

UNFAIR RACE

introduction

Affluence of a country is often a good gauge of how healthy its residents are. Wealthier countries tend to invest more in the health care system, train more doctors, disperse more vaccines, and provide better sanitation. This is the reason that many diseases that pose only minor threats in **more developed countries** can become major, deadly epidemics in **less developed countries**.

For instance, diarrheal diseases are the second leading cause of deaths of children under age five around the globe. Most of these deaths are entirely preventable and are attributable to unsafe water, inadequate sanitation, and insufficient hygiene. According to the **World Health Organization (WHO)**, only 71 percent of the global population gets their drinking water from safely-managed sources, and only 45 percent have access to safely-managed sanitation services.¹ While higher income countries have the infrastructure to provide their residents with universal access to clean water, lower income countries often do not, resulting in a much higher incidence of water-borne diseases such as typhoid, cholera and dysentery.

A country's economic conditions can also determine the availability of health professionals and the ability of residents to afford those services. In Chad, one of the world's poorest countries, only 24 percent of mothers in labor are attended by skilled health workers, contributing to a high rate of maternal deaths (over 1 percent of all births). That's five times the global average (0.2 percent) and 88 times that for the European region (0.013 percent).²

Cumulatively, such health disparities lead to a drastic difference in **life expectancy**, from a high of 84 years (Japan) to a low of 53 years (Central African Republic).³ Looking at social, economic, and health **indicators** of a country can help determine the overall well-being of a country's residents.

Vocabulary: indicators, less developed countries, life expectancy, more developed countries, World Health Organization

materials

- Country Cards (provided)
- Race Instructions (provided)
- Large room, gym, or outdoor space
- Student Worksheet



Studies For Our Global Future

concept

Wealth has a big impact on a country's public health system, and public health circumstances within a country significantly impact quality of life.

objectives

Students will be able to:

- Explain how a country's economic and social conditions can impact public health.
- Identify indicators associated with both positive and negative health outcomes for a country's residents.
- Discuss the relationship between health spending and universal health coverage.

subjects

AP Human Geography, Geography, Economics, Health

skills

Analyzing data, comparing and evaluating, critical thinking, understanding cause and effect

method

Representing different countries, students step forward or backward based on health conditions in their borders, to find which countries have an advantage in a final "race for health." They then analyze different visual data on health spending and health coverage around the globe.

Part 1: The Race

procedure

1. Distribute a Country Card to each student. Each card lists 10 social and economic indicators that impact health within a country. If there are more people than cards, give out multiple copies of some of the cards. Ask that they not share their information with others.
2. Identify a “start” line and have the group stand shoulder-to-shoulder, forming a line. It works best to be in a large room, gym, or even outside so all students can stand next to each other and have roughly 20 paces of space in front of them.

Read the following aloud:

“Each of you represents the country named on your card. We will consider 10 indicators that impact health and I will read two different situations for each indicator. Depending on how your country measures up, I will tell you to take one or two steps forwards or backwards. If neither situation applies to you, stay in place for that round.”

3. For each indicator, use the following steps:
 - a. Read the bolded topic from the Race Instructions. (e.g. Gross National Income per capita.)
 - b. Ask students to brainstorm how this topic relates to health. (e.g. In countries with a lower per capita GNI, a greater proportion of the population experiences poverty, and is more likely to live in unsafe, unsanitary conditions with greater exposure to environmental/industrial toxins. They might not be able to afford fresh produce so rely on fast foods, and are less likely to see a doctor when they are ill or be able to afford expensive medical treatments.)
 - c. Read the full statement and instructions for that indicator from the Instructions.
 - d. Students move according to their country.
4. Once or twice during the activity, have students take a moment to look around the room and notice where each country is located. It can be helpful to quickly have students say their country aloud so it’s clear which countries have moved significantly and which countries have not. Do this again after you have read all 10 statements.
5. Challenge the group to a running race. Choose a “finish line” a few paces in front of the students who have stepped forward the most. Point out this finish line and that it represents a high level of public health. Call out a countdown and have students run to the finish line. Those holding cards from countries with high quality public health will already be very close to the finish line and will most likely win.
6. Display the following chart so students can see the World Bank income classification for the country they represented in the race.

