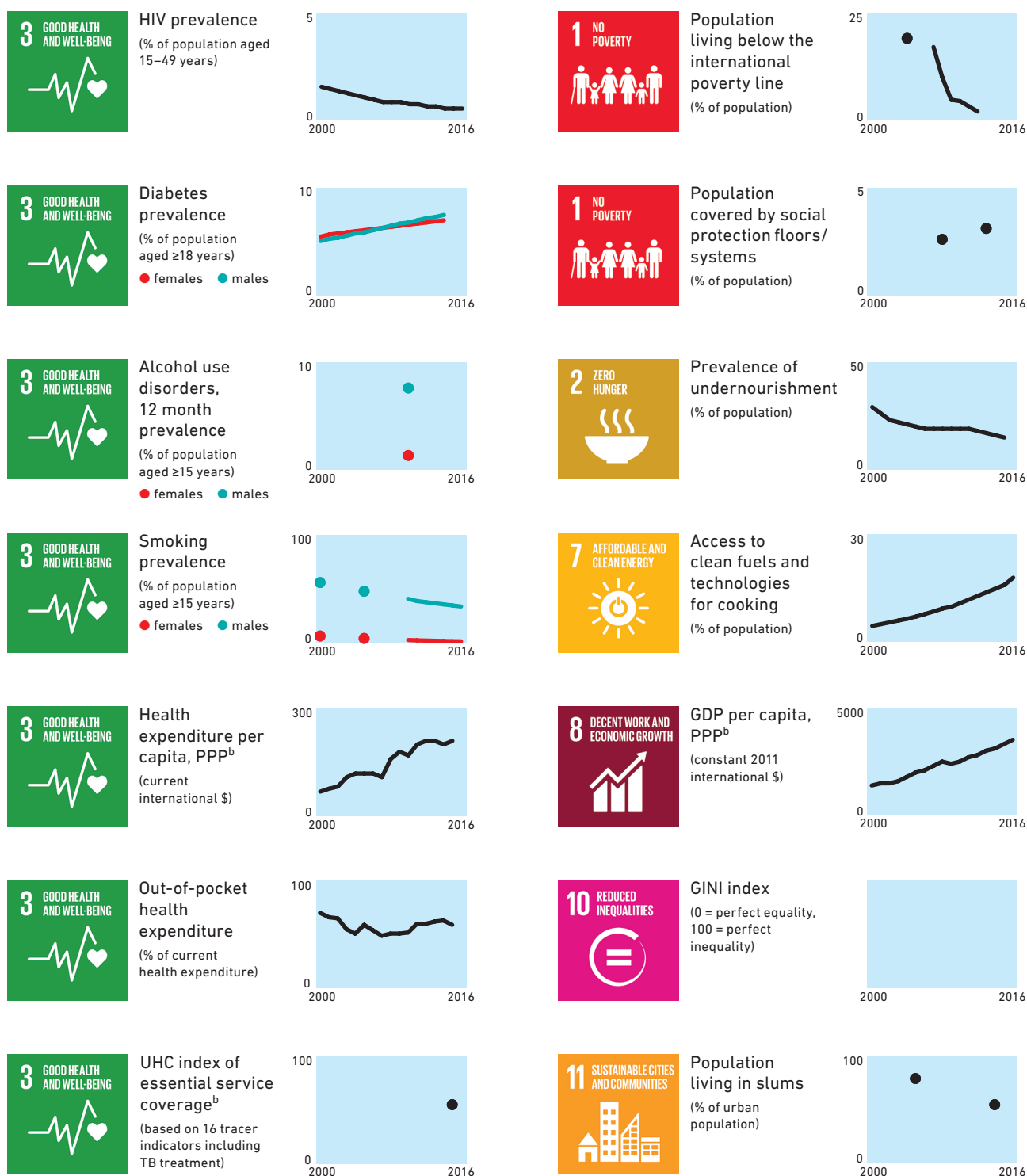
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

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<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Central African Republic

POPULATION 2017 **4.7 MILLION**

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	3.2 (1.8–4.9)	68 (38–105)
Mortality (HIV+TB only)	2.7 (1.4–4.4)	58 (31–94)
Incidence (includes HIV+TB)	20 (13–28)	423 (274–604)
Incidence (HIV+TB only)	6.2 (3.3–10)	134 (72–214)
Incidence (MDR/RR-TB) <sup>b</sup>	0.15 (0.084–0.23)	3.2 (1.8–4.9)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	1.3 (1.2–1.4)	6.3 (4.9–7.6)	7.5 (5.7–9.4)
Males	1.4 (1.3–1.6)	11 (7.6–14)	12 (8.4–16)
Total	2.7 (2.3–3.1)	17 (11–23)	20 (13–28)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	9 819
Total new and relapse	9 664
— % tested with rapid diagnostics at time of diagnosis	3%
— % with known HIV status	77%
— % pulmonary	81%
— % bacteriologically confirmed among pulmonary	66%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	49% (34–76)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.31 (0.16–0.48)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	2 098	28%
— on antiretroviral therapy	1 541	73%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			91 (0–190)
Estimated % of TB cases with MDR/RR-TB	0.4% (0–2.2)	14% (10–18)	
% notified tested for rifampicin resistance	0%	62%	268
MDR/RR-TB cases tested for resistance to second-line drugs			2
Laboratory-confirmed cases			MDR/RR-TB: 93, XDR-TB: 2
Patients started on treatment <sup>d</sup>			MDR/RR-TB: 86, XDR-TB: 0

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	78%	5 312
Previously treated cases, excluding relapse, registered in 2016	79%	186
HIV-positive TB cases registered in 2016	73%	2 053
MDR/RR-TB cases started on second-line treatment in 2015	88%	41
XDR-TB cases started on second-line treatment in 2015		0

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	0%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	

## TB FINANCING, 2018

National TB budget (US\$ millions)	1.9
Funding source:	14% domestic, 53% international, 32% unfunded

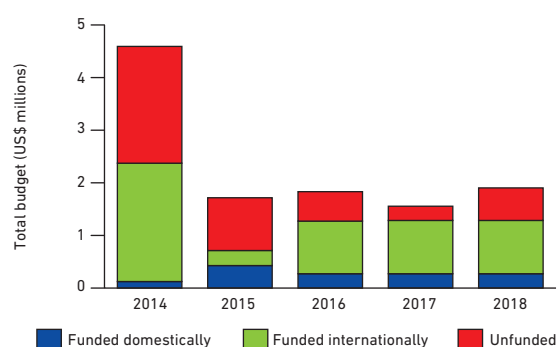
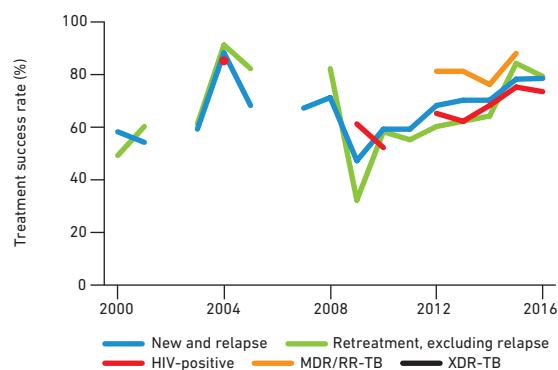
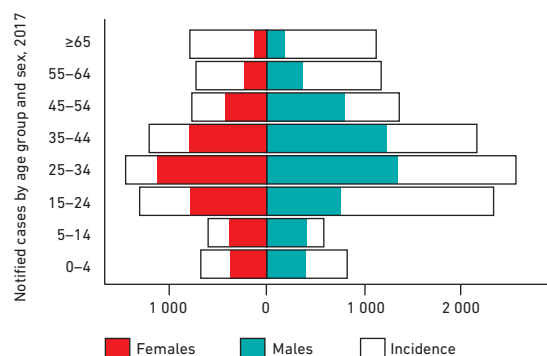
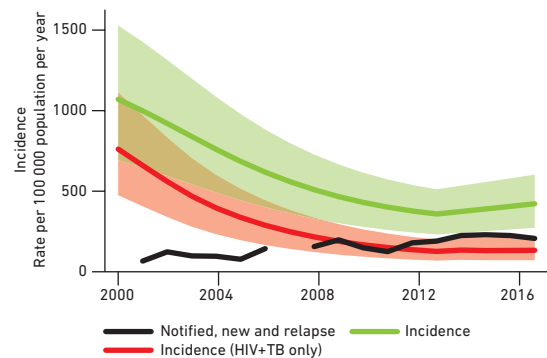
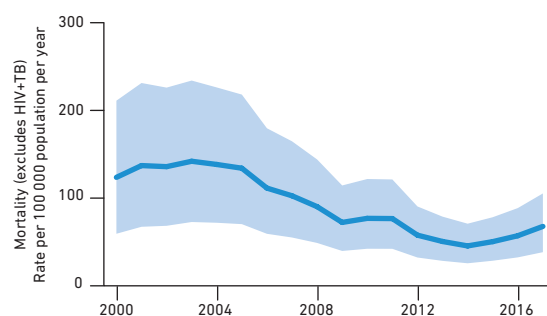
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

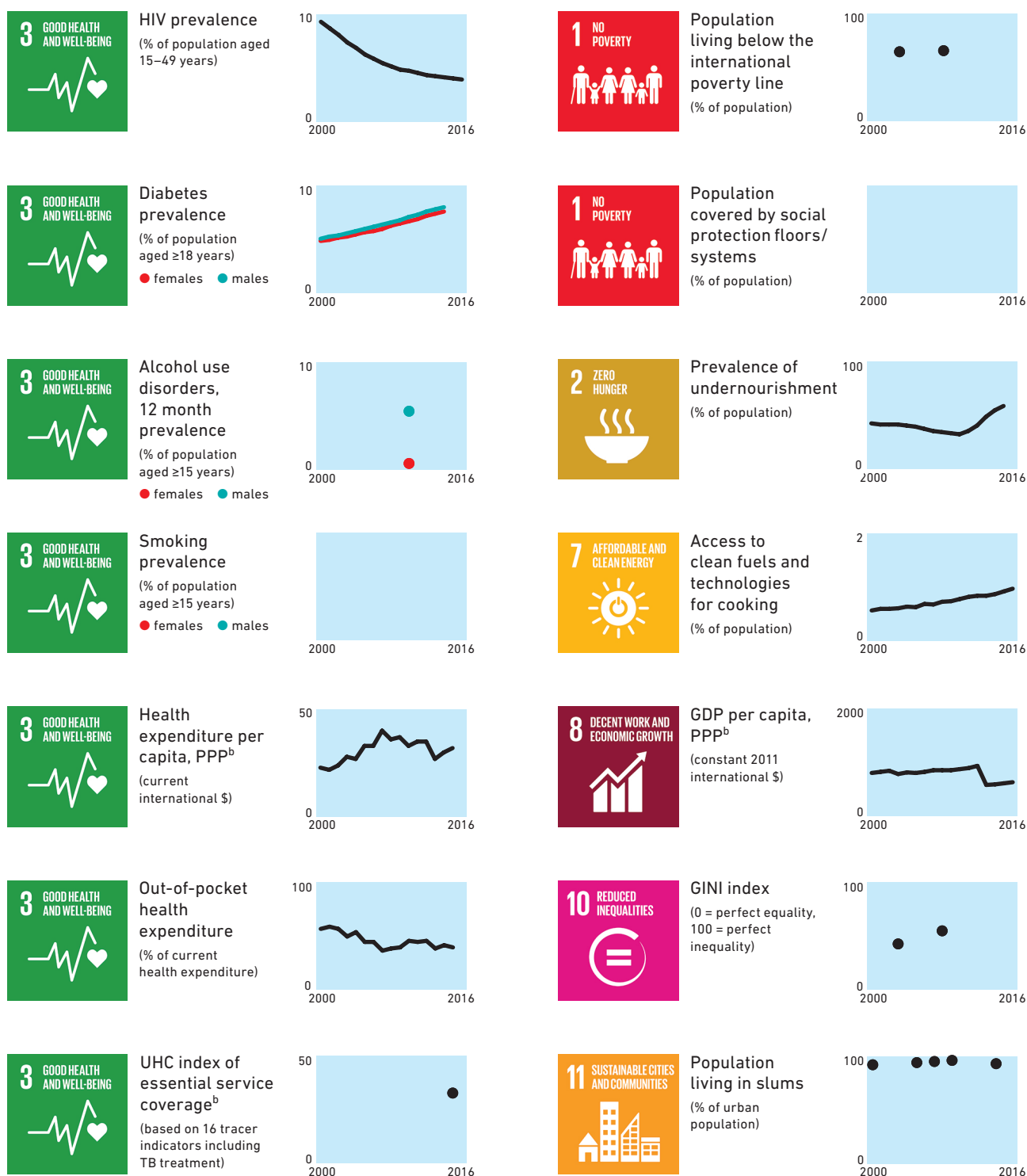
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Congo

