

FIGHTING THE DISEASES OF POVERTY



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President & Professor



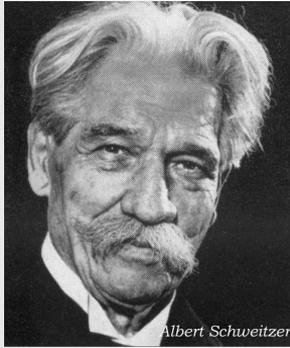
INSTITUTE FOR
INTERNATIONAL
MEDICINE

PRESENTATION OBJECTIVES

- Explain how economic development is related to health status
- Describe how military conflict impacts civilian health
- Enumerate high-priority effective disease interventions



WHO IS THE MOST INFLUENTIAL PERSON IN HEALTHCARE FOR MARGINALIZED PEOPLE?



Albert
Schweitzer?
1940-50s



Tom Dooley?
1960-70s



Paul Farmer?
1980-90s

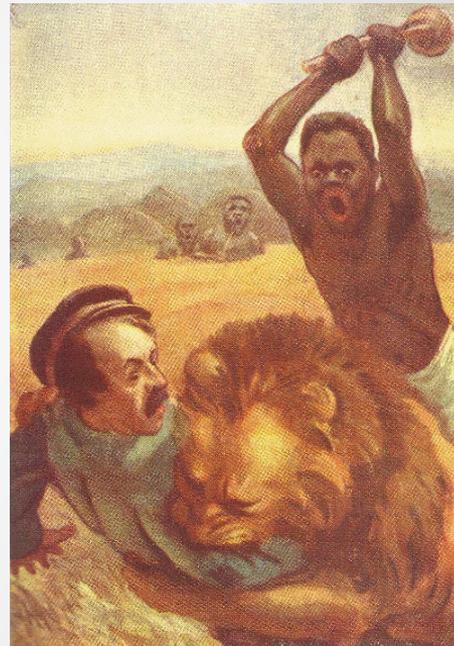
HAVE YOU CONSIDERED DAVID LIVINGSTON?

- Born 1813 of an impoverished Scottish family.
- Age 10 started working 12-hour days in a cotton mill.
- Wrote how this experience gave him persistence, endurance, and empathy.
- Avid reader of science and the Bible.
- A vocal opponent of slavery while at University of Glasgow.



DAVID LIVINGSTON'S EARLY CAREER

- Joined the London Missionary Society
- Arrived South Africa in 1841
- In 1844, was mauled by a lion, causing permanent paralysis of his right arm.
- 1841-1852 he preached & cared for sick in northern South Africa



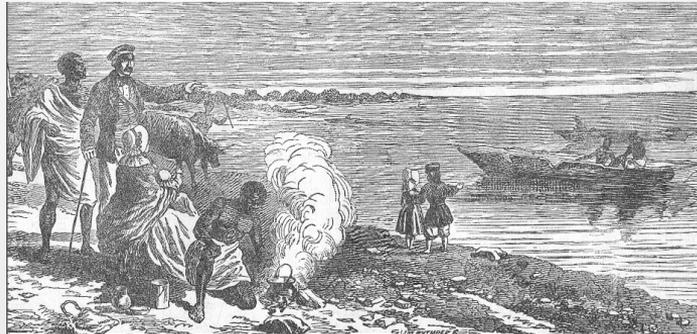
DAVID LIVINGSTON'S LATER CAREER



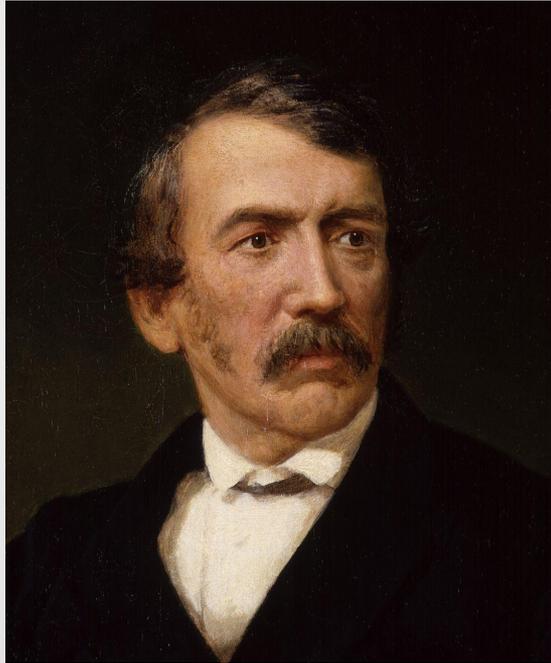
- 1852-56 explored Angola, Zambia, Zimbabwe & Victoria Falls
- As he travelled, he told the message of Christ with gentleness and provided medical care
- He became known by local chiefs for his hospitality, and was received with honor

DAVID LIVINGSTON'S LATER CAREER

- 1858-1873 explored source of the Nile river.
- 1871 found by Henry Stanley of the New York Herald.
- He campaigned for ethics in foreign policy and the end of slavery in the British Empire



DAVID LIVINGSTON'S CONVICTIONS



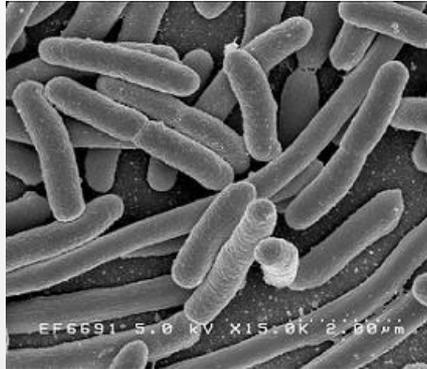
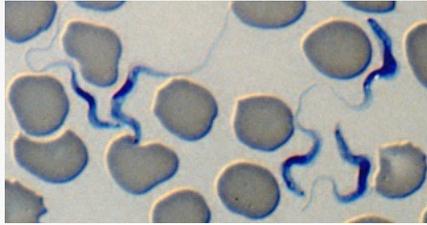
Livingstone, one of the most celebrated men of the 1800s, wrote “I will place no value on anything I have or may possess except in relation to the kingdom of Christ.”

LIVINGSTON'S DEATH FROM DISEASES OF POVERTY

- Livingston wrote that Africans were plagued by **pneumonia, malaria, TB, dysentery** and birth complications.
- 1873 Livingston himself died in Zambia of **malaria** and **dysentery**
- Attendants record he took his final breaths while kneeling in prayer at his bedside



TODAY'S DISEASES OF POVERTY



HOW IS POVERTY DEFINED?



WHERE IS POVERTY INCREASING?



