The Greatest Challenge in Global Health

Randy Wykoff, MD, MPH & TM
Dean
College of Public and Allied Health
East Tennessee State University

TELL ME ABOUT YOURSELF

LET'S USE THE "CLICKERS"—
DON'T PRESS ANY BUTTONS YET!

IF YOU ARE AN ETSU STUDENT, PRESS 1

IF YOU ARE AN ETSU FACULTY OR STAFF, PRESS 2

IF YOU ARE AN ETSU ALUM, PRESS 3

IF YOU ARE A MEMBER OF THE GENERAL PUBLIC, PRESS 4

IF YOU ARE SOMETHING ELSE, PRESS 5

OK---VOTE NOW

Inform you about some of the world's leading health issues

Involve you in thinking about these health issues

Motivate you to consider a career in public health

- Mr. Wyeth Lawson
- Dr. Mike Stoots
- Mr. Ralph Lillie
- Dr. David Currie
- Ms. Myra Jones

The Greatest Challenge in Global Health

Health Status of the United States

- Life expectancy
- Infant mortality

Health Status of the United States

- **Life expectancy**
- Infant mortality

- Average Life Expectancy in 2006:
  - **77.85 Years**

LET'S VOTE WITH THE "CLICKERS"—DON'T PRESS ANY BUTTONS YET!

WHERE DO YOU THINK THE UNITED STATES IS RANKED IN THE WORLD FOR LIFE EXPECTANCY?

PRESS 1 IF YOU THINK US IS TOP 5

PRESS 2 IF YOU THINK THE US IS 6TH – 10TH

PRESS 3 IF YOU THINK THE US IS 11TH – 15TH

PRESS 4 IF YOU THINK THE US IS 16TH – 20TH

PRESS 5 IF YOU THINK THE US IS WORSE THAN 20TH

OK---VOTE NOW

In 2006, for Life Expectancy the United States Ranks:

29th

Behind, Andorra, Australia, Austria, Belgium, Bosnia, Canada, Finland, France, Germany, Greece, Hong Kong, Iceland, Israel, Italy, Japan, Jordan, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, San Marino, Singapore, Spain, Sweden, Switzerland, and United Kingdom.

In 2006, for Life Expectancy, Tennessee ranks:

45th in the United States

52nd in the World

Behind such countries as Cyprus, Denmark, Ireland, Portugal, Taiwan, Albania, Cuba, Kuwait, South Korea, Costa Rica, Chile, Libya, Ecuador, Slovenia, Uruguay, Czech Republic, Argentina, Georgia, Saudi Arabia, Panama, United Arab Emirates, and Mexico.

Health Status of the United States

- Life expectancy
- **Infant mortality**

- Infant Mortality Rate in 2006:
  - **6.43 per 1,000 births**

LET'S VOTE WITH THE "CLICKERS"—DON'T PRESS ANY BUTTONS YET!

WHERE DO YOU THINK THE UNITED STATES IS RANKED IN THE WORLD FOR INFANT MORTALITY?

PRESS 1 IF YOU THINK US IS TOP 5

PRESS 2 IF YOU THINK THE US IS 6TH – 10TH

PRESS 3 IF YOU THINK THE US IS 11TH – 20TH

PRESS 4 IF YOU THINK THE US IS 21ST – 30TH

PRESS 5 IF YOU THINK THE US IS WORSE THAN 30TH

OK---VOTE NOW

In 2006, for Infant Mortality the United States Ranks:

34th

Behind, Singapore, Sweden, Hong Kong, Japan, Iceland, Finland, Norway, Malta, Czech Republic, Andorra, Germany, France, Switzerland, Spain, Slovenia, Denmark, Austria, Belgium, Australia, Liechtenstein, Canada, Luxembourg, Netherlands, Portugal, United Kingdom, Ireland, Monaco, Greece, New Zealand, Italy, South Korea, Cuba, and Taiwan

In 2006, for Infant Mortality, Tennessee ranks:

48th in the United States

43rd in the World

Behind such countries as Singapore, Sweden, Hong Kong, Japan, Iceland, Finland, Norway, Malta, Czech Republic, Andorra, Germany, France, Switzerland, Spain, Slovenia, Denmark, Austria, Belgium, Australia, Liechtenstein, Canada, Luxembourg, Netherlands, Portugal, United Kingdom, Ireland, Monaco, Greece, New Zealand, Italy, South Korea, Cuba, Taiwan, Croatia, Lithuania, Israel, Cyprus, Poland, Slovakia, Estonia, Hungary, Chile

The Greatest Challenge in Global Health

Inform you about some of the world's leading health issues

Present 10 serious international health problems

Involve you in evaluating these health issues

Motivate you to address these health issues

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources (especially health care)

10---“Western Diseases” (heart disease, cancer, obesity)

LET'S VOTE WITH THE "CLICKERS"—DON'T PRESS ANY BUTTONS YET!

