		SDG index	MDG index	Non-MDG index	Disaster mort	Child stunting	Child wasting	Child overweight	MMR	SBA	Under-5 mort	NN mort	HIV incid	Tuberculosis incid	Malaria incid	Hep B incid	NTD prev	NCD mort	Suicide mort	Alcohol use	Road injury mort	FP need met, mod	Adol birth rate	UHC index	Air poll mort	WaSH mort	Poisoning mort	Smoking prev	Vaccine cov	Int partner viol	Water	Sanitation	Hygiene	HH air poll	Occ burden	Mean $PM_{2.5}$	Homicide	Conflict mort	Violence prev	Child sex abuse	Cert death reg
172	Benin	22	10	23	64	42	55	66	14	85	20	17	34	36	2	14	52	47	33	83	29	18	15	32	10	9	21	95	68	30	11	10	3	19	36	[illegible]	56	100	37	11	0
173	Guinea	22	16	26	100	45	59	79	15	37	13	10	32	26	1	12	32	38	48	97	36	15	3	20	6	12	16	83	62	27	14	26	5	10	37	28	56	100	53	11	0
174	Mali	22	13	28	66	56	43	80	11	44	9	6	32	47	0	12	82	47	68	91	45	24	0	28	18	6	23	87	55	20	9	12	2	6	48	5	62	46	17	11	19
175	Madagascar	21	16	28	41	19	8	86	12	12	18	16	52	36	12	23	40	28	44	83	40	44	7	18	9	8	20	74	71	32	15	9	8	13	7	54	67	60	44	40	4
176	Burkina Faso	20	16	23	70	45	34	80	14	64	11	14	40	29	0	13	87	45	36	55	28	48	11	32	11	8	16	82	82	43	7	11	8	13	57	0	85	59	62	11	0
177	Guinea-Bissau	20	15	23	100	51	67	69	12	37	20	13	23	18	13	9	58	22	37	74	24	44	15	17	3	11	10	87	83	19	4	7	6	13	57	21	37	100	21	11	0
178	Ethiopia	20	14	22	100	25	44	81	12	6	32	25	38	23	28	15	40	42	36	81	31	64	25	20	15	9	20	98	38	9	13	0	1	14	30	26	25	50	15	32	0
179	Sierra Leone	20	13	24	45	33	57	64	5	43	9	8	35	25	7	6	61	39	47	53	34	40	7	28	6	5	18	62	72	28	4	13	6	14	59	32	73	100	10	10	0
180	Burundi	19	15	20	39	8	70	50	13	60	18	15	42	15	8	15	54	39	31	29	18	28	45	26	10	4	10	90	90	28	1	10	4	8	16	28	84	45	41	40	5
181	Lesotho	18	20	17	51	43	84	76	14	77	22	14	13	9	100	46	31	13	0	35	2	86	13	24	11	6	11	60	76	22	19	13	1	58	36	47	2	100	23	62	0
182	Democratic Republic of the Congo	16	13	18	68	30	58	75	8	80	18	18	37	12	3	16	4	48	43	76	31	19	7	26	12	10	21	81	68	0	2	13	1	11	27	22	49	48	12	40	0
183	Niger	15	9	20	49	19	4	94	8	18	11	15	46	35	2	13	92	50	56	97	44	39	0	25	6	6	15	95	73	16	12	4	14	2	26	0	60	48	20	10	5
184	Chad	14	7	21	66	34	25	50	4	4	19	13	24	29	8	11	46	50	47	78	35	4	7	14	7	5	14	88	19	29	3	3	5	11	46	6	56	72	42	11	0
185	South Sudan	12	7	15	47	42	4	74	12	25	14	12	24	27	7	16	60	48	63	96	38	0	15	12	12	5	10	86	24	0	1	2	3	2	15	26	38	22	2	40	0
186	Somalia	11	5	14	40	46	16	88	0	28	14	11	41	18	14	5	39	27	49	97	25	1	24	0	0	6	5	83	0	3	19	22	0	0	17	50	29	1	7	40	0
187	Central African Republic	11	5	17	100	30	58	82	0	39	7	5	18	0	3	5	35	23	31	65	7	12	12	3	1	1	7	86	70	12	0	6	9	11	18	16	38	30	31	40	0
188	Afghanistan	11	14	12	24	5	53	62	8	32	22	16	80	30	26	33	51	6	46	98	0	35	21	5	0	32	28	76	50	0	6	16	38	27	0	18	12	1	4	76	0

Value: 100 75 50 25 0

Figure 1: **Performance on the health-related SDG index, MDG index, and non-MDG index, and 37 individual health-related indicators, by country, 2016**

Countries are ranked by their health-related SDG index from highest to lowest in 2016. Indices and individual indicators are reported on a scale of 0 to 100, with 0 representing the worst levels from 1990 to 2030 and 100 reflecting the best during that time. Definitions of health-related SDG indicators are shown in the table. SDG=Sustainable Development Goal. MDG=Millennium Development Goal. Disaster mort=mortality due to exposure to forces of nature. MMR=maternal mortality ratio. SBA=skilled birth attendance. NN mort=neonatal mortality. Mort=mortality. Incid=incidence. NTD prev=prevalence of 15 neglected tropical diseases. NCD mort=mortality due to a subset of non-communicable diseases (cardiovascular disease, cancer, diabetes, and chronic respiratory diseases). FP need met, mod=family planning need met with modern contraception methods. Adol birth rate=adolescent birth rate. UHC index=universal health coverage index. Air poll mort=mortality attributable to household air pollution and ambient air pollution. WaSH mort=mortality attributable to unsafe water, sanitation, and hygiene. Poisoning mort=mortality due to unintentional poisonings. Smoking prev=prevalence of daily smoking. Vaccine cov=vaccine coverage of target populations based on national vaccine schedules. Int partner viol=prevalence of intimate partner violence. HH air poll=prevalence of household air pollution. Occ burden=disease burden attributable to occupational risks. Mean PM2.5=fine particulate matter smaller than 2·5 μm. Homicide=mortality due to interpersonal violence. Conflict mort=mortality due to conflict and terrorism. Violence prev=prevalence of physical or sexual violence. Child sex abuse=prevalence of childhood sexual abuse. Cert death reg=well-certified death registration.

