MEASURING THE HUMAN COST OF WAR: DILEMMAS & CONTROVERSIES

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OBJECTIVES

Part 1:

- *Define direct and indirect (or excess) deaths*
- *Define 3 existing epidemiological models*

Part 2:

- *Discuss challenges in measuring the human cost of war*
- *Discuss the dilemmas, controversies, and future expectations in defining the epidemiology of modern day conflict*

COMPLEX EMERGENCIES

- *Politically motivated disasters with high levels of violence and civilian deaths*

- *20th Century: More killed by own country than outside forces*

- *Outmoded UN Charter that does not adequately address internal conflict and genocide*

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COMPLEX EMERGENCIES

- *Primary emphasis on battle-related deaths… which drives intervention*

- *As mortality declines so does outside interest & relief aid*

- *<u>Current assumptions:</u>*
  >Low cost humanitarian aid can reduce these to pre-war levels, or better, within 4-6 months

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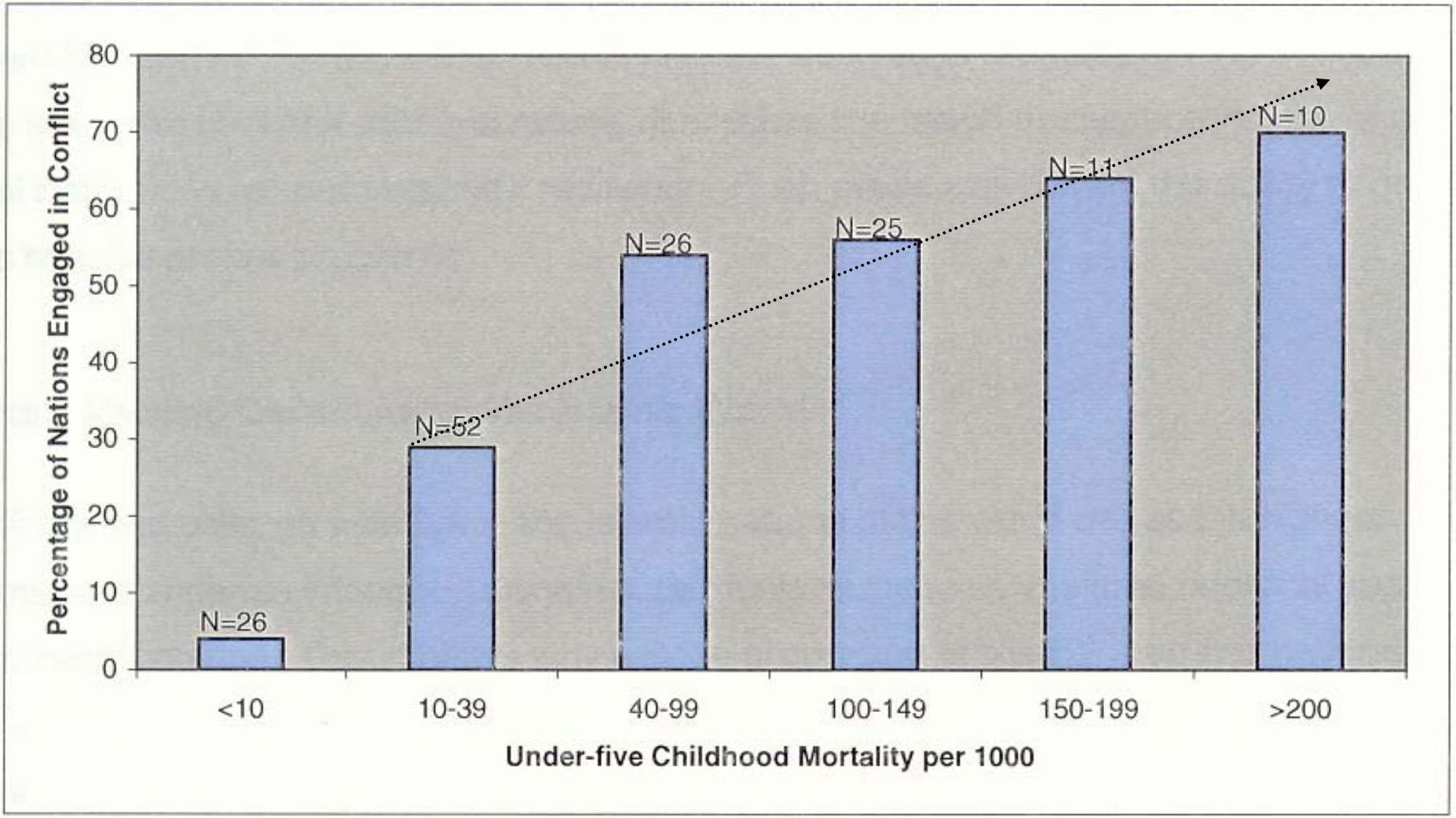
MEASURING DIRECT & INDIRECT DEATHS

Key Quantitative Indicators

- *Land & Look…Walk & Talk…followed by population-based cluster sampling*
- *Under age 5 mortality rates (U5MR)*
- *Crude mortality rates*
- *"Excess mortality"*

Figure 1. Relationship Between Under-five Childhood Mortality (per 1000) and Armed Conflict During the 1990s.