WHICH OF THESE HEALTH PROBLEMS WOULD YOU PUT IN YOUR "TOP THREE"?

DECIDE WHICH THREE YOU THINK ARE MOST IMPORTANT

THEN, WHEN I GIVE THE SIGNAL

AND NOT BEFORE

PRESS THE THREE NUMBERS THAT REPRESENT YOUR "TOP THREE"

DON'T VOTE YET

DON'T VOTE YET

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---"Western Diseases" (heart disease, cancer, obesity)

DON'T VOTE YET—PICK YOUR TOP 3

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---"Western Diseases" (heart disease, cancer, obesity)

OK, VOTE NOW

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

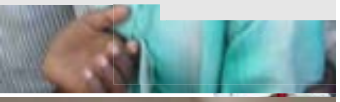
7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

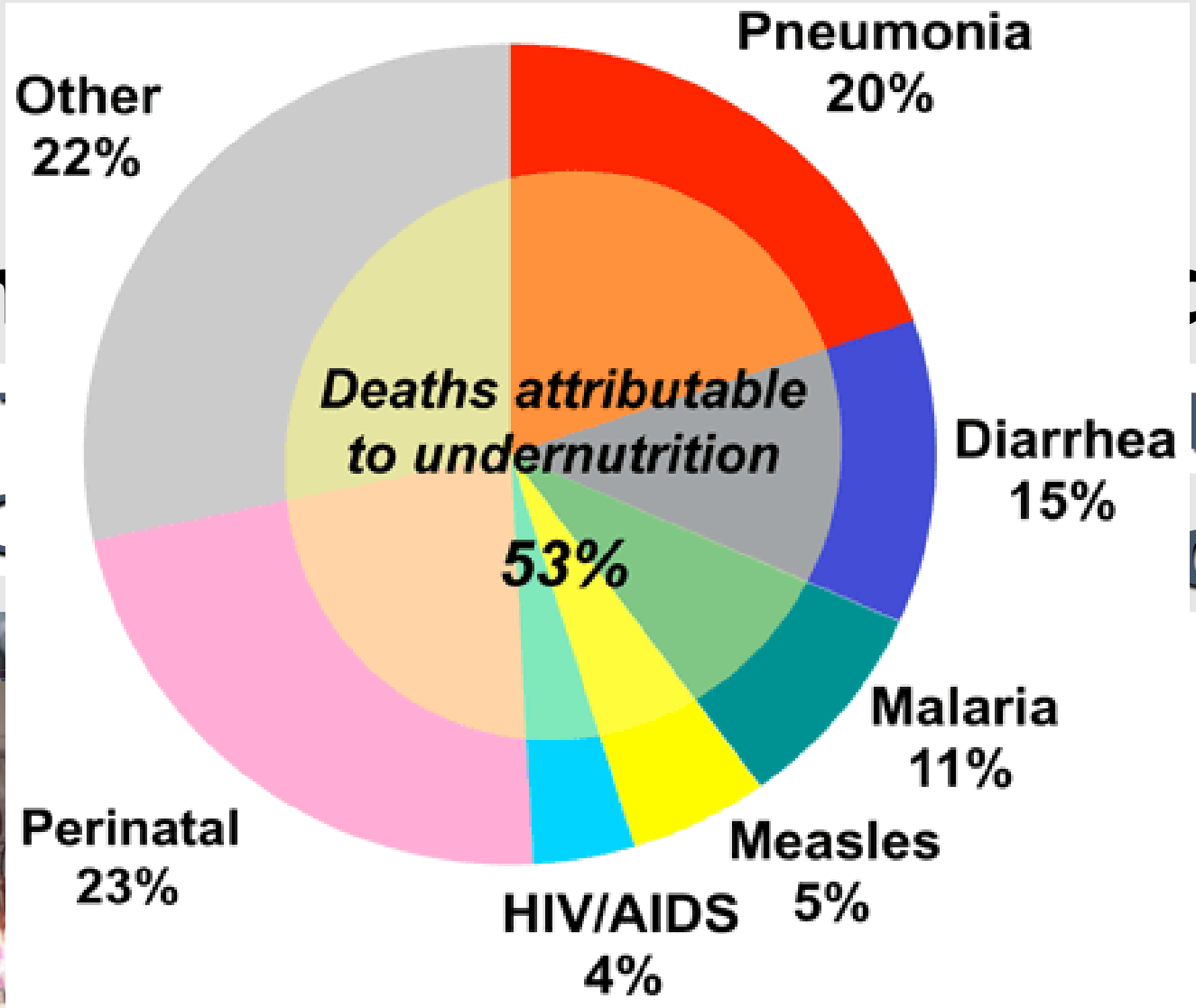
EVERY YEAR, ABOUT 11 MILLION CHILDREN UNDER THE AGE OF FIVE



