Curriculum connector

Access to Health Services

Barriers to equitable healthcare services

The COVID-19 pandemic highlighted barriers to accessing healthcare and the consequences of unequal access to care. Students will analyze data to determine the barriers to equitable healthcare access and determine possible solutions in local, regional or global communities. They will also explore data related to the accessibility of mental health services.

Closing the gap and providing quality healthcare for all

"Many people face barriers that prevent or limit access to needed healthcare services, which may increase the risk of poor health outcomes and health disparities."[1] The U.S. Department of Health and Human Services identifies that the three primary factors that create barriers and produce inequitable access to health services are:

- Lack of or inadequate healthcare insurance coverage
- Poor access to transportation
- Limited healthcare resources

Students will examine data and analyze the significant gaps in adequacy, accessibility and quality of care experienced by various populations, and how to expand access to health services to reduce health disparities.

Monitoring global, regional and local healthcare services

SCORE Data, World Health Organization

Activity idea #1: Analyze the SCORE (Survey, Count, Optimize, Review, Enable) data below and create a bar graph that shows the comparison of the world averages and the averages of the three selected regions (Africa, Americas, Europe). Four bars will be used for each aspect of SCORE that is measured on the five-point scale; therefore, the entire bar graph will have a total of twenty bars. Use the visual representation to then identify claims based on the data. Students may choose to make several claims related to one aspect of SCORE, or write one to two claims for each of the five areas measured. Encourage students to use the same color key as the data for ease of understanding—for instance, make "limited" orange, "moderate" yellow, and so on. Additionally, the data set is interactive (for settings with internet access), and students may wish to select more regions or different regions than the ones that have been preselected for them.

1 U.S. Department of Health and Human Services, https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/access-health-services#cit2

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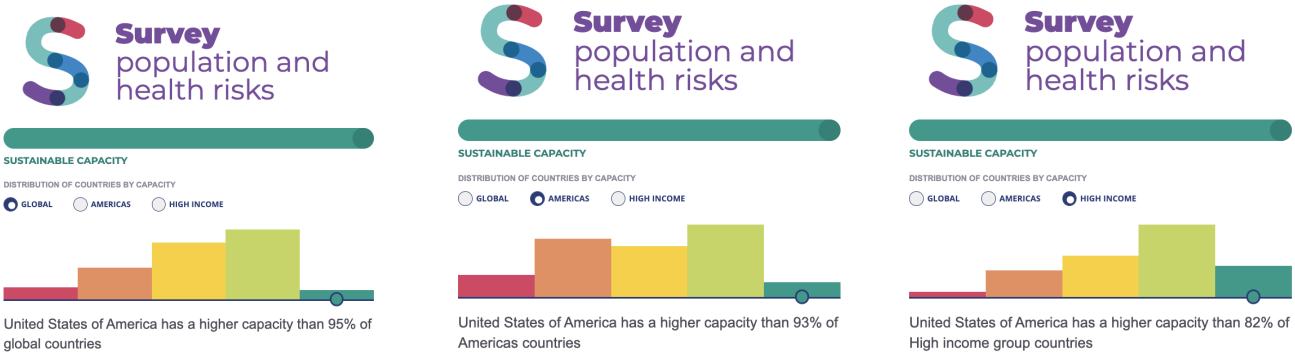
Activity idea #2: This activity will require students to use the interactive data from the Country/Area Analysis dashboard from the World Health Organization. Students will take an in-depth look at one or two countries as they collect, represent, and analyze the data provided. There is an enormous amount of data within each country report, so encourage students to focus on the bar graphs (sample shown below) that demonstrate each aspect of the SCORE data in comparison to global, regional, and high-income countries. Depending upon student interest, there are many options for how the data can be represented. However, it may be best to steer students towards using a scatter plot or line graph to display the data. Remind them of the importance of a color-coded key to promote greater visual clarity of the data.



Visual/Graphic: World Health Organization, SCORE Data. Charts and graphs are provided below for settings without internet access.