NCDs, road injuries, and suicide also were among the primary contributing factors for such gains. On the other hand, 2030 projections based on past trends suggest that a subset of countries, including Sri Lanka, Venezuela, Ukraine, and Serbia could experience worsening performance driven by their past trends on indicators including childhood overweight and harmful alcohol use. At the same time several low-middle-SDI countries to low-SDI countries were projected to have marked improvements on the health-related SDG index (eg, Laos, Mozambique, Uganda, Cambodia, Ethiopia, Nepal, and Rwanda). Perhaps most importantly, on the basis of past trends, a subset of low-SDI countries are projected to show minimal progress by 2030 and will continue to have low scores on the health-related SDG index (figures 5 and 6), such as the Central African Republic.

Projected attainment of defined SDG targets

Based on predictions of past trends for SDG indicators with defined targets, stark differences emerged in terms of projected achievement by 2030 by indicator (figure 7). Globally, more than 60% of countries were projected to attain the SDG targets for under-5 mortality, neonatal mortality, MMR, and malaria by 2030; however, these four indicators all had at least 50% of countries already meeting 2030 targets in 2016. SDG indicators with the next highest levels of projected attainment on the basis of past trends were skilled birth attendance (48% of countries), household air pollution (40%), and well-certified death registration (35%). By contrast, of the 24 SDG indicators with defined targets, 11 indicators had fewer than 5% of countries projected to meet corresponding targets on the basis of past trends. These indicators predominantly involved those calling for eliminating a health challenge (eg, childhood overweight, tuberculosis, and intimate partner violence) or achieving universal coverage or access (eg, met need for family planning and the UHC index). Additionally, on the basis of past trends, few countries were projected to achieve the SDG targets set forth for NCD and suicide mortality (ie, reduce by one-third from 2015 to 2030), with 6% of countries meeting this target for NCD mortality and 3% for suicide. Furthermore, on the basis of past trends, no country was projected to meet the SDG target for road injury mortality, which calls for a 50% reduction from 2015 to 2020.

Overall, based on past trends, projected attainment of defined SDG indicator targets in 2030 was closely associated with SDI, with the highest levels of target

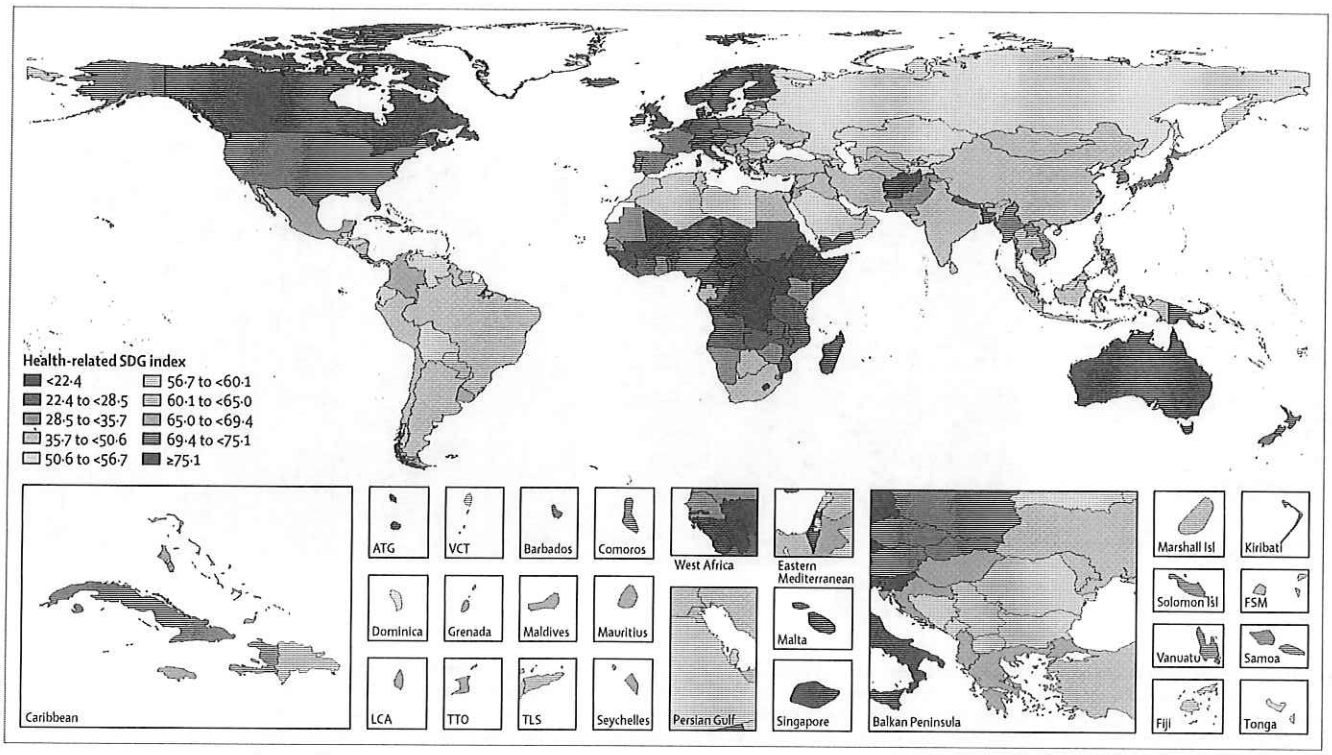

Figure 2: **Map of the health-related SDG index, by decile, in 2016**
Deciles ranged from less than 22·4 (first decile) to at least 75·1 (tenth decile) in 2016. SDG=Sustainable Development Goal. ATG=Antigua and Barbuda. VCT=Saint Vincent and the Grenadines. LCA=Saint Lucia. TTO=Trinidad and Tobago. Isl=Islands. FSM=Federated States of Micronesia. TLS=Timor-Leste.

achievement occurring among higher-SDI countries. However, among these high-middle and high-SDI countries, the vast majority had already met these targets by 2016, particularly those from the MDG era (ie, MMR, child mortality, malaria, and household air pollution). Some GBD super-regions showed considerable gains for attaining certain SDG targets between 2016 and 2030, including vaccine coverage and household air pollution in Latin America and the Caribbean; skilled birth attendance in southeast Asia, east Asia, and Oceania; and under-5 mortality and neonatal mortality in sub-Saharan Africa. With no south Asian countries attaining the SDG targets for child mortality and malaria in 2016, projections based on past trends pointed to 40% of south Asian countries meeting malaria incidence threshold of 0·005 cases or less per 1000 in 2030, and 80% of countries attaining the SDG target for under-5 mortality and 60% of countries attaining the target for neonatal mortality.