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	3.3 (1.9–5.2)	63 (36–98)
Mortality (HIV+TB only)	2.3 (1.2–3.7)	43 (22–71)
Incidence (includes HIV+TB)	20 (13–29)	376 (239–545)
Incidence (HIV+TB only)	5.3 (2.7–8.6)	100 (52–164)
Incidence (MDR/RR-TB) <sup>b</sup>	0.61 (0.25–1.1)	12 (4.8–21)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	1.3 (1.2–1.4)	6.3 (4.8–7.7)	7.6 (5.7–9.5)
Males	1.5 (1.3–1.6)	11 (7.6–14)	12 (8.3–16)
Total	2.8 (2.3–3.2)	17 (11–23)	20 (13–29)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	10 263
Total new and relapse	10 005
— % tested with rapid diagnostics at time of diagnosis	5%
— % with known HIV status	13%
— % pulmonary	78%
— % bacteriologically confirmed among pulmonary	51%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	51% (35–50)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.29 (0.15–0.46)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	374	30%
— on antiretroviral therapy	272	73%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			290 (170–420)
Estimated % of TB cases with MDR/RR-TB	2.5% (1.1–4.3)	21% (16–27)	
% notified tested for rifampicin resistance	<1%	89%	532
MDR/RR-TB cases tested for resistance to second-line drugs			0
Laboratory-confirmed cases			MDR/RR-TB: 58, XDR-TB: 0
Patients started on treatment <sup>d</sup>			MDR/RR-TB: 28, XDR-TB: 0

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	77%	10 656
Previously treated cases, excluding relapse, registered in 2016	53%	232
HIV-positive TB cases registered in 2016		0
MDR/RR-TB cases started on second-line treatment in 2015	62%	13
XDR-TB cases started on second-line treatment in 2015		0

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	4.1% (3.7–4.5)

## TB FINANCING, 2018

National TB budget (US\$ millions)	1.5
Funding source:	72% domestic, 28% international, 0% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

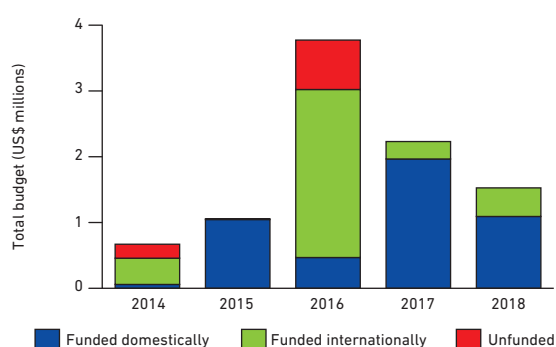
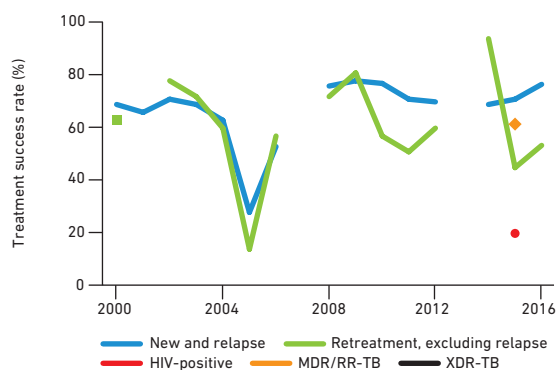
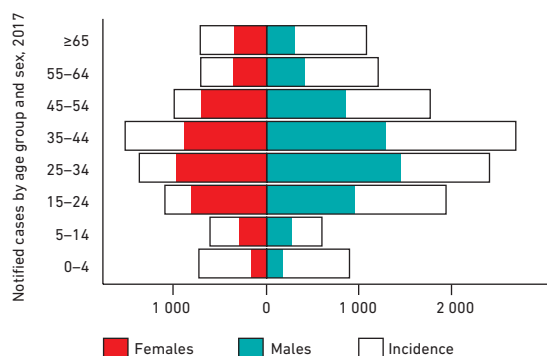
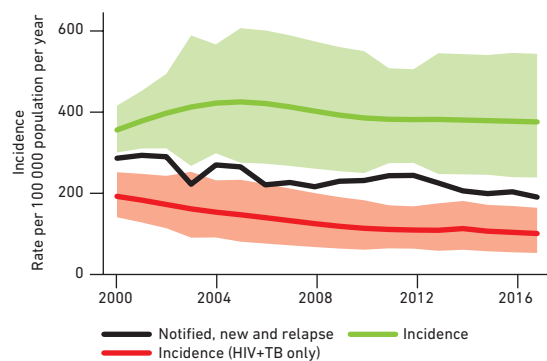
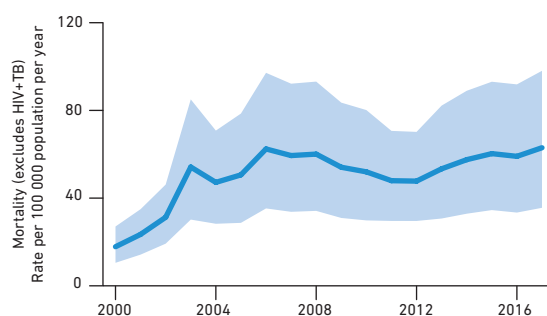
<sup>a</sup> Ranges represent uncertainty intervals.

<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

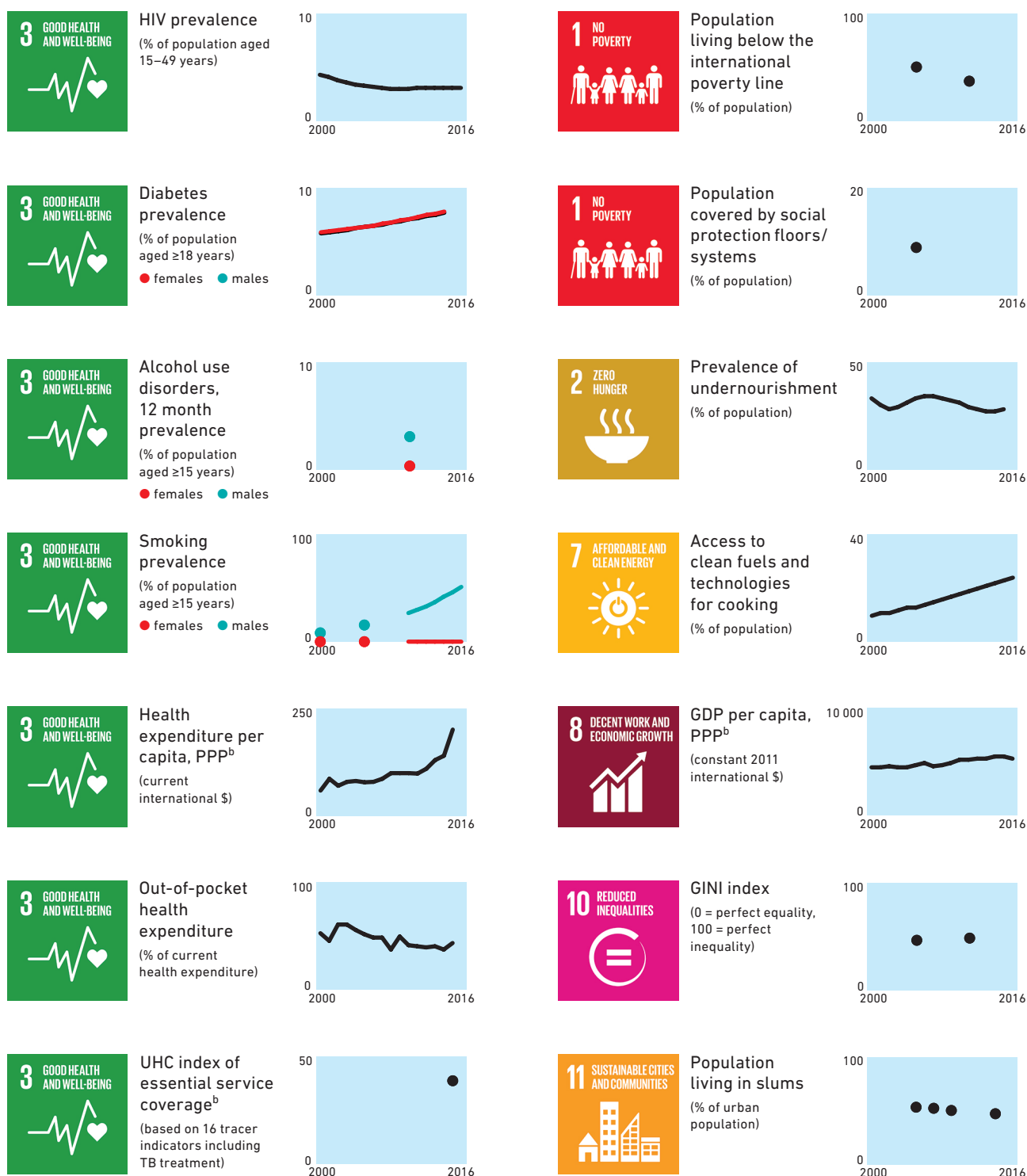
<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.

