Global Health Transitions

PACKET #1...CHAPTER #1
Check Points—KWHLAQ

Developed by Ryan Barrow 2018
Defining Global Health

1.1
Entry Checkpoint #1
KWHLAQ
Topic :- Defining Global Health

K • What do I know?
   • ANS: -

W • What do I want to know?
   • ANS: -

H • How will I find out?
   • ANS: -
Defining Health

• The Constitution of the World Health Organization (WHO) defines **health** as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”

• A diversity of medical, behavioral, social, economic, environmental, and other interventions can help people make progress toward long, **healthy life trajectories** {next slide}. 
Figure 1-1

Examples of health trajectories.
Defining Global Health

• **Global health** refers to the **collaborative actions taken to identify and address transnational concerns about the exposures and diseases that adversely affect human populations.**

• There are many **different lenses** that are used to identify global health issues.
Figure 1-2

<table>
<thead>
<tr>
<th>Lenses used to Identify Global Health Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Populations</td>
</tr>
<tr>
<td>Action</td>
</tr>
<tr>
<td>Cooperation</td>
</tr>
<tr>
<td>Equity</td>
</tr>
<tr>
<td>Security</td>
</tr>
</tbody>
</table>

- Populations: A focus on the exposures and diseases that cause the greatest public health burden and affect large numbers of people in diverse geographic regions.
- Action: A focus on effective, low-cost interventions that prevent illness and injury, diagnose and treat diseases, and alleviate suffering.
- Cooperation: A focus on the health concerns that must be addressed through worldwide efforts to share knowledge, tools, and resources.
- Equity: A focus on helping the global poor and addressing social, environmental, and health inequalities.
- Security: A focus on addressing the health issues most likely to contribute to political and economic instability and conflict.

PACES: defining global health.
**Figure 1-3**

<table>
<thead>
<tr>
<th>Lens</th>
<th>Sample Priority</th>
<th>Sample Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Populations</td>
<td>Cardiovascular disease (CVD)</td>
<td>CVD is the leading cause of adult mortality worldwide.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drinking water causes billions of cases of severe diarrhoea annually.</td>
</tr>
<tr>
<td>Action</td>
<td>Hunger</td>
<td>There is enough food in the world to spare children from the lifelong consequences of not having access to adequate nutrition during their early years of development.</td>
</tr>
<tr>
<td></td>
<td>HIV</td>
<td>HIV medications can extend the lives of infected individuals by many years or even decades.</td>
</tr>
<tr>
<td>Cooperation</td>
<td>Air pollution</td>
<td>Air pollution generated by one country can cause adverse health effects for its neighbors.</td>
</tr>
<tr>
<td></td>
<td>Drug-resistant infections</td>
<td>One country with poor regulations for antibiotic use can put the whole world at risk.</td>
</tr>
<tr>
<td>Equity</td>
<td>Neglected tropical diseases</td>
<td>The world’s poorest children are disabled and disfruged by parasitic diseases that do not affect children who happen to have been born in higher-income places.</td>
</tr>
<tr>
<td></td>
<td>Mental health</td>
<td>People with mental health disorders in every country face stigma that may exclude them from full participation in society.</td>
</tr>
<tr>
<td>Security</td>
<td>Violence</td>
<td>The violence in conflict areas can spill over into new locations and create refugee crises.</td>
</tr>
<tr>
<td></td>
<td>Emerging infectious diseases</td>
<td>Outbreaks of deadly infectious diseases threaten public safety and can cause social, economic, and political instability.</td>
</tr>
</tbody>
</table>

**PACES: examples of global health priorities.**
Exit Checkpoint #1
KWHLAQ
Topic: Defining Global Health

L
• What have I learned?
  • ANS: -

A
• What action will I take?
  • ANS: -

Q
• What further questions do I have?
  • ANS: -
Health Interventions

1.2
Entry Checkpoint #2
KWHLAQ
Topic :- Health Interventions

K • What do I know?
  • ANS: -

W • What do I want to know?
  • ANS: -

H • How will I find out?
  • ANS: -
Causes of Disease

• **Etiology** is the study of the social and behavioral, environmental, biological, and other causes of disease.