Of the 24 currently measured health-related indicators with defined SDG targets, a median of five (IQR 2–8) indicator targets were projected to be met by 2030, with no country attaining more than 13 (figure 8). On the basis of past trends, 18 countries are projected to meet at least ten indicator targets, including Finland (13 targets), Denmark and Switzerland (11 targets each), and Germany, Ireland, Norway, Singapore, Spain, and the UK each projected to meet ten targets. 31 countries met eight or nine indicator targets in 2030 on the basis of past rates of progress, including Canada, South Korea, Sweden, and the USA (nine targets each), and Australia, Chile, China, and Japan each reaching eight targets. At the other end of the scale, more than 20% of countries (44 of 188) are projected, on the basis of past trends, to meet fewer than two indicator targets in 2030, with most of these countries in sub-Saharan Africa and south Asia. Exceptions to note in sub-Saharan Africa are Botswana and Cape Verde (projected to meet five indicator targets in 2030 on the basis of past trends), Swaziland and Namibia (projected to meet four), and South Africa and Rwanda (projected to meet three).

The use of more conservative target thresholds (ie, 80% reduction from 2015 to 2030 for elimination targets and ≥90% for universal coverage or access targets) resulted in notably higher projected attainment for SDG indicators linked to universal coverage or access targets (figure 7B). This was most pronounced for vaccine coverage, with 78% of countries projected to meet the at least 90% threshold in 2030 on the basis of past trends, compared with 29% of countries meeting at least 99% coverage in 2030. Considerable differences in attainment were also found for skilled birth attendance, water, sanitation, access to hygiene, and household air pollution with at least 90% as the threshold for attainment.

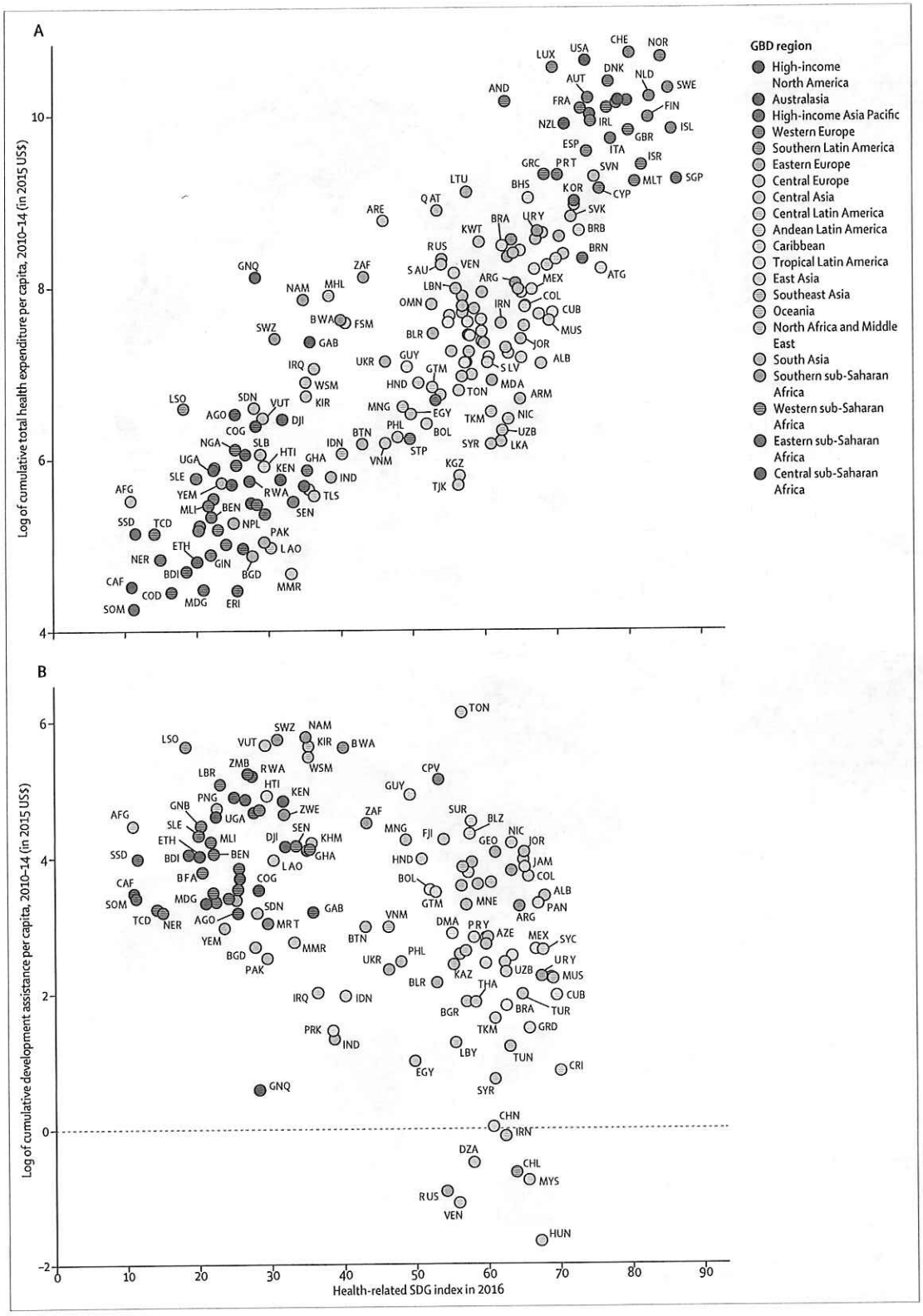

Figure 3: **Comparing the health-related SDG index in 2016 to cumulative total health expenditure per capita (A) and cumulative development assistance for health per capita (B), from 2010–14, by GBD region**

The health-related SDG index is reported on a scale of 0–100, with 0 representing the worst levels from 1990 to 2030 and 100 reflecting the best during that time. Total health expenditure includes development assistance for health and government, out-of-pocket, and pre-paid private health spending. Of the 188 countries in this analysis, 184 had estimates of total health expenditure per capita; North Korea, Palestine, Taiwan (Province of China), and Zimbabwe were excluded due to missing data on national health expenditure. 130 countries were recipients of development assistance for health from 2010 to 2014. Countries are abbreviated according to the ISO3 code. GBD=Global Burden of Disease. SDG=Sustainable Development Goal.