POVERTY NOT CONFINED TO “POOR NATIONS”



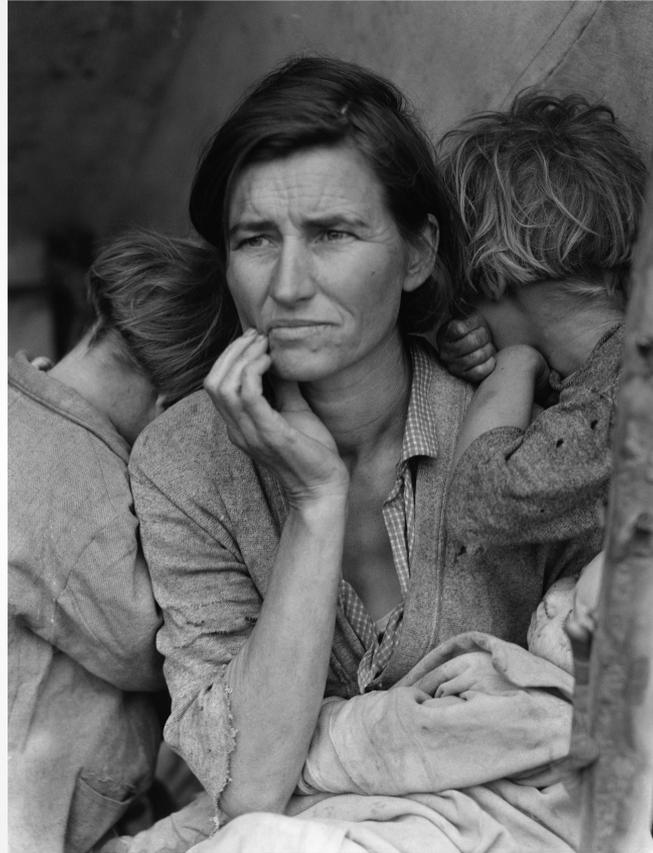
India

POVERTY NOT CONFINED TO “POOR NATIONS”



China

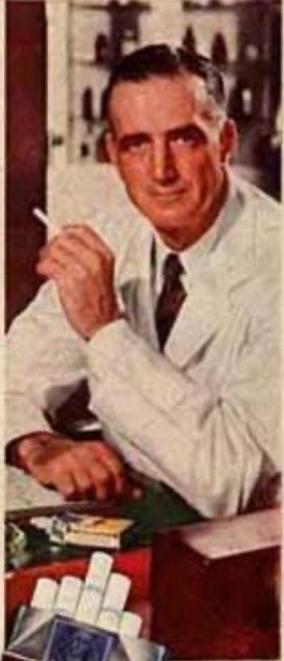
**POVERTY
NOT
CONFINED
TO “POOR
NATIONS”**



United States

According to repeated nationwide surveys,

More Doctors Smoke **CAMELS** than any other cigarette!



Doctors in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was Camel!

You'll smoke Camels for the same reason so many doctors smoke them. Camels have real, cool goodness, pack after pack, and a flavor unmatched by any other cigarette. Make this sensible test. Smoke only Camels for 30 days and see how well Camels please your taste, how well they soothe your throat on your smoky smoke. You'll see how enjoyable a cigarette can be!

THE DOCTORS' CHOICE IS AMERICA'S CHOICE!



DR. MARY FORD, M.D., says, "I like Camels. They give me a real throat-soothing sensation."



DR. HENRY JONES, D.D.S., says, "I get a real pleasure from Camels and they soothe my throat."



DR. ROBERT BROWN, M.D., says, "Camels are the only cigarette I've smoked for 10 years."



For 30 days, test Camels in your "T-Zone" (T for Throat, T for Taste).

www.StrangeCosmos.com

AMAZING FACTS FROM THE WORLD OF MEDICINE

POPULATION-BASED ANALYSIS

Why Women
Do Live
Longer Than
Men?





















THE NEW YORK COLLECTION

WHAT ARE “DALYS LOST”?

The Disability Adjusted Life Years (DALYs) lost combines Years of Life Lost (YLL) due to premature death, plus Years Lived with Disability (YLD) based on severity and duration of nonfatal outcomes. *One DALY lost equals one year of healthy life lost.*

**WHAT ARE THE 10
LEADING CAUSES OF
DALYS LOST IN THE 50
LOWEST INCOME
NATIONS?**

LEADING CAUSES OF DALYS LOST

Disease or Injury	Percentage of Total DALYs Lost
Lower respiratory infection	9.7
Diarrheal diseases	6.9
Malaria	5.1
Preterm birth complications	5.1
HIV/AIDS	5.0
Birth asphyxia & birth injury	4.9
Congenital anomalies	3.2
Road injury	3.0
Neonatal sepsis & infections	2.7
Tuberculosis	2.5

HEALTH INDICATORS

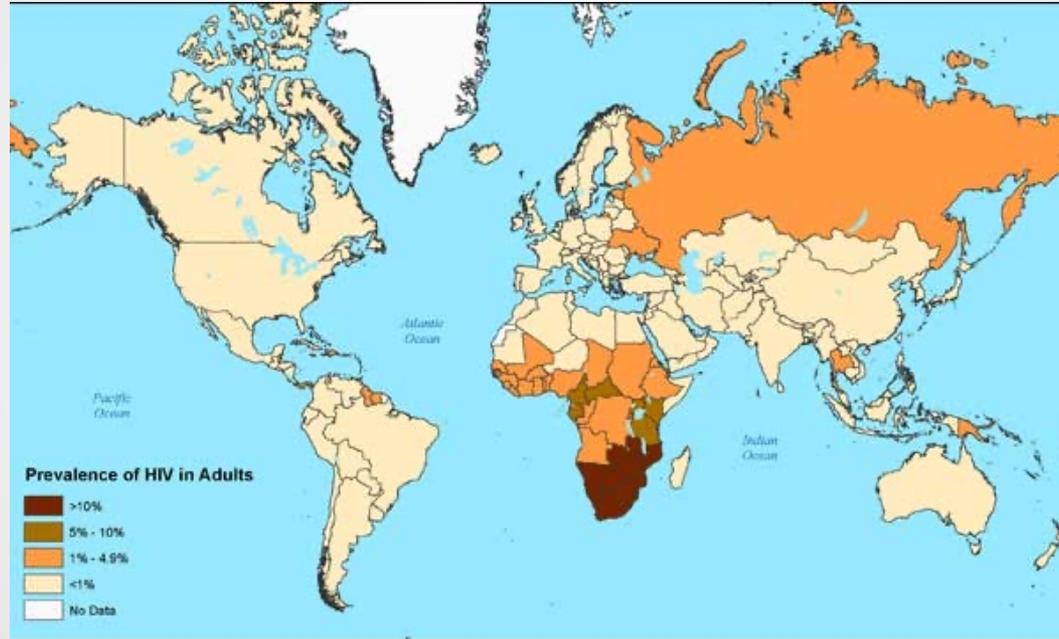
Nation	Life Expect @ Birth	Under 5 Mortality	Per Capita Health Expenditure
All Low Income	59 years (M 58/F 60)	11%	\$16
All Africa	51 (M 50/F 52)	16%	\$33
Angola	41	26%	\$16
Liberia	44	23%	\$6
Niger	42	25%	\$6
Sierra Leone	40	27%	\$6
Zambia	43	18%	\$18
Afghanistan	42	25%	\$3
Iraq	56 (M 48/F 67)	5%?	\$14
All High Income	80 (M 77/F 82)	0.7%	\$2,672