Reproduced from Hotez (2001).[3]

COMPLEX EMERGENCIES

- *Great majority of losses are "indirect" deaths, or "excess" mortality*

- *Deaths that would not have occurred without the conflict; due to:*

  1. breakdown of health & social services
  2. mass displacement of populations & overcrowded conditions
  3. impossibility of continuing local livelihoods

- *Indirect deaths are a form of collateral damage*

INDIRECT DEATHS

- *Except for a few countries, the humanitarian community has no idea of worldwide extent of indirect deaths**
- *No existing armed conflict datasets measure indirect death toll **
- *No one held accountable for war-exacerbated deaths*
- *<u>Indirect deaths</u> rarely subject of political attention: remain unseen, uncounted, & unnoticed*

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*Human Security Centre
Concept Note: 2006 Ottawa

CONTRIBUTING FACTORS

COMPLEX EMERGENCIES

Direct Effects

- *Injuries/Illness*
- *Deaths*
- *Human rights abuses*
- *International Humanitarian Law abuses*
- *Psychological stress*
- *Disabilities*

Indirect Effects

- *Population displacement*
- *Disruption of food*
- *Destroyed health facilities*
- *Destroyed public health infrastructure*
- *Destroyed livelihoods*

Complex Emergencies: Lethal Mix of…

- *Inequalities*
- *Poverty*
- *Injustice*
- *Cultural incompatibilities*
- *Ignorance*
- *Racism*
- *Oppression*
- *Religious fundamentalism*

ALL ADVERSELY INFLUENCE THE PUBLIC HEALTH…

Epidemiological Models of Complex Emergencies

- *Developing country model:*

  E.g. Angola, Somalia, Liberia, Congo

- *Developed country model:*

  E.g. Former Yugoslavia, Iraq

- *Chronic/smoldering country model:*

  E.g. Haiti, Sudan, Palestine

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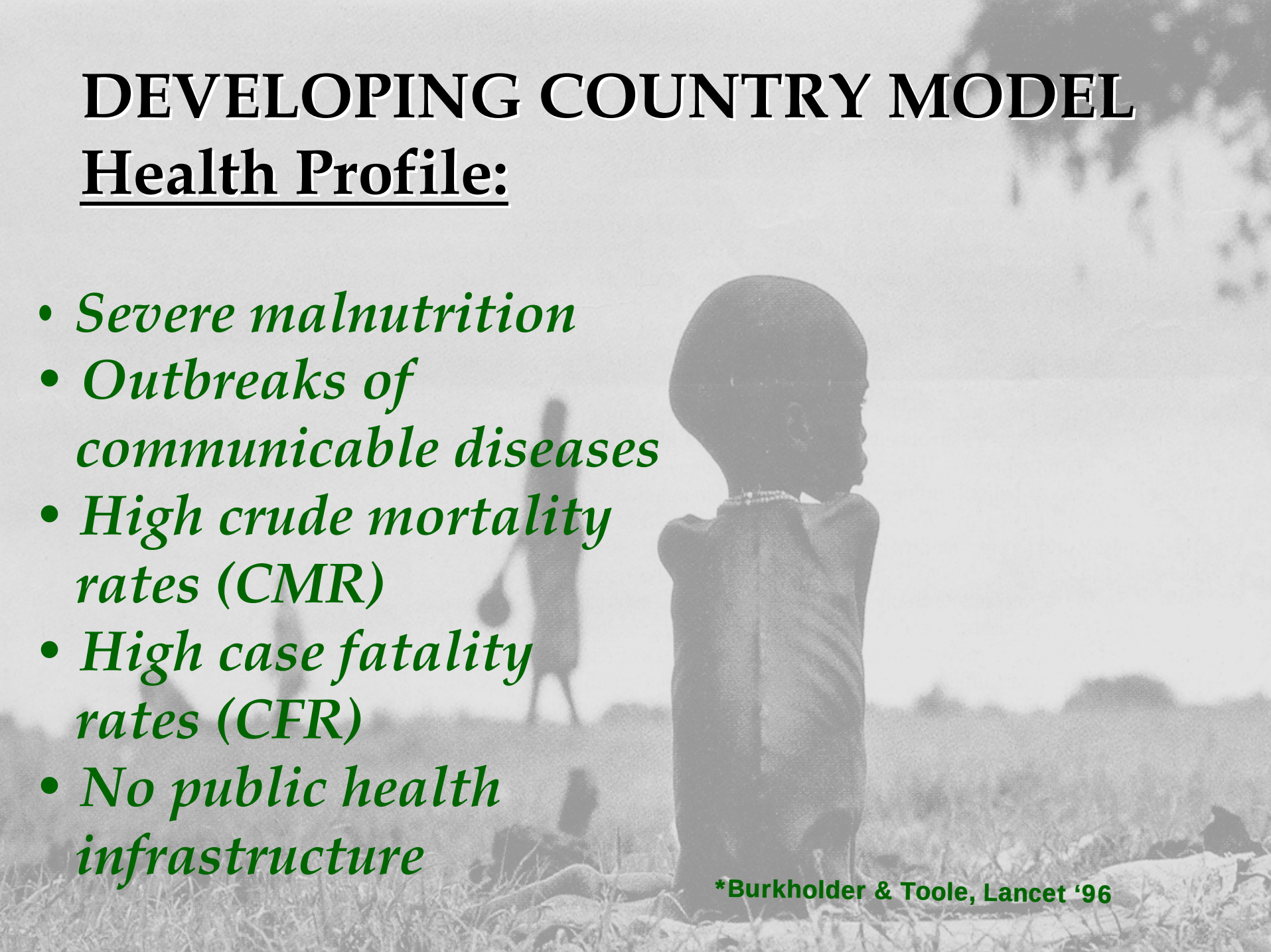
DEVELOPING COUNTRY MODEL

DEVELOPING COUNTRY MODEL

Health Profile:

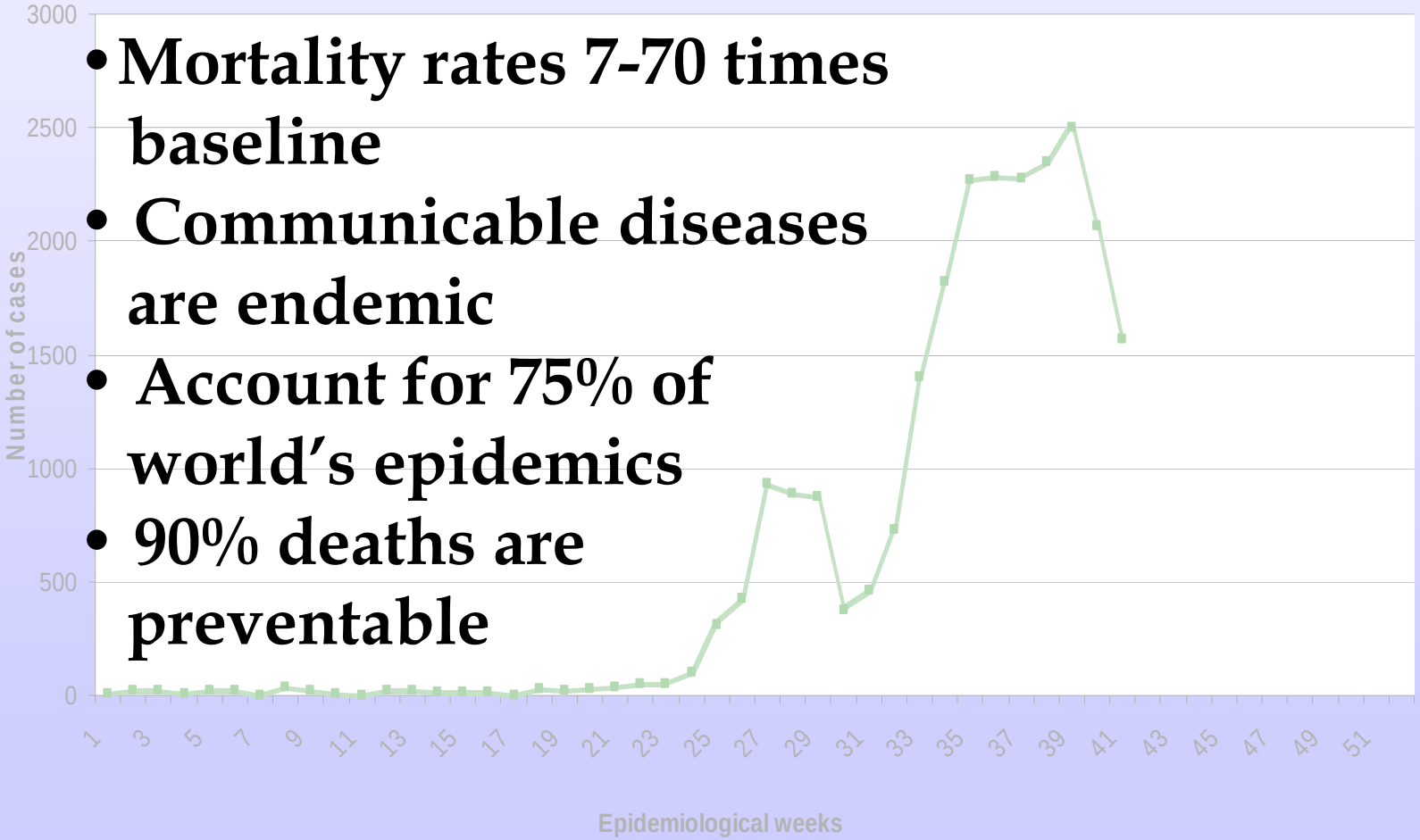
- *Severe malnutrition*
- *Outbreaks of communicable diseases*
- *High crude mortality rates (CMR)*
- *High case fatality rates (CFR)*
- *No public health infrastructure*



*Burkholder & Toole, Lancet '96

DEVELOPING COUNTRY MODEL

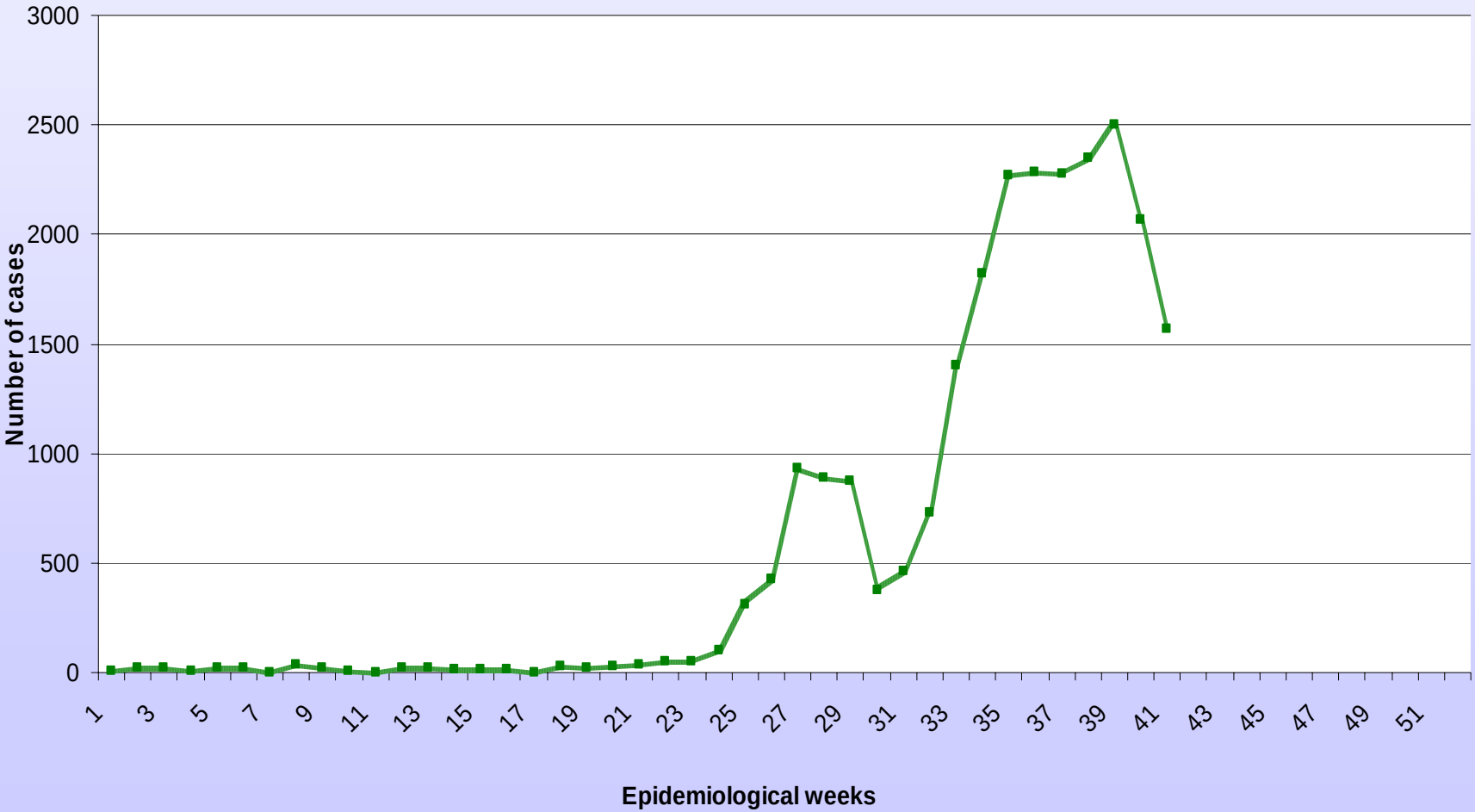
Figure 1 Cholera cases in Monrovia, Parts of G.Bassa, Margibi & Bong Counties