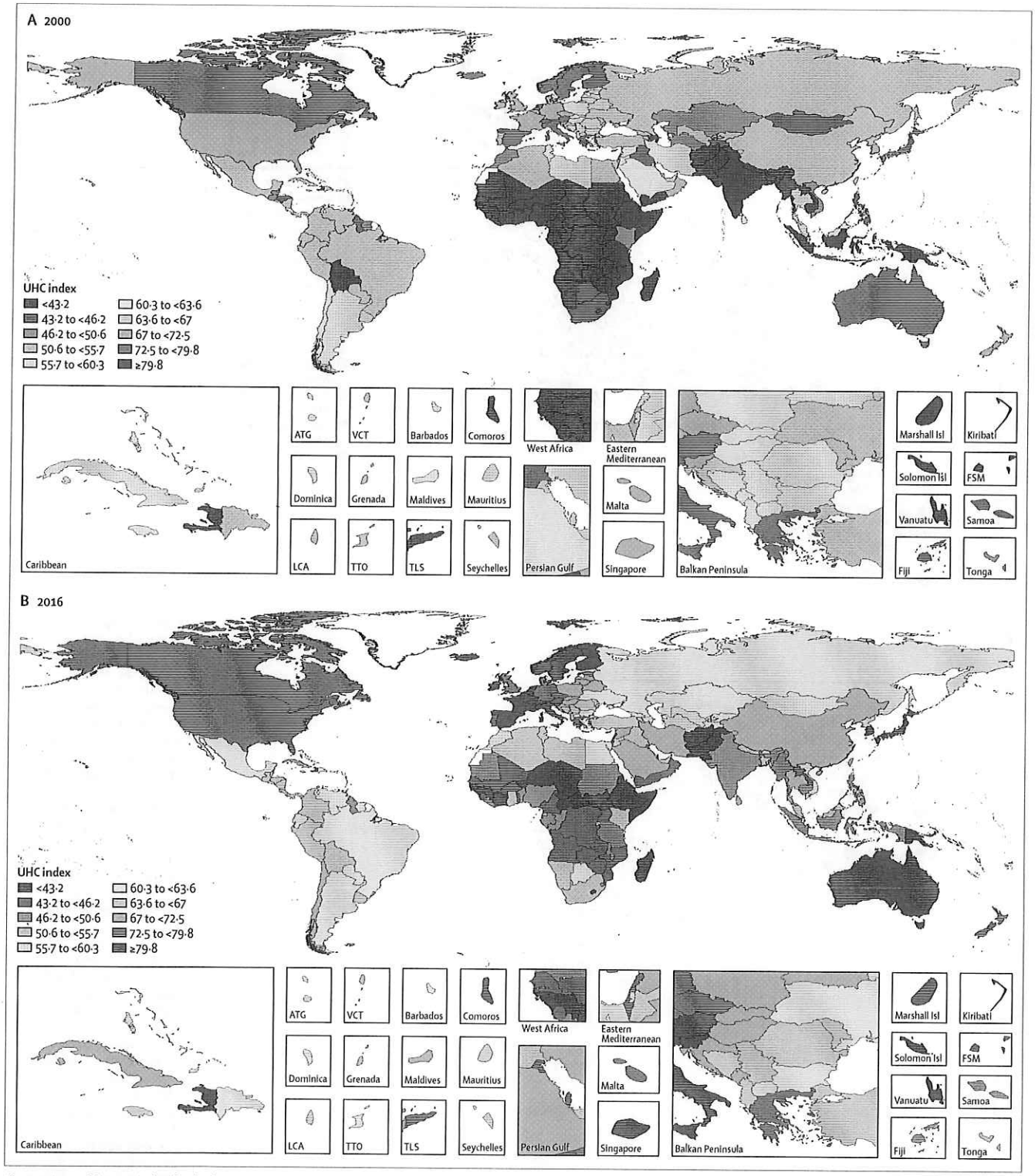

Figure 4: **Map of the UHC index, by decile, in 2000 (A) and 2016 (B)**
Deciles were based on the distribution of UHC index values in 2016 and then were applied for 2000. Deciles ranged from less than 43·2 (first decile) to at least 79·8 (tenth decile) in 2016. UHC=universal health coverage. ATG=Antigua and Barbuda. VCT=Saint Vincent and the Grenadines. LCA=Saint Lucia. TTO=Trinidad and Tobago. Isl=Islands. FSM=Federated States of Micronesia. TLS=Timor-Leste.