Canada	Mexico	India
Japan	Russia	Kenya
Sweden	South Africa	Morocco
United States	Thailand	Nicaragua
Botswana	Turkey	Papua-New Guinea
Brazil	Bangladesh	Vietnam
China	Bolivia	Madagascar
Costa Rica	Egypt	Mali

	High-income
	Upper-middle-income
	Lower-middle-income
	Low-income

Source: World Bank

discussion questions

1. Who were the winners in the race? Why was this the case?

It is most likely that students representing countries with higher incomes won the foot race because they started with the advantage of being closer to the finish line.

2. What did you notice about the relationship between the countries' wealth classifications and their standings before the start of the race?

Countries that are in the higher wealth categories took more steps forward and were closer to the finish line of "good health" than those in lower wealth categories.

3. Is it a forgone conclusion that those representing the wealthier countries will "win" the race? Can you think of any examples of how even a wealthy country could "stumble" and fall behind?

Based on where they stand at the start of the race, it would seem that the students representing wealthier countries have an "unfair advantage." But having financial resources doesn't always guarantee widespread practices that will lead to the best health outcomes. Consider the COVID-19 pandemic where the greatest number of cases and loss of lives have been in some of the wealthiest countries. Additionally, several of the middle-income countries aren't far behind the high-income countries at the start of the race, and perhaps have other national health care priorities outside of the 10 included here that would push them further toward good health.

4. Why do you think there is relationship between countries' wealth and health?

Wealthier countries have more money to invest in health care for their residents. They train more doctors, fund more medical research, and have the resources for accessible clinics and hospitals. They are also able to invest more in public health measures that prevent the spread of disease, such as water filtration, improved sanitation, and childhood immunizations. Most of the wealthiest countries have also implemented national health care systems that provide guaranteed health coverage for all residents. This could be in place of or in addition to private health insurance.

5. What are some specific social and economic indicators that influence a country's public health situation?

The quality of public health relates to the quality of a country's economy, financial investment in health care, infrastructure, population density, education systems, and preventive health programs.

6. What are some of the major impediments to good health or good health care?

Low per-capita income, lack of clean water, malnutrition, low vaccine rates, etc.

7. What kinds of changes would improve the quality of health in the countries that remained near the base line in this activity?

The quality of health would improve with improved economies, increased health care spending, better access to clean drinking water, improved nutrition, and expanded educational programs.

8. How might some of these indicators impact, or predict, other indicators?

Answers will vary. Students might mention that average income might influence health care spending, number of physicians might impact the rate of immunizations, and adult literacy may impact the percentage of children who reach their fifth birthday. Students may also note that all of the indicators in the lesson have the potential to impact life expectancy.

9. What does this activity tell you about the health of the people in other countries?

Answers will vary. There are large disparities in public health between countries and in general, a country's wealth has a big impact on their public health system.

10. How could countries in the higher income categories improve the health of residents in the lower income countries?

Answers may include: by providing direct aid (e.g. medical supplies, medicines, vaccines) and by helping to build capacity within less-resourced countries to strengthen medical training, disease monitoring systems and health care access (like mobile clinics for more remote areas). Some of the most successful programs have been partnerships with NGOs on the ground who know what strategies work well in their communities.

11. How do people feel about the fairness of the race?

Answers will vary.

12. This activity looked at disparities in health indicators among different countries. Do you think these same types of disparities exist within countries? Why or why not?

Wealth often determines quality of health care and health care access even within a country's borders. This is especially true where health coverage is not universal and where segments of a society or community lack convenient access to nutritious food and health professionals. Wealth is also a determinant of environmental conditions in a community. Even in wealthy countries, like the U.S., poorer communities are more likely to be located in areas with environmental hazards like unhealthy air pollution.

13. The indicators in the simulation don't address pandemics, such as COVID-19 which has affected countries worldwide. How do you think pandemics can affect overall country health, and specifically, some of the indicators in the simulation?