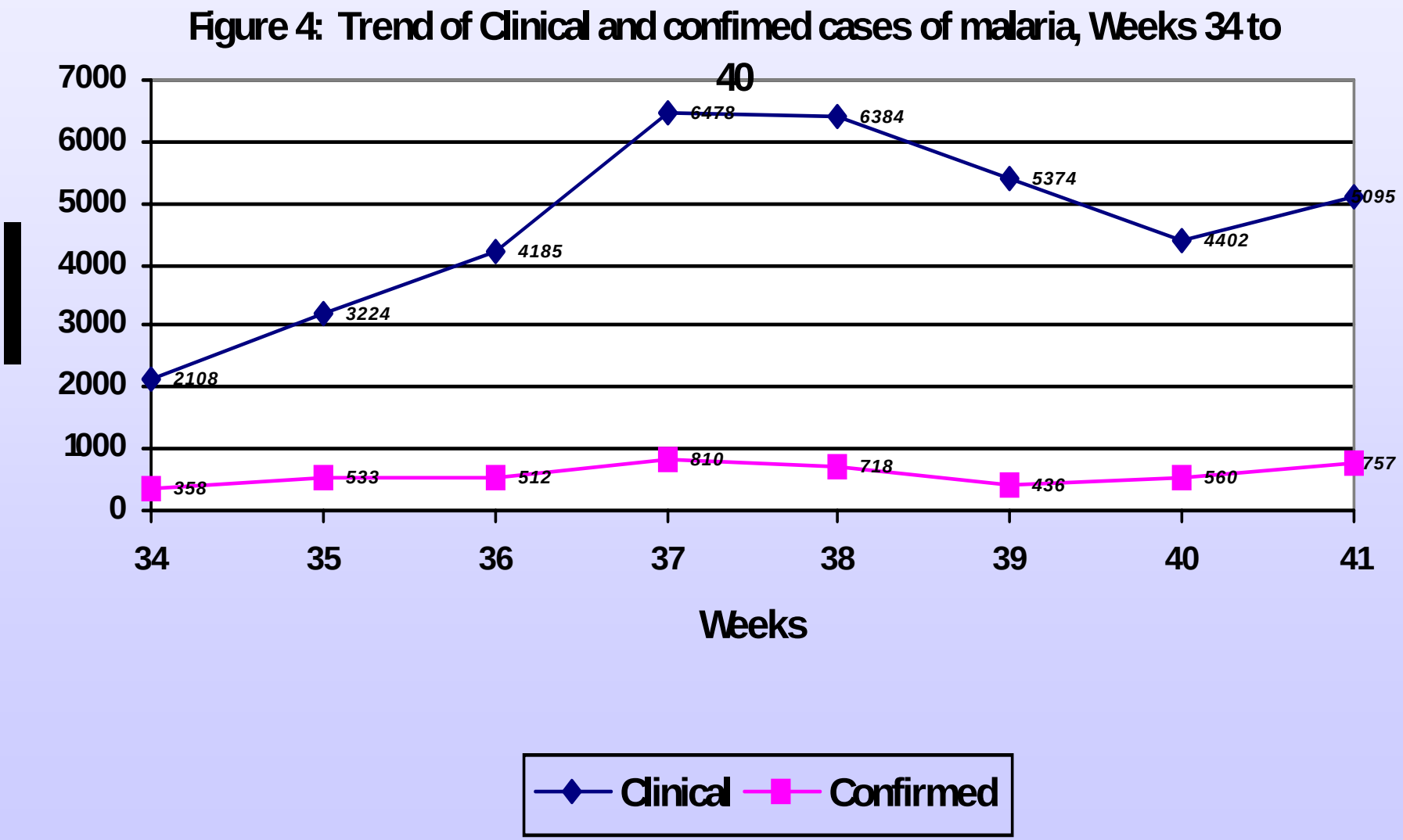
- **Mortality rates 7-70 times baseline**
- **Communicable diseases are endemic**
- **Account for 75% of world's epidemics**
- **90% deaths are preventable**

CHOLERA IN LIBERIA: 2003

Figure 1 Cholera cases in Monrovia, Parts of G.Bassa, Margibi & Bong Counties



MALARIA IN LIBERIA: 2003



Epidemiology: Eastern Congo-February-April 2001*

- *Assessment challenges: Few demographics, hostile territory with rapidly moving and easily lost populations*

- *2.5 million excess deaths (CI: 2.0-4.0)*
  > Only 10% deaths due to war related violence
  > Remainder are preventable: diarrhea, malnutrition, malaria

- *75% of children born during 2001 will die before age 2 years*

Roberts L: IRC, NYC

DEVELOPED COUNTRY MODEL

DEVELOPED COUNTRY MODEL

- *Occur in relatively healthy populations*
- *Baseline demographic & disease profiles of Western countries*
- *Trauma mortality rates > 1.1/10,000/day from war-related advanced weaponry*
- *Age and gender related mortality increases during times of targeted ethnic cleansing*