HEALTH STATUS/ ECONOMIC STATUS



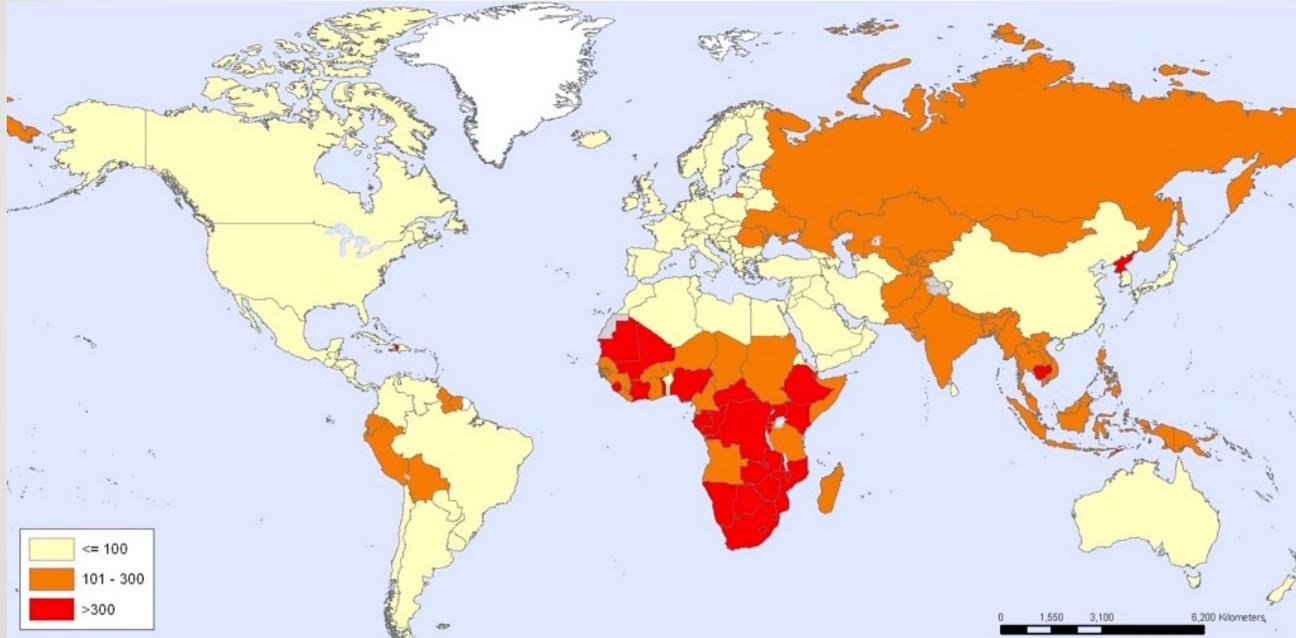
Prevalence of Poverty

HEALTH STATUS/ ECONOMIC STATUS



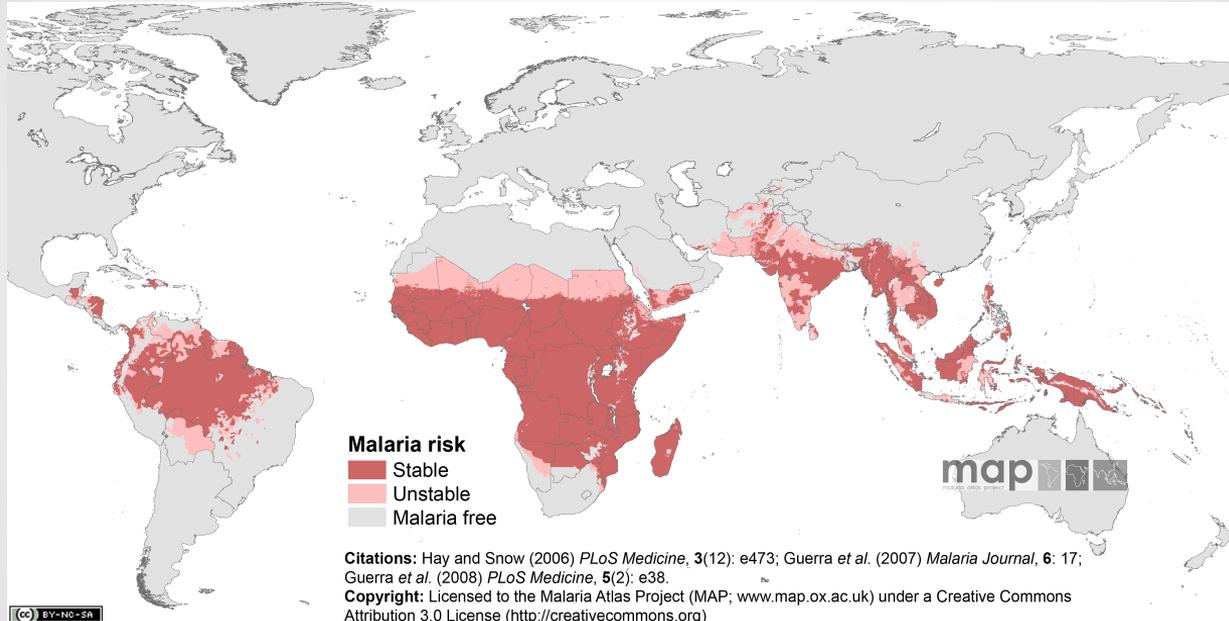
Prevalence of HIV Infection

HEALTH STATUS/ ECONOMIC STATUS



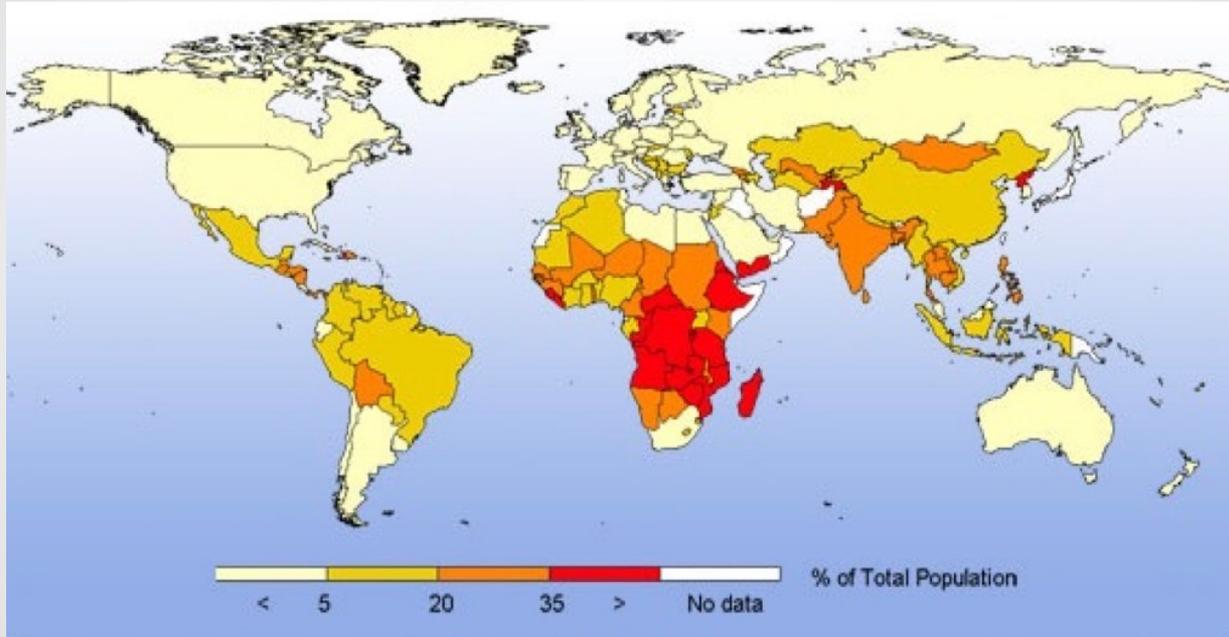
Incidence of Tuberculosis

HEALTH STATUS/ ECONOMIC STATUS



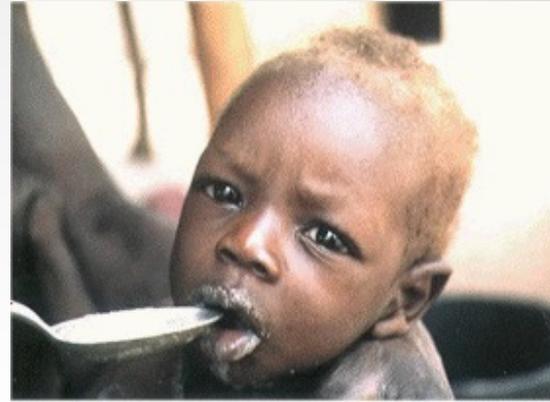
Prevalence of Malaria

HEALTH STATUS/ ECONOMIC STATUS



Prevalence of Malnutrition

MALNUTRITION FAST FACTS



Why is malnutrition not listed as a leading cause of DALYs Lost?

MALNUTRITION FAST FACTS



Malnutrition especially places children at risk for death from common diseases like pneumonia or diarrhea.

Malnutrition is a significant risk factor in 56% of child deaths in low-income nations.



HEALTH STATUS <-> ECONOMIC STATUS

Health Status is closely associated with economic status. Why is this so?



VOICES OF THE WORLD'S MOST POOR

**"For we, the poor,
our 'body' is our
only asset and so
health is vital to our
survival. If we don't
work, we don't eat,
and our children
starve"**



HOW ARE POVERTY & INFECTIOUS DISEASES CONNECTED?



POVERTY & INFECTIOUS DISEASES



- Unsafe drinking water contribute to dysentery, hepatitis, and helminthic disease.
- Crowded living conditions promote respiratory diseases, including influenza and TB.
- Lack of medical care is greater
- Control of insect vectors, (mosquitoes, flies), is often lacking