In th d this

ALL RE:

WC d



1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

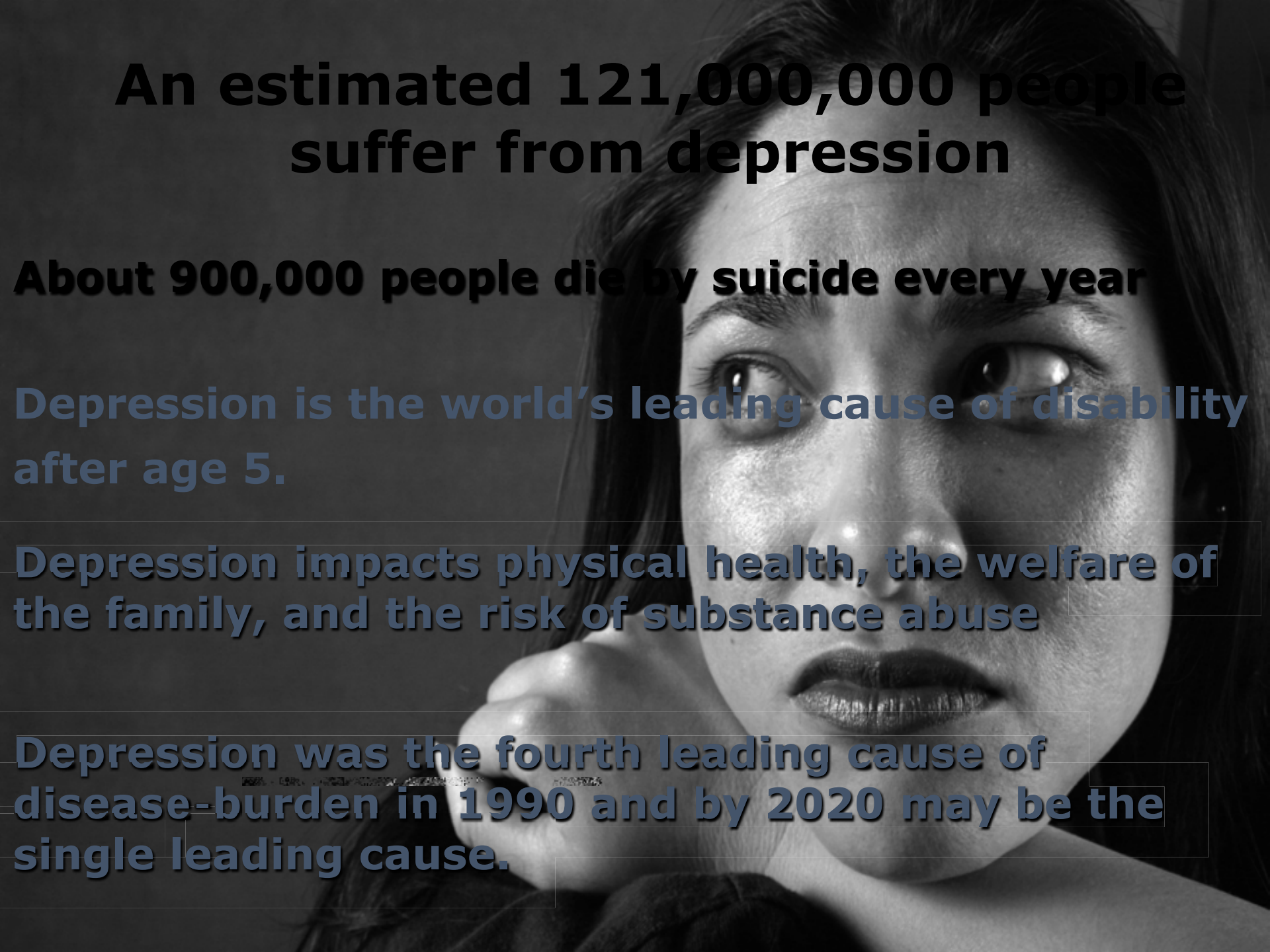
6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)



