The burden of chronic disease and the need for evidence

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Outline

- The Burden
- Monitoring
- Evidence
- Social-cultural determinants

Critical areas that relate to the Burden of CD

- Surveillance and Response
- Public Health Infrastructure and Capacity
- Determination of Evidence
- Disease Prevention and Control
- Health Promotion

Health Promotion argues that "Context is everything" – world like/unlike us relationship to burden and health promotion

- Cultural differences
- Economic differences
- Our assumptions
- Historical development of International Health

Cultural Models in International Health

- "Int'l Health" is an amalgamation of diverse groups with different goals, values, political economies and cultural models

Contemporary Themes

|	
Global Health Policy	**Relief / Emergency Aid**
Epidemiology and Research	Health Interventions / Community Development

Continued tensions: disease *vs* health: "burden" not a good fit?

- Disease-specific short-term interventions *vs. sustained* and complex community and health development

- Disease control more attractive "sell" for funding
  - focused, time limited, <u>results oriented</u>
  - does not question the pre-existing social structure

Changing Partners

- WHO
- International Agencies

- NGOs
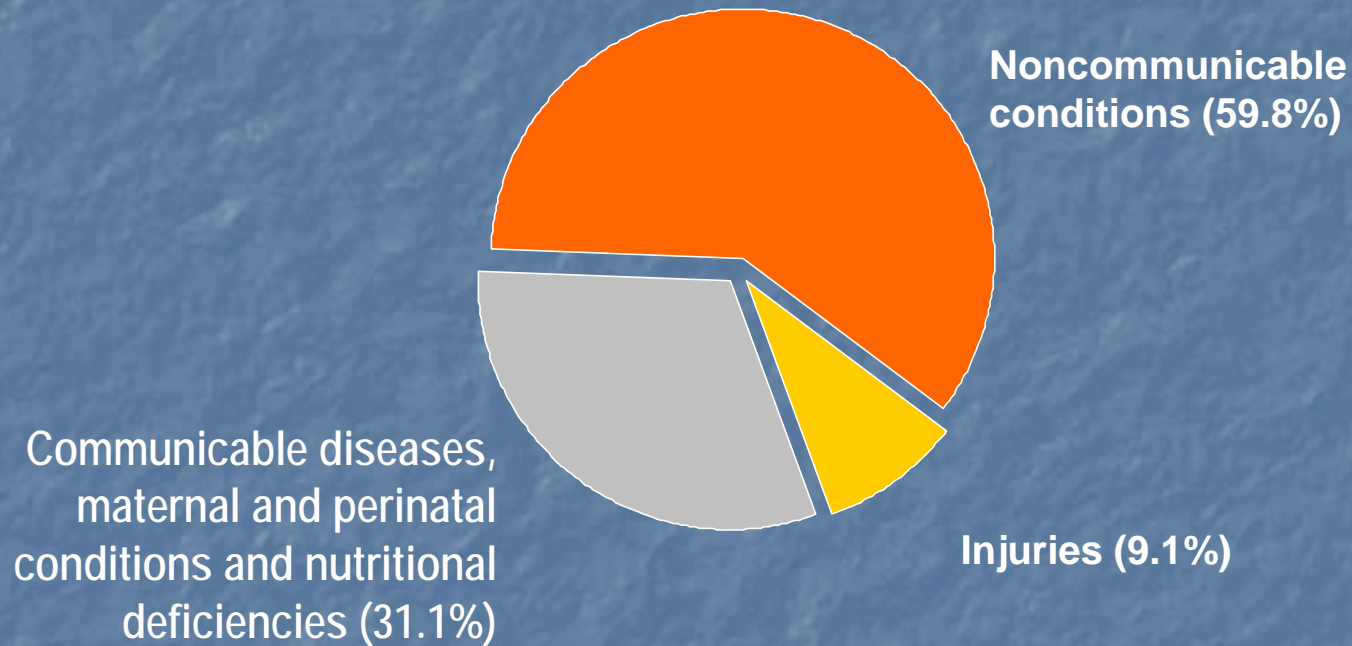- Private Foundations
- Bi-laterals
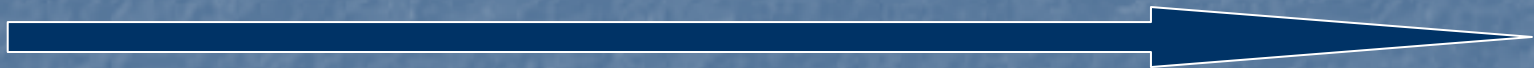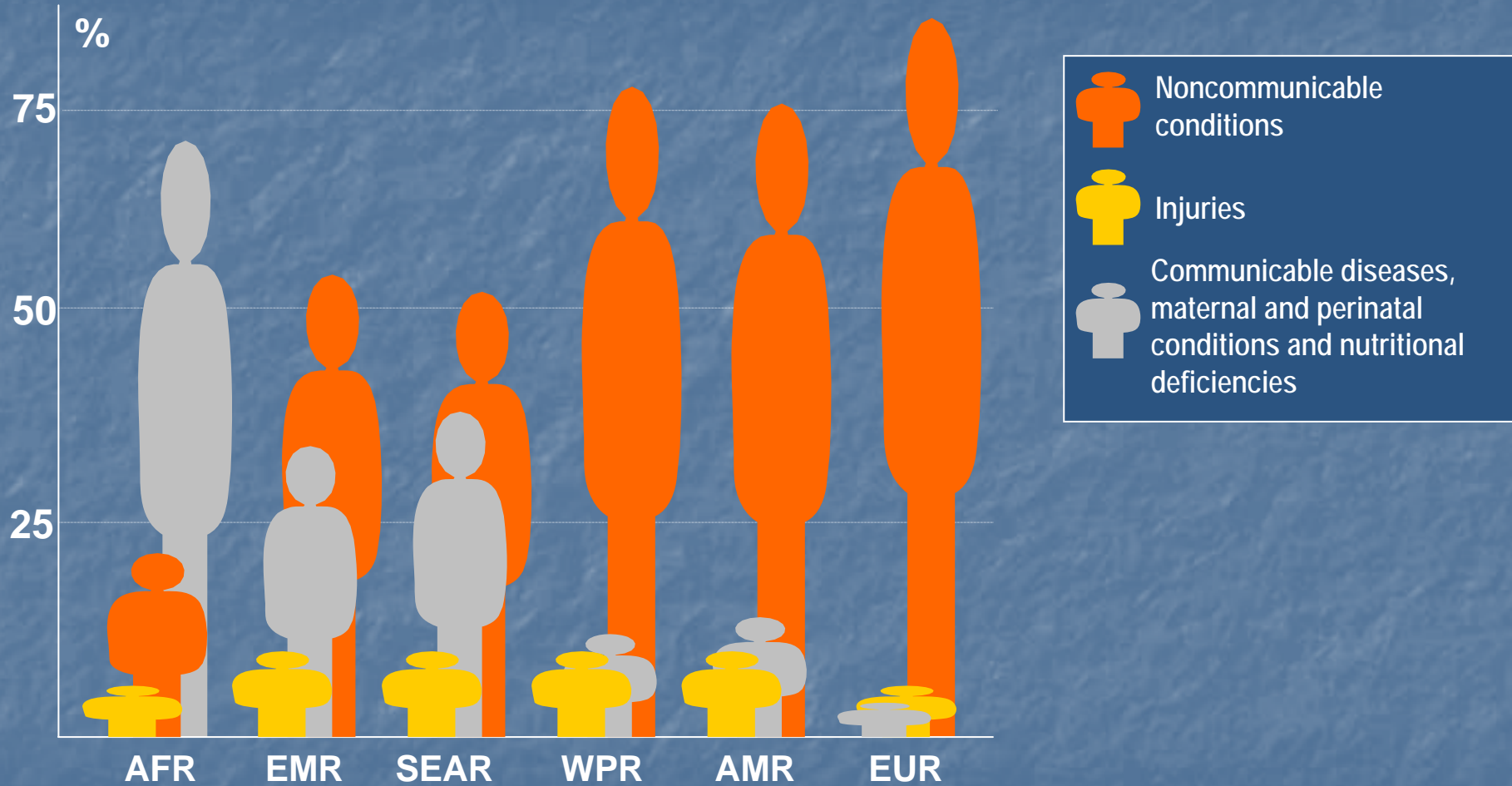
Time

