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 address 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

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 DIE. THAT IS MORE THAN THE ENTIRE POPULATION OF KENTUCKY AND TENNESSEE—EVERY YEAR. THAT IS THE SAME AS LOSING HALF OF ALL YOUNG CHILDREN IN THE USA IN A SINGLE YEAR.

1,200 YOUNG CHILDREN DIE EVERY HOUR.

Put another way: In the time it takes to read this sentence... another child has died. Another child has died. Another child has died. ALL THE CHILDREN IN THIS PICTURE... WOULD BE DEAD IN 6 MINUTES.
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)
In the 20th century, an estimated 191,000,000 people lost their lives directly or indirectly as a result of conflict. . . .

Each year, 1,600,000 people die as a result of violence. . . . 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.
Half of all deaths under 5 are associated with malnutrition. Malnutrition contributes to 25,000 deaths—mostly children—every day. Over 153,000,000 people are malnourished. Over 840,000,000 people in the world are malnourished. Over 153,000,000 are under the age of 5. Malnutrition contributes to 25,000 deaths—mostly children—every day. Malnutrition affects both physical and intellectual growth. 54 nations currently do not produce enough food to feed their people and can’t afford to import the necessary food.
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)
Nearly half of all people alive are under 25.

All of the world's fishing stocks will collapse before mid-century, devastating food supplies, if overfishing and other human impacts continue at their current pace.

There is no more water on Earth now than there was 2,000 years ago when the population was less than 3% of its current size.

The world's grain harvest is expected to be 61 million tons short of consumption. Production has failed to meet demand in six of the last seven years.

It may rise to 9 billion by 2050.

We will add more people in the next 50 years than in the first 500,000 years of human history.

No one knows how many people the earth can support.

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

Year 2002 data for 174 countries & territories with > 250,000 inhabitants. Source: WDI 2004, UNCD 2004 & estimates in italic © Hans Rosling@phs.ki.se, Karolinska Institutet

Free to copy
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
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.
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)
November 14, 2006

East Tennessee State University
College of Public and Allied Health

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)
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
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)

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

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)

No one knows how many people the earth can support.
NUMBER ONE

1. Death of children under 5 years of age

   IT IS FUNDAMENTALLY WRONG

2. Environmental Destruction

   IT IS SOMETHING WE CAN ADDRESS... IMMEDIATELY

3. Lack of safe food and water

4. The consequences of ignoring this are simply too great

5. Unequal access to resources

6. "Western Diseases" (heart disease, cancer, obesity)
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