DEVELOPED COUNTRY MODEL

- ***Excess mortality from untreated chronic diseases***
- ***High rates of elderly with under nutrition***
- ***Rape, psychological traumatic exposures common***
- ***<u>Very few epidemics</u>***

Developed Country Model

War and mortality in Kosovo:*

- *Crude mortality rates increased 2.3 times over pre-conflict baseline*
- *Peaked during times of "ethnic cleansing "*
- *Males over age 50 were 3 times more likely to die of war-related trauma*
- *Evidence used in Hague war crimes tribunal*

***Spiegel P & Salama P: Lancet 2000**

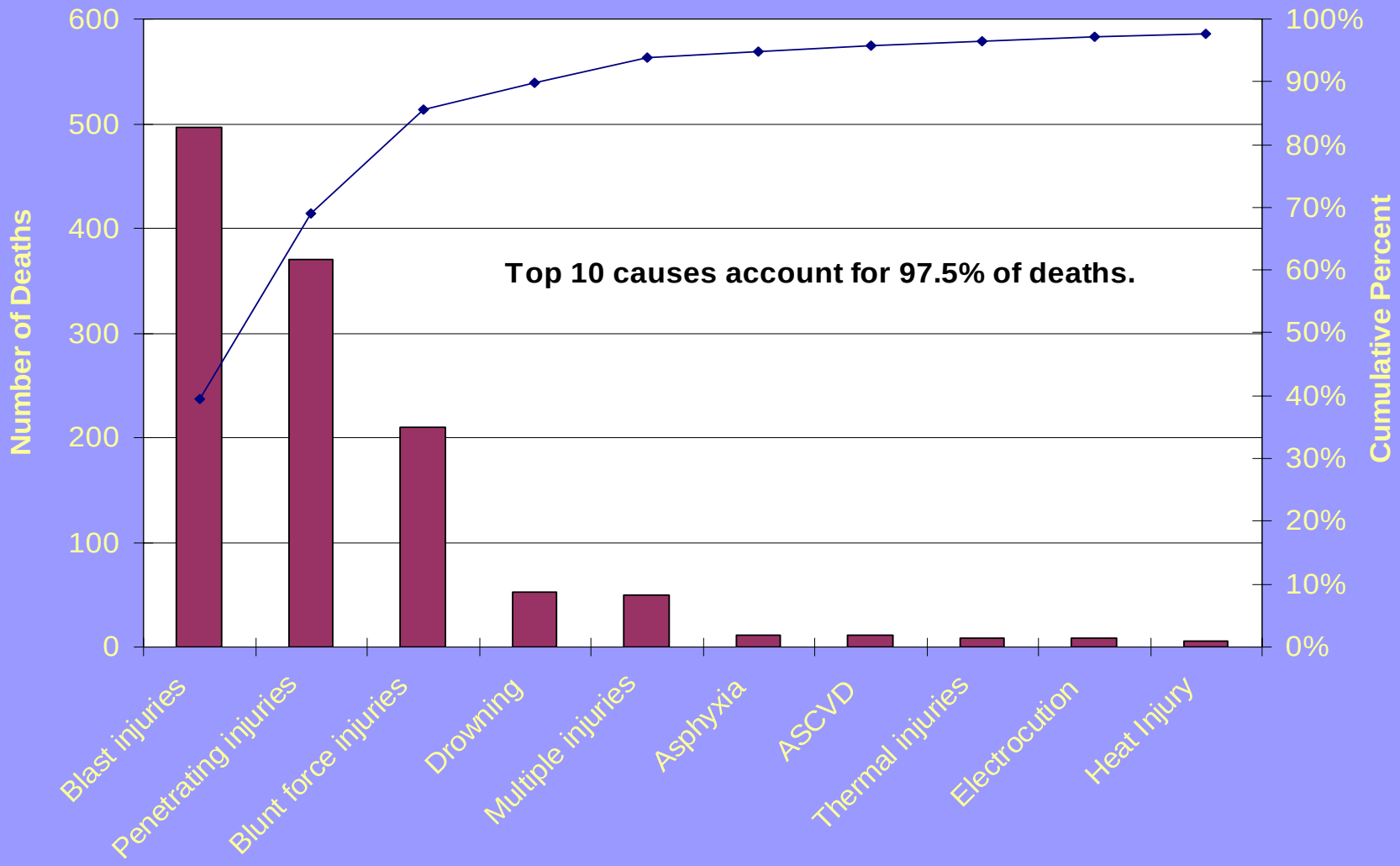
IRAQ PLANNING

- ***Some critical indicators suffered decline over previous 10 years:***

- ✓ ***Infant mortality rates: 47.1 to 108*** *(per 1000 live births)*
- ✓ ***Under age five mortality rates: 56 to 131*** *(per 1000 live births)*
- ✓ ***Acute malnutrition: 3.6% (1991) to 11% (1996) to 4.1 % (2002)***
- ✓ ***Increase in reported cases of :*** *TB, cholera, typhoid fever, amoebic dysentery, giardiasis, leishmaniasis, malaria*