Connects to:

- Career pathways:
  - Health professionals
  - Statistical analysis
  - Science, Technology, Engineering & Mathematics (S.T.E.M.)
- National standards:
  - Using data to draw inferences
  - Analyzing data
  - Posing questions
  - Evaluating claims

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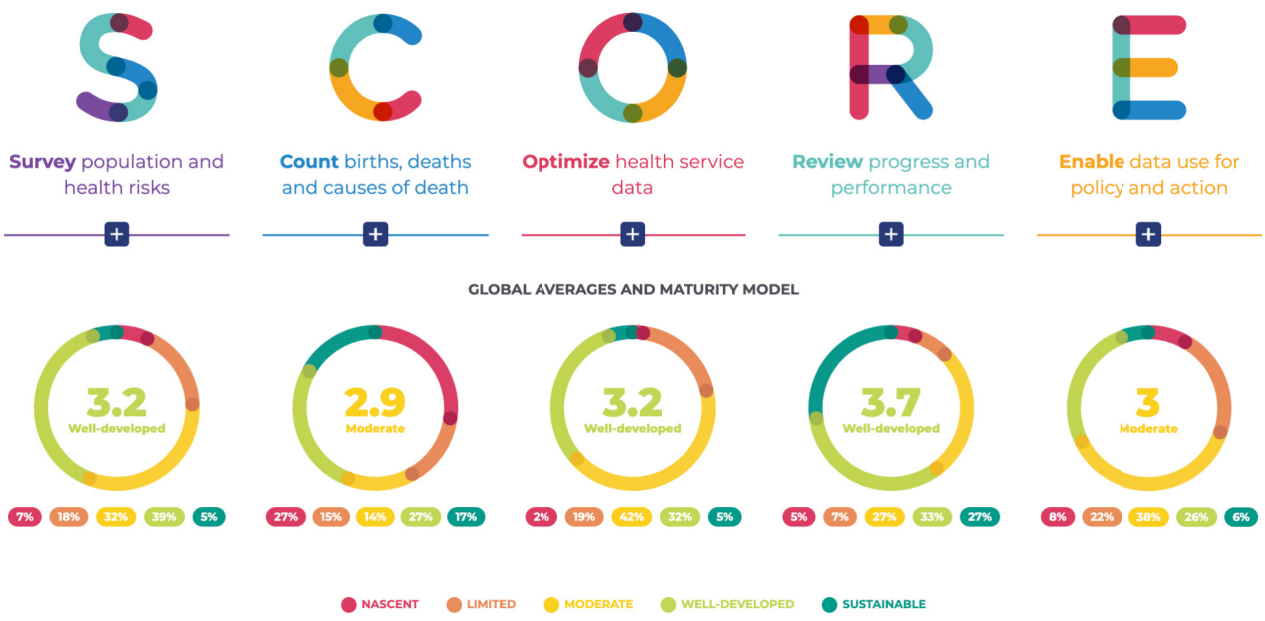
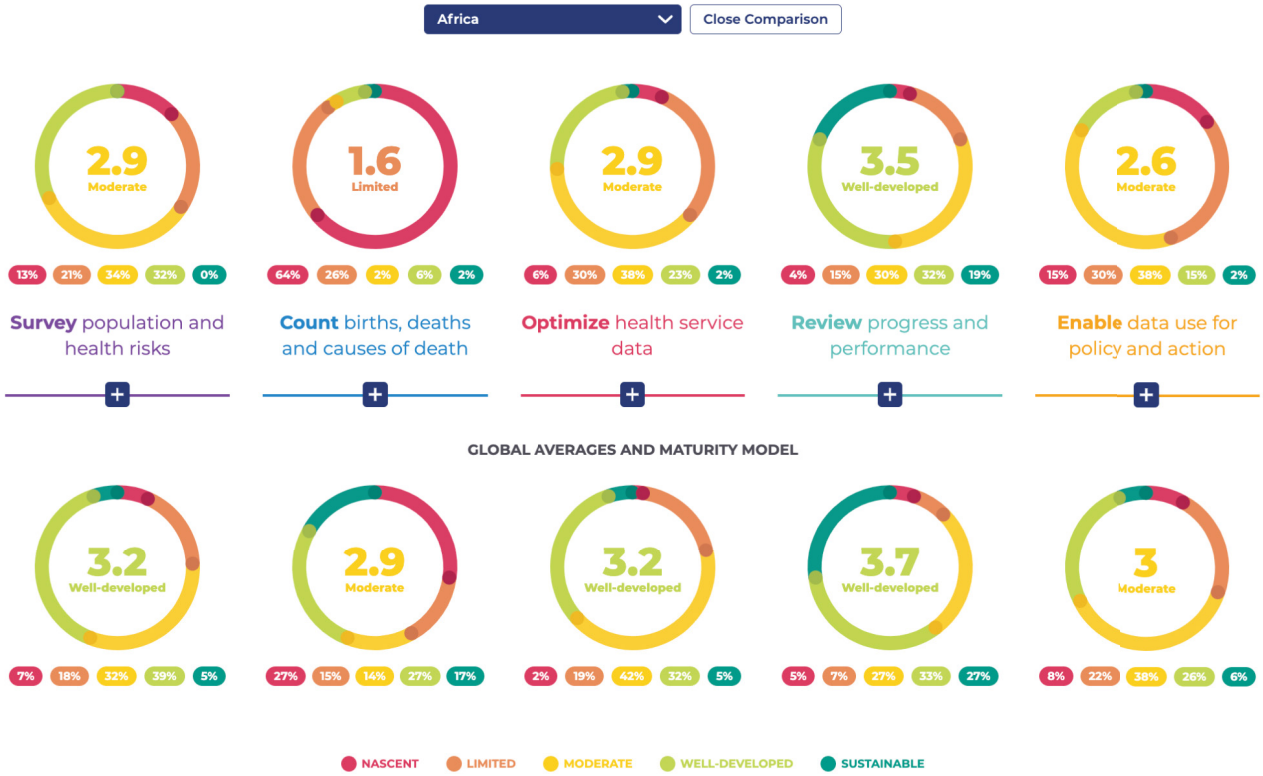
Activity 1 data