## POPULATION 2017 5.3 MILLION



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage



# Lesotho

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	1 (0.55–1.7)	46 (25–75)
Mortality (HIV+TB only)	4.6 (2.9–6.7)	206 (128–302)
Incidence (includes HIV+TB)	15 (9.6–21)	665 (430–949)
Incidence (HIV+TB only)	11 (6.7–15)	470 (298–680)
Incidence (MDR/RR-TB) <sup>b</sup>	1.1 (0.61–1.7)	50 (27–78)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	1 (0.93–1.1)	4.6 (3.6–5.7)	5.7 (4.3–7.1)
Males	1.1 (1–1.3)	8 (5.7–10)	9.2 (6.4–12)
Total	2.2 (1.8–2.5)	13 (8.1–17)	15 (9.6–21)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	7 271
Total new and relapse	7 117
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	92%
— % pulmonary	89%
— % bacteriologically confirmed among pulmonary	58%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	48% (34–74)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.39 (0.2–0.6)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	4 690	70%
— on antiretroviral therapy	4 310	92%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			410 (330–490)
Estimated % of TB cases with MDR/RR-TB	4.8% (3.7–6)	14% (9.5–18)	
% notified tested for rifampicin resistance	63%		3 839
MDR/RR-TB cases tested for resistance to second-line drugs			
Laboratory-confirmed cases			MDR/RR-TB: 351, XDR-TB:
Patients started on treatment <sup>d</sup>			MDR/RR-TB: 151, XDR-TB:

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	77%	7 291
Previously treated cases, excluding relapse, registered in 2016	68%	228
HIV-positive TB cases registered in 2016	74%	5 085
MDR/RR-TB cases started on second-line treatment in 2015	66%	210
XDR-TB cases started on second-line treatment in 2015		

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	

## TB FINANCING, 2018

National TB budget (US\$ millions)	3.3
Funding source:	30% domestic, 55% international, 15% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

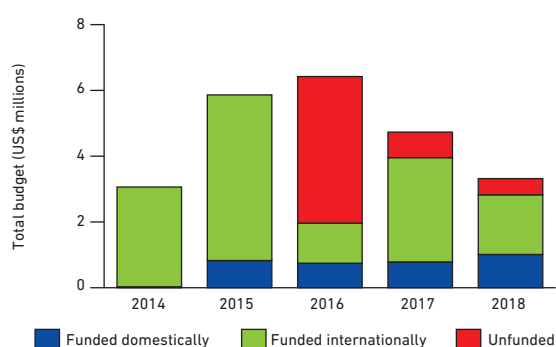
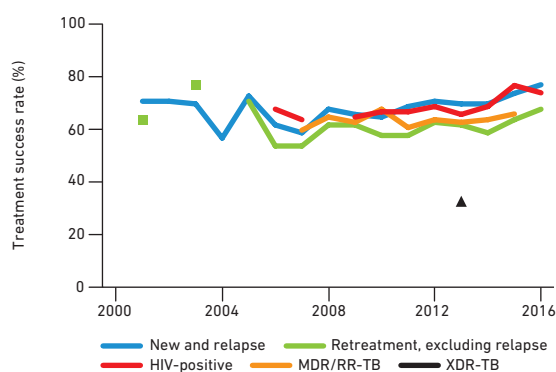
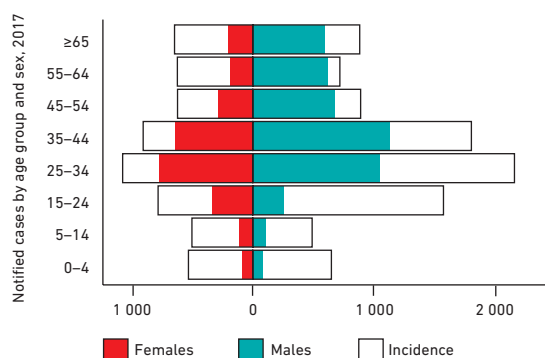
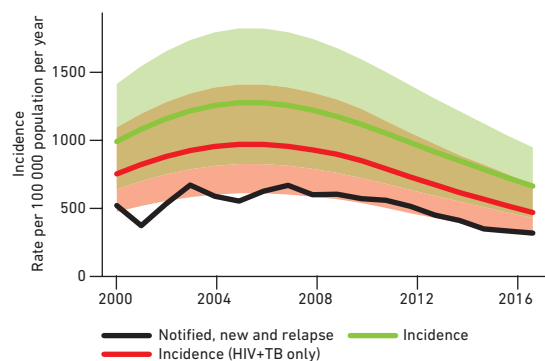
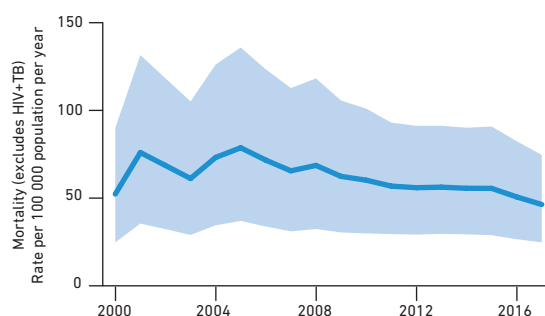
<sup>a</sup> Ranges represent uncertainty intervals.

<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

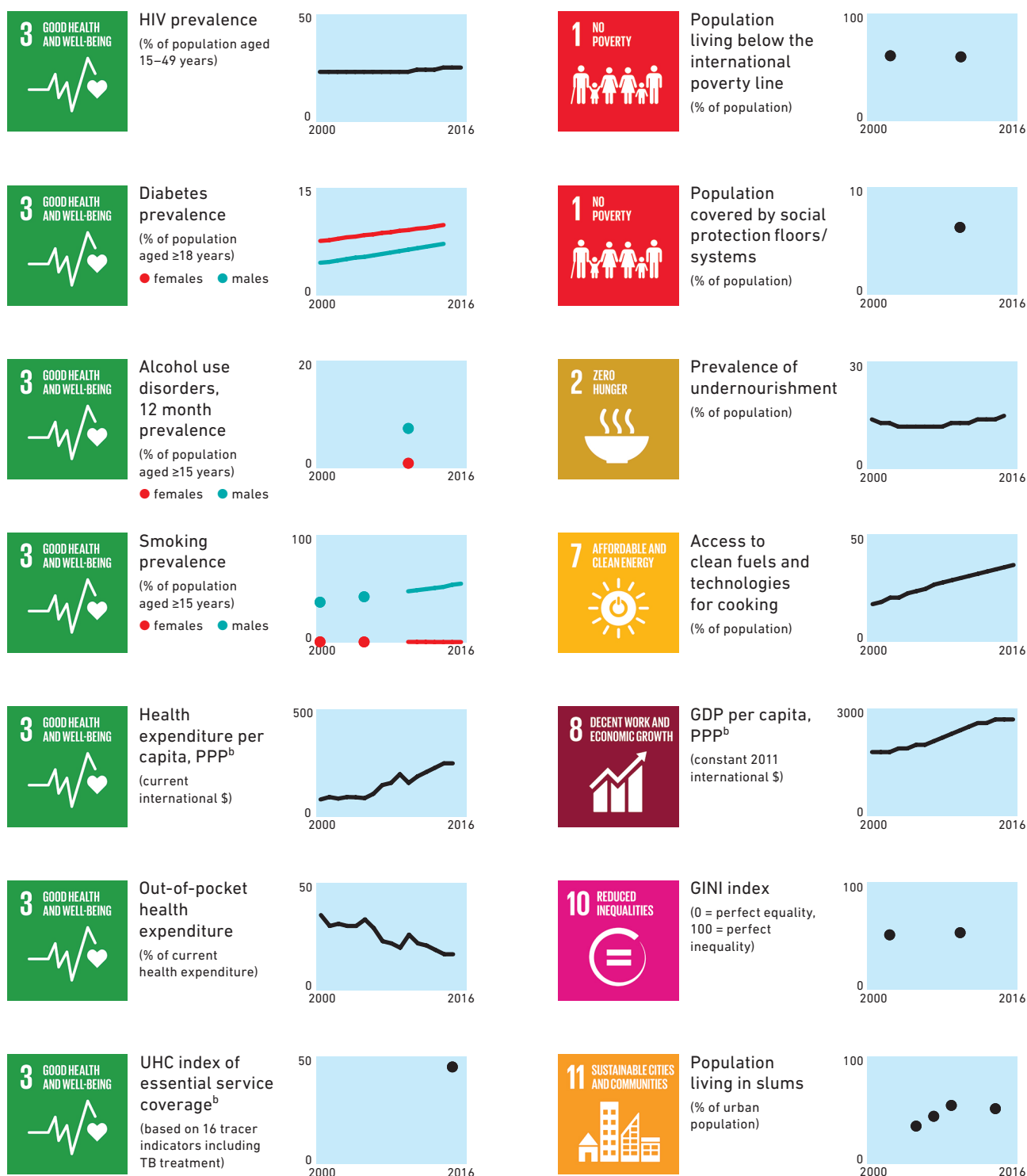
<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.

## POPULATION 2017 2.2 MILLION



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Liberia

POPULATION 2017 **4.7 MILLION**

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	2.7 (1.6–4.1)	57 (34–86)
Mortality (HIV+TB only)	0.91 (0.57–1.3)	19 (12–28)
Incidence (includes HIV+TB)	15 (9.4–21)	308 (199–440)
Incidence (HIV+TB only)	2.2 (1.4–3.2)	47 (30–68)
Incidence (MDR/RR-TB)**	0.39 (0.15–0.74)	8.3 (3.2–16)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	0.91 (0.82–0.99)	4.6 (3.6–5.7)	5.5 (4.2–6.9)
Males	1 (0.9–1.1)	8 (5.7–10)	9 (6.3–12)
Total	1.9 (1.6–2.2)	13 (8.1–17)	15 (9.4–21)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	7 728
Total new and relapse	7 728
— % tested with rapid diagnostics at time of diagnosis	17%
— % with known HIV status	70%
— % pulmonary	68%
— % bacteriologically confirmed among pulmonary	64%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	53% (37–82)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.26 (0.14–0.4)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	827	15%
— on antiretroviral therapy	347	42%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			150 (65–230)
Estimated % of TB cases with MDR/RR-TB	2.5% (1.1–4.3)	14% (10–18)	
% notified tested for rifampicin resistance	43%	100%	3 382
MDR/RR-TB cases tested for resistance to second-line drugs			19
Laboratory-confirmed cases		MDR/RR-TB: 88, XDR-TB: 0	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 55, XDR-TB: 0	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	77%	7 374
Previously treated cases, excluding relapse, registered in 2016	50%	127
HIV-positive TB cases registered in 2016		
MDR/RR-TB cases started on second-line treatment in 2015		
XDR-TB cases started on second-line treatment in 2015		