An estimated 121,000,000 people suffer from depression

About 900,000 people die by suicide every year

Depression is the world's leading cause of disability after age 5.

Depression impacts physical health, the welfare of the family, and the risk of substance abuse

Depression was the fourth leading cause of disease-burden in 1990 and by 2020 may be the single leading cause.

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

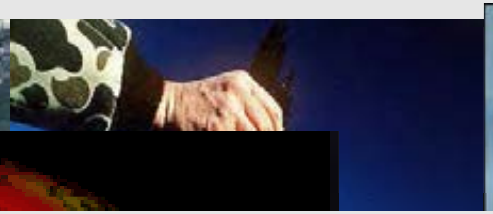
7---Overpopulation

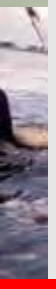
8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

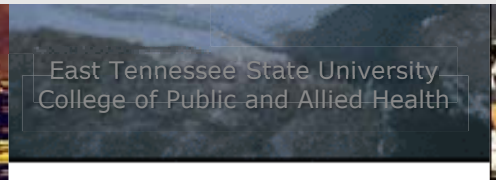
Environmental Destruction





As much as 24% of global disease is caused by environmental exposures including 33% of disease in children under the age of five . . .

No one knows how much change in the earth is consistent with human life



1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

AIDS, TUBERCULOSIS, AND MALARIA

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

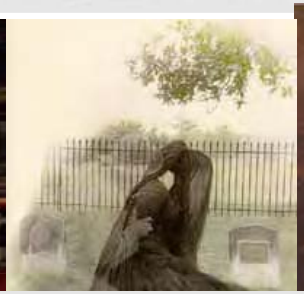
7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

HUMAN VIOLENCE AND WAR



In the 20th century, an estimated 191,000,000 people lost their lives directly or indirectly as a result of conflict . . .

Ea[illegible]s a . . .well over half were civilians

Many, many times more are physically, psychologically, or emotionally, injured

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

Each year 2.1 million people die from diarrheal diseases associated with poor water.

Globally, 2.6 billion people (40% of the world) do not have access to a toilet and defecate in the open

A flush toilet increases by 60% the chance of a child reaching his/her first birthday

The 1.1 billion people don't have clean water

Half of all deaths under 5 are associated with malnutrition

Malnutrition contributes to 25,000 deaths—mostly children—every day

world are malnourished. Over 153,000,000 are under the age of 5.

54 nations currently do not produce enough food to feed their people and can't afford to import the necessary food