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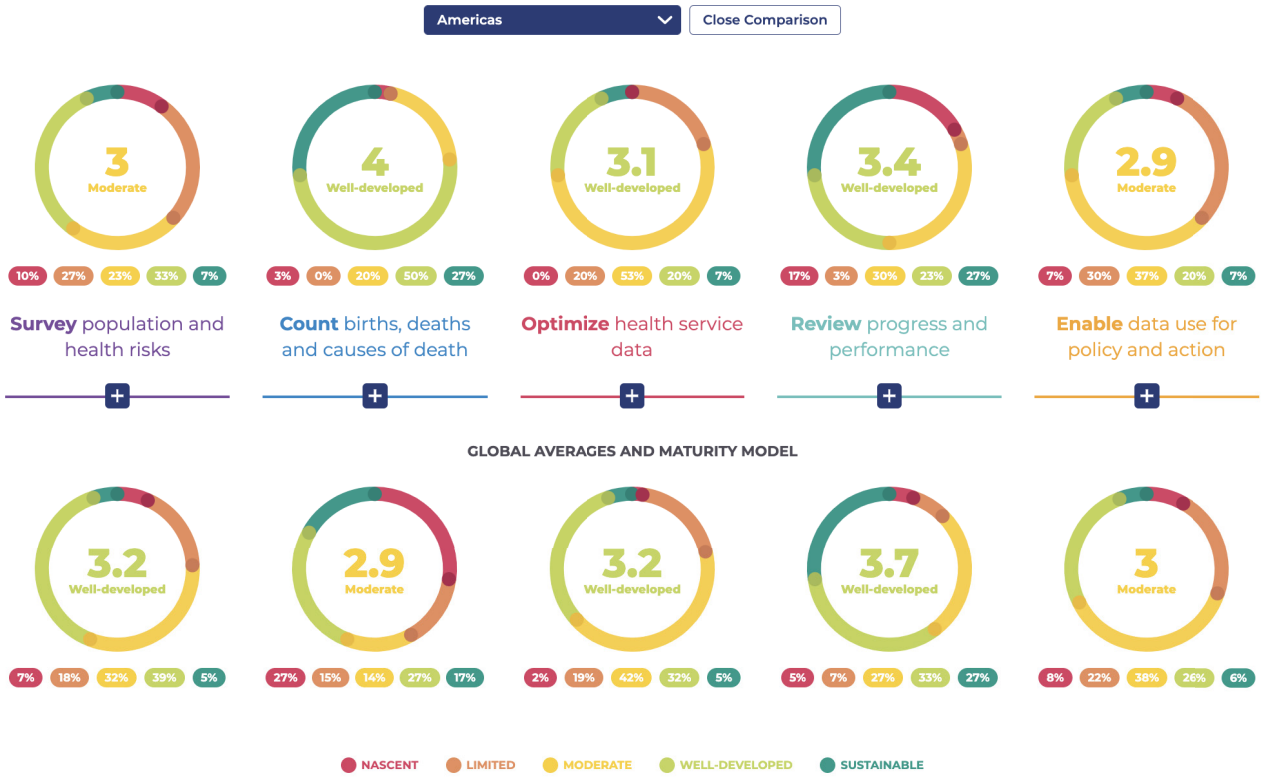