Pandemics disrupt people's access to essential health services. According to the WHO, the most frequently disrupted areas reported during the COVID-19 pandemic include routine immunization, non-communicable diseases diagnosis and treatment, family planning and contraception, treatment for mental health disorders, and cancer diagnosis and treatment. Pandemics put a strain on countries' public health budgets, and also make it more difficult for patients to access needed health services.

Part 2: Universal Health Coverage: A Human Right?

procedure

1. Distribute the Student Worksheet on Universal Health Coverage (UHC).
2. Use the Worksheet Answer Key to guide a class discussion on the extent of UHC around the world, why it is a goal for many countries, and how health spending is related to UHC.

Answers to Student Worksheet

1. How does the UHC value for the country you represented correlate to your position at the end of the race? Is there anything about the map that surprises you?

In general, the countries with the higher values of UHC will tend to be the same countries that finished "ahead" in the race in Part 1. The lowest UHC value countries will tend to be the ones that moved the least in the race.

2. What observations can you make from this graph? Does spending always seem to correlate to better outcomes? If not, why do you think that might be the case?

The data does show some correlation between health spending and health coverage, but only to a point. The high income countries are mostly clustered toward the top of the graph (indicating a high coverage number on the UHC Index). Yet, there's a huge range in per capita health spending. For instance, Japan (JPN) has the overall highest Index score, but the country's per capita health spending is far less than that spent in the U.S. and many European countries.

The authors of the report from which this graph comes, describe health spending in terms of efficiency, meaning that the amount of spending doesn't always translate into outcomes if it's not spent in the most effective ways.

3. Do you believe that health care is a human right? Why or why not?

Answers will vary.

4. Do you think UHC is achievable for all nations? What sort of changes do you think might need to be in place to achieve this goal? (consider health systems, but also other systems that affect human health).

Answers will vary. Possible changes to achieve UHC might include: improvements in access to clean drinking water, sanitation services, and solid waste management; provisions for low-cost medical services; health promotion and preventive care (to reduce chronic health issues such as diabetes, heart disease and obesity); improving food security; creating better infrastructure for universal access to electricity; building of modern and accessible health facilities; more training and job promotion of health workers.

assessment

For their own country and then a country of their choosing (this country must be in a different wealth category than the first), students identify at least two indicators that either help or hurt residents' health. Review students' Worksheets to gauge their understanding of Universal Health Coverage.

follow-up activity

Goal 3 of the Sustainable Development Goals is to "Ensure healthy lives and promote well-being for all at all ages." It includes 27 different measurable indicators.

Using the SDG tracker website for SDG 3 ([Good Health and Well Being](#)), have students identify three indicators that weren't on their country card. For each indicator, students should list the data for the country they represented in the race, and record how their data compares to that of other countries in the same region.

Adapted with permission from *Rx for Survival—A Global Health Challenge*,™ a Co-Production of the WGBH/NOVA Science Unit and Vulcan Productions, Inc. *Rx for Child Survival—A Global Health Challenge*™ is a project of WGBH Educational Foundation and Vulcan Productions, Inc. in collaboration with CARE and Save the Children, and in association with the Global Health Council and UNICEF. ©/™ 2005 WGBH Educational Foundation and Vulcan Productions, Inc. All Rights Reserved. All third party trademarks are owned by their respective owners and used with permission. Major funding for *Rx For Survival—A Global Health Challenge* is provided by the Bill & Melinda Gates Foundation and The Merck Company Foundation.

^{1,2,3}World Health Organization. (2020). World Health Statistics 2020: Monitoring Health for the SDGs.