Top 10 Causes of OIF Deaths

3/19/2003 – 11/30/2004



Change in the Nature of Conflict: Iraq

- *Major shift from civilians dying from Coalition action to Insurgency action**

- *2003:*

  coalition-related deaths / non-coalition deaths = 4 / 1

- *2006:*

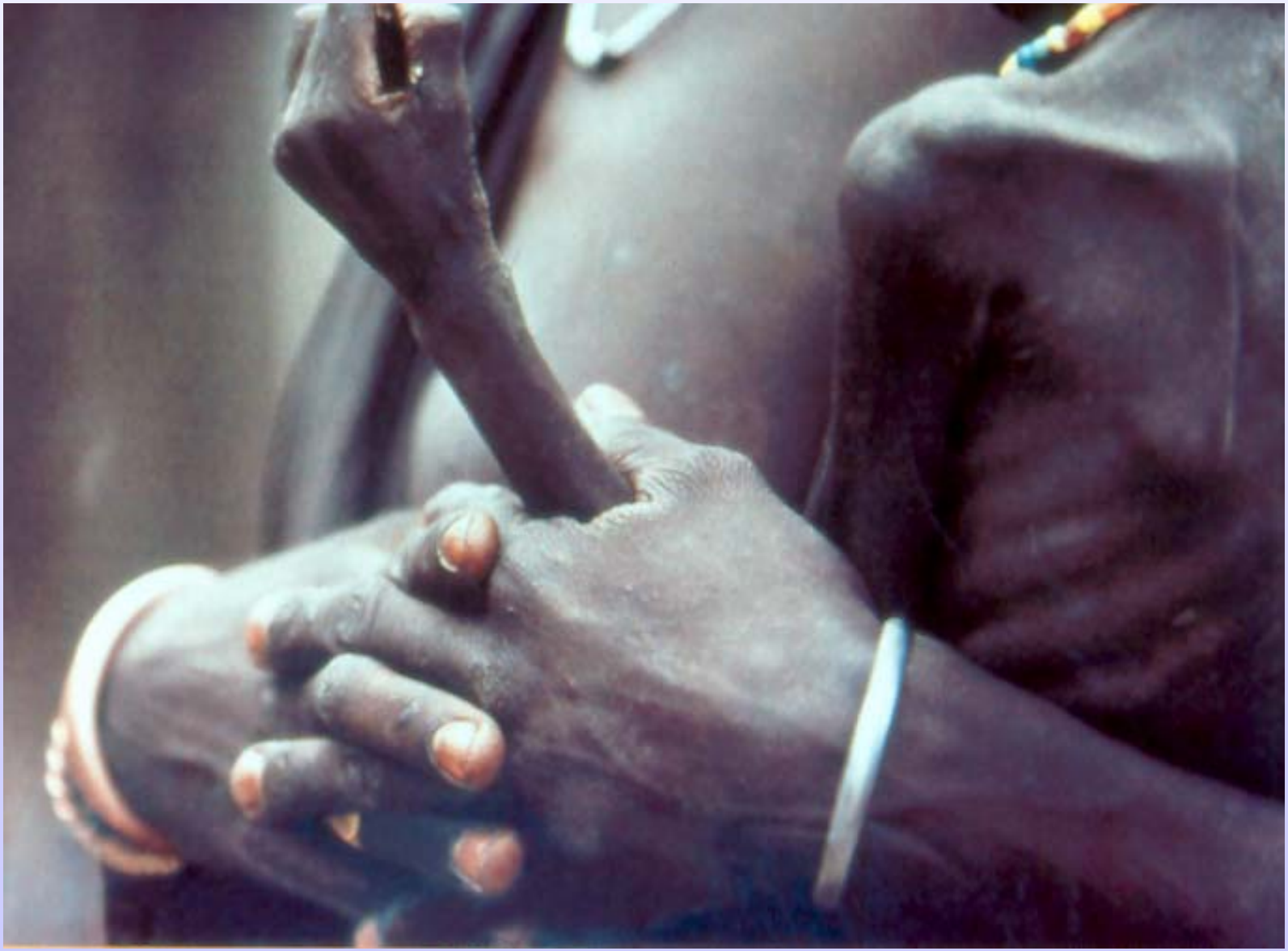
  coalition-related deaths / non-coalition deaths = 26 / 30

**Sapir: The Lancet, 2007*

SMOLDERING COUNTRY MODEL

CHRONIC/SMOLDERING COUNTRY MODEL

- *Children grow up chronically malnourished*
- *Children only know a culture of violence*
- *Little access to healthcare and education*
- *Struggle to sustain health services*
- *Only expatriate healthcare*
- *Reproductive health considered a luxury*



SUDAN: *ACUTE WAR CONSEQUENCES*

- *2 million Internally Displaced Populations - (IDPs)*

- *Darfur IDPs:*

  > **MR = 16-18+ times the baseline**

  (MSF 2004)

  > **Violence: 49% of total mortality (over 3 months)**

- ***Excess mortality: 650,000** (IRC: Jan 2003- April 2004)*

CHRONIC/SMOLDERING COUNTRY MODEL

- *Initial Gaza-West Bank (1998-2003 studies) all exposed chronic malnutrition & macro-& micro-nutrient deficiencies*
- *Environmental degradation high*
- *Haiti's forested areas: 2%...Is this a development or emergency situation?*

DILEMMAS, CONTROVERSIES, & FACTORS THAT INFLUENCE DATA

COMPLEX EMERGENCIES

- *Nature (and epidemiology) of armed conflict has changed substantially over past 15 years*

- *Data suggests we don't fully know the long-term impact of various forms of political violence*

- *We have glimpses of…but do NOT know the epidemiology of modern day conflicts*

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STUDIES SUGGEST

- *Measures to protect civilians require new protocols and approaches...no longer fit evolving conflicts*

- *In absence of epidemiology, the consequences of war are left to an inexact process of estimates by political scientists and military analysts**

- *Yet, 'countries in crisis' have not changed…and mortality & morbidity continue after the shooting has stopped*

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Concept Note: 2006 Ottawa

International Crisis Group

- *Serious Hotspots: 75 (December 2006)*

  Deteriorating: 14 of 75

  Improving: 3 of 75

- *Hunger climbed 18%*

  850 M without food for basic health

- *Agricultural and public health infrastructure has declined over past 2 decades*

SECURITY

- *Viet Nam:*
  - *> MILPHAP training program built capability*
  - *> Provincial medical personnel earmarked for assassination*

- *Sadr: 1/3 of hospitals immediately came under his control:*
  "Control social & medical services, control the hearts &minds"

- *Military Security briefs for war not compatible for HA*

- *Response: 'Unprepared and at times overwhelmed'**

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**Center for Managing Security in Transitional Societies*

EXCESS MORTALITY STUDY: IRAQ

- *Population-based Cluster Sampling*
- *Confidence Intervals (CIs) scare & disorient people...but somewhere in between is the valid number*
- *'Baghdad Centric' studies when Baghdad is only 1/5th of the population*
- *Need to translate difficult concepts into "simple speak"*
- *Indirect deaths from non-violent causes increased from 2005-06: Alarming trend*

EXCESS DEATHS STUDIES

- *Mortuary counts have role in sentinel surveillance…but NOT National estimates!*
- *Can't berate the military for not counting bodies…it is not their mandate…*
- *…but it should be someone's*

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What Happens When the Shooting Stops?