• A **person’s health status** at a given age is a **function of his or her experiences across the life course**.
Exit Checkpoint #2
KWHLAQ
Topic: -Health Interventions

- What have I learned?
  - ANS: -

- What action will I take?
  - ANS: -

- What further questions do I have?
  - ANS: -
Health Status Indicators
Entry Checkpoint #3
KWHLAQ
Topic :- Health Status Indicator(s)

K  • What do I know?
   • ANS: -

W  • What do I want to know?
   • ANS: -

H  • How will I find out?
   • ANS: -
Health Status Indicators

- **Health status indicators** measure the health of a population
- Health status indicators are **used** to assess the health of populations around the world.
Health status indicators can answer important questions

- What health conditions are people suffering from?
- Which of these conditions cause people to be sick or disabled or to die?
- How fast is a disease spreading?
- Is a society’s health status improving?

Health status indicators might take into consideration what type of work people do, whether they smoke, and what their diet is like.

What other questions might professionals ask to determine the health status of a population based on complete physical, mental, and social well-being?
One way to measure health: look at how long people live

The WHO tracks the following information: {More Later}

- How long people live (life expectancy)
- How many people die before they are 60
- How many children die before they are 5
- How many children die before they are 1
- How many children die in the first 28 days of life
- How many mothers die in pregnancy and childbirth
Life expectancy at birth gives an average prediction for how long someone will live.

Identify a country that has a life expectancy of less than 50 years. Record information about it on your regional reference maps.
Life expectancy is influenced by when and where you are born

Born in South Africa, 2013
Born in the US, 1930
Born in Japan, 2011

Which person do you think has the longest life expectancy at birth?
Mortality rate measures how many people die before old age

<table>
<thead>
<tr>
<th>2013 Mortality Rate for Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
</tr>
<tr>
<td>77/1000</td>
</tr>
</tbody>
</table>

• The adult mortality rate measures the number of deaths per year per 1,000 people between the ages of 15 and 60.
• It’s an important indicator because it shows where efforts can be taken to avoid early deaths.

Find Afghanistan on your map. Then fill in your map with the information that you learned on this slide.
The under-5 mortality rate measures the probability that a child will die before reaching the age of 5.

What is the under-5 mortality rate for Brazil?
The infant mortality rate measures how many babies die in their first year of life.

Determine the infant mortality rate for Spain and record the information on your regional reference map.
Low-income countries are making progress in reducing infant mortality rates

Over the last decades, the infant mortality rate in the poorest urban areas of Asia has seen a dramatic drop:

- **1990s**: 8 per 1000 live births
- **2007**: 51 per 1000 live births

Children in the city of Gorakhpur, India, in 2000

*What do you think might have contributed to a decrease in infant mortality rates?*
Try figuring out a statistic on your own

You are going to figure out what the infant mortality rate was in the United States in 2013.

First, write down this information:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of live births</td>
<td>3,932,181</td>
</tr>
<tr>
<td>Number of children who died before the age of 1</td>
<td>23,440</td>
</tr>
</tbody>
</table>

You want to find out how many children out of 1,000 die before the age of 1. What equation do you think you’re going to use to calculate the infant mortality rate?
What was the infant mortality rate in the United States in 2013?

23,440 deaths is to 3,932,181 live births as X deaths is to 1,000 live births. You want to solve for X, which is the infant mortality rate.

Here’s the equation you want to use:

\[
\frac{23,440 \text{ deaths}}{3,932,181 \text{ live births}} = \frac{X \text{ deaths}}{1,000 \text{ live births}}
\]

Answer: The 2013 infant mortality rate in the United States was 6. That means 6 out of 1,000 children born that year died before they turned 1.
An adolescent Afghan girl receives a tetanus vaccination outside her home.

Neonatal mortality rate is another health status indicator

Neonatal is a word for “newborns” in the first 28 days of life.

- Tetanus shots can reduce neonatal mortality.
- Newborns get tetanus, a life-threatening condition, from their mothers.
- Vaccinating young women against tetanus saves babies and mothers.
- There has been a 92% reduction in deaths from neonatal tetanus.
The maternal mortality rate measures how many women die during or shortly after a pregnancy.

Between 1990 and 2013, maternal mortality worldwide dropped by almost 50%.