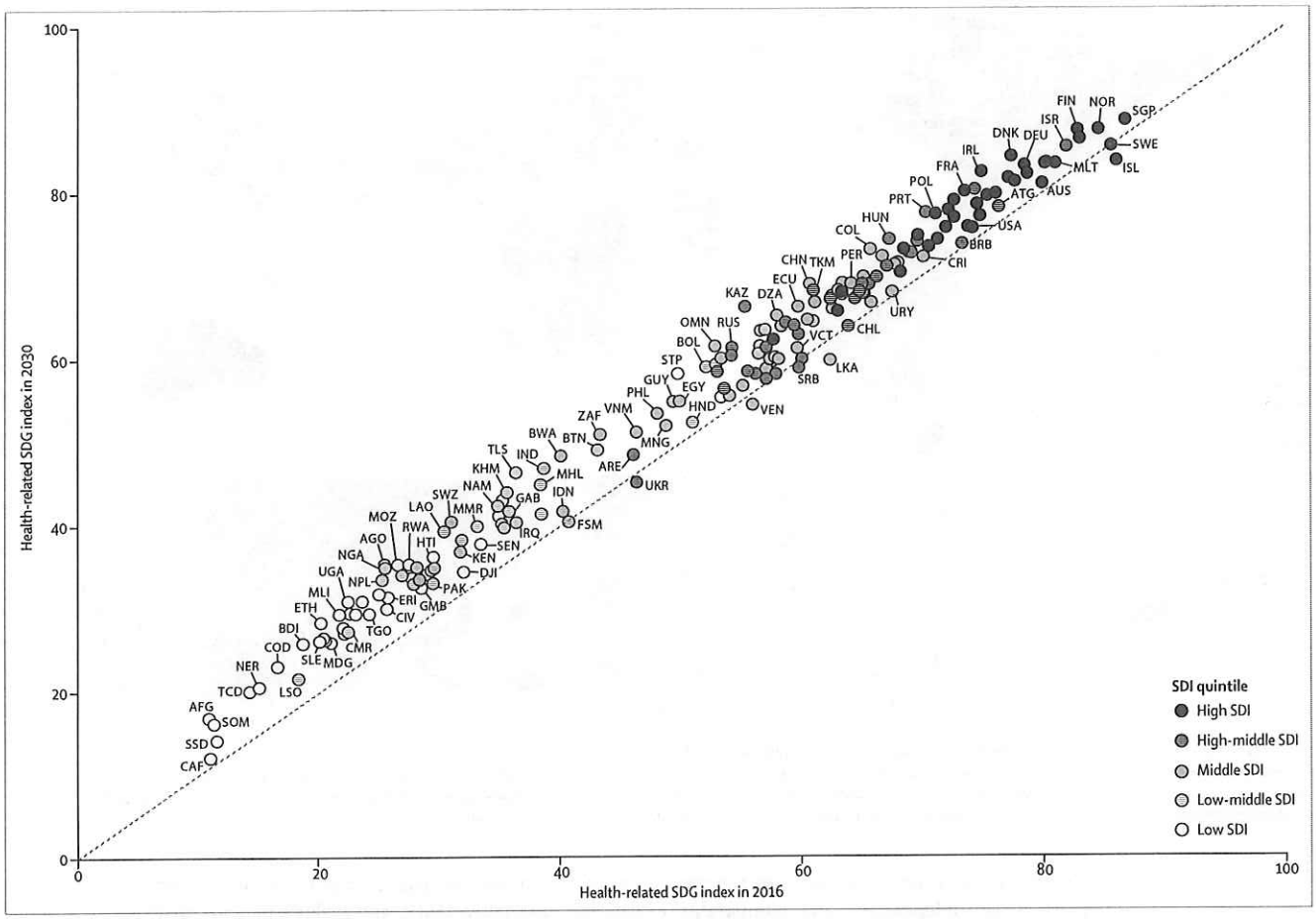

Figure 5: **Comparing the health-related SDG index in 2016 and, based on past trends, the projected health-related SDG index in 2030, by country**
The health-related SDG index is reported on a scale of 0–100, with 0 representing the worst levels from 1990 to 2030 and 100 reflecting the best during that time. The dashed line shows the equivalence line, such that values that fall on this line are equivalent for both the health-related SDG index in 2016 and, based on past trends, the projected health-related SDG index in 2030. Countries are abbreviated according to the ISO3 code. SDI=Socio-demographic Index. SDG=Sustainable Development Goal.

Projected attainment based on past trends moderately increased for malaria (69%) and neglected tropical diseases (36%) with the 80% reduction scenario; otherwise, projected attainment for the other SDG indicators with elimination targets did not change with the application of this more conservative target. Globally, the median of indicator targets projected to be met by 2030 increased to eight (IQR 3–11) when more conservative targets were used for elimination and universal coverage or access SDG indicators (figure 8B). More detail on projected attainment of SDG indicator targets based on past trends can be found in appendix 2.

Comparing the difference between projected rates of change from 2016 to 2030, on the basis of past progress, and required rates of change that need to be achieved between 2016 and 2030 to meet defined SDG indicator targets can help identify which health areas to prioritise in the SDG era (figure 9). Globally, dramatic acceleration of progress is most needed for indicator targets that call for eliminating health challenges, such as the child malnutrition indicators, especially childhood overweight; infectious diseases, particularly tuberculosis and neglected tropical diseases; and violence indicators. The magnitude by which such gains must be hastened from 2016 to 2030 often differed across the development spectrum, with higher-SDI countries generally requiring far less acceleration than lower-SDI countries. The main exceptions included childhood overweight, road injury mortality, and violence indicators, for which fairly similar rates of acceleration of progress are necessary to reach corresponding SDG targets across levels of SDI.

Further results are in appendix 2, and dynamic visualisations are available online.

For dynamic visualisations see https://vizhub.healthdata.org/sdg

Discussion

Summary of findings

Formally adopted in 2015, the SDG agenda lays out a series of bold goals and accompanying targets and