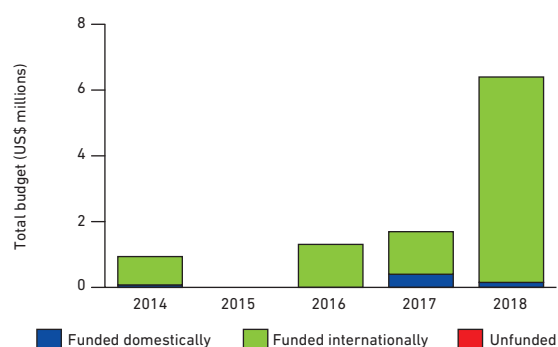
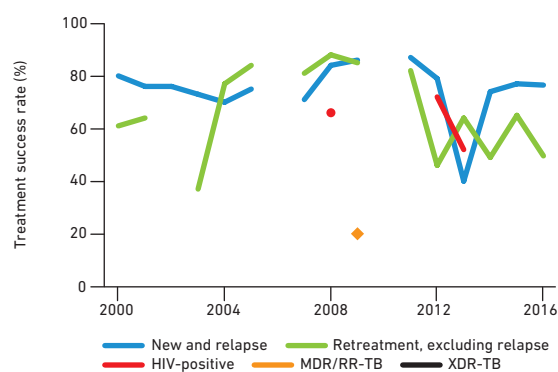
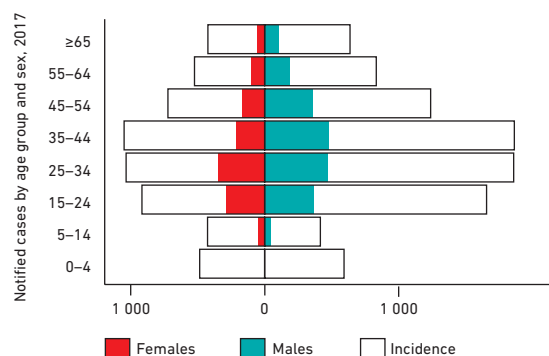
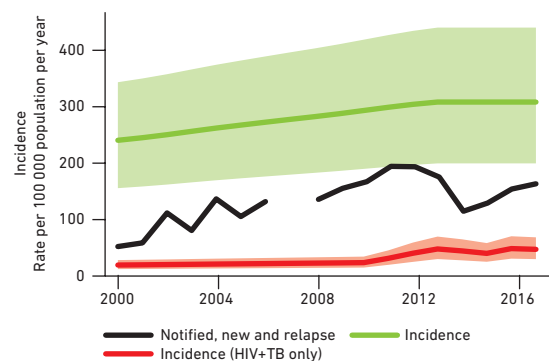
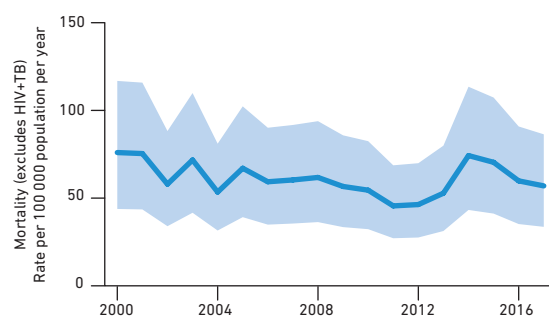
## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	5.8% (5.3–6.3)

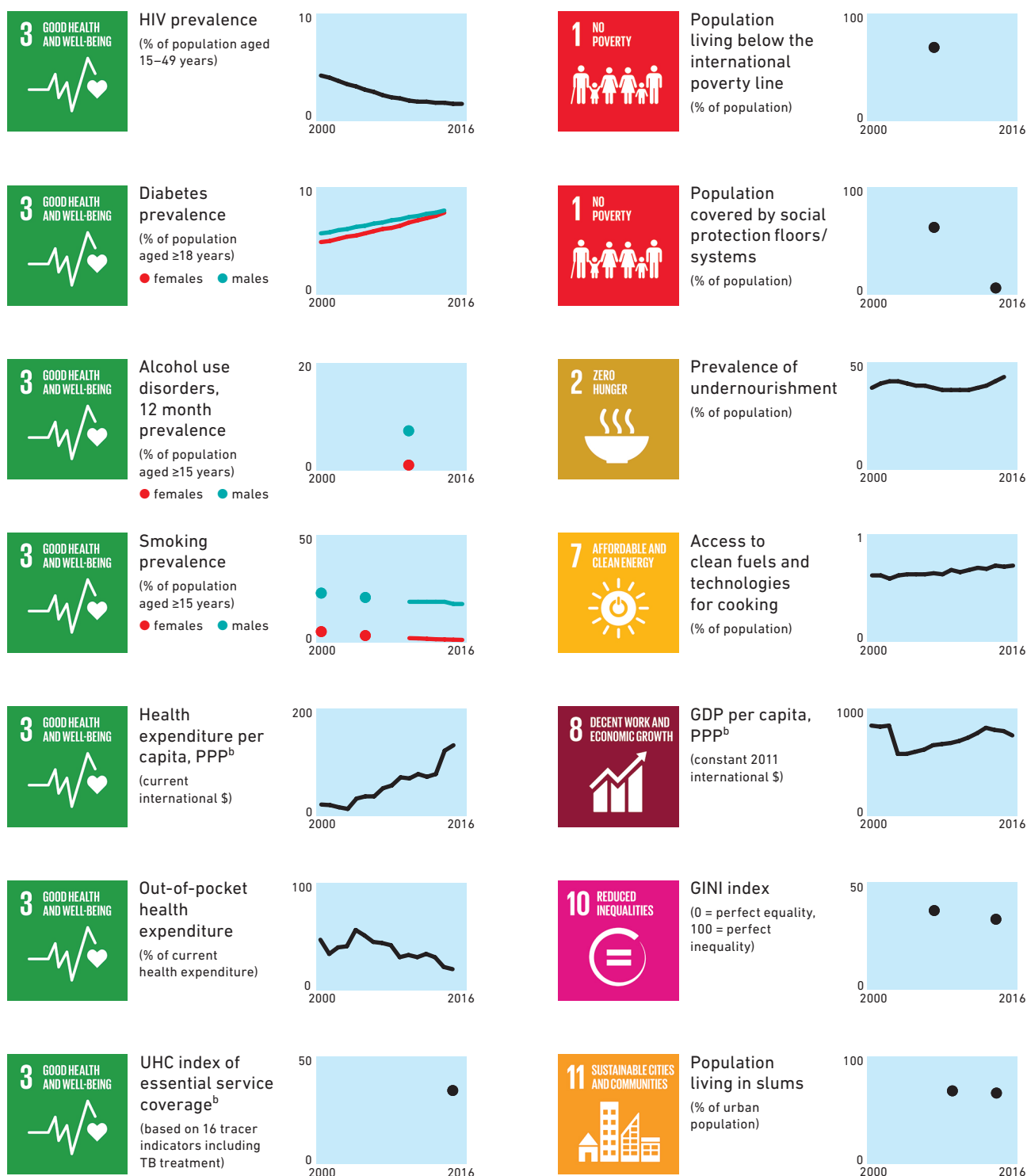
## TB FINANCING, 2018

National TB budget (US\$ millions)	6.4
Funding source: 2% domestic, 98% international, 0% unfunded	

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.  
<sup>a</sup> Ranges represent uncertainty intervals.  
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.  
<sup>c</sup> Includes cases with unknown previous TB treatment history.  
<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Namibia

POPULATION 2017 2.5 MILLION

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	0.75 (0.48–1.1)	30 (19–43)
Mortality (HIV+TB only)	0.8 (0.55–1.1)	31 (22–43)
Incidence (includes HIV+TB)	11 (8.2–14)	423 (324–535)
Incidence (HIV+TB only)	3.9 (2.5–5.5)	153 (99–219)
Incidence (MDR/RR-TB)**	0.95 (0.65–1.3)	37 (26–51)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	0.88 (0.81–0.94)	3.6 (3.1–4.1)	4.4 (3.7–5.2)
Males	0.92 (0.85–0.99)	5.4 (4.4–6.3)	6.3 (5.1–7.5)
Total	1.8 (1.6–2)	8.9 (6.9–11)	11 (8.2–14)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	8 855
Total new and relapse	8 575
— % tested with rapid diagnostics at time of diagnosis	100%
— % with known HIV status	98%
— % pulmonary	82%
— % bacteriologically confirmed among pulmonary	83%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	80% (63–100)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.15 (0.1–0.2)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	3 139	36%
— on antiretroviral therapy	3 021	96%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			470 (410–540)
Estimated % of TB cases with MDR/RR-TB	5% (4.1–5.9)	12% (9.4–14)	
% notified tested for rifampicin resistance			
MDR/RR-TB cases tested for resistance to second-line drugs			78
Laboratory-confirmed cases			MDR/RR-TB: 409, XDR-TB: 14
Patients started on treatment <sup>d</sup>			MDR/RR-TB: 410, XDR-TB: 13

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	84%	8 857
Previously treated cases, excluding relapse, registered in 2016	68%	297
HIV-positive TB cases registered in 2016	80%	3 410
MDR/RR-TB cases started on second-line treatment in 2015	74%	288
XDR-TB cases started on second-line treatment in 2015	0%	2

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	15%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	34% (31–37)

## TB FINANCING, 2018

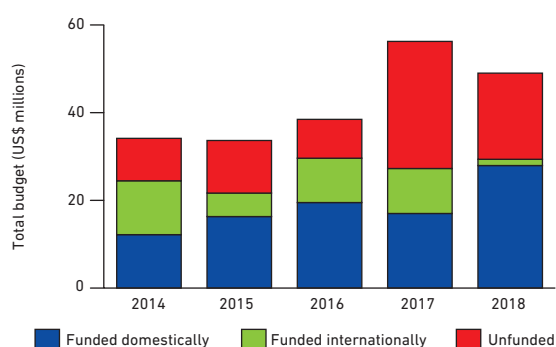
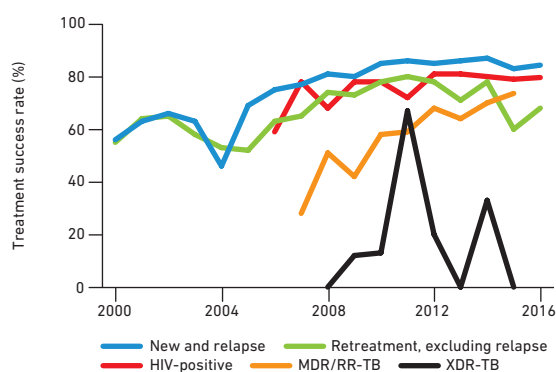
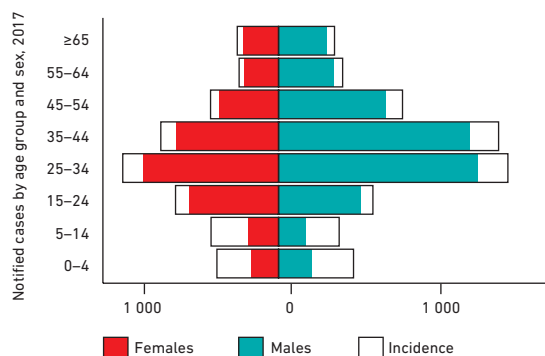
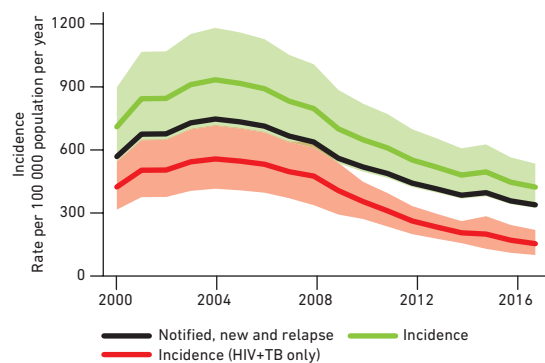
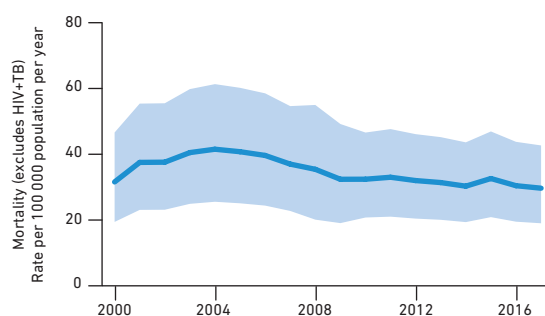
National TB budget (US\$ millions)	49
Funding source:	57% domestic, 3% international, 40% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding. <sup>a</sup> Ranges represent uncertainty intervals. Estimates of TB incidence and mortality for Namibia will be reviewed after final results from their national TB prevalence survey are available in 2019.