Defining Areas of Global Work

- By geography – nation, area, region,
- By content – risk factors, public health subjects, diseases, social determinants
- By issues-urbanization, poverty
- By economic development
- By interests – humanitarian, policy
- By burden

Death, by broad cause group, at the beginning of the new millennium
The Planet

Noncommunicable conditions (59.8%)

Injuries (9.1%)

Communicable diseases, maternal and perinatal conditions and nutritional deficiencies (31.1%)
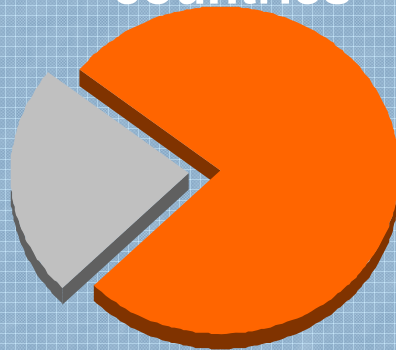
Deaths, by broad cause group and WHO Region, beginning of the new millenium

Low- and middle-income countries suffer the greatest impact of chronic diseases

77% of the total number of deaths attributable to NCDs occurred in developing countries

85% of the global NCD disease burden is borne by low- and middle-income countries
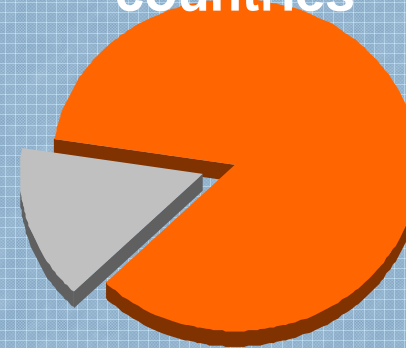
Hot issues
related to burden

- Evidence-effectiveness-efficacy-evaluation
- Capacity building – training
- Social determinants
- Tragedies
- Urbanization
- Globalization

Monitoring
Relating to the burden

- Surveys versus surveillance
- Issues in Surveillance
- Behavioral Risk Factor Surveillance
- Q & A

Surveys ⟷ Surveillance
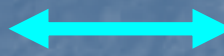
Research driven ⟷ **Public health driven**
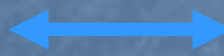
Theory based ⟷ **Atheoretical**

Focuses on categorical health issues ⟷ **Focuses on multiple health issues**
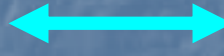
Goes into depth within categorical health issue ⟷ **Looks at broad trends and patterns across health issues**
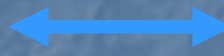
Surveys to not address the change in burden

Surveys ⟷ Surveillance

relationships between behaviors within single health ⟷ **Shows actual changes in behavior**
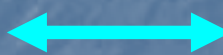
Behind the burden

Results point to the way things were ⟷ **Results point to the way things are and are becoming**
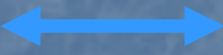
Surveys ⟷ Surveillance

Surveys	Surveillance
Less efficient: re-starting & re-training are required; does not generate capacity building	Ongoing system generates efficiencies with start-up, training, and capacity building
A separate survey is developed to address an emerging health issue	Emerging health issues are integrated into the system fairly quickly
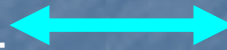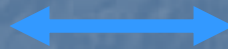
Surveillance builds capacity to Address burden

Issues in continuous data collection, analysis and application in the provision of an evidence base for health promotion to address the chronic disease burden in public health

It is necessary to create, at a local, national and global level a socio-behavioral monitoring system for improving the public health

Essentials of a Sociobehavioral Monitoring System for Health to build evidence of the changing burden