Malnutrition affects both physical and intellectual growth

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

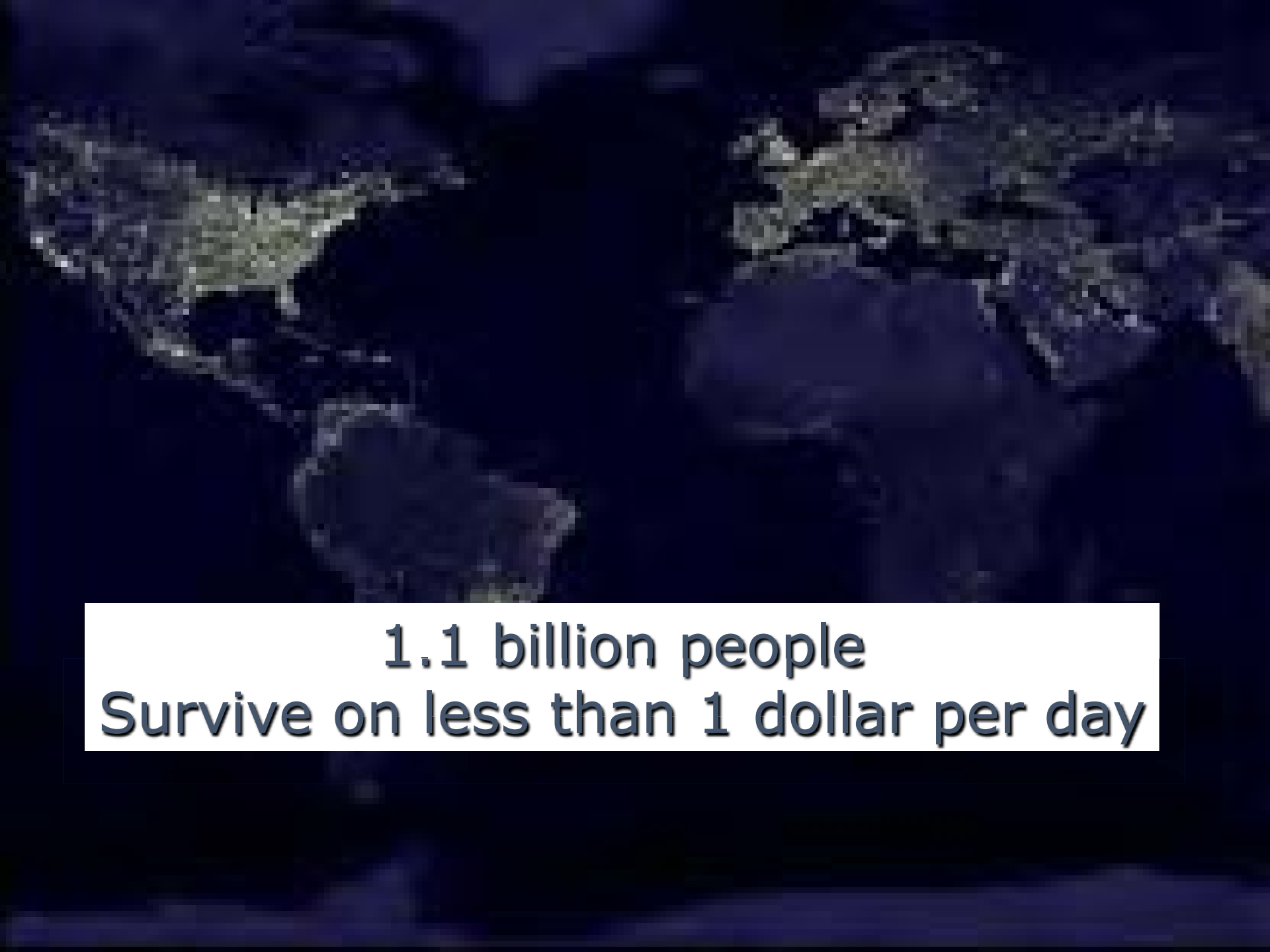
6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)


1.1 billion people
Survive on less than 1 dollar per day

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

Tobacco kills 5,000,000 people a year

. . . more than AIDS, drugs, road accidents, murder, and suicide combined

If current trends continue, there will be one billion deaths from tobacco during the 21st century