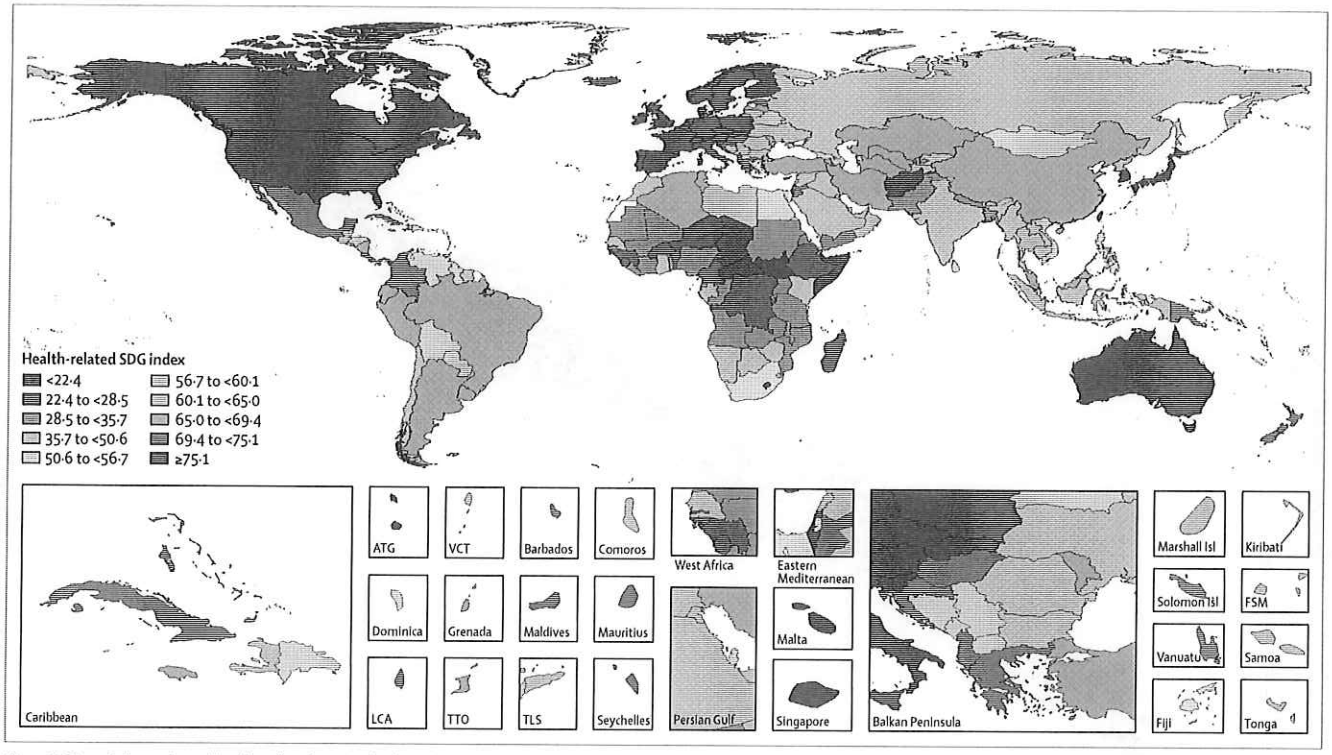

Figure 6: **Map of the projected health-related SDG index based on past trends, by decile, in 2030**
Deciles were based on the distribution of the health-related SDG index values in 2016 and then were applied for the projected SDG index in 2030. Deciles ranged from less than 22·4 (first decile) to at least 75·1 (tenth decile) in 2016. Projections were based on past trends and rates of change observed from 1990 to 2016. SDG=Sustainable Development Goal. ATG=Antigua and Barbuda. VCT=Saint Vincent and the Grenadines. LCA=Saint Lucia. TTO=Trinidad and Tobago. Isl=Islands. FSM=Federated States of Micronesia. TLS=Timor-Leste.

indicators for attainment by 2030. In the present study, we produced independent and comparable estimates of 37 of the 50 health-related SDG indicators across 188 countries and projected indicators to 2030 on the basis of past trends observed in each country. Our findings show considerable inequality in the health-related SDG index in 2016, spanning from 86·8 in Singapore to 10·9 in Afghanistan. Our revised UHC measure, which incorporates a broader range of tracer indicators including essential health services for NCDs, further highlights geographical and sociodemographic disparities on a key component of the health-related SDGs. Our projections of the health-related SDG indicators point to further entrenchment of these inequalities in the future unless current trajectories are considerably altered. On the basis of past trends, only 21% of health-related SDG indicators with defined targets were projected to be met by 2030, ranging from 38% among high-SDI countries to merely 3% among low-SDI countries. Even when we applied more conservative attainment thresholds, this only increased 30% of health-related SDG indicators with defined targets being met by 2030. Attainment varied considerably across the different indicators, from more than 60% of countries projected to meet 2030 targets on the basis of past trends for under-5 mortality, neonatal mortality, MMR, and malaria to fewer than 5% projected to achieve targets linked to 11 indicator targets, including those for childhood overweight, tuberculosis, and road injury mortality. These projections based on past trends underscore the need for dramatic, if not unprecedented, acceleration of progress to improve health outcomes, reduce risk exposure, and expand essential health services for all countries to achieve the health-related SDGs by 2030. Such action is particularly crucial for countries already showing signs of being left behind, such as the Central African Republic, Afghanistan, Somalia, and South Sudan.

UHC in the SDG era

Achieving UHC—access to quality essential health services, medicines, and vaccines, and the provision of financial risk protection—is increasingly viewed as imperative to attaining the health-related SDGs.[13–18] Previously, monitoring of progress on the first component of UHC, access to quality essential health services, has been mainly limited to tracking the coverage but not quality of interventions for maternal, reproductive, and child health outcomes and selected communicable diseases. Amid gains in development, many countries'

health systems remain unable to fully respond to the rise in NCDs and the demand for more specialised types of medical care.[20,42] This trend is shown in the divergence by SDI quintile on the more traditional UHC proxy measure and our updated UHC index (appendix 2 p 4), which accounts for an array of NCD outcomes amenable to health care, as well as capturing quality of care.

Although a number of countries saw minimal gains, including low-SDI countries such as Lesotho and the Central African Republic but also high-SDI countries such as the USA, our findings also highlight that progress can be made on expanding UHC. Several countries, including Cambodia, Rwanda, Equatorial Guinea, Laos, Turkey, and China showed substantial improvements on