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Nationwide Mental Health Rankings

Ranking the States 2022, Mental Health America
The State of Mental Health in America 2022, Mental Health America

Please note: *The following activities include mental health statistics that sometimes focus on suicide. Student maturity should be taken into consideration.*

Activity idea #1: Using only the map of the United States for overall ranking based on prevalence of mental illness and access to care, students will first make observations by looking at the shading. To help make these observations, identify the key located below the map. The key shows a color-coded gradient that indicates ranking from highest to lowest. Prompt students to see if they can identify any regional similarities and/or differences. Next, ask them to look at the corresponding data provided on the map of the five states with "Largest Changes in Overall Ranking" *(found on page 6)* and calculate the percent of change in the rankings for these five significant changes. Additionally, share the list of state rankings and challenge students to analyze the data to create a pie chart to represent the data.

Activity idea #2: Ask the students to use the Ranking the States 2022 interactive data and select four or five states that they'd like to compare. Be sure to scroll to the top of the website and identify the different headings for the year-based statistics. The students will create a color-coded line graph for each of the states for this year and the past two years (2020–2022). Students may select to compare the adult, youth, and overall rankings to show the trend over time for each of these three categories; otherwise, students may find it more interesting to compare the prevalence of mental illness, access to care and overall rankings. After constructing their graphs, students can share their graphs with the class and engage in a discussion about the state of mental health in America and what they learned from the data.

Connects to:

- Career pathways:
  - Health professionals
  - Statistical analysis
  - Science, Technology, Engineering & Mathematics (S.T.E.M.)
- National standards:
  - Using data to draw inferences
  - Statistical variability
  - Analyzing data
  - Posing questions
  - Evaluating claims

Visual/Graphic: Mental Health America National: Ranking the States 2022, The State of Mental Health in America 2022. Charts and graphs are provided below for settings without Internet access.