However, every day approximately 800 women die from preventable causes related to pregnancy and childbirth.

Almost all of these deaths occur in low-resource settings.

Skilled care before, during, and after childbirth can save the lives of women and newborn babies.
Health status indicators are measurements that help us assess health populations.

- **Life expectancy at birth** measures how long people will likely live based on where and when they are born.
- **Mortality rate** measures how many people die before old age.
- **Under-5 mortality rate**, **infant mortality rate**, and **neonatal mortality rate** measure how many children die.
- **Maternal mortality rate** measures how many women die during or shortly after pregnancy.
Exit Checkpoint #3
KWHLAQ
Topic: -Health Status Indicators

- What have I learned?
  • ANS: -

- What action will I take?
  • ANS: -

- What further questions do I have?
  • ANS: -
Entry Checkpoint #4
KWHLAQ
Topic: Medicine, Public Health & Intervention(s)

K • What do I know?
   • ANS: -

W • What do I want to know?
   • ANS: -

H • How will I find out?
   • ANS: -
• **Medicine** focuses on preventing, diagnosing, and treating health problems in individuals and families.

• **Public health** focuses on promoting health and preventing illnesses, injuries, and early deaths at the population level by identifying and mitigating environmental hazards, promoting healthy behaviors, ensuring access to essential health services, and taking other actions to protect the health, safety, and wellbeing of groups of people.

• The lines between medicine and public health are blurry.
<table>
<thead>
<tr>
<th></th>
<th>Essential Public Health Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Monitor health status to identify community health problems.</td>
</tr>
<tr>
<td>2</td>
<td>Diagnose and investigate health problems and health hazards in the community.</td>
</tr>
<tr>
<td>3</td>
<td>Inform, educate, and empower people about health issues.</td>
</tr>
<tr>
<td>4</td>
<td>Mobilize community partnerships to identify and solve health problems.</td>
</tr>
<tr>
<td>5</td>
<td>Develop policies and plans that support individual and community health efforts.</td>
</tr>
<tr>
<td>6</td>
<td>Enforce laws and regulations that protect health and ensure safety.</td>
</tr>
<tr>
<td>7</td>
<td>Link people to needed personal health services and ensure the provision of health care when otherwise unavailable.</td>
</tr>
<tr>
<td>8</td>
<td>Ensure a competent public health and personal healthcare workforce.</td>
</tr>
<tr>
<td>9</td>
<td>Evaluate effectiveness, accessibility, and quality of personal and population-based health services.</td>
</tr>
<tr>
<td>10</td>
<td>Research for new insights and innovative solutions to health problems.</td>
</tr>
</tbody>
</table>
Comparing medicine and public health.
Interventions

• An intervention is a strategic action intended to improve individual and population health status.

• Interventions targeted at any level, from the individual to the community, the nation, and the world, can be effective at improving personal and public health.
Figure 1-6

Examples of interventions that improve health trajectories across the life span.
Exit Checkpoint #4
KWHLAQ
Topic: Medicine & Public Health

- What have I learned?
  - ANS: -

- What action will I take?
  - ANS: -

- What further questions do I have?
  - ANS: -
Prevention Science

1.3
Entry Checkpoint #5
KWHLAQ
Topic :-Prevention Science

K
- What do I know?
  - ANS: -

W
- What do I want to know?
  - ANS: -

H
- How will I find out?
  - ANS: -
Prevention

• “Prevention is better than a cure.”

• **Prevention science** is the study of which preventive health interventions are effective in various populations, how successful the interventions are, and how well they can be scaled up for widespread implementation.

• There are three levels of prevention: **primary, secondary, and tertiary.**
Maintaining good health status through preventive interventions is less costly than paying for rehabilitation after health crises.
Three levels of prevention: primary, secondary, and tertiary.
Exit Checkpoint #5
KWHLAQ
Topic: Prevention Science

- What have I learned?
  - ANS: -

- What action will I take?
  - ANS: -

- What further questions do I have?
  - ANS: -
Health Transitions

1.4
Entry Checkpoint #6
KWHLAQ
Topic: Health Transitions

K • What do I know?  
   • ANS: -

W • What do I want to know?  
   • ANS: -

H • How will I find out?  
   • ANS: -

Tuesday, August 14, 2018
Health Transitions

• A **health transition** is a **shift in the health status of a population that usually occurs in conjunction with socioeconomic development**.