UNFAIR RACE | race instructions

1. **Gross National Income (GNI) per capita** (in US\$ PPP*): *If the per capita GNI in your country is:*
 - more than \$40,000, take two steps forward.
 - between \$10,000 and \$39,999, take one step forward.
2. **Average annual health care spending** (in US\$ PPP): *This amount includes both public and private health care expenditures. If this amount is:*
 - more than \$3,000 per person, take two steps forward.
 - between \$1,000 and \$2,999 per person, take one step forward.
3. **Immunization against measles:** *If the percentage of people immunized against measles is:*
 - between 90% and 100%, take two steps forward.
 - between 65% and 89%, take one step forward.
4. **Number of physicians per 10,000 people:** *If your country has:*
 - more than 20 physicians per 10,000 people, take two steps forward.
 - between 5 and 19 per 10,000 people, take one step forward.
5. **Average life expectancy:** *If the average life expectancy in your country is:*
 - greater than 70 years, take two steps forward.
 - between 60 and 69 years, take one step forward.
6. **Access to clean drinking water:** *If the percentage of people with access to clean drinking water is:*
 - between 90% and 100%, take two steps forward.
 - between 70% and 89%, take one step forward.
7. **Chance of reaching 5th birthday:** *If the percentage of children in your country who reach their fifth birthday is:*
 - between 95% and 100%, take two steps forward.
 - between 85% and 94%, take one step forward.
8. **Maternal mortality ratio (per 100,000 live births):** *This shows the risk of mothers dying from complications in pregnancy and childbirth. If the maternal mortality ratio is:*
 - 1 to 50, take one step forward.
 - Over 100, take two steps back.
9. **Malaria threat:** *If the malaria threat in your country is:*
 - low, take one step forward.
 - high, take one step back.
10. **Adult literacy rate** (% ages 15 and older): *This is the percentage of people ages 15 and above who can both read and write. In your country, if:*
 - 90–100% of adults are literate, take two steps forward.
 - 80–89% are literate, take one step forward.

*PPP refers to Purchasing Power Parity, which converts amounts to the U.S. dollar equivalent and takes into account different price levels and cost of living.

Sources: 2020 WHO Global Health Observatory, 2020 World Bank Data, 2020 CIA World Factbook Data, OECD Skills Outlook 2013.

UNFAIR RACE | country cards

Before class, print and cut out the Country Cards (enough for each student to have a country). If you're not able to print the Country Cards in color, outline each card in either red, orange, blue, or green.

Bangladesh

1. GNI per capita (PPP): \$5,190
2. Average annual health care spending: \$94/person
3. Immunized against measles: 97%
4. Physicians: 6 per 10,000 people
5. Average life expectancy: 72 years
6. Access to clean drinking water: 97%
7. Infant's chance of reaching 5th birthday: 97%
8. Maternal mortality rate: 173 per 100,000
9. Malaria threat: medium
10. Adult literacy: 74%

Bolivia

1. GNI per capita (PPP): \$8,910
2. Average annual health care spending: \$492/person
3. Immunized against measles: 89%
4. Physicians: 16 per 10,000 people
5. Average life expectancy: 71 years
6. Access to clean drinking water: 93%
7. Infant's chance of reaching 5th birthday: 98%
8. Maternal mortality rate: 155 per 100,000
9. Malaria threat: medium
10. Adult literacy: 92%

Botswana

1. GNI per capita (PPP): \$17,110
2. Average annual health care spending: \$1,044/person
3. Immunized against measles: 97%
4. Physicians: 5 per 10,000 people
5. Average life expectancy: 69 years
6. Access to clean drinking water: 90%
7. Infant's chance of reaching 5th birthday: 97%
8. Maternal mortality rate: 144 per 100,000
9. Malaria threat: medium
10. Adult literacy: 87%

Brazil

1. GNI per capita (PPP): \$14,850
2. Average annual health care spending: \$1,472/person
3. Immunized against measles: 84%
4. Physicians: 22 per 10,000 people
5. Average life expectancy: 76 years
6. Access to clean drinking water: 98%
7. Infant's chance of reaching 5th birthday: 99%
8. Maternal mortality rate: 60 per 100,000
9. Malaria threat: medium
10. Adult literacy: 93%

Canada

1. GNI per capita (PPP): \$50,810
2. Average annual health care spending: \$4,929/person
3. Immunized against measles: 90%
4. Physicians: 23 per 10,000 people
5. Average life expectancy: 82 years
6. Access to clean drinking water: 99%
7. Infant's chance of reaching 5th birthday: 99+%
8. Maternal mortality rate: 10 per 100,000
9. Malaria threat: low
10. Adult literacy: 96%