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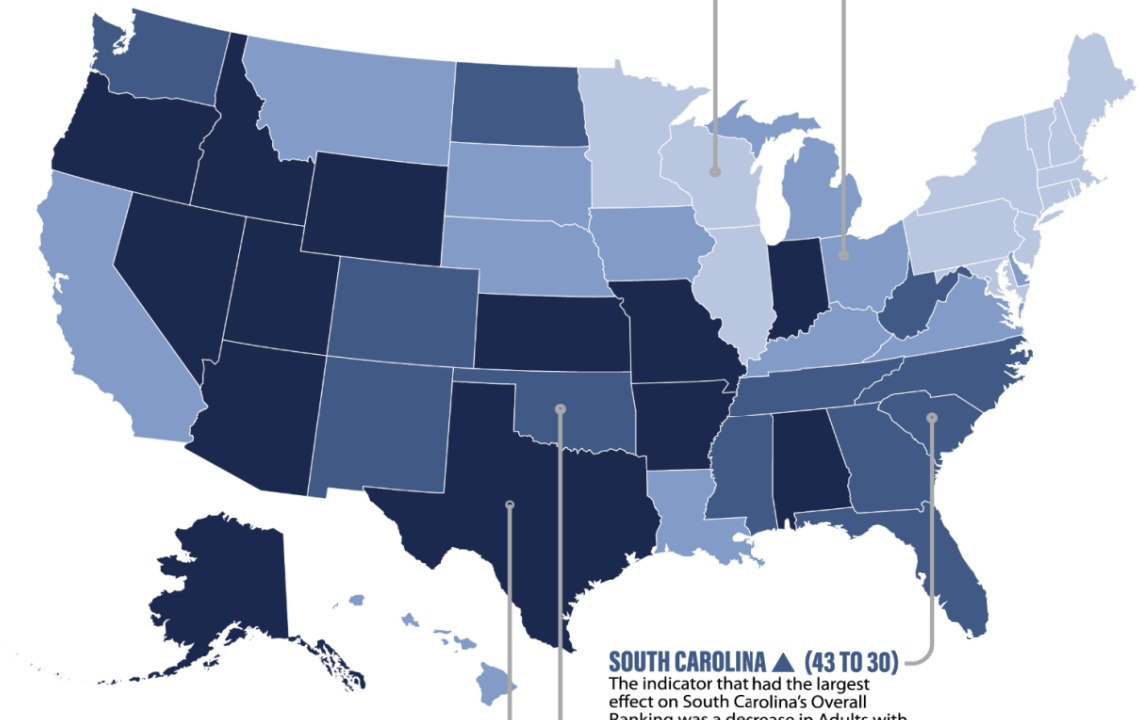
Largest Changes in Overall Ranking



WISCONSIN ▲ (19 TO 7)
The indicators that had the largest effect on Wisconsin's Overall Ranking were a decrease in Adults with Serious Thoughts of Suicide, from 5.17% in 2017-2018 to 4.66% in 2018-2019, and a decrease in the percent of Adults with Cognitive Disability Who Could Not See a Doctor Due to Cost, from 28.20% in 2017-2018 to 22.28% in 2018-2019.

OHIO▼ (11 TO 25)
The largest effect on the overall ranking for Ohio were an increase in Youth with MDE Who Did Not Receive Mental Health Services, from 52.2% in 2017-2018 to 63.3% in 2018-2019, and a decrease in the percent of Youth with Severe MDE who Received Some Consistent Treatment, from 36.0% in 2017-2018 to 25.1% in 2018-2019.

SOUTH CAROLINA ▲ (43 TO 30)
The indicator that had the largest effect on South Carolina's Overall Ranking was a decrease in Adults with AMI Reporting Unmet Need, from 26.6% in 2017-2018 to 19.7% in 2018-2019.

TEXAS ▼ (27 TO 44)
Largest effects on the overall ranking for Texas were an increase in the percent of Adults with Cognitive Disability Who Could Not See a Doctor Due to Cost, from 34.57% in 2017-2018 to 40.65% in 2018-2019 and Adults with AMI Reporting Unmet Need, from 19.9% in 2017-2018 to 24.0% in 2018-2019.

OKLAHOMA ▲ (45 TO 33)
The indicators that had the largest effect on Oklahoma's Overall Ranking were a decrease in Children with Private Insurance that Did Not Cover Mental or Emotional Problems, from 7.9% in 2017-2018 to 4.4% in 2018-2019, and an increase in Youth with Severe MDE who Received Some Consistent Treatment, from 23.5% in 2017-2018 to 33.6% in 2018-2019.