Worsening:

- *Access to healthcare*

- *Suicide, depression, alcohol & drug rates:*
  Out of work males & IDPs in camps; & Croatia, Afghanistan, Katrina studies

- *Increase in Gender Based Violence (GBV):*
  Intimate partner rates as marker of community breakdown & economic/physical insecurity (DRC, Iraq, Katrina)

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What Happens When the Shooting Stops?

Worsening:

- *Number of girls in school:*

  Last to go to school especially in insecure environments; or used to help support family; delayed enrollment correlates with high child mortality rates

- *Dengue fever marker of urban decay:*

  Governance and economic decline… lack of trash pickup

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The Postwar Public Health Effects of Civil Conflict*

Using DALYs lost from various diseases & conditions by age & gender:

- *Greatly raise risk of 'death and disability' from infectious diseases*
- *Increase risk through breakdown of norms & social order*

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*Ghobarah, Huth, Russett

The Postwar Public Health: CHARACTERISTICS*

- *Women & children most common long-term victims*
- *Increases both in country at war… and in contiguous countries*
- *Increases in casualties far exceed the immediate loses from the civil war*

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*Ghobarah, Huth, Russett

The Postwar Public Health Effects of Civil Conflict*

- *'Decay' function extends up to 10 years after each civil war*

- *CE-DAT Mortality Surveys (1999-2005)*
  Indirect deaths:

  > Conflict = 71%
  > 6 month transition period = 83%
  > Drops to 45% in late 20002

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*Ghobarah, Huth, Russett

INDIRECT DEATHS: POST-CONFLICT

- *What does restored health status really mean?*
- *Declining mortality or mortality & morbidity?*
- *Does the measure accurately uncover the functional causes for indirect M & M?*
- *Is there enough absorbing & buffering capacity to prevent a slippage back?*

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INDICATORS

- *Indicators for outcome (impact) & function*

- *Outcome indicators are concrete; functional have some abstraction:*
  Ex: Basic food for health (functional) causing death (outcome)

- *Functional indicators more important for indirect mortality & morbidity*

- *Both need to be better defined…with definitions universally accepted*

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INDICATORS

- *Humanitarian Community: Outcome indicators*
- *Political-military and private sector have steadfastly maintained a non-evidence based approach by using achievement indicators*
- *Conflict between military definitions (e.g., measures of effectiveness) and those of State Department & USAID*

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FACTORS THAT INFLUENCE DATA

- *International NGOs:*

  > Focus on beneficiaries in certain sectors (e.g., food, water/sanitation, health, shelter)

- *Human Rights NGOs:*

  > Take on a legal issue & interview individuals at length (focus on the trees without judging the forest)

- *Academia:*

  > Prevalence of health issues in a population (in the forest…they estimate the trees)

- *Military/Private Sector:*

  > Focus on completion/achievement of a mission (build clinics/MRE delivery) which more often provides form before function

FACTORS THAT INFLUENCE DATA

- *Tension between human rights monitoring & public health monitoring*
- *Human rights monitoring requires names, dates, and witnesses for confirmation*
- *Public health approaches require population based truth which almost always involves pledges of confidentiality and lowering the threshold of certainty*

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*Human Security Centre
Concept Note: 2006 Ottawa

FACTORS THAT INFLUENCE DATA

- *Public health estimates of rape based on confidential interviews will always be higher than police reports*

- *Parties to a conflict (e.g., military PH teams) cannot and should not be doing such work and making pledges of confidentiality which their superiors will at some point betray*

- *Need for an international monitoring mechanism is critical…as occurs in ICRC and prisons*

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Concept Note: 2006 Ottawa

WHO: HEALTH WORKER CRISIS

- *57 countries facing healthcare worker crisis*
- *Sub-Saharan Africa: 11% of world's population, 24% of world's burden of disease, 3% of health workers*
- *Ex: Liberia (2003): 24 "physicians"…only 10 actually had medical degrees*
- *Evidence suggests that burden of intentional & unintentional injuries is rising, particularly in Sub-Saharan Africa & Middle East*

Surgical Burden of Disease

- *Surgical burden of disease approaching 50% of overall mortality*
- *Increasing due to late referral, severe shortage of surgical & anesthetic services*
- *Increasing use of non-doctors with technical skills, supervised by primary care physician*
- *Routinely NOT considered part of Public Health model*

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Surgical Burden of Disease

- *Researchers using DALYs see surgical burden of disease as a marker of social inequality & exclusion*

- *Highest in SE Asia, Western Pacific & Africa*

- *Obstetrical complications requiring surgery far higher in Africa*

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GLOBAL DISASTERS*

- *Global responses, too often, have been imperfect, ad hoc, and politically motivated*

- *Public expects equity, transparency and accountability in global health and humanitarian assistance*

- *'Expectations' have been driven by universal internet access (e.g., Indian Tsunami and Pakistani Earthquake)*

**Burkle: Globalization & Disasters: PH, State Capacity & Political Action J. of International Affairs, 2006*

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RESPONSE PATTERNS SINCE GLOBALIZATION:

- *United Nations and Red Cross Movement led humanitarian missions are now rare*

- *Indian Ocean Tsunami: US led coalition purposely bypassed UN & Red Cross*

- *Currently dominated by: US Military-Political command, the World Bank, corporate contractors, and like-minded NGO*