• Because some countries have gone through these health transitions and other countries have not, there are now significant differences in health status in the highest-income and lowest-income countries.
Figure 1-9

<table>
<thead>
<tr>
<th>Type of Transition</th>
<th>Pre-transition Populations</th>
<th>Post-transition Populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertility transition</td>
<td>The typical woman gives birth to several children.</td>
<td>The typical woman gives birth to only one child or two children.</td>
</tr>
<tr>
<td>Demographic transition</td>
<td>The total population size may be increasing due to high birth rates.</td>
<td>The total population size may be shrinking because birth rates are so low.</td>
</tr>
<tr>
<td>Obstetric transition</td>
<td>Pregnancy-related conditions are a common cause of death in women of reproductive age.</td>
<td>The maternal mortality rate is very low.</td>
</tr>
<tr>
<td>Nutrition transition</td>
<td>Underweight is a major concern.</td>
<td>Obesity is a major concern.</td>
</tr>
<tr>
<td>Risk transition</td>
<td>Environmental exposures like unsafe drinking water and polluted indoor air are major contributors to disease.</td>
<td>Lifestyle factors like physical inactivity and tobacco use are major contributors to disease.</td>
</tr>
<tr>
<td>Epidemiologic transition</td>
<td>Infectious diseases in children are a significant burden to the population.</td>
<td>Chronic diseases in adults are the dominant health concern in the population.</td>
</tr>
<tr>
<td>Mortality transition</td>
<td>High death rates in children and reproductive-age adults mean that few people live to very old age.</td>
<td>Low mortality rates for children and reproductive-age adults allow many people to live to old age.</td>
</tr>
<tr>
<td>Aging transition</td>
<td>Children comprise the majority of the total population.</td>
<td>Older adults are a growing proportion of the population.</td>
</tr>
</tbody>
</table>

Examples of health transitions.

**Relation to health status indicators**
There are significant differences in health status and access to the tools for health in low-income and high-income countries.

<table>
<thead>
<tr>
<th>Today, in Very LOW-income Populations...</th>
<th>Today, in Very HIGH-income Populations...</th>
</tr>
</thead>
<tbody>
<tr>
<td>- High rates of poverty, illiteracy, and unemployment, which can have negative effects on personal, family, and community health.</td>
<td>- Most people have access to the basic tools for health, although there are still health disparities based on socioeconomic status.</td>
</tr>
<tr>
<td>- Many people do not have access to an outhouse or other type of toilet and many do not have reliable access to safe drinking water.</td>
<td>- Almost everyone has indoor plumbing and safe drinking water.</td>
</tr>
<tr>
<td>- Many infants and young children die from diarrhea, pneumonia, malaria, and other infections.</td>
<td>- Almost every baby will survive to adulthood.</td>
</tr>
<tr>
<td>- The typical woman gives birth to many children, and it is not uncommon for women to die in childbirth.</td>
<td>- The typical woman gives birth to 1 or 2 children, and very few women die due to pregnancy-related conditions.</td>
</tr>
<tr>
<td>- The median (average) age of the population is in childhood.</td>
<td>- The median (average) age of the population is in adulthood.</td>
</tr>
<tr>
<td>- A typical age at death for adults is 60 or 70 years old.</td>
<td>- A typical age at death for adults is 80 or even 90 years old.</td>
</tr>
<tr>
<td>- Visits to hospitals and clinics are usually because of infections (such as malaria or tuberculosis) or serious injuries.</td>
<td>- Visits to hospitals and clinics are usually due to chronic noncommunicable diseases (such as arthritis, back pain, hypertension, and diabetes).</td>
</tr>
<tr>
<td>- Access to effective management of chronic diseases (such as hypertension and diabetes) is very limited.</td>
<td>- Screening tests (such as mammography for breast cancer) often detect emerging health problems early, when they are usually more treatable.</td>
</tr>
<tr>
<td>- Undernutrition (including protein-energy and micronutrient deficiencies) remains a significant public health concern.</td>
<td>- Overweight and obesity are major public health concerns, and many people have diets that are excessively high in fat and calories.</td>
</tr>
<tr>
<td>- Very few people with mental health disorders receive clinical care because there are so few psychiatrists and psychologists.</td>
<td>- Clinical mental health services are usually available, but they are often underused.</td>
</tr>
<tr>
<td>- Serious injuries often lead to death because no surgical services are available.</td>
<td>- Serious injuries can often be treated with surgery and rehabilitation.</td>
</tr>
</tbody>
</table>
Exit Checkpoint #6
KWHLAQ
Topic: -Health Transitions