Of people alive today –

500,000,000 will die from tobacco

One half will be among people 35 – 69 years of age

10 million cigarettes are sold every minute

having a devastating impact on families, communities, economies

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

Unequal Access to Resources

Poverty

Disparities

Inequality

Resource Gap

Inequity

Third world

Impoverished nations

Developing Countries

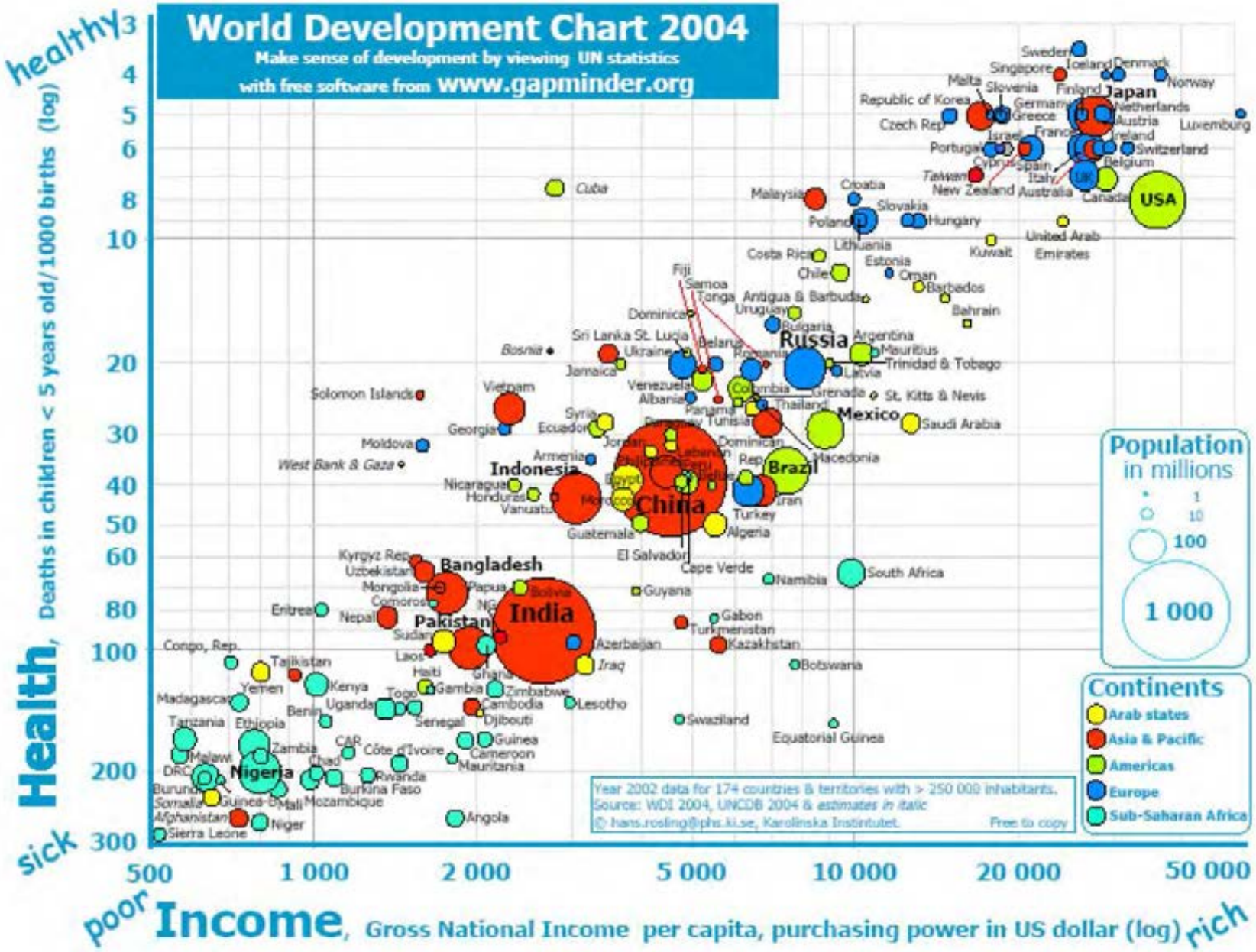
Over a half of deaths to children under five could be prevented with existing low-cost interventions

About 85% of people with AIDS in Southern Africa do not receive needed anti-retroviral drugs

About 80% of people who die from Tuberculosis could have been saved

There is a direct correlation between resources (poverty) and health outcomes

save the lives of as many as 500,000 Africans every year


World Development Chart 2004
Make sense of development by viewing UN statistics
with free software from www.gapminder.org
healthy
sick
Health, Deaths in children < 5 years old/1000 births (log)
poor
Income, Gross National Income per capita, purchasing power in US dollar (log)
rich
500
1 000
2 000
5 000
10 000
20 000
50 000
Population in millions
1
10
100
1 000
Continents
Arab states
Asia & Pacific
Americas
Europe
Sub-Saharan Africa
Year 2002 data for 174 countries & territories with > 250 000 inhabitants.
Source: WDI 2004, UNCDB 2004 & estimates in italic
© hans.rosling@phs.ki.se, Karolinska Institutet. Free to copy
China
India
Indonesia
Brazil
Russia
Pakistan
Bangladesh
Nigeria
USA
Japan
Mexico