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Overall Ranking

An overall ranking 1-13 indicates lower prevalence of mental illness and higher rates of access to care. An overall ranking 39-51 indicates higher prevalence of mental illness and lower rates of access to care. The combined scores of all 15 measures make up the overall ranking. The overall ranking includes both adult and youth measures as well as prevalence and access to care measures.

The 15 measures that make up the overall ranking include:

1. Adults With Any Mental Illness (AMI)
2. Adults With Substance Use Disorder in the Past Year
3. Adults With Serious Thoughts of Suicide
4. Youth with At Least One Major Depressive Episode (MDE) in the Past Year
5. Youth With Substance Use Disorder in the Past Year
6. Youth With Severe MDE
7. Adults With AMI Who Did Not Receive Treatment
8. Adults With AMI Reporting Unmet Need
9. Adults With AMI Who Are Uninsured
10. Adults With Cognitive Disability Who Could Not See a Doctor Due to Costs
11. Youth With MDE Who Did Not Receive Mental Health Services
12. Youth With Severe MDE Who Received Some Consistent Treatment
13. Children With Private Insurance That Did Not Cover Mental or Emotional Problems
14. Students Identified With Emotional Disturbance for an Individualized Education Program
15. Mental Health Workforce Availability

The chart is a visual representation of the sum of the scores for each state. It provides an opportunity to see the difference between ranked states. For example, Massachusetts (ranked one) has a score that is higher than Illinois (ranked 12). Virginia (ranked 20) has a score that is closest to the average.

State	Rank
Massachusetts	1
New Jersey	2
Pennsylvania	3
Connecticut	4
Vermont	5
New York	6
Wisconsin	7
Maine	8
Maryland	9
Minnesota	10
Rhode Island	11
Illinois	12
New Hampshire	13
Hawaii	14
Kentucky	15
District of Columbia	16
South Dakota	17
Michigan	18
Louisiana	19
Virginia	20
Montana	21
Delaware	22
Iowa	23
California	24
Ohio	25
Nebraska	26
Georgia	27
Florida	28
North Dakota	29
South Carolina	30
North Carolina	31
Washington	32
Oklahoma	33
Tennessee	34
New Mexico	35
Mississippi	36
Colorado	37
West Virginia	38
Arkansas	39
Missouri	40
Kansas	41
Indiana	42
Utah	43
Texas	44
Alabama	45
Oregon	46
Alaska	47
Wyoming	48
Arizona	49
Idaho	50
Nevada	51

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Correlation between life expectancy and income

World Health Statistics 2021: A Visual Summary, World Health Organization

Activity idea #1: "The global population continues to live longer and live more years in good health. Between 2000 and 2019, global life expectancy (LE) at birth increased from 66.8 years in 2000 to 73.3 years in 2019, and healthy life expectancy (HALE) increased from 58.3 years to 63.7 years."[2] Students will use the interactive data found on the website to create data profile cards. By hovering over each dot that represents a country, students will be provided with the country's healthy years in life expectancy percentage, the HALE and life expectancy. Each data profile card should include the country's name and the data for both 2000 and 2019. Explain to the students to watch the dot as they click between 2000 and 2019, so they can track where the country moves. Instruct students to create a total of 8 data profile cards, two from each of the four levels of income.

Activity idea #2: To expand upon the previous activity, students will then calculate the percentage change from the data on each country's profile card. Then instruct students to record this calculation on the back of the profile card along with two conclusions that can be drawn from the evidence provided. Students may partner up with another student to help each other with this activity. The discussions generated within a partner set can be useful to identify different perspectives on the conclusions that can be drawn from the data.

Connects to:

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Visual/Graphic: World Health Statistics 2021: A Visual Summary, World Health Organization. Charts and graphs are provided below for settings without internet access.