- Vaccination services are also often subpar

QUESTION

About 70% of childhood deaths in low-resource nations are due to which ONE of the following factors?

- A. Malnutrition
- B. Infectious diseases
- C. Vaccine-preventable diseases
- D. Respiratory diseases
- E. Injuries

ANSWER

About 70% of childhood deaths in low-resource nations are due to which ONE of the following factors?

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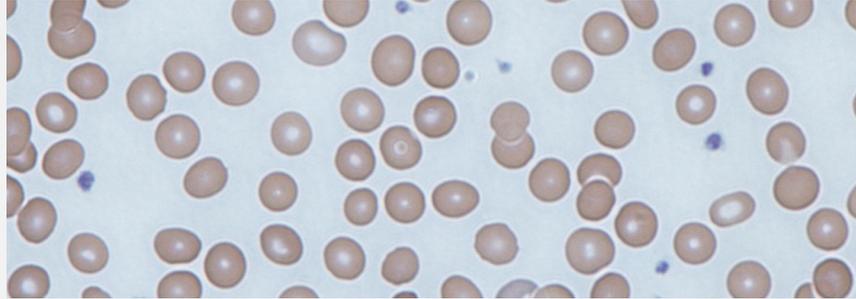
B. Infectious diseases

C. Vaccine-preventable diseases

D. Respiratory diseases

E. Injuries

POOR HEALTH INHIBITS ECONOMIC GROWTH



- Poor health decreases economic output.
Example: Iron deficiency anemia is associated with decreased work and earnings
- Good health increases economic output.
Example: Iron & deworming meds are associated with increased work and earnings

HOW DOES IMPROVED HEALTH GENERATE ECONOMIC GROWTH?





Healthier citizens make for a more stable workforce & more secure markets

HOW DOES ECONOMIC GROWTH IMPROVE HEALTH?



ECONOMIC GROWTH IMPROVES HEALTH VIA BETTER:

- Water & sanitation
- Housing
- Medical services
- Industrial safety
- Incentives for reduced fertility
- General and health education
- Modern agriculture to improve nutrition

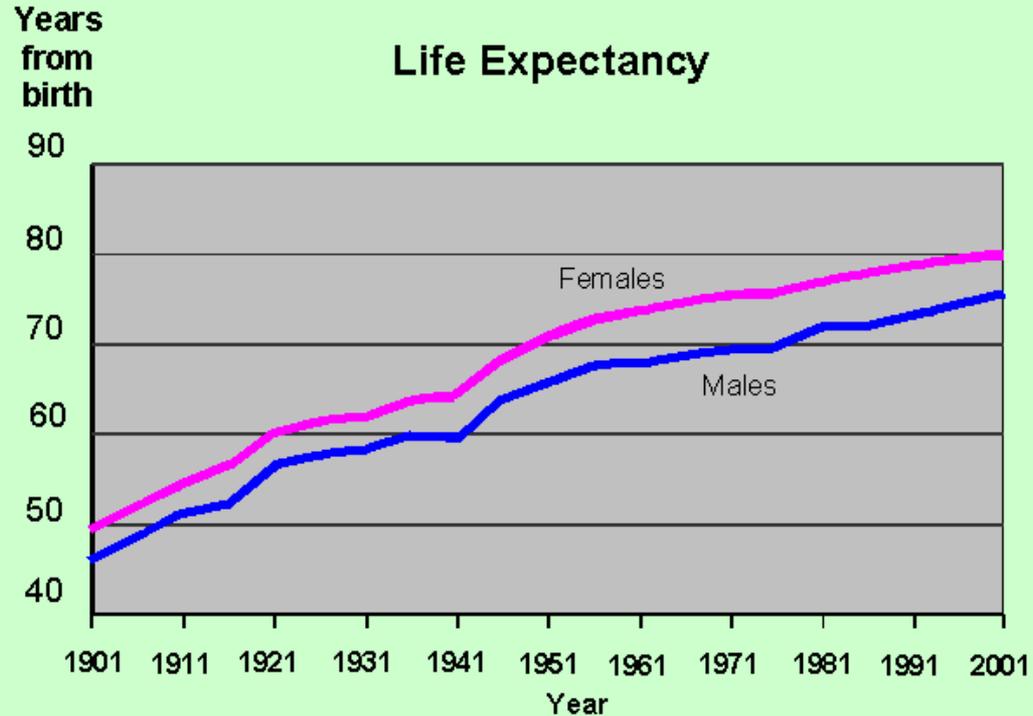


LESSONS FROM AMERICAN HISTORY

Health in many developing nations today is similar to health in the US in 1900. What can be learned?