A

	SDG target	Global 2016	Global 2030	High SDI 2016	High SDI 2030	High-middle SDI 2016	High-middle SDI 2030	Middle SDI 2016	Middle SDI 2030	Low-middle SDI 2016	Low-middle SDI 2030	Low SDI 2016	Low SDI 2030	High-income 2016	High-income 2030	Central Europe, eastern Europe, and central Asia 2016	Central Europe, eastern Europe, and central Asia 2030	Latin America and Caribbean 2016	Latin America and Caribbean 2030	Southeast Asia, east Asia, and Oceania 2016	Southeast Asia, east Asia, and Oceania 2030	North Africa and Middle East 2016	North Africa and Middle East 2030	South Asia 2016	South Asia 2030	Sub-Saharan Africa 2016	Sub-Saharan Africa 2030
Child stunting	≤0·5%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Child wasting	≤0·5%	0	0	0	0	3	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0
Child overweight	≤0·5%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MMR	<70 deaths per 100 000 livebirths	59	63	100	100	97	97	78	83	20	33	3	3	100	100	100	100	69	76	40	52	81	81	0	0	4	9
SBA	≥99%	36	48	97	97	57	77	27	54	2	10	0	5	91	97	86	90	21	38	12	40	14	43	0	0	0	4
Under-5 mort	≤25 deaths per 1000 livebirths	61	77	100	100	94	100	85	90	23	69	3	24	100	100	86	100	83	90	56	84	76	90	0	80	4	26
NN mort	≤12 deaths per 1000 livebirths	59	73	100	100	91	97	78	85	26	62	3	22	100	100	86	97	72	79	56	84	76	86	0	60	4	24
HIV incid	≤0·005 per 1000	7	6	8	8	14	11	10	10	5	3	0	0	0	0	28	28	0	0	4	4	19	10	20	20	0	0
Tuberculosis incid	≤0·5 per 100 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malaria incid	≤0·005 per 1000	55	62	97	97	91	97	58	76	26	36	5	5	97	97	100	100	45	59	48	60	76	86	0	40	2	6
NTD prev	≤0·5%	30	30	94	94	46	40	17	17	0	3	0	0	85	85	72	72	10	3	0	4	24	24	0	0	0	0
NCD mort	Reduce by one-third	0	6	0	17	0	6	0	2	0	5	0	0	0	12	0	14	0	0	0	4	0	5	0	0	0	2
Suicide mort	Reduce by one-third	0	3	0	6	0	3	0	2	0	3	0	0	0	6	0	3	0	3	0	4	0	0	0	0	0	0
Road injury mort	Reduce by 50%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FP need met, mod	≥99%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UHC index	≥99%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vaccine cov	≥99%	10	29	0	31	14	37	27	49	5	26	0	3	0	24	10	28	10	45	20	36	33	48	0	20	0	13
Int partner viol	≤0·5%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water	≤1%	11	12	56	56	3	9	0	0	0	0	0	0	64	70	0	0	0	0	0	0	0	0	0	0	0	0
Sanitation	≤1%	1	9	6	42	0	3	0	2	0	0	0	0	6	52	0	0	0	0	0	0	0	0	0	0	0	0
Hygiene	≤1%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HH air poll	≤1%	33	40	83	89	60	69	22	37	3	8	3	3	97	100	21	28	17	38	12	20	76	86	0	0	0	0
Child sex abuse	≤0·5%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cert death reg	≥80%	30	35	83	83	40	46	22	39	8	10	0	0	73	76	55	52	45	59	8	20	5	19	0	0	0	0

Percentage
100 75 50 25 0

(Figure 7 continues on next page)

B

	SDG target	Global 2016	Global 2030	High SDI 2016	High SDI 2030	High-middle SDI 2016	High-middle SDI 2030	Middle SDI 2016	Middle SDI 2030	Low-middle SDI 2016	Low-middle SDI 2030	Low SDI 2016	Low SDI 2030	High-income 2016	High-income 2030	Central Europe, eastern Europe, and central Asia 2016	Central Europe, eastern Europe, and central Asia 2030	Latin America and Caribbean 2016	Latin America and Caribbean 2030	Southeast Asia, east Asia, and Oceania 2016	Southeast Asia, east Asia, and Oceania 2030	North Africa and Middle East 2016	North Africa and Middle East 2030	South Asia 2016	South Asia 2030	Sub-Saharan Africa 2016	Sub-Saharan Africa 2030
Child stunting	Reduce by 80%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Child wasting	Reduce by 80%	0	0	0	0	3	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0
Child overweight	Reduce by 80%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MMR	<70 deaths per 100 000 livebirths	59	63	100	100	97	97	78	83	20	33	3	3	100	100	100	100	69	76	40	52	81	81	0	0	4	9
SBA	≥90%	68	78	100	100	100	100	90	95	36	69	14	27	100	100	100	100	90	93	72	84	71	86	0	0	13	41
Under-5 mort	≤25 deaths per 1000 livebirths	61	77	100	100	94	100	85	90	23	69	3	24	100	100	86	100	83	90	56	84	76	90	0	80	4	26
NN mort	≤12 deaths per 1000 livebirths	59	73	100	100	91	97	78	85	26	62	3	22	100	100	86	97	72	79	56	84	76	86	0	60	4	24
HIV incid	Reduce by 80%	7	6	8	8	14	11	10	10	5	3	0	0	0	0	28	28	0	0	4	4	19	10	20	20	0	0
Tuberculosis incid	Reduce by 80%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malaria incid	Reduce by 80%	55	69	97	97	91	97	58	80	26	59	5	14	97	97	100	100	45	76	48	80	76	86	0	60	2	13
NTD prev	Reduce by 80%	30	36	94	94	46	40	17	24	0	10	0	16	85	85	72	72	10	17	0	12	24	29	0	0	0	11
NCD mort	Reduce by one-third	0	6	0	17	0	6	0	2	0	5	0	0	0	12	0	14	0	0	0	4	0	5	0	0	0	2
Suicide mort	Reduce by one-third	0	3	0	6	0	3	0	2	0	1	0	0	0	6	0	3	0	3	0	4	0	0	0	0	0	0
Road injury mort	Reduce by 50%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FP need met, mod	≥90%	2	9	6	8	0	6	2	20	0	8	0	3	3	6	0	0	0	17	8	12	0	5	0	0	0	13
UHC index	≥90%	0	1	0	6	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0
Vaccine cov	≥90%	63	78	92	97	77	89	76	80	46	69	27	54	91	97	83	90	72	76	52	72	71	86	40	80	30	56
Int partner viol	Reduce by 80%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water	≤10%	37	46	100	100	57	83	27	44	5	10	0	0	100	100	72	90	28	34	4	12	24	67	20	70	0	0
Sanitation	≤10%	32	42	92	92	51	63	24	44	0	8	0	5	100	100	38	38	10	38	16	28	48	71	0	0	0	2
Hygiene	≤10%	29	36	100	100	43	57	10	22	0	5	0	0	100	100	62	90	0	0	16	24	0	10	0	0	0	0
HH air poll	≤10%	55	64	100	100	89	91	71	88	15	33	1	8	100	100	69	79	79	86	28	52	86	90	0	20	4	13
Child sex abuse	Reduce by 80%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cert death reg	≥80%	30	35	83	83	40	46	22	39	8	10	0	0	73	76	55	52	45	59	8	20	5	19	0	0	0	0