China

1. GNI per capita (PPP): \$16,740
2. Average annual health care spending: \$841/person
3. Immunized against measles: 99%
4. Physicians: 20 per 10,000 people
5. Average life expectancy: 77 years
6. Access to clean drinking water: 93%
7. Infant's chance of reaching 5th birthday: 99%
8. Maternal mortality rate: 29 per 100,000
9. Malaria threat: low
10. Adult literacy: 97%

Costa Rica

1. GNI per capita (PPP): \$19,250
2. Average annual health care spending: \$1,262/person
3. Immunized against measles: 94%
4. Physicians: 29 per 10,000 people
5. Average life expectancy: 80 years
6. Access to clean drinking water: 100%
7. Infant's chance of reaching 5th birthday: 99%
8. Maternal mortality rate: 27 per 100,000
9. Malaria threat: medium
10. Adult literacy: 98%

Egypt

1. GNI per capita (PPP): \$11,810
2. Average annual health care spending: \$614/person
3. Immunized against measles: 94%
4. Physicians: 5 per 10,000 people
5. Average life expectancy: 72 years
6. Access to clean drinking water: 99%
7. Infant's chance of reaching 5th birthday: 98%
8. Maternal mortality rate: 37 per 100,000
9. Malaria threat: low
10. Adult literacy: 71%

India 1. GNI per capita (PPP): \$6,960 2. Average annual health care spending: \$253/person 3. Immunized against measles: 90% 4. Physicians: 9 per 10,000 people 5. Average life expectancy: 69 years 6. Access to clean drinking water: 93% 7. Infant's chance of reaching 5th birthday: 96% 8. Maternal mortality rate: 145 per 100,000 9. Malaria threat: medium 10. Adult literacy: 74%	Japan 1. GNI per capita (PPP): \$44,780 2. Average annual health care spending: \$4,563/person 3. Immunized against measles: 89% 4. Physicians: 24 per 10,000 people 5. Average life expectancy: 84 years 6. Access to clean drinking water: 99% 7. Infant's chance of reaching 5th birthday: 99+% 8. Maternal mortality rate: 5 per 100,000 9. Malaria threat: low 10. Adult literacy: 99%
Kenya 1. GNI per capita (PPP): \$4,420 2. Average annual health care spending: \$158/person 3. Immunized against measles: 89% 4. Physicians: 2 per 10,000 people 5. Average life expectancy: 66 years 6. Access to clean drinking water: 59% 7. Infant's chance of reaching 5th birthday: 96% 8. Maternal mortality rate: 342 per 100,000 9. Malaria threat: high 10. Adult literacy: 82%	Madagascar 1. GNI per capita (PPP): \$1,660 2. Average annual health care spending: \$85/person 3. Immunized against measles: 62% 4. Physicians: 2 per 10,000 people 5. Average life expectancy: 67 years 6. Access to clean drinking water: 54% 7. Infant's chance of reaching 5th birthday: 95% 8. Maternal mortality rate: 335 per 100,000 9. Malaria threat: high 10. Adult literacy: 75%
Mali 1. GNI per capita (PPP): \$2,360 2. Average annual health care spending: \$84/person 3. Immunized against measles: 70% 4. Physicians: 1 per 10,000 people 5. Average life expectancy: 59 years 6. Access to clean drinking water: 78% 7. Infant's chance of reaching 5th birthday: 91% 8. Maternal mortality rate: 562 per 100,000 9. Malaria threat: high 10. Adult literacy: 35%	Mexico 1. GNI per capita (PPP): \$19,810 2. Average annual health care spending: \$1,036/person 3. Immunized against measles: 97% 4. Physicians: 24 per 10,000 people 5. Average life expectancy: 75 years 6. Access to clean drinking water: 99% 7. Infant's chance of reaching 5th birthday: 99% 8. Maternal mortality rate: 33 per 100,000 9. Malaria threat: medium 10. Adult literacy: 95%
Morocco 1. GNI per capita (PPP): \$7,680 2. Average annual health care spending: \$438/person 3. Immunized against measles: 99% 4. Physicians: 7 per 10,000 people 5. Average life expectancy: 76 years 6. Access to clean drinking water: 87% 7. Infant's chance of reaching 5th birthday: 98% 8. Maternal mortality rate: 70 per 100,000 9. Malaria threat: low 10. Adult literacy: 74%	Nicaragua 1. GNI per capita (PPP): \$5,490 2. Average annual health care spending: \$506/person 3. Immunized against measles: 99% 4. Physicians: 10 per 10,000 people 5. Average life expectancy: 74 years 6. Access to clean drinking water: 82% 7. Infant's chance of reaching 5th birthday: 98% 8. Maternal mortality rate: 98 per 100,000 9. Malaria threat: medium 10. Adult literacy: 83%