- What have I learned?
  - ANS: -

- What action will I take?
  - ANS: -

- What further questions do I have?
  - ANS: -
World Regions and Featured Countries
Entry Checkpoint #7
KWHLAQ
Topic: World Regions & Global Health Data

K
• What do I know?
  • ANS: -

W
• What do I want to know?
  • ANS: -

H
• How will I find out?
  • ANS: -

Tuesday, August 14, 2018
Developed by Mr. Barrow
Featured Countries

• Data from eight large countries will be used to represent the diversity of the world’s health profiles.
The eight featured countries represent nearly half of the world’s population.

Table 1: Eight featured countries by income group. (The countries are listed in order from highest to lowest human development index.)

<table>
<thead>
<tr>
<th>Country</th>
<th>World Bank Income Group</th>
<th>UNDP Human Development Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>High</td>
<td>Very high</td>
</tr>
<tr>
<td>Germany</td>
<td>High</td>
<td>Very high</td>
</tr>
<tr>
<td>Iran</td>
<td>Upper middle</td>
<td>High</td>
</tr>
<tr>
<td>Brazil</td>
<td>Upper middle</td>
<td>High</td>
</tr>
<tr>
<td>China</td>
<td>Upper middle</td>
<td>High</td>
</tr>
<tr>
<td>India</td>
<td>Lower middle</td>
<td>Medium</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Lower middle</td>
<td>Low</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

Most of the world’s people live in a country classified as middle income by the World Bank.
The eight featured countries represent nearly half of the world’s population.

Figure 1-14

Eight featured countries by geographic location.

Figure 1-16

Income level terminology.
Examples of socioeconomic and health trends.
Exit Checkpoint #7
KWHLAQ
Topic: -World Regions & Global Health Data

- What have I learned?
  - ANS: -

- What action will I take?
  - ANS: -

- What further questions do I have?
  - ANS: -

Developed by Mr. Barrow
Entry Checkpoint #8
KWHLAQ
Topic: Global Health Security

- **What do I know?**
  - ANS: -

- **What do I want to know?**
  - ANS: -

- **How will I find out?**
  - ANS: -
Global health security seeks to protect populations from threats to health and safety by engaging a diversity of stakeholders, including governmental and military personnel, in public health interventions.

Communities and countries suffering from widespread health problems are more likely to have political and economic instability, and poverty and unrest can further exacerbate public health problems that might spill over into other parts of the world.

International and global health initiatives can help to break this cycle, facilitating peace and productivity.
Exit Checkpoint #8
KWH LAQ
Topic: -Global Health Security

L
• What have I learned?
• ANS: -

A
• What action will I take?
• ANS: -

Q
• What further questions do I have?
• ANS: -
Globalization and Health: Shared Futures
Entry Checkpoint #9
KWHLAQ
Topic: Globalization & The Future

K
• What do I know?
  • ANS: -

W
• What do I want to know?
  • ANS: -

H
• How will I find out?
  • ANS: -
Globalization

- **Globalization** is the process of countries around the world becoming more integrated and interdependent across economic, political, cultural, and other domains.

- **Global health offers** a proactive way to prevent outbreaks (and to respond to them when they happen), to protect economic and political interests at home and abroad, to promote goodwill and humanitarian values, and to achieve shared health goals.
Shared Futures

• The health patterns that exist today are not the same as the patterns from 100 years ago, and new health transitions will occur in the coming decades.

• Global health provides an opportunity to use prevention strategies and other interventions to shape a healthier, safer future for the world’s people.
Exit Checkpoint #9
KWHLAQ
Topic: -Globalization & The Future

• What have I learned?
  • ANS: -

• What action will I take?
  • ANS: -

• What further questions do I have?
  • ANS: -
Review