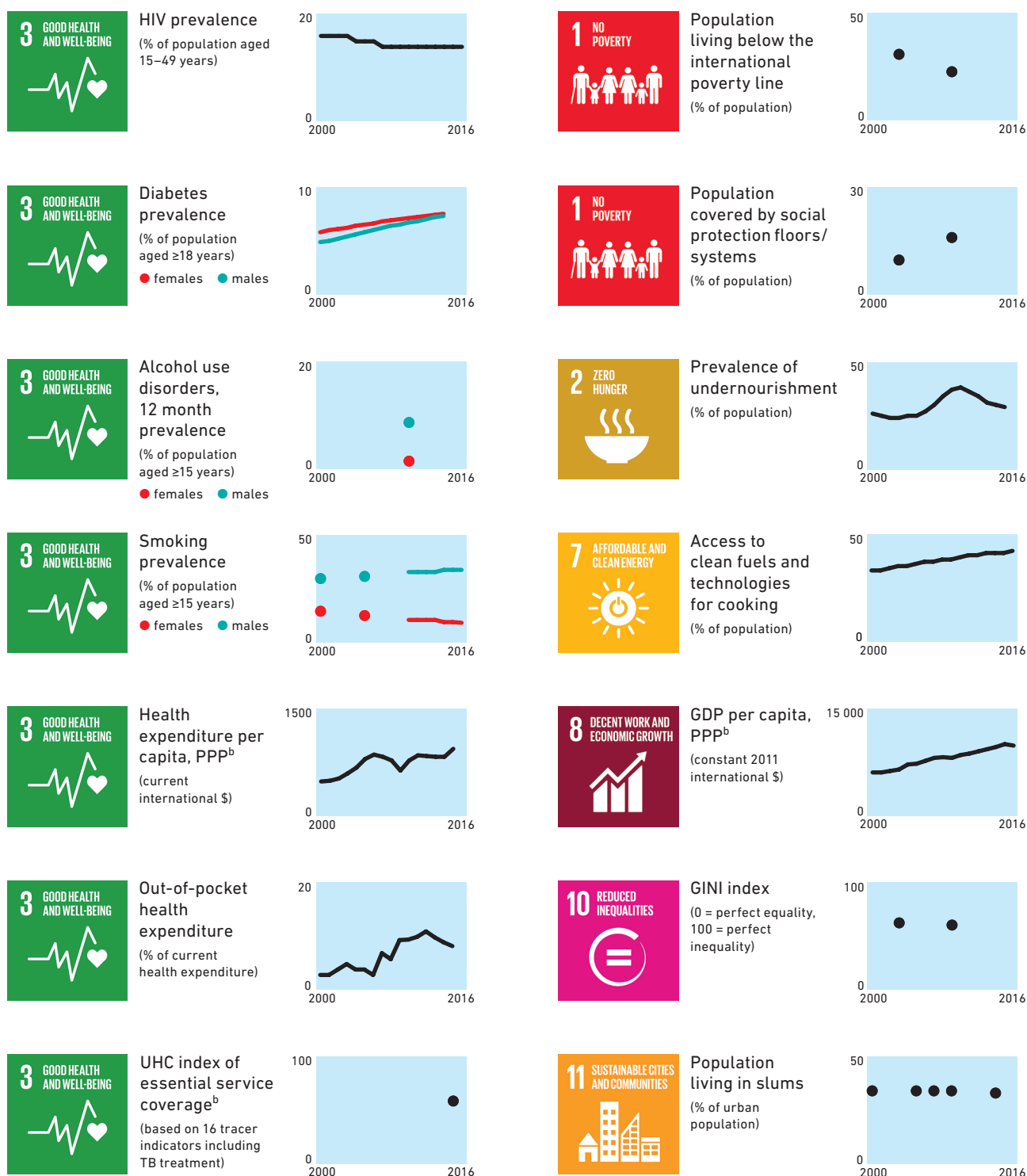
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Papua New Guinea

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	4.3 (2.9–6)	53 (36–73)
Mortality (HIV+TB only)	0.93 (0.51–1.5)	11 (6.2–18)
Incidence (includes HIV+TB)	36 (29–43)	432 (352–521)
Incidence (HIV+TB only)	3.5 (2–5.5)	43 (24–66)
Incidence (MDR/RR-TB)**	1.9 (1.2–2.8)	23 (15–34)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	1.8 (1.7–1.9)	11 (9.7–12)	13 (11–14)
Males	2 (1.9–2.1)	21 (18–24)	23 (19–27)
Total	3.9 (3.6–4.1)	32 (26–38)	36 (29–43)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	27 934
Total new and relapse	26 294
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	45%
— % pulmonary	57%
— % bacteriologically confirmed among pulmonary	26%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	74% (61–91)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.15 (0.1–0.21)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	791	7%
— on antiretroviral therapy	753	95%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			960 (650–1 300)
Estimated % of TB cases with MDR/RR-TB	3.4% (1.7–5)	26% (15–36)	
% notified tested for rifampicin resistance	11%	56%	15 090
MDR/RR-TB cases tested for resistance to second-line drugs			161
Laboratory-confirmed cases		MDR/RR-TB: 356, XDR-TB: 13	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 356, XDR-TB: 15	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New cases registered in 2016	62%	27 294
Previously treated cases registered in 2016	17%	2 457
HIV-positive TB cases registered in 2016		
MDR/RR-TB cases started on second-line treatment in 2015	68%	149
XDR-TB cases started on second-line treatment in 2015	64%	11

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	16%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	

## TB FINANCING, 2018

National TB budget (US\$ millions)	28
Funding source:	50% domestic, 21% international, 29% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

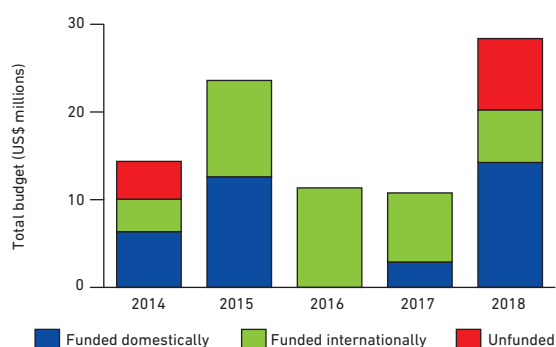
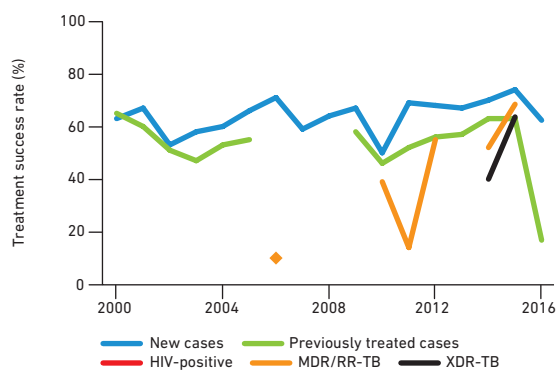
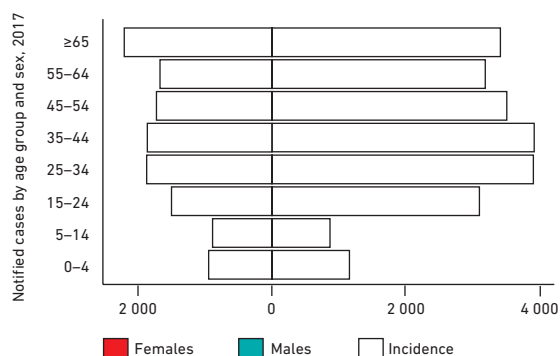
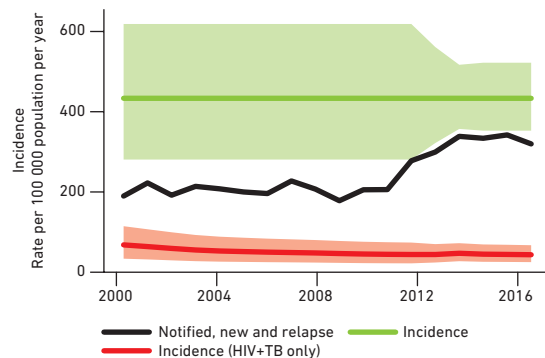
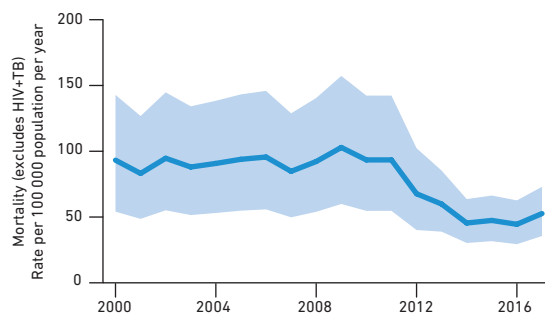
<sup>a</sup> Ranges represent uncertainty intervals.