Papua-New Guinea 1. GNI per capita (PPP): \$4,470 2. Average annual health care spending: \$104/person 3. Immunized against measles: 61% 4. Physicians: 1 per 10,000 people 5. Average life expectancy: 64 years 6. Access to clean drinking water: 41% 7. Infant's chance of reaching 5th birthday: 96% 8. Maternal mortality rate: 145 per 100,000 9. Malaria threat: high 10. Adult literacy: 62%	Russia 1. GNI per capita (PPP): \$28,270 2. Average annual health care spending: \$1,404/person 3. Immunized against measles: 98% 4. Physicians: 38 per 10,000 people 5. Average life expectancy: 73 years 6. Access to clean drinking water: 97% 7. Infant's chance of reaching 5th birthday: 99+% 8. Maternal mortality rate: 17 per 100,000 9. Malaria threat: low 10. Adult literacy: 98%
South Africa 1. GNI per capita (PPP): \$12,630 2. Average annual health care spending: \$1,098/person 3. Immunized against measles: 70% 4. Physicians: 9 per 10,000 people 5. Average life expectancy: 64 years 6. Access to clean drinking water: 93% 7. Infant's chance of reaching 5th birthday: 97% 8. Maternal mortality rate: 119 per 100,000 9. Malaria threat: medium 10. Adult literacy: 87%	Sweden 1. GNI per capita (PPP): \$57,300 2. Average annual health care spending: \$5,700/person 3. Immunized against measles: 97% 4. Physicians: 40 per 10,000 people 5. Average life expectancy: 83 years 6. Access to clean drinking water: 100% 7. Infant's chance of reaching 5th birthday: 99+% 8. Maternal mortality rate: 4 per 100,000 9. Malaria threat: low 10. Adult literacy: 96%
Thailand 1. GNI per capita (PPP): \$18,520 2. Average annual health care spending: \$671/person 3. Immunized against measles: 96% 4. Physicians: 8 per 10,000 people 5. Average life expectancy: 77 years 6. Access to clean drinking water: 86% 7. Infant's chance of reaching 5th birthday: 99% 8. Maternal mortality rate: 37 per 100,000 9. Malaria threat: medium 10. Adult literacy: 94%	Turkey 1. GNI per capita (PPP): \$27,410 2. Average annual health care spending: \$1,181/person 3. Immunized against measles: 96% 4. Physicians: 19 per 10,000 people 5. Average life expectancy: 77 years 6. Access to clean drinking water: 86% 7. Infant's chance of reaching 5th birthday: 99% 8. Maternal mortality rate: 17 per 100,000 9. Malaria threat: low 10. Adult literacy: 96%
United States 1. GNI per capita (PPP): \$65,880 2. Average annual health care spending: \$10,246/person 3. Immunized against measles: 92% 4. Physicians: 26 per 10,000 people 5. Average life expectancy: 79 years 6. Access to clean drinking water: 99% 7. Infant's chance of reaching 5th birthday: 99+% 8. Maternal mortality rate: 19 per 100,000 9. Malaria threat: low 10. Adult literacy: 96%	Vietnam 1. GNI per capita (PPP): \$7,750 2. Average annual health care spending: \$376/person 3. Immunized against measles: 97% 4. Physicians: 8 per 10,000 people 5. Average life expectancy: 75 years 6. Access to clean drinking water: 95% 7. Infant's chance of reaching 5th birthday: 98% 8. Maternal mortality rate: 43 per 100,000 9. Malaria threat: medium 10. Adult literacy: 95%