There is a direct correlation between resources (poverty) and health outcomes

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

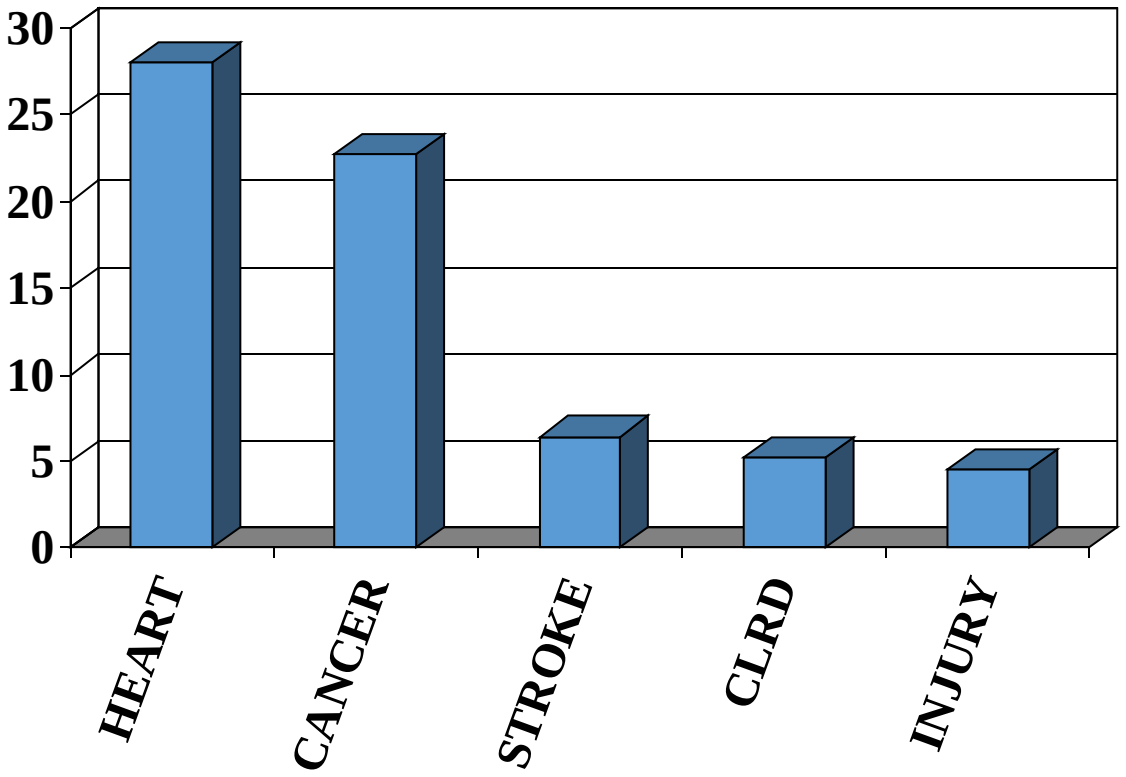
7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

U.S. Cause of Deaths:
All Ages



Leading Causes of Death World-Wide: 2002

12.6%---Ischaemic Heart Disease

9.7%--- Cerebrovascular Disease

6.9%---Lower Respiratory Infections

6.7%---5 Leading Types of Cancer

4.8%---HIV/AIDS

4.8%---Chronic Obstructive Lung Disease

4.3%---Perinatal Condition

3.3%---Diarrheal Diseases

2.7%---Tuberculosis

2.1%---Road Accidents

Leading Causes of Death World-Wide: 2002

12.6%---Ischaemic Heart Disease

9.7%--- Cerebrovascular Disease

6.9%---Lower Respiratory Infections

6.7%---5 Leading Types of Cancer

4.8%---HIV/AIDS

4.8%---Chronic Obstructive Lung Disease

4.3%---Perinatal Condition

3.3%---Diarrheal Diseases

2.7%---Tuberculosis

2.1%---Road Accidents

Leading Causes of Death World-Wide: 2002

1.7%---Diabetes

1.6%---Malaria

1.6%---Hypertensive Heart Disease

1.5%---Self-Inflicted Injury

1.4%---Cirrhosis of the Liver

1.2%---Chronic Kidney Disease

1.1%---Measles

1.0%---Violence

Cardiovascular Diseases, including heart disease and stroke, are the world's leading killer, accounting for 16.7 million or 29.2% of total global deaths in 2003.

Around 80% took place in low and middle-income countries

For the first time, the number of overweight individuals around the world rivals the number who are underweight, about 1,700,000,000.