<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

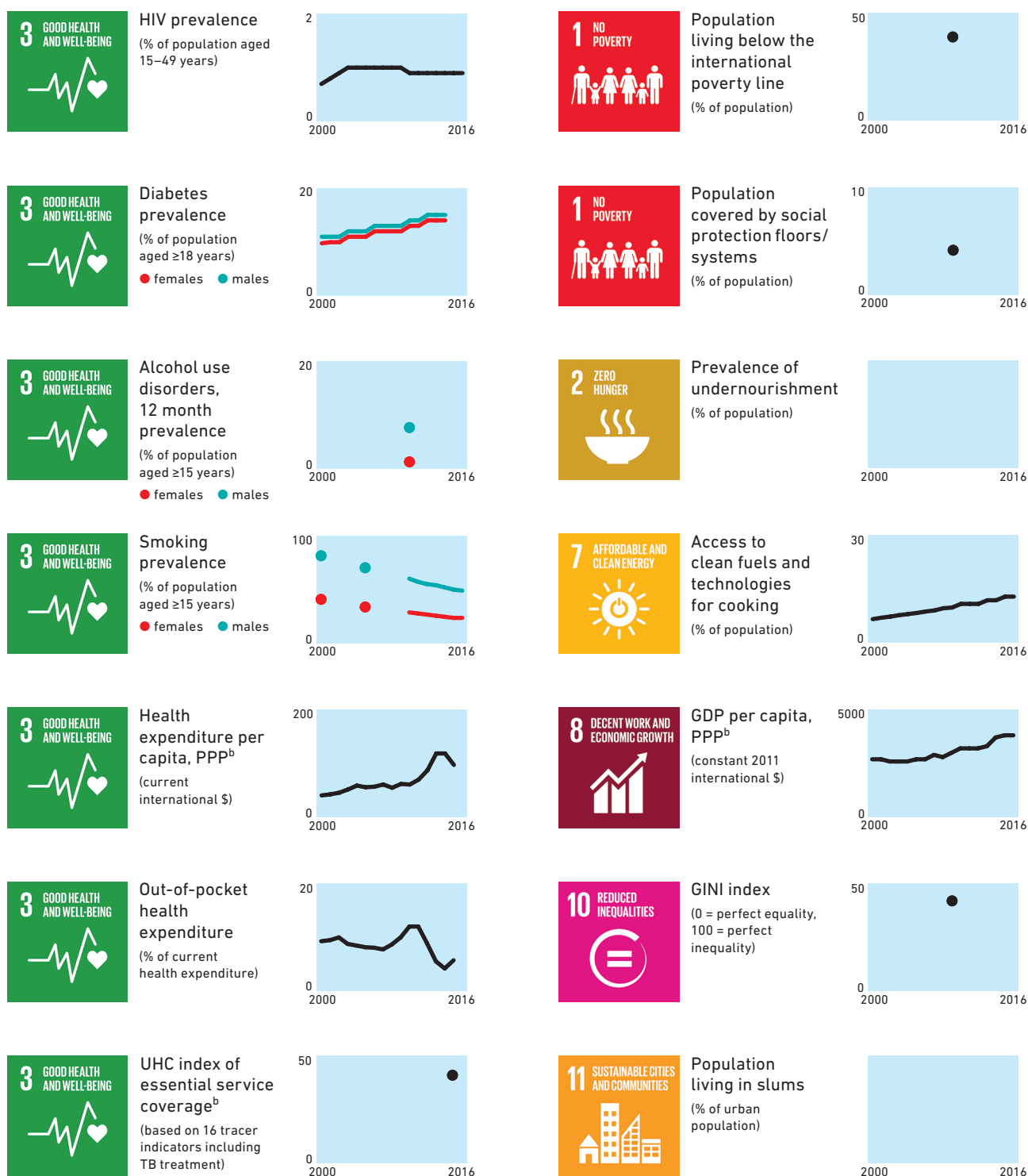
<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.

POPULATION 2017 8.3 MILLION





## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Sierra Leone

POPULATION 2017 **7.6 MILLION**

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	3 (1.8–4.5)	39 (23–59)
Mortality (HIV+TB only)	0.78 (0.49–1.1)	10 (6.5–15)
Incidence (includes HIV+TB)	23 (15–33)	301 (193–431)
Incidence (HIV+TB only)	2.8 (1.8–4)	37 (24–53)
Incidence (MDR/RR-TB)**	0.66 (0.27–1.2)	8.8 (3.6–16)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	1.2 (1.1–1.3)	8.1 (6.2–10)	9.3 (6.9–12)
Males	1.3 (1.2–1.4)	12 (8.6–16)	13 (9.3–17)
Total	2.5 (2.2–2.8)	20 (13–28)	23 (15–33)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	16 142
Total new and relapse	15 935
— % tested with rapid diagnostics at time of diagnosis	3%
— % with known HIV status	98%
— % pulmonary	93%
— % bacteriologically confirmed among pulmonary	65%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	70% (49–110)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.17 (0.09–0.27)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	1 970	12%
— on antiretroviral therapy	1 911	97%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>e</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			430 (200–660)
Estimated % of TB cases with MDR/RR-TB	2.5% (1.1–4.3)	14% (10–18)	
% notified tested for rifampicin resistance			456
MDR/RR-TB cases tested for resistance to second-line drugs			109
Laboratory-confirmed cases		MDR/RR-TB: 174, XDR-TB: 0	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 104, XDR-TB: 0	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	89%	12 497
Previously treated cases, excluding relapse, registered in 2016	72%	239
HIV-positive TB cases registered in 2016		
MDR/RR-TB cases started on second-line treatment in 2015		
XDR-TB cases started on second-line treatment in 2015		

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	22%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	

## TB FINANCING, 2018

National TB budget (US\$ millions)	16
Funding source:	2% domestic, 76% international, 23% unfunded

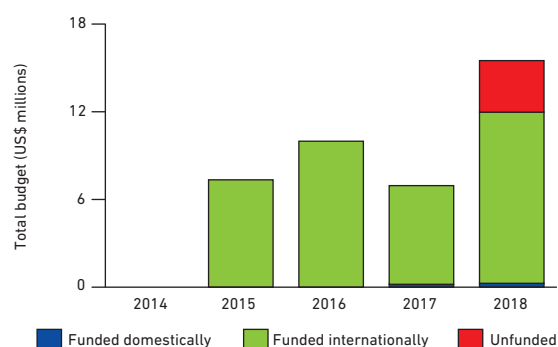
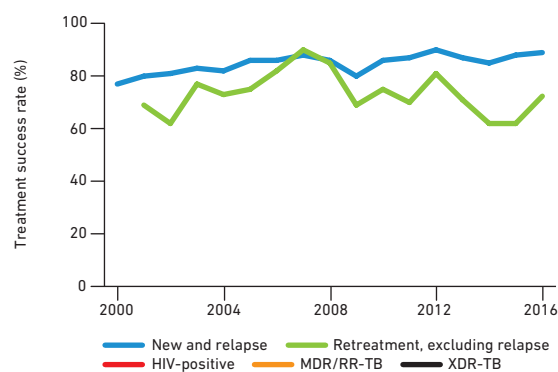
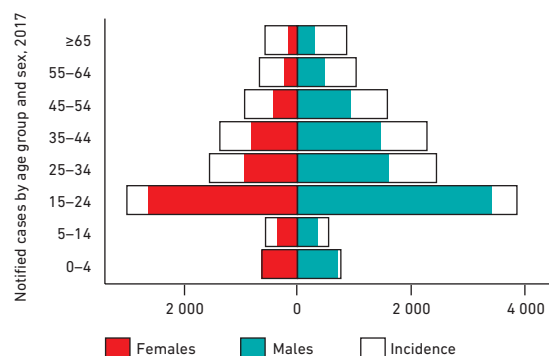
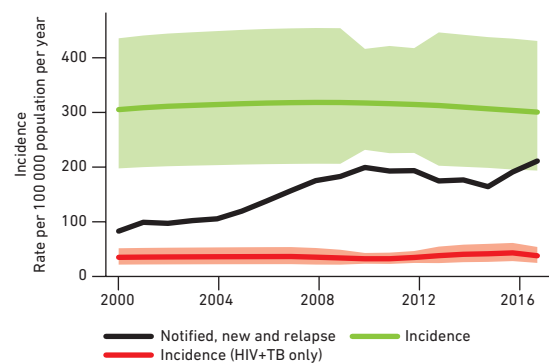
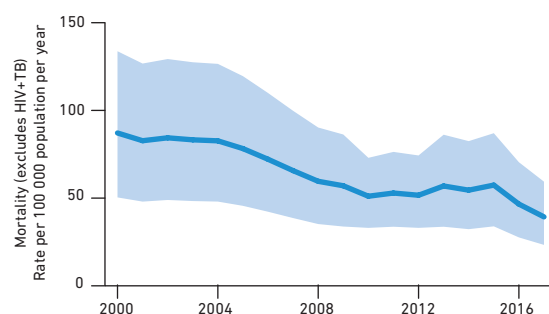
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

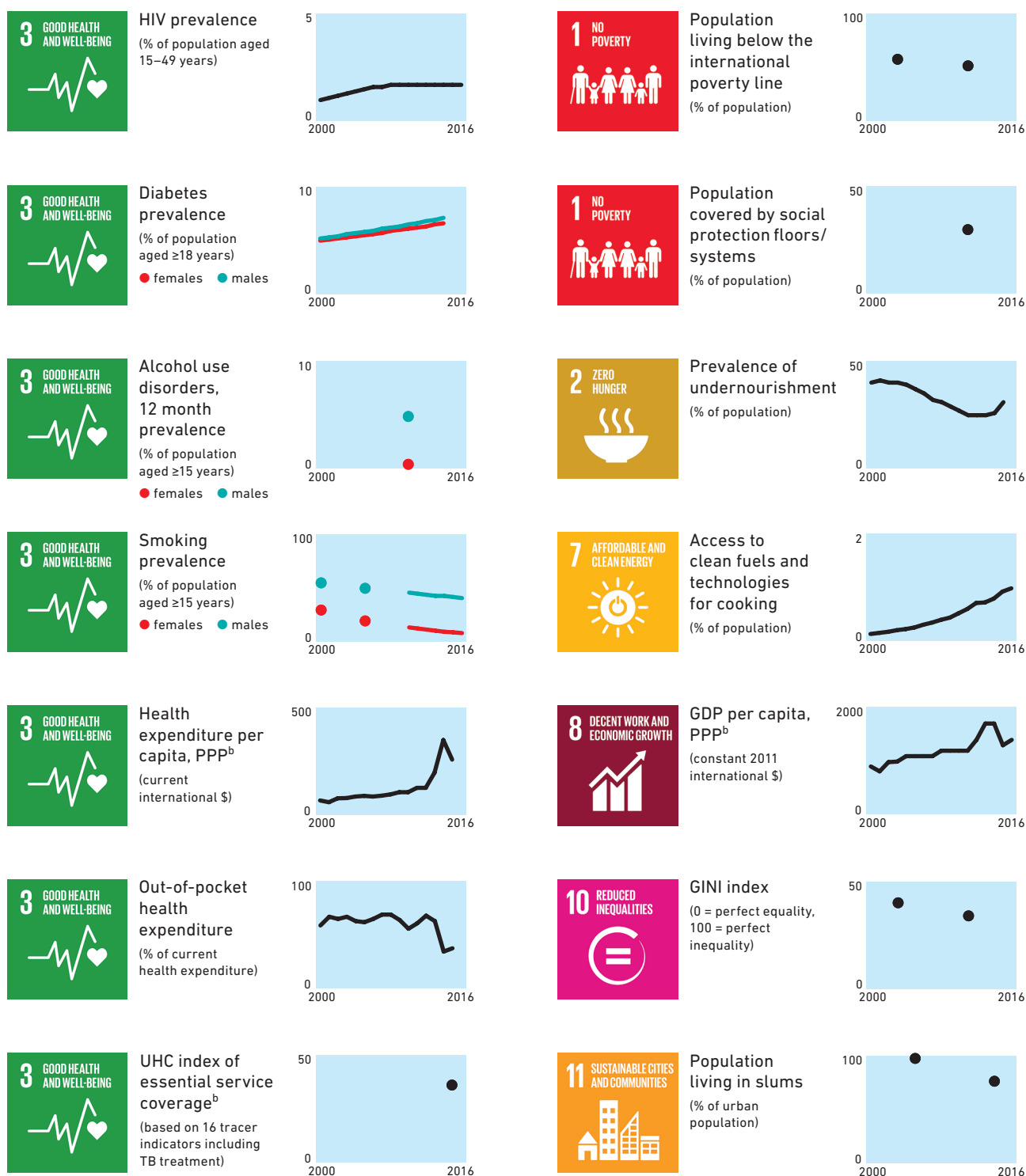
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Zambia