Sources: World Bank, World Health Organization, UNESCO, UNICEF, UNFPA

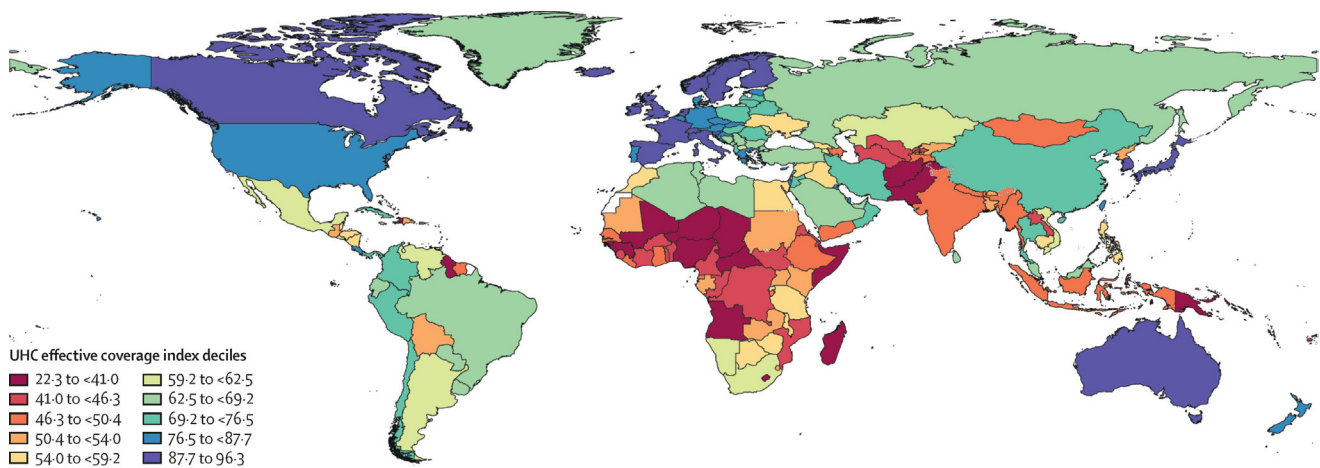
Unfair Race | student worksheet

Name: _____ Date: _____

Universal Health Coverage

Universal health coverage (UHC) has become a major goal for health reform in many countries, and a priority objective of the World Health Organization (WHO). UHC means that all people have access to health services they need, when and where they need them, without regard to financial hardship.

The WHO created an index that evaluates each country's coverage of essential health services on a scale from **1** to **100**. The map below color codes countries by UHC value.