About one in every three men in the world smokes **tobacco**

Between 80,000 and 100,000 kids start smoking every day.

November 14, 2006

East Tennessee State University
College of Public and Allied Health

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

WHY DIDN'T I INCLUDE . . .

Aging

Cultural loss

Corruption/Greed

Emerging Infectious Diseases

Extremist violence

Gender inequalities

International Debt

Lack of Education

Motor Vehicle Accidents

The Unknown

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

LET'S VOTE WITH THE "CLICKERS"—DON'T PRESS ANY BUTTONS YET!

WHICH OF THESE HEALTH PROBLEMS WOULD YOU NOW PUT IN YOUR "TOP THREE"?

DECIDE WHICH THREE YOU THINK ARE MOST IMPORTANT

THEN, WHEN I GIVE THE SIGNAL

AND NOT BEFORE

PRESS THE THREE NUMBERS THAT REPRESENT YOUR "TOP THREE"

DON'T VOTE YET

DON'T VOTE YET

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---"Western Diseases" (heart disease, cancer, obesity)

DON'T VOTE YET—PICK YOUR TOP 3

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---"Western Diseases" (heart disease, cancer, obesity)

VOTE NOW—PICK YOUR TOP 3

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

MY TOP THREE

1---Death of children under 5 years of age

2---Depression/Mental Health

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tuberculosis, and Malaria)

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---“Western Diseases” (heart disease, cancer, obesity)

NUMBER THREE

1---Death of children under 5 years of age

2---Depression/Mental Health

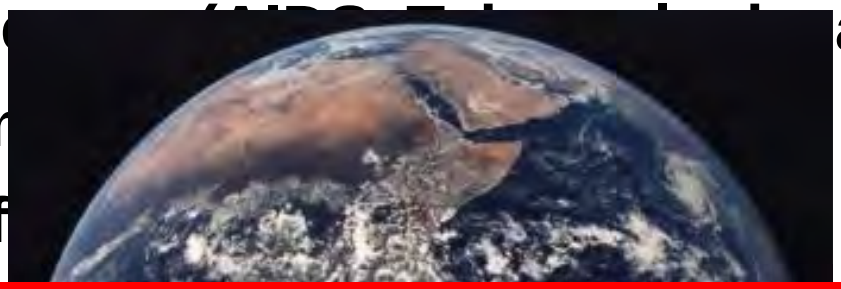
3---Environmental Destruction

#3---Environmental Destruction

4---Epidemic Dis and Malaria)

5---Human Violer

6---Lack of safe f



No one knows how much change in the earth is consistent with human life

9---Unequal acce

10---"Western Di cer, obesity)

NUMBER TWO

1---Death

2---Depr

3---Environmental Destruction

4---Epidemic Diseases (AIDS, Tu

5---Human Violence and War

6---Lack of safe food and water

7---Overpopulation

8---Tobacco

9---Unequal access to resources

10---"Western Diseases" (heart

No one knows how many people the earth can support

#2---Overpopulation

NUMBER ONE

1---Death of children under 5 years of age

2-

3

4

5

6-

7-

8-

9---Unequal access to resources

10---"Western Diseases" (heart disease, cancer, obesity)

IT IS FUNDAMENTALLY WRONG

IT IS SOMETHING WE CAN ADDRESS. . . IMMEDIATELY

THE CONSEQUENCES OF IGNORING THIS ARE SIMPLY TOO GREAT

#1--UNEQUAL ACCESS TO RESOURCES

Inform you about some of the world's leading health issues

Involve you in thinking about these health issues

Motivate you to address these health issues

WHAT CAN YOU DO?

IF YOU WANT TO MAKE A DIFFERENCE . . .

THERE ARE TWO THINGS YOU CAN DO:

ACT—

USE YOUR SKILLS AND PASSION TO

THE CONSEQUENCES OF IGNORING THIS ARE SIMPLY TOO GREAT

ADVOCATE—

USE YOUR SKILLS AND PASSION TO CONVINCE OTHERS TO MAKE A DIFFERENCE

THANK YOU
FOR YOUR ATTENTION
THE CONSEQUENCES OF IGNORING
THIS ARE SIMPLY TOO GREAT

11 22 '02

November 14, 2006

East Tennessee State University
College of Public and Allied Health

THANK YOU