POPULATION 2017 **17 MILLION**

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	5 (2.9–7.7)	30 (17–45)
Mortality (HIV+TB only)	13 (8.2–19)	76 (48–110)
Incidence (includes HIV+TB)	62 (40–88)	361 (234–514)
Incidence (HIV+TB only)	36 (23–52)	210 (135–302)
Incidence (MDR/RR-TB) <sup>b</sup>	1.9 (0.67–3.8)	11 (3.9–22)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	3.6 (3.2–3.9)	20 (16–25)	24 (18–30)
Males	4 (3.6–4.3)	34 (24–44)	38 (26–49)
Total	7.5 (6.5–8.5)	54 (34–74)	62 (40–88)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	37 203
Total new and relapse	36 010
— % tested with rapid diagnostics at time of diagnosis	28%
— % with known HIV status	93%
— % pulmonary	84%
— % bacteriologically confirmed among pulmonary	53%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	58% (41–90)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.3 (0.17–0.46)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	20 362	59%
— on antiretroviral therapy	18 341	90%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			1 300 (850–1 800)
Estimated % of TB cases with MDR/RR-TB	1.1% (0.34–2.3)	18% (12–26)	
% notified tested for rifampicin resistance	23%	9%	10 591
MDR/RR-TB cases tested for resistance to second-line drugs			0
Laboratory-confirmed cases		MDR/RR-TB: 546, XDR-TB: 0	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 270, XDR-TB: 0	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	88%	38 326
Previously treated cases, excluding relapse, registered in 2016	79%	1 827
HIV-positive TB cases registered in 2016	86%	21 655
MDR/RR-TB cases started on second-line treatment in 2015	60%	99
XDR-TB cases started on second-line treatment in 2015		0

## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment	18%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	3.8% (3.5–4.2)

## TB FINANCING, 2018

National TB budget (US\$ millions)	38
Funding source:	28% domestic, 52% international, 20% unfunded

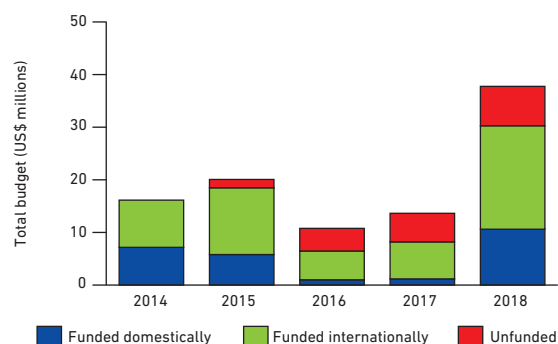
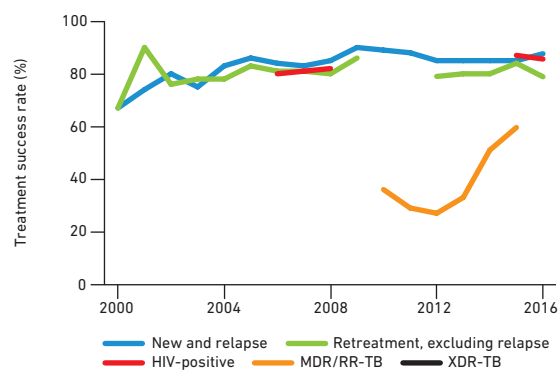
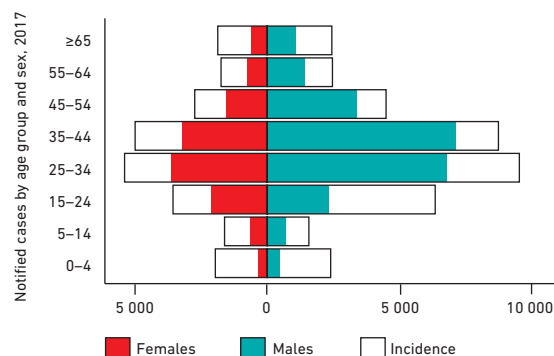
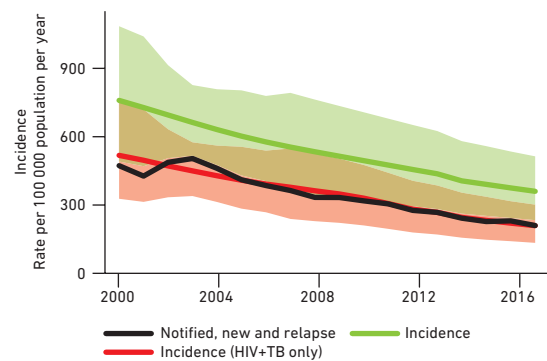
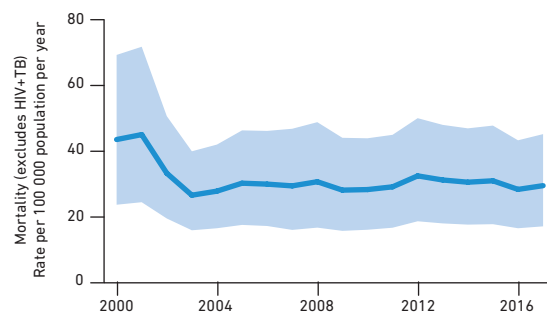
Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.

<sup>a</sup> Ranges represent uncertainty intervals.

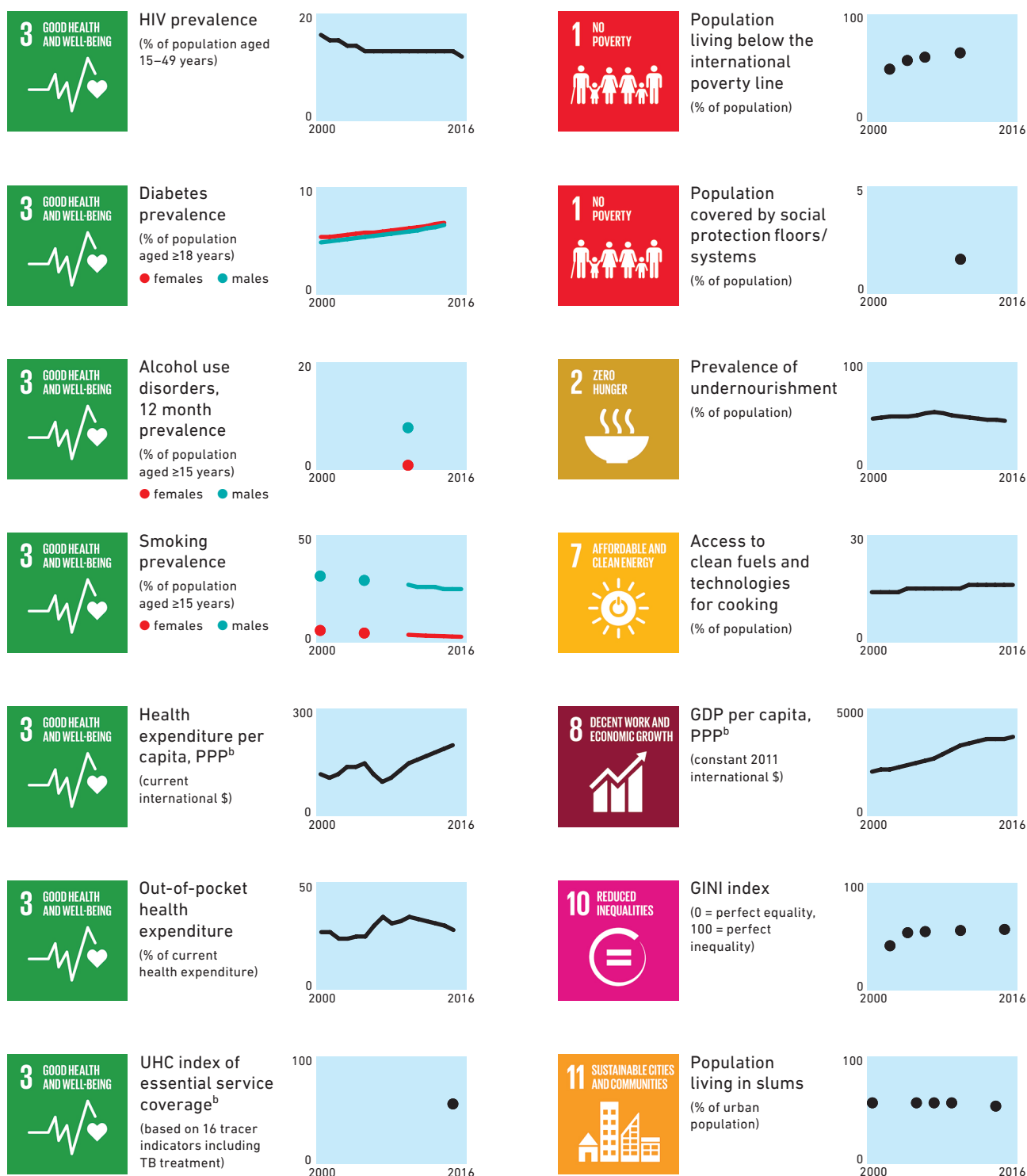
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.

<sup>c</sup> Includes cases with unknown previous TB treatment history.

<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

<sup>a</sup> Data sources: SDG indicators database, The World Bank, World Health Organization. Missing values and empty boxes indicate data not available in these data sources.