2 World Health Organization, https://www.who.int/data/stories/world-health-statistics-2021-a-visual-summary

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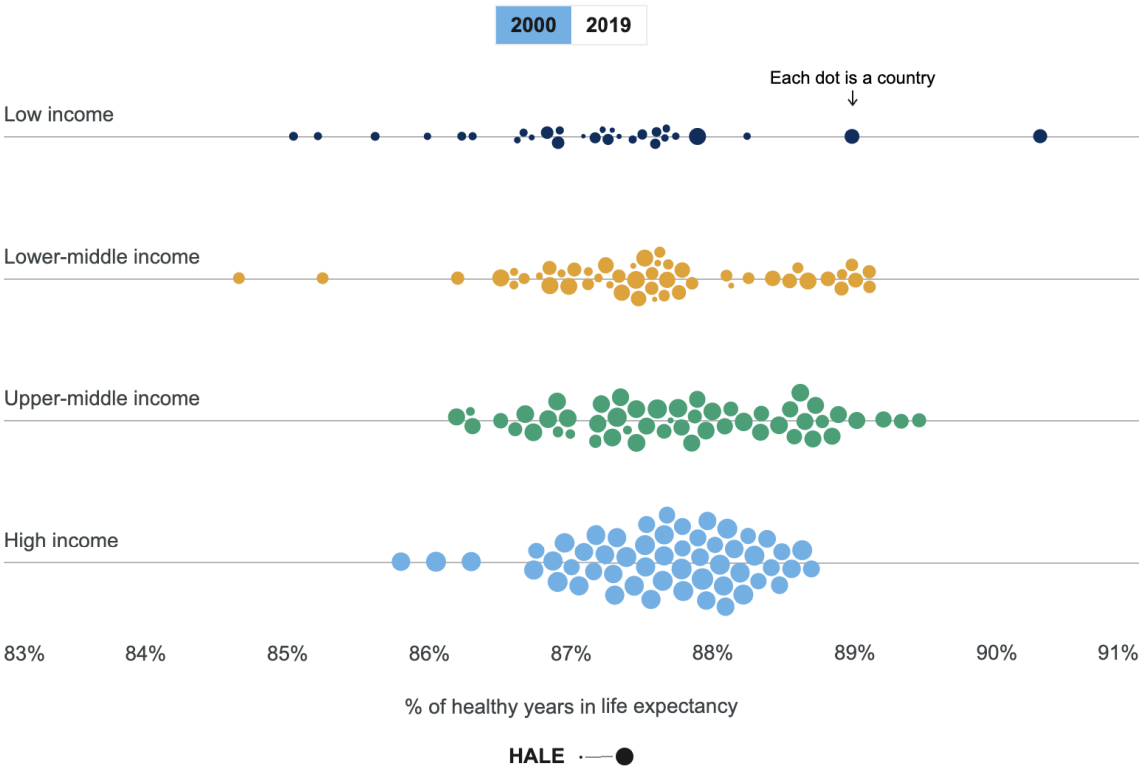
Across the world, where are people living a higher proportion of years in good health?



Source: Global Health Estimates, 2019. Life expectancy and leading causes of death and disability by sex by country and by region 2000-2019. Geneva, World Health Organization; 2020.

LE and HALE also rise with national income levels, however the fastest improvements were observed in low-income countries (LICs), gaining over 11 years in LE and nearly 10 years in HALE in 2000-2019, predominantly reflecting the remarkable progress made in reducing mortality among children under 5 years of age in the past 20 years.