- Þ A theoretical base

- Þ Time as a variable

- Þ A systems approach

- Þ Partnership

A theoretical base

BIG Theories

- Globalization
- Deprivation
- Migration
- Urbanization [a.k.a. sprawl]

<u>Little</u> Theories

- Risk Factors
- Social Determinants
- Lifestyle
- Personal Behavior

There is *dynamic change* in the population

Our concern is with

<u>Change</u>
Time

Two Major Areas of Concern for SMSH

Technical

- Questionnaire
- Sampling
- Data Collection Method
- Analysis
- Dissemination
- Translation

Structural

- Buy in
- Public Health Infrastructure
- Social Science Infrastructure
- Link to Health Promotion
- Sustainable Resources

Global success of Sociobehavioral Monitoring Systems for Health Dependent **Chiefly** on Two Key Factors

- Degree of structural development of countries

- Leadership and responsibilities of agencies engaged

History and Development of Questionnaires Reflects

- The Paradigm shift from disease prevention to health promotion
- Shift back in the causal chain

Behavioral Lifestyle Questions

- Alcohol consumption
- Tobacco use
- Food habits
- Physical activity
- Seatbelt use (safety area)
- Sexual behaviors

Chronic Disease Topics

- Alcohol use
- Tobacco use
- Physical activity
- Nutrition
- Breast cancer
- Cervical cancer
- Colorectal cancer
- Mental health

- Activity limitations
- Quality of life
- Hypertension
- Diabetes
- High cholesterol
- Arthritis
- Cardiovascular disease
- Injuries

Demographics

- Age
- Sex
- Race
- Ethnicity

- Income
- Education
- Marital Status
- Employment

The Great KAP Possibilities

- Risk assessment
- Fear and anxiety
- Civility
- Social capital
- Urbanization

- Road rage
- Commuting
- TV behaviors
- Internet behavior
- Religious practice
- Pill taking