LESSONS FROM AMERICAN HISTORY



1900 LIFE EXPECTANCY

- White Males: 48, White Females: 53
- Black Males: 32, Black Females: 35



IN 1900 WHAT WERE THE LEADING CAUSES OF DEATH?



1900 LEADING CAUSES OF DEATH:

1. Tuberculosis
2. Pneumonia/Influenza
3. Diarrhea
4. Rheumatic heart Ds
5. Rheumatic renal Ds
6. Trauma
7. CVA



FIRST PUBLIC HEALTH REVOLUTION

1920s health
increased rapidly
due to safe drinking
water, modern
sanitation, better
nutrition, and social
distancing/housing

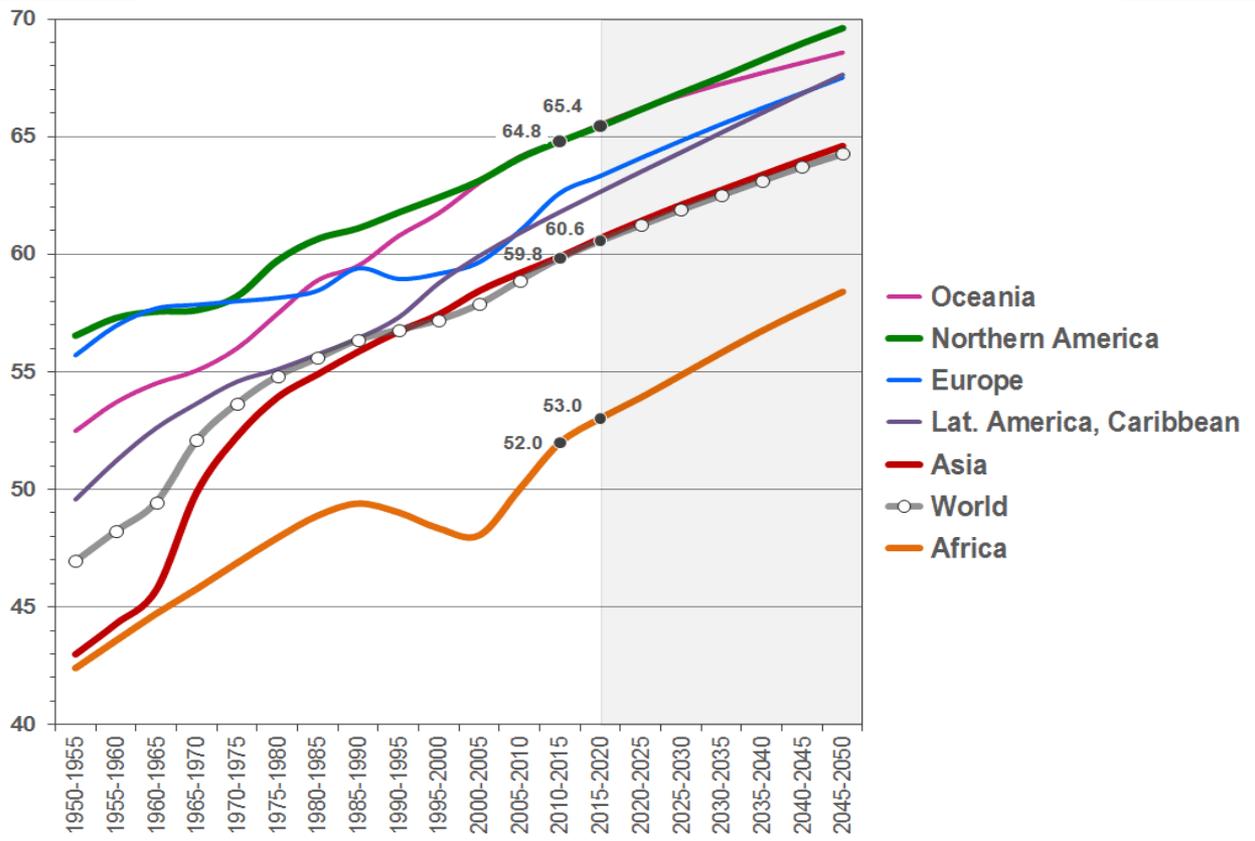


1940 LIFE EXPECTANCY

- White Males: 62, White Females: 67
- Black Males: 52, Black Females: 55



TRENDS IN LIFE EXPECTANCY



What Is Your Definition Of Health?



WHAT IS HEALTH?

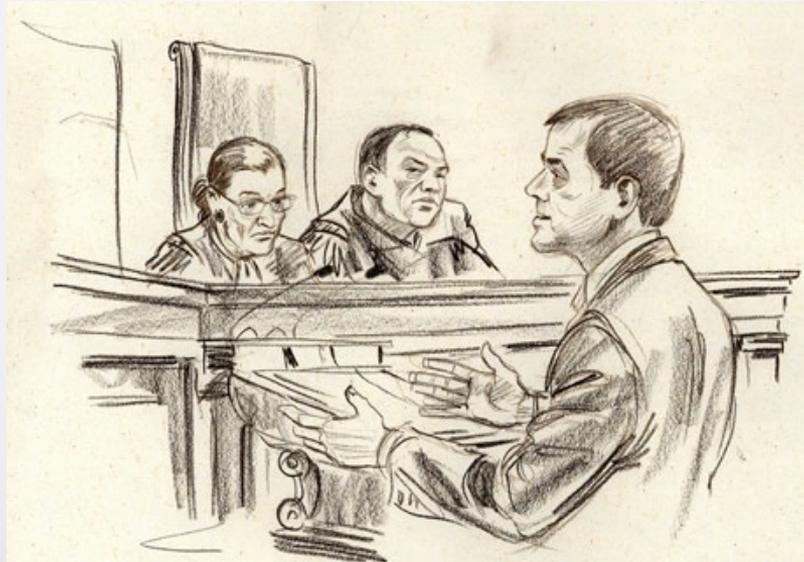
“A state of complete physical, emotional and social well being, not just the absence of disease” - WHO

Based on the observation that economics, education, agriculture, housing, transportation, family stability and political systems all influence physical health.



CONCLUSION #1

Healthcare professionals must advocate for economic development



**WHAT ARE
SOME WIDELY
EFFECTIVE
ECONOMIC
DEVELOPMENT
STRATEGIES?**



ECONOMIC DEVELOPMENT VIA:

- Literacy
- Micro-
enterprise
- Infrastructure
- Education
- International
trade