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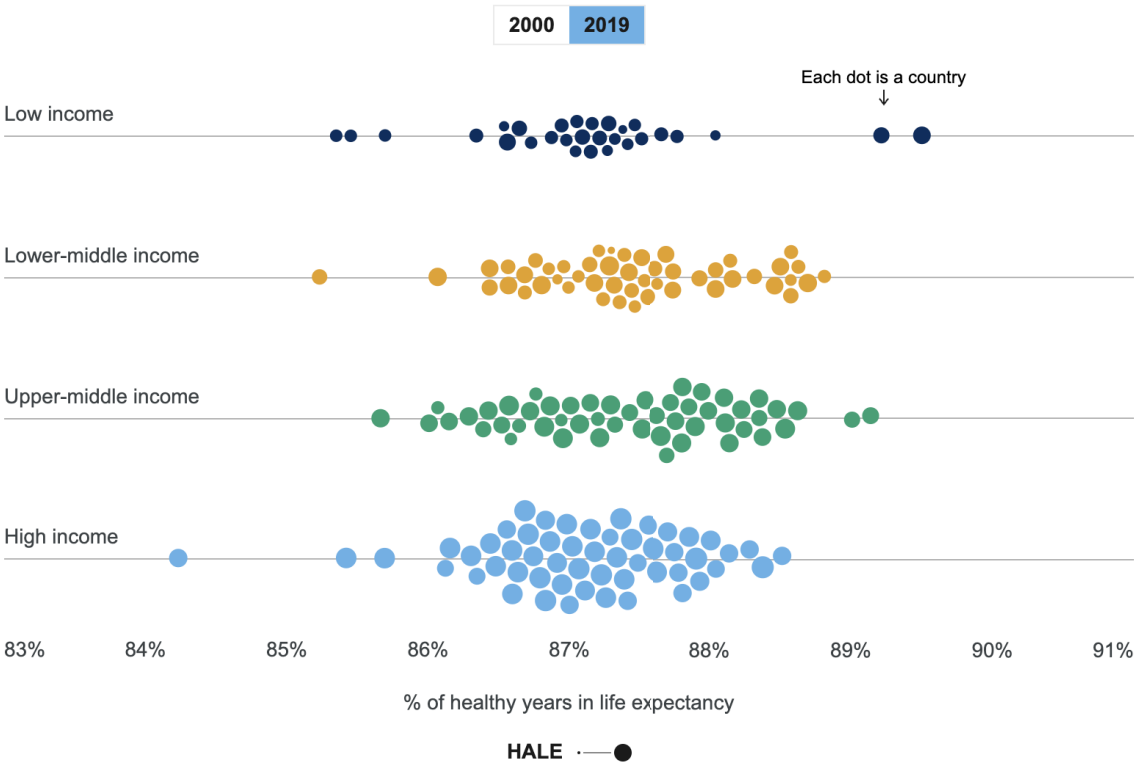
Across the world, where are people living a higher proportion of years in good health?



Source: Global Health Estimates, 2019. Life expectancy and leading causes of death and disability by sex by country and by region 2000-2019. Geneva, World Health Organization; 2020.

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Collecting data—to solve a problem, you need to find the right information.

This activity will provide students with the opportunity to examine global health inequalities as identified by the World Health Organization. Provide students with the WHO: Health Equity Monitor, and they will have access to interactive data visualizations that represent statistics locally within countries, regionally across a section of geographically grouped countries, and globally. "Health indicators were disaggregated by five dimensions of inequality: economic status, education, place of residence as well as age and sex (where applicable)."[3] Draw students' attention to the fact that this data is specific to reproductive, maternal, newborn and child health inequalities. Encourage students to explore the data by changing the select indicator, filter by country income group, and the "Highlight WHO regions" to vary the data displays. Also point out the "**i**" icon that explains what they see, the "**?**" icon that explains how to explore, and the **Tools** icon that provides technical notes. Students can partner up and ask each other questions related to the data and then see if they can find the statistic that answers their question. They can take turns creating and answering questions verbally or on a Google Doc to record their discussion questions and answers.

3 World Health Organization, https://cdn.who.int/media/docs/default-source/gho-documents/health-equity/health-equity-interactive-viz-rm-nch-technical-notes-vaugust2021.pdf?sfvrsn=66e0688d_3

Links and research provided in these activities are intended to be an educational opportunity for students and teachers. The views expressed in these links are of the organizations and do not imply endorsement by Discover Data or its collaborating organizations (Nielsen Foundation, Discovery Education, National AfterSchool Association).

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Key vocabulary

disparity: difference or inequality for various reasons

disaggregated: separated into parts and/or components

global life expectancy (GLE): global average for the number of years people are expected to live

healthy life expectancy (HALE): estimated number of years a person is projected to live in full health free from disease and/or disability

life expectancy (LE): the average number of years a person is expected to live

nascent: just coming into existence and beginning to show signs of future potential

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