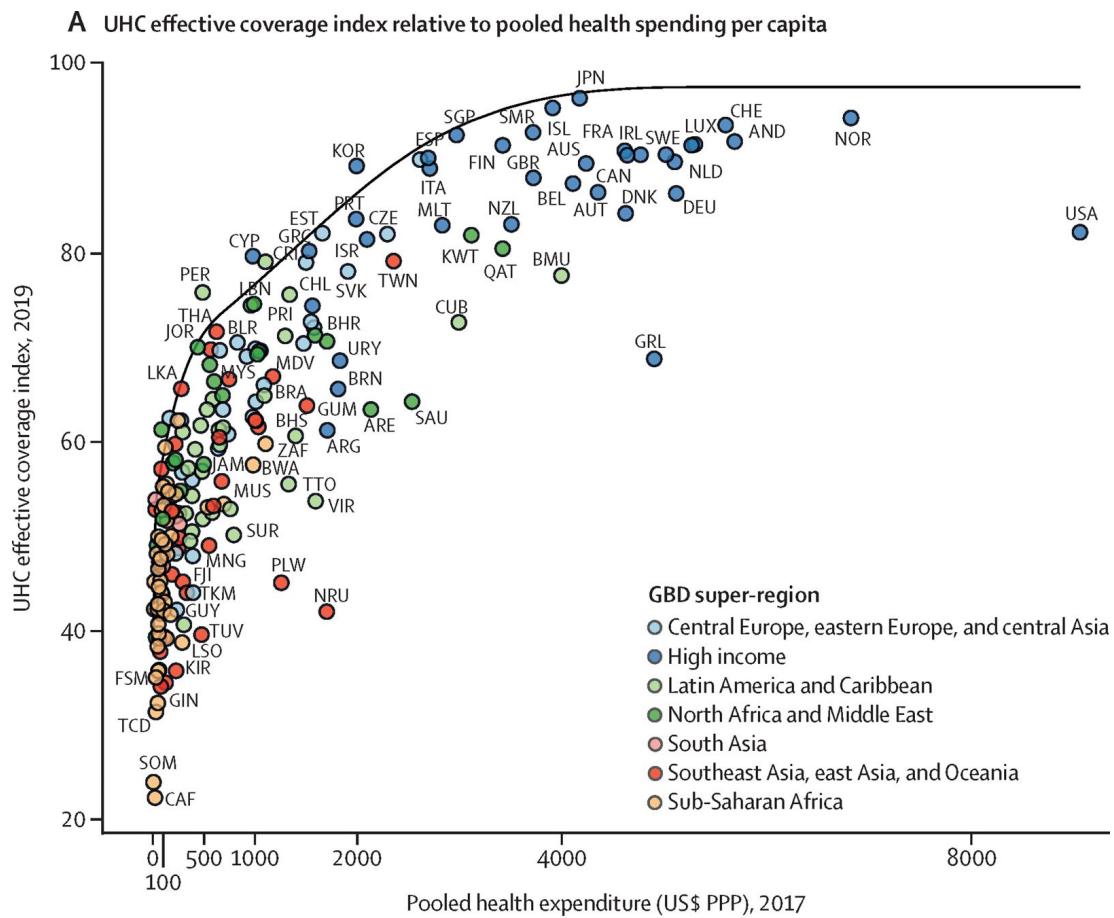


Source: Lozano, Rafael, et. al. (27 August 2020). Measuring universal health coverage based on an index of effective coverage of health services in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet. DOI:[https://doi.org/10.1016/S0140-6736\(20\)30750-9](https://doi.org/10.1016/S0140-6736(20)30750-9)

1. Find the country on the map that you represented in the simulation. (Note: For a digital version of the map, click [here](#).)

How does the UHC value for the country you represented correlate to your position at the start of the race?
Is there anything about the map that surprises you?

2. One of the indicators in the simulation suggests that a country's per capita health spending is a major determinant of the health and well-being of that country's population. Review the scatterplot of countries below with health spending on the x-axis and UHC Index score for effective health coverage on the y-axis. (Note: A list of the country codes can be found [here](#).)



Source: Lozano, Rafael, et. al. (27 August 2020). Measuring universal health coverage based on an index of effective coverage of health services in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet. DOI:[https://doi.org/10.1016/S0140-6736\(20\)30750-9](https://doi.org/10.1016/S0140-6736(20)30750-9)

What observations can you make from this graph? Does spending always seem to correlate to better outcomes? If not, why might that be the case?

3. The Universal Declaration of Human Rights, adopted by the United Nations in 1948, states that “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services.” Do you believe that health care is a human right? Why or why not?

4. Today, less than half of the global population is covered by essential health services. The UN reaffirmed its position that health is a human right and that countries should work to achieve UHC when it adopted the Sustainable Development Goals (SDGs) in 2015. And yet, there are substantial financial barriers to achieving UHC. About 1 billion people pay more than 10 percent of their household income on health care, pushing many into poverty.

Do you think UHC is achievable for all nations? What sort of changes do you think might need to be in place to achieve this goal? (Consider health systems, but also other systems that affect human health.)