ADVOCATING FOR ECONOMIC DEVELOPMENT

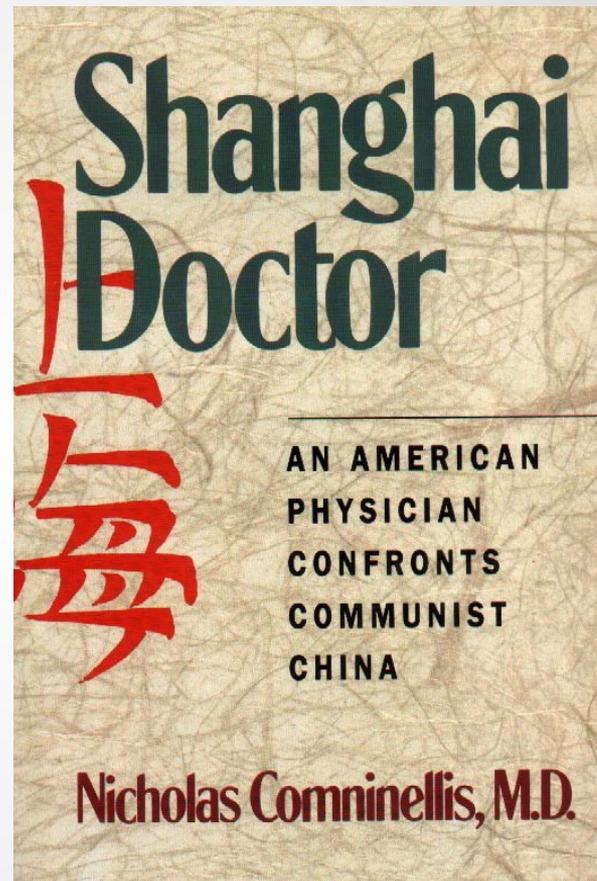
Heifer International: Alleviating hunger
and poverty through gifts of livestock