<sup>b</sup> GDP = gross domestic product; PPP = purchasing power parity; UHC = universal health coverage

# Zimbabwe

POPULATION 2017 **17 MILLION**

## ESTIMATES OF TB BURDEN, <sup>a</sup> 2017

	NUMBER (THOUSANDS)	RATE (PER 100 000 POPULATION)
Mortality (excludes HIV+TB)	2 (1.3–2.9)	12 (7.7–17)
Mortality (HIV+TB only)	6.3 (4.5–8.5)	38 (27–51)
Incidence (includes HIV+TB)	37 (27–47)	221 (164–287)
Incidence (HIV+TB only)	23 (15–33)	140 (90–199)
Incidence (MDR/RR-TB) <sup>b</sup>	2.3 (1.4–3.5)	14 (8.5–21)

## ESTIMATED TB INCIDENCE BY AGE AND SEX (THOUSANDS), <sup>a</sup> 2017

	0–14 YEARS	> 14 YEARS	TOTAL
Females	2.6 (2.4–2.8)	13 (11–15)	15 (12–18)
Males	2.9 (2.7–3.1)	18 (15–22)	21 (17–26)
Total	5.6 (4.9–6.2)	31 (23–39)	37 (27–47)

## TB CASE NOTIFICATIONS, 2017

Total cases notified	26 401
Total new and relapse	25 848
— % tested with rapid diagnostics at time of diagnosis	
— % with known HIV status	100%
— % pulmonary	89%
— % bacteriologically confirmed among pulmonary	58%

## UNIVERSAL HEALTH COVERAGE AND SOCIAL PROTECTION

TB treatment coverage (notified/estimated incidence), 2017	71% (55–96)
TB patients facing catastrophic total costs	
TB case fatality ratio (estimated mortality/estimated incidence), 2017	0.23 (0.15–0.32)

## TB/HIV CARE IN NEW AND RELAPSE TB PATIENTS, 2017

	NUMBER	(%)
Patients with known HIV-status who are HIV-positive	16 602	63%
— on antiretroviral therapy	14 300	86%

## DRUG-RESISTANT TB CARE, 2017

	NEW CASES	PREVIOUSLY TREATED CASES	TOTAL NUMBER <sup>c</sup>
Estimated MDR/RR-TB cases among notified pulmonary TB cases			1 300 (920–1 600)
Estimated % of TB cases with MDR/RR-TB	4.6% (3–6.2)	14% (8.9–20)	
% notified tested for rifampicin resistance			7 385
MDR/RR-TB cases tested for resistance to second-line drugs			
Laboratory-confirmed cases		MDR/RR-TB: 474, XDR-TB: 4	
Patients started on treatment <sup>d</sup>		MDR/RR-TB: 439, XDR-TB: 3	

## TREATMENT SUCCESS RATE AND COHORT SIZE

	SUCCESS	COHORT
New and relapse cases registered in 2016	81%	26 618
Previously treated cases, excluding relapse, registered in 2016	70%	735
HIV-positive TB cases registered in 2016	78%	16 520
MDR/RR-TB cases started on second-line treatment in 2015	44%	433
XDR-TB cases started on second-line treatment in 2015	80%	5

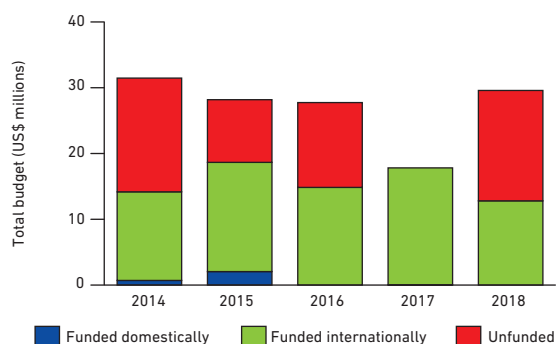
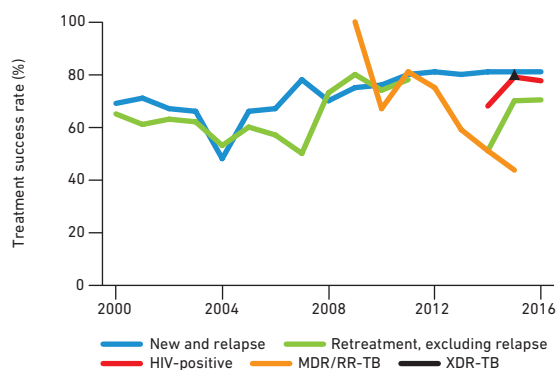
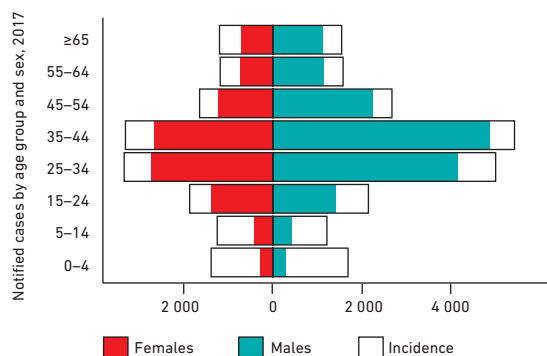
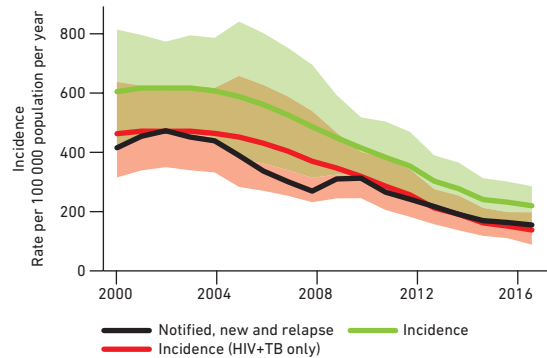
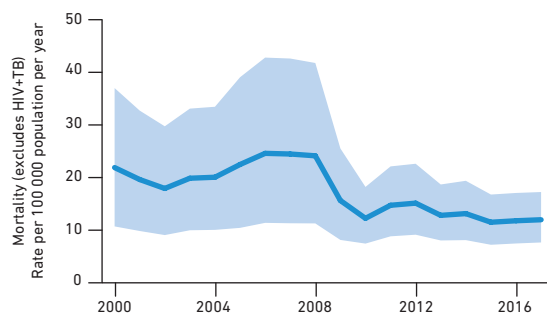
## TB PREVENTIVE TREATMENT, 2017

% of HIV-positive people (newly enrolled in care) on preventive treatment <sup>e</sup>	11%
% of children (aged < 5) household contacts of bacteriologically-confirmed TB cases on preventive treatment	24% (22–26)

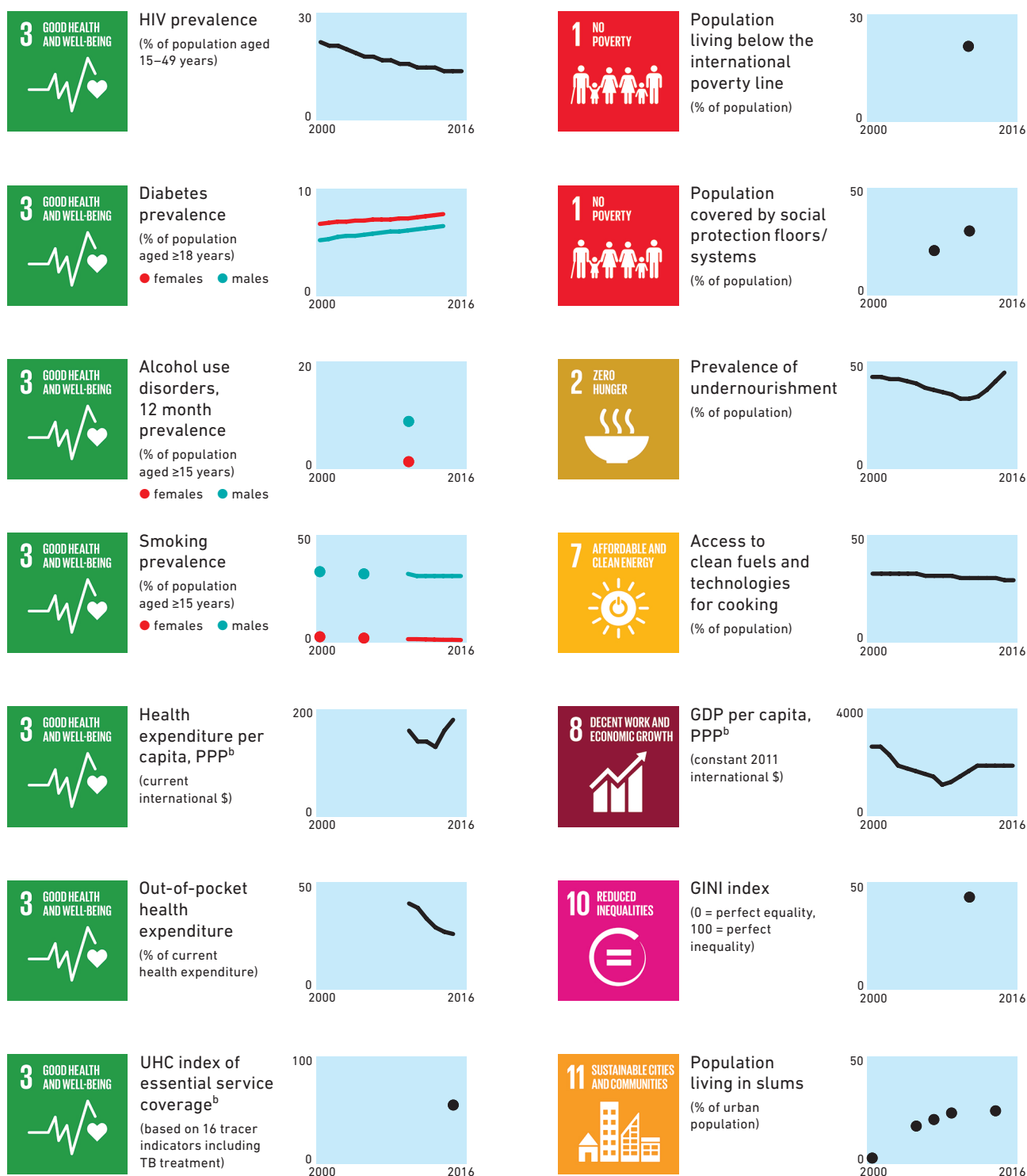
## TB FINANCING, 2018

National TB budget (US\$ millions)	30
Funding source:	domestic, 43% international, 57% unfunded

Data are as reported to WHO. Estimates of TB and MDR/RR-TB burden are produced by WHO in consultation with countries. Estimates are rounded and totals are computed prior to rounding.  
<sup>a</sup> Ranges represent uncertainty intervals.  
<sup>b</sup> MDR is TB resistant to rifampicin and isoniazid; RR is TB resistant to rifampicin.  
<sup>c</sup> Includes cases with unknown previous TB treatment history.  
<sup>d</sup> Includes patients diagnosed before 2017 and patients who were not laboratory-confirmed.  
<sup>e</sup> The number on preventive treatment was provided for the period July–December 2017 only.



## INDICATORS IN THE SUSTAINABLE DEVELOPMENT GOALS ASSOCIATED WITH TB INCIDENCE<sup>a</sup>



Targets for reductions in TB incidence and TB deaths set in WHO's End TB Strategy and the United Nations' Sustainable Development Goals (SDGs) are ambitious. Achieving them requires progress in reducing health-related risk factors for TB infection and disease, as well as broader social and economic determinants of TB infection and disease. WHO has developed a TB-SDG monitoring framework that comprises 14 indicators under seven SDGs for which there is evidence of an association with TB incidence. Further details are provided in [Chapter 2](#).

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