- *Military led disaster operations referred to as the "relief and reconstruction complex"*

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*Bello: The Rise of the Relief-and-Reconstruction Complex, *Journal of International Affairs*, 2006

Lessons Learned

- *Humanitarian work has become politicized and militarized*

- *"No one humanitarian voice"...strengthened multilateral core that cuts across emergencies and development in funding & action**

- *"Public health must take precedence over politics…nor be driven by political motives"***

***Smillie & Minear: 2003: CRED**
****Burkle, BMJ, 2000**

Lessons Learned

- ***Public health must be seen as a strategic & security issue… that deserves an international monitoring system***

- ***Urgent need to develop an epidemiology of conflict which can add science to understanding the human cost of modern day war & conflict***

FUTURE

Disasters, in the future, may be divided into:

- *Disasters occurring in countries economically interdependent with economic powers which will receive robust relief that rapidly recovers the economy*

- *Disasters in poor countries will depend on fragile UN, UN Agencies, and Red Cross/Red Crescent led response…with limited funding and equipment*

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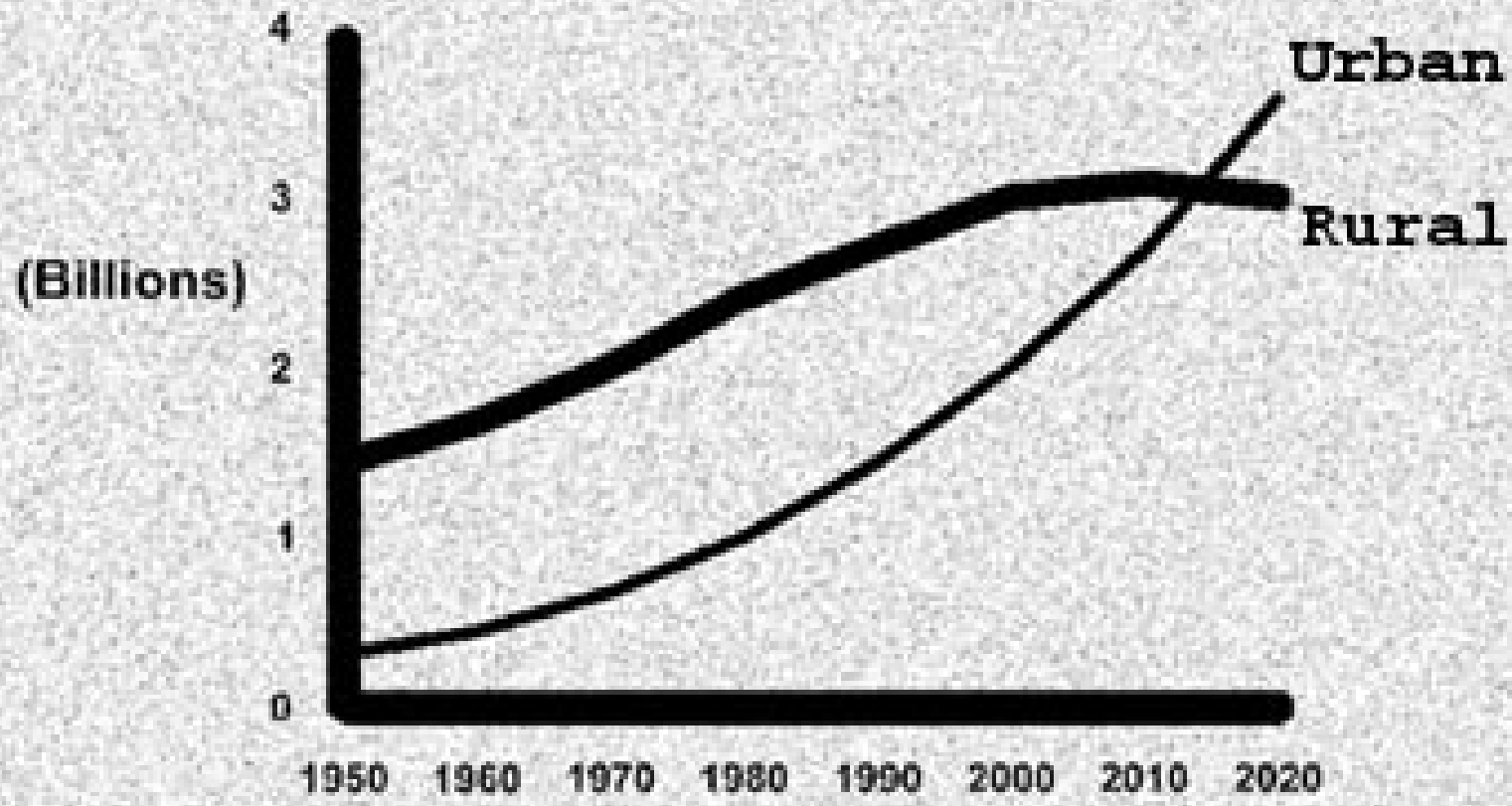
In the developing world, rural populations will exceed urban for another 20 years



Source: International Food policy Research Institute, based on United Nations data.

FUTURE

- *Redefining "public health"*

- *Mortality/morbidity dependent on:*
  - *> infrastructure*
  - *> moral integrity of governments*
  - *> capacity to provide sustained security*

- *Not prepared to protect the urban public health infrastructure*

PUBLIC HEALTH INFRASTRUCTURE

MULTISECTORAL INFRASTRUCTURE ASSESSMENTS

INFRASTRUCTURE MAY NOT BE WHAT YOU THINK IT IS

What Defines the Conflict Zone & What Does it Look Like?

- *Requires Geo-referencing data using GPS*
- *Requires qualitative & quantitative PH data built in*
- *Defined by:*

  > population characteristics?

  > where geographically violence is occurring?

  > <u>human security indicators</u> (wide range): e.g.:

  1. *kids not attending school*
  2. *kids not getting food*
  3. *markets not functioning*

- *Requires fairly accurate population estimates*

QUESTIONS?