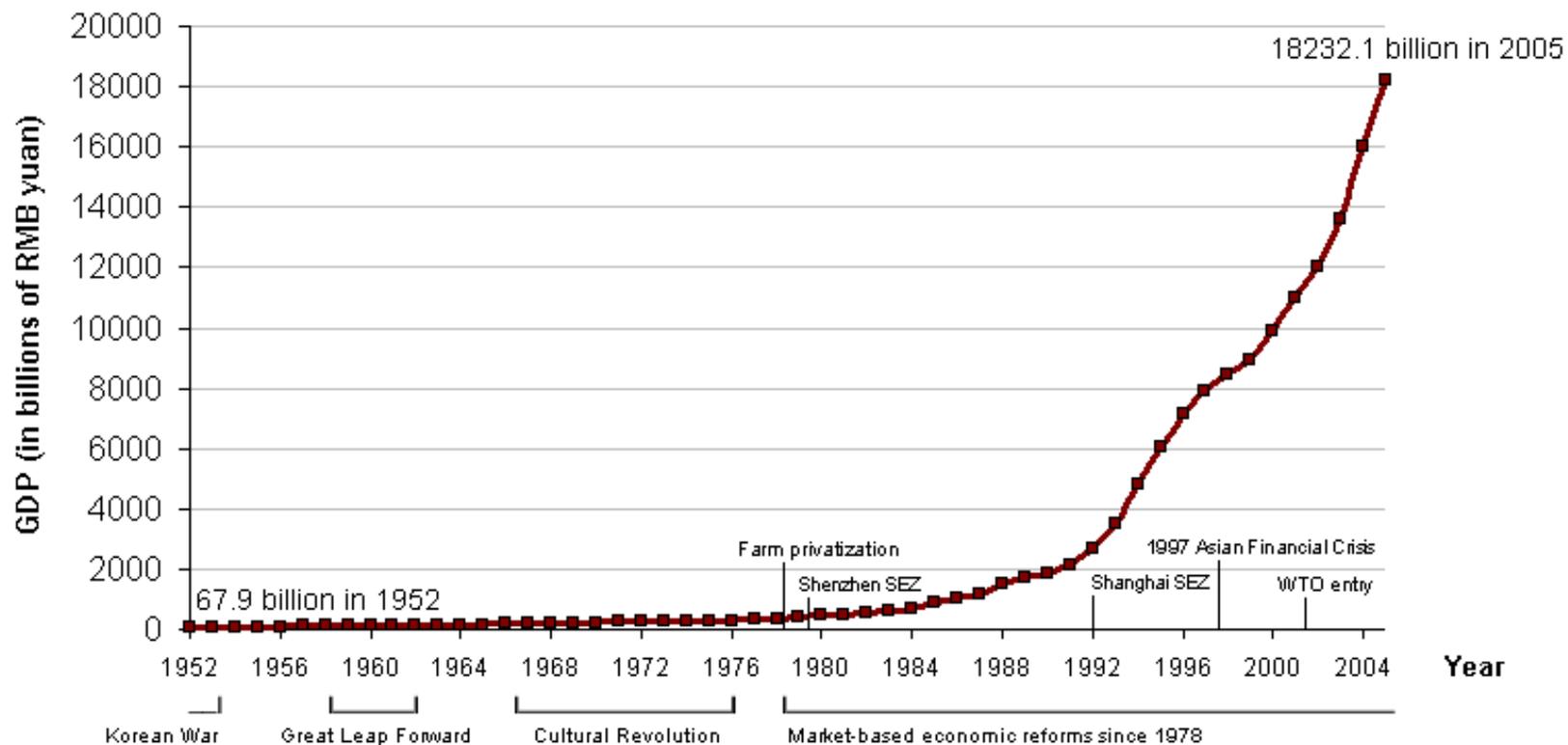
COMNINELLIS IN SHANGHAI



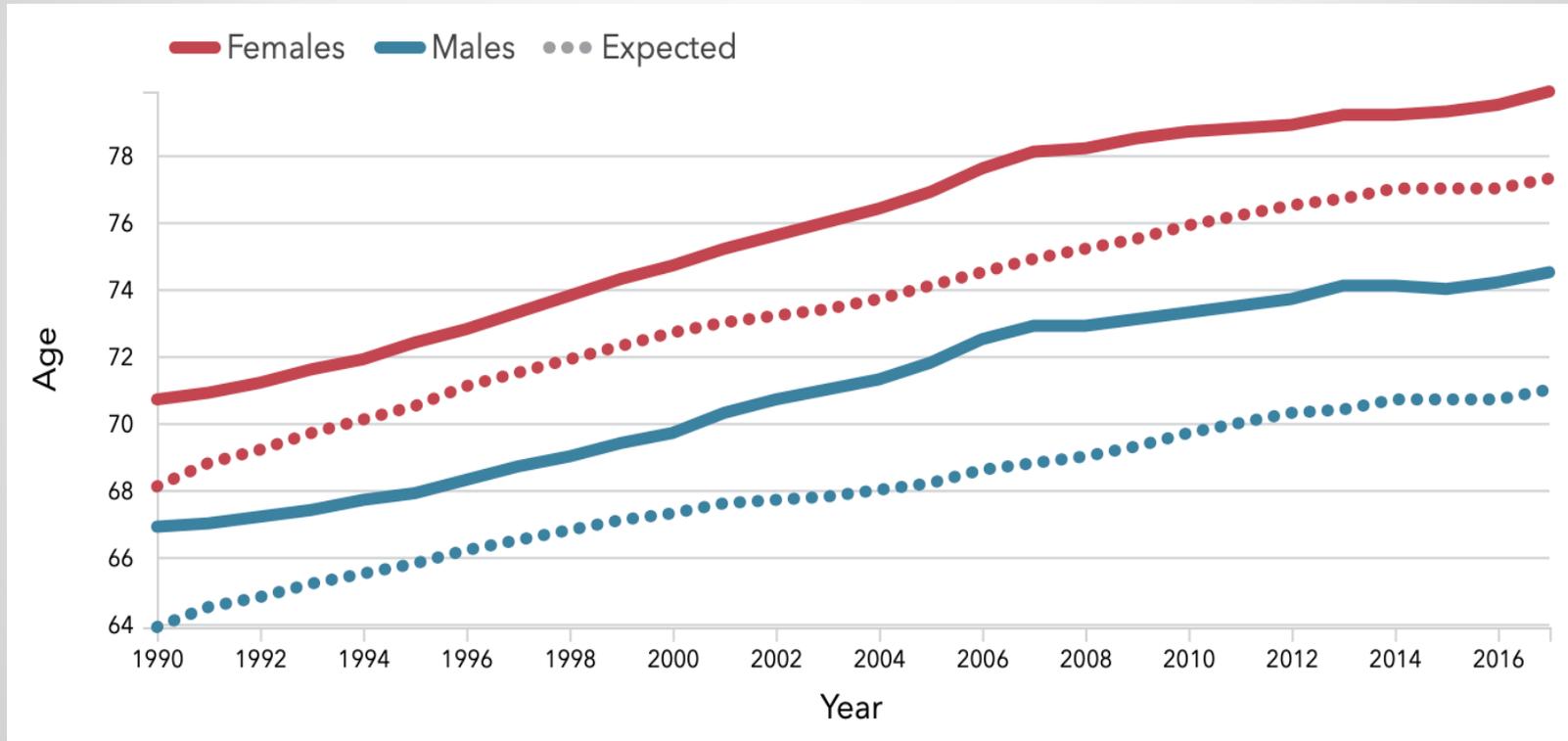




People's Republic of China's Nominal Gross Domestic Product (GDP) Between 1952 to 2005



LIFE EXPECTANCY IN CHINA



QUESTION

Physical health and economic development are inextricably linked. Stronger economic conditions foster greater health in all of the following ways, EXCEPT which one?

- A. Water and sanitation
- B. Nutrition
- C. Medical services
- D. Increased fertility
- E. General and health education

ANSWER

Physical health and economic development are inextricably linked. Stronger economic conditions foster greater health in all of the following ways, EXCEPT which one?

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- B. Nutrition
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- D. Increased fertility
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CONCLUSION #2

Healthcare professionals must advocate for ending military conflict



HEALTH INDICATORS

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All Low Income	59 years (M 58/F 60)	11%	\$16
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In red: Nations at war or recently at war

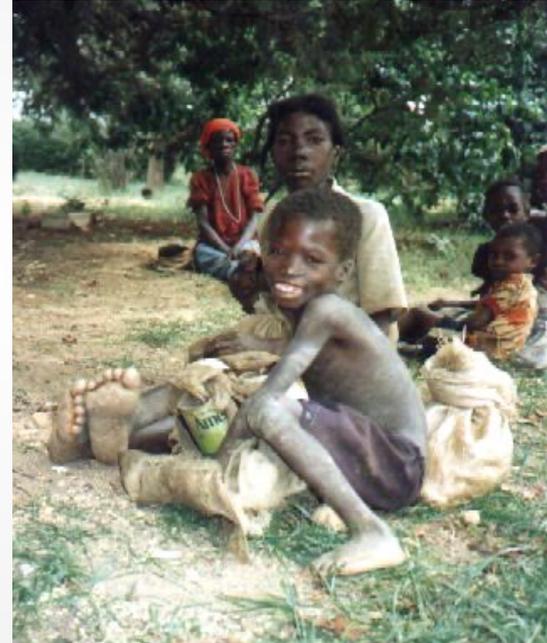
IMPACT OF WAR ON HEALTH

British Medical Journal: "In many war zones, violent deaths are often only a tiny proportion of overall deaths and deaths from infectious diseases will usually outnumber deaths due to direct violence." Regarding Congo.. "Of an excess mortality of 2.5 million, only 350,000 were because of direct violence; most died from malnutrition and infectious disease."

COMMUNELLIS IN ANGOLA



ANGOLA CIVIL WAR 1961-2002

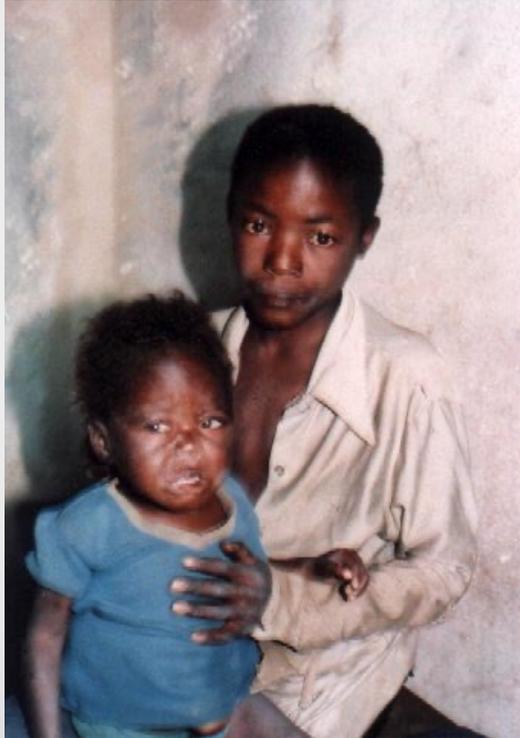


War -> Fatherless, Husbandless



No functioning schools, businesses,
phones, roads, or law enforcement.
And landmines were everywhere.

FIGHTING THE DEADLIEST DISEASES OF WAR



- Measles
- Malaria
- Malnutrition





**FEEDING
500 PEOPLE
- 20 AT A
TIME**

ANGOLA TODAY



SAMARITAN'S PURSE



CONCLUSION #3

Healthcare professionals must advocate for effective disease interventions



WHAT ARE THE LEADING INTERVENTIONS AGAINST THE LEADING CAUSES OF DALYS LOST?

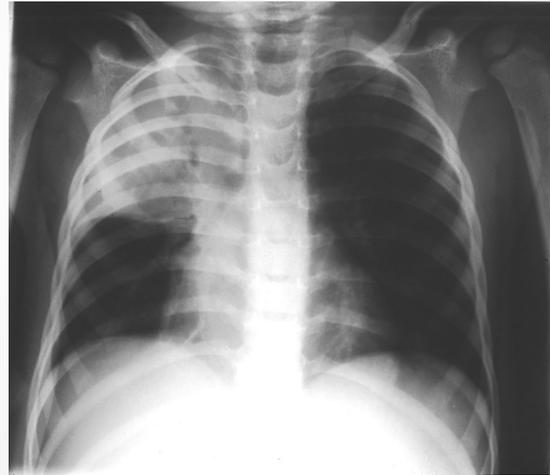
We will now explore these
interventions one by one.

LEADING CAUSES OF DALYS LOST

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Lower respiratory infection	9.7
Diarrheal diseases	6.9
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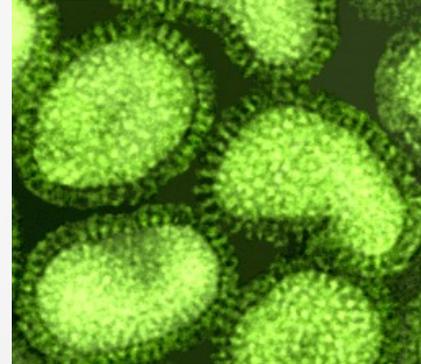
PNEUMONIA/LOWER RESPIRATORY INFECTION

Lower respiratory tract infections (LRTI), especially pneumonia, are a leading cause of death for children up to age 5 years.