Percentage
100 75 50 25 0

Figure 7: **Percentage of countries attaining health-related SDG indicator targets in 2016 and projected to attain in 2030 based on past trends, according to defined SDG targets (A), and defined and conservative SDG targets (B), by indicator, across all countries and by GBD super-region and SDI quintile**

All projections were based on past trends and rates of change observed from 1990 to 2016. Of the 37 health-related indicators measured in this study, 24 had defined targets linked to each indicator. Definitions of health-related SDG indicators and defined targets associated with them are shown in the table. SDG target 3.6 aims to reduce road injury mortality by 50% between 2015 and 2020, and thus projected attainment for this indicator is based on estimates from 2015 to 2020 rather than 2015 to 2030. For (B), conservative targets were defined as an 80% reduction for elimination targets from 2015 to 2030, and ≥90% by 2030 for universal access or coverage. Under the conservative scenario (B), targets with specific values to meet by 2030 or with specified relative reductions remained as originally defined. SDG=Sustainable Development Goal. SDI=Socio-demographic Index. MMR=maternal mortality ratio. SBA=skilled birth attendance. Under-5 mort=under-5 mortality. NN mort=neonatal mortality. Mort=mortality. Incid=incidence. NTD prev=prevalence of 15 neglected tropical diseases. NCD mort=mortality due to a subset of non-communicable diseases (cardiovascular disease, cancer, diabetes, and chronic respiratory diseases). FP need met, mod=family planning need met with modern contraception methods. UHC index=universal health coverage index. Vaccine cov=vaccine coverage of target populations based on national vaccine schedules. Int partner viol=prevalence of intimate partner violence. HH air poll=prevalence of household air pollution. Child sex abuse=prevalence of childhood sexual abuse. Cert death reg=well-certified death registration.

the UHC index between 2000 and 2016. Enacting large-scale health-care reforms and adopting nationwide social health insurance programmes, which enable populations to access essential health services without incurring large financial burdens, are shared characteristics for several countries with notable gains on the UHC index.[43] Nonetheless, how quickly such government-led initiatives have been formally established, and then how these programmes have been effectively implemented, scaled up, and maintained nationwide vary substantially. This highlights the need for long-term, sustained political commitment to achieving UHC, alongside establishing adequate financing and policies that cover services. For instance, after a change in government in 2002, Turkey introduced its Health Transformation Program in 2003 with the explicit aim of improving public health, providing health insurance for all, and expanding access to care.[44,45] The phased implementation of UHC-focused reforms in Turkey, alongside continued political support, allowed the country to achieve remarkable strides in achieving UHC and improving care.[44,45] Yet many country stakeholders and officials fear that the momentum around UHC in Turkey might stall, especially amid increasing regional instability.[44] China's health-care reforms largely began in the early 2000s, with government-funded insurance schemes increasingly covering rural populations and unemployed urban residents,[46,47] which was then followed by a more comprehensive health reform in 2009–10 focused on service delivery, essential medicines, public health, insurance, and public hospitals. Strong government commitment to expanding health care to all populations allowed China to make rapid gains in UHC, although concerns about long-term financing and the growth of private insurance are likely to challenge the durability of such political support. Rwanda initiated a pilot programme of its community-based health insurance programme (*Mutuelles de santé* [*Mutuelles*]) in 1999–2000, and then proceeded to formalise and expand the programme nationwide from 2004 to 2008.[48] Again, strong political commitment to UHC is viewed as a major factor in the rapid expansion of *Mutuelles* in Rwanda;[49] nonetheless, Rwanda still faces many challenges in terms of UHC financing. In Cambodia, extended health reforms began in the 1990s, gradually rebuilding the country's health system and laying the groundwork for UHC financing arrangements through long-term national health planning.[50] Cambodia has yet to establish a consolidated national insurance system, though the government recently signalled its commitment to UHC with the March, 2016, Social Health Protection Framework. Overall, our findings on UHC highlight the scope for progress through deliberate, sustained health system investments and political commitment. Further examination of the health system structures, attributes, and financing mechanisms in countries where progress has occurred on the UHC index could offer further insights into how essential health services can be further expanded in health-care settings across the development spectrum.

Greater investments in health required among the worst off

With its broadened development agenda, the SDGs present substantial financing concerns to higher-income and lower-income countries alike. Projections of government health spending and DAH suggest that absolute levels of overall health spending are likely to remain low among lower-income countries,[38,51] emphasising the importance of both increased DAH and larger allocations toward health to the extent possible in the SDG era.[52] Echoing the SDG mantra of "leaving no one behind", DAH ideally should be targeted toward those with the greatest need. Our analysis shows that a number of countries with the worst performance on the health-related SDG index in 2016 received among the lowest cumulative DAH per capita from 2010 to 2014. The vast majority of these countries were in western and central sub-Saharan Africa, as well as Afghanistan; a number of these countries have experienced protracted conflict or recent surges in civil unrest. Although lower DAH allocations might be justified in settings with limitations in terms of governance or absorptive capacity, in the longer term in the absence of expanded, sustained international support, and increased domestic financing to the extent possible, these countries risk falling further behind in the SDG era.

Intersectoral action is essential to the health-related SDGs

The confluence of factors leading to poor performance on the SDGs in the worst-off countries underscores how the achievement of several health-related SDG targets will require intersectoral action. Focusing on key socio-demographic factors (eg, improving educational attainment and reducing poverty) might facilitate gains on health-related SDGs.[53,54] Furthermore, many of the health-related SDGs are not as amenable to traditional DAH-supported programmes.[55] This is particularly relevant to the health-related SDG indicators for homicide and violence, natural disasters, and conflict; indicators with a strong environmental focus (eg, mean levels of $PM_{2.5}$ [fine particulate matter smaller than 2·5 μm] and mortality attributable to air pollution) or clear links with infrastructure and corresponding laws (eg, road traffic mortality); and broader public health programmes and policies focused on behavioural risk factors (eg, smoking). Ongoing conflict or recent resurgences of violence in the Central African Republic, Afghanistan, Somalia, and South Sudan—countries that were among the worst off in 2016—also risk further entrenching poor health outcomes in the SDG era. War and conflict have widespread, dire ramifications for health systems and related infrastructure, as most