CAUSES OF PNEUMONIA

- Leading Viral Causes:
Influenza, parainfluenza,
respiratory syncytial virus,
and adenovirus
- Leading Bacterial Causes:
Streptococcus
pneumoniae, Haemophilus
influenzae, and
Staphylococcus aureus



INTERVENTION AGAINST PNEUMONIA

What are
today's
leading
strategy to
reduce deaths
from
pneumonia?



INTERVENTION AGAINST PNEUMONIA

- Improved living conditions
- H. influenzae and pneumococcal vaccines, but cost-prohibitive
- Today's main intervention: Train parents to recognize early signs of pneumonia and to seek medical attention fast!



QUESTION

To provide basic medical care to all persons, many developing nations rely upon community health workers (CHWs). Though the skill sets differ, CHWs are typically expected to perform all the following, EXCEPT which one?

- A. Vaccination and well child care
- B. Midwifery
- C. Nutrition counseling
- D. Pursuit of higher medical training
- E. Treatment of common diseases

ANSWER

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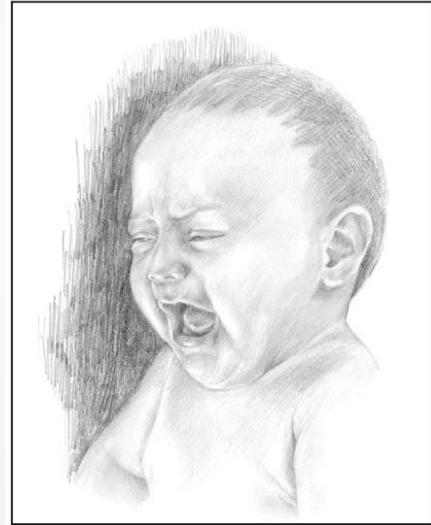
DIARRRHEAL DISEASES

- Children under 5 in developing countries have 2-3 diarrrheal diseases a year.
- 3.3 million deaths result each year, accounting for 25% of all childhood deaths.
- Diarrrheal disease make more negative impact on growth of children than any other infectious disease.



INTERVENTION AGAINST DIARRHEAL DISEASES

What are today's
leading
interventions
against diarrheal
diseases?

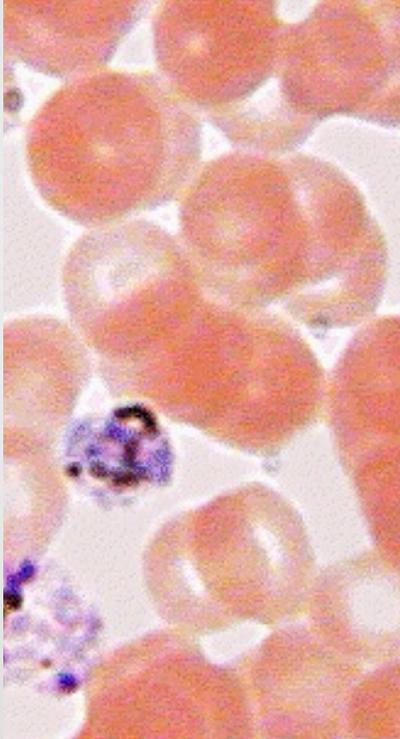


INTERVENTIONS AGAINST DIARRRHEAL DISEASES

- Safe drinking water
- Improve sanitation via latrines and sewers
- Promote hand washing and personal hygiene
- Reduce fly population
- Promote breastfeeding and proper weaning



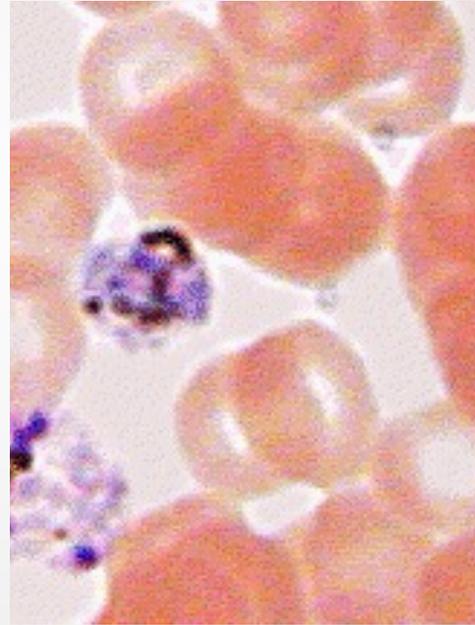
MALARIA



- Most who die are African children <5 years old.
- 2.3 billion people, 40% of the world population, are at risk.
- 300-500 million persons become infected each year.

INTERVENTIONS TO REDUCE MALARIA

What are
today's lead
strategies to
reduce deaths
from malaria?



INTERVENTIONS TO REDUCE MALARIA

- Case detection and treatment
- Personal repellents, indoor insecticide spraying, reducing standing water
- Insecticide-impregnated bed-nets
- Vaccine



QUESTION

Which ONE of the following is NOT a mechanism by which malaria control is being pursued today?

- A. Chemoprophylaxis during rainy seasons
- B. Detection and treatment of malaria cases
- C. Personal measures like repellents
- D. Effective malaria vaccine development
- E. Disease surveillance

ANSWER

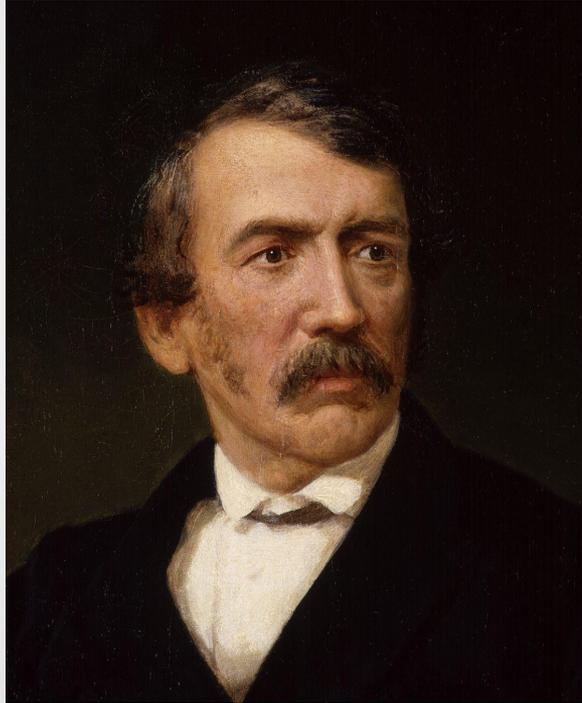
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- E. Disease surveillance

- Advocate economic development
- Advocate for ending military conflict
- Advocate for effective disease interventions



PURSUE A DISTINGUISHED LEGACY



David
Livingston
would be
proud of
you!

***EQUIP YOURSELF TO BETTER
SERVE FORGOTTEN PEOPLE***



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INTERNATIONAL
MEDICINE

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