Surveillance

$$\neq$$

Research

**Exhibit 2
Pyramid of Public Health System Preparedness**

Public Health
Response

- Bioterrorism
- Emerging infections
- Other health threats

Essential
capabilities

Surveillance | Laboratory Practice | Epidemic Investigation

Basic
Infrastructure

Workforce Competency | Information & Data Systems | Organizations Capacity
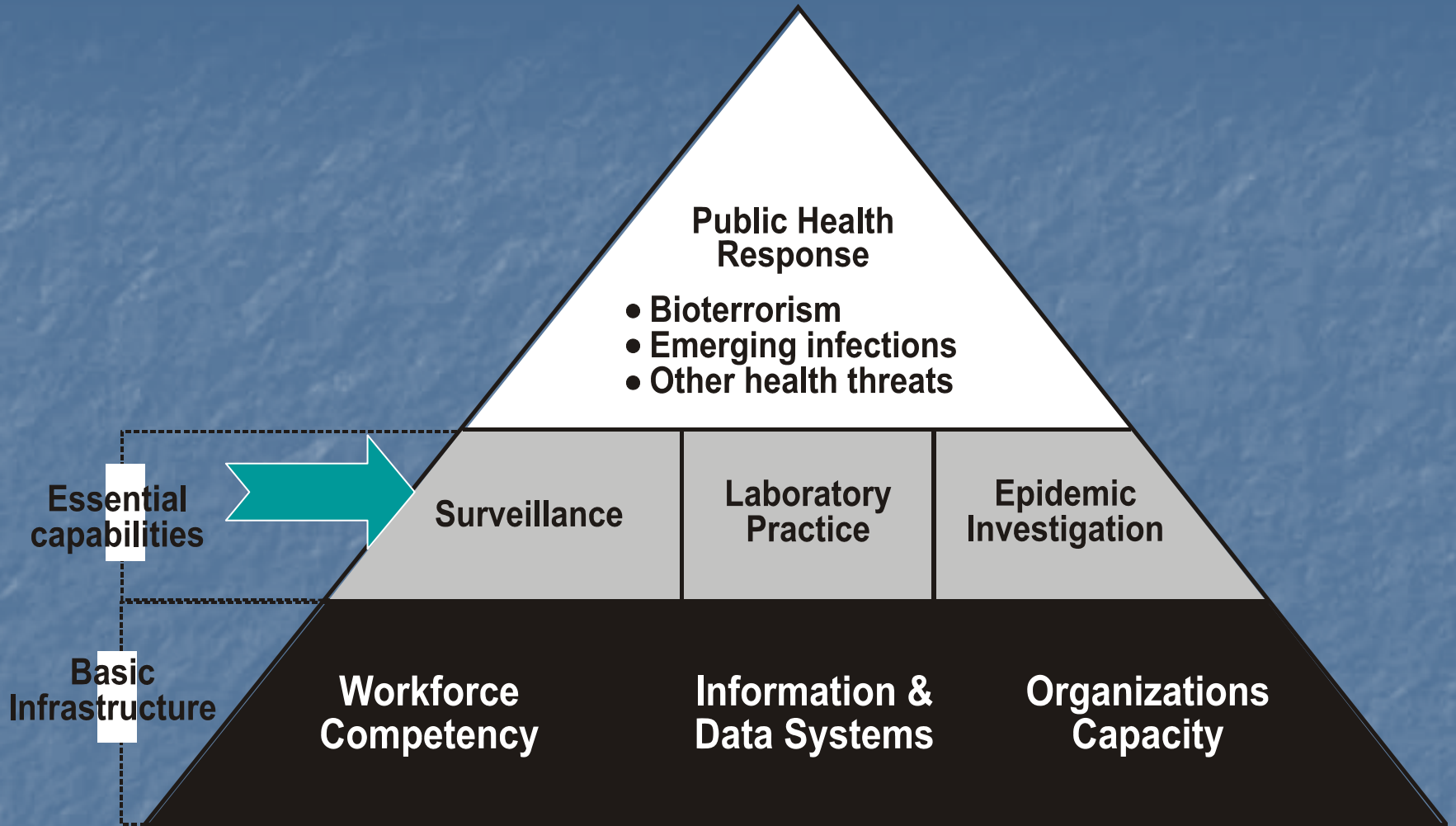
What is needed to build INFRASTRUCTURE?

- Long-term public health monitoring
    - not tied to universities
    - ongoing support
- Level of operation
    - regional, transnational
    - national
    - state, local
- Focal Point
    - organizations (WHO)
    - players, partners

What is needed to build INFRASTRUCTURE?

- "Resource Groups"
  - technical assistance
  - policy analysis
  - dissemination
- Global community
  - added value
- Fit in in-depth surveys

What is the Purpose of Global Surveillance?
Defining question:

- **Infectious vs Noninfectious**
  - **Why India needs to know USA?**
  - **Lifestyle risk factors are infectious**
  - **Global economy e.g., tobacco. Global problems need global solutions**
- **Global = International**

Complexity and Methodology

- Recognition of complexity

- Primary affects on analysis and interpretation

Complexity and Methodology*

- Understanding multivariate fields of action that may require a mixture of complex methodologies and considerable time to unravel any causal relationships

- Need to recognize the complexity issue as it pertains to surveillance and suggest areas needing development to better understand analytical challenges

*cf McQueen and Jones, *Global Perspectives on Health Promotion Effectiveness*, Springer, NY, 2007. Particularly Chap 17, McQueen, "Evidence and theory: continuing debates on and evidence and effectiveness." and Chap 18, Campostrini, "Measurement and effectiveness: methodological considerations, issues and possible solutions."

Implications of CCD*
for Methodology and Theory
Methodology

- new sampling strategies

- dynamic model analysis

- utilization of time
  bound research

* continuously collected data, dym

Data analysis: a main feature for Surveillance Systems and analysis as evidence

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SURVEILLANCE

SURVEYS SYSTEM-leading to evidence

... | data collection

data analysis

interpretation

data use ...

...time | ...

The spiral of surveillance (as a learning system leading to evidence)

New knowledge as evidence

data use

interpretation

data analysis

data collection

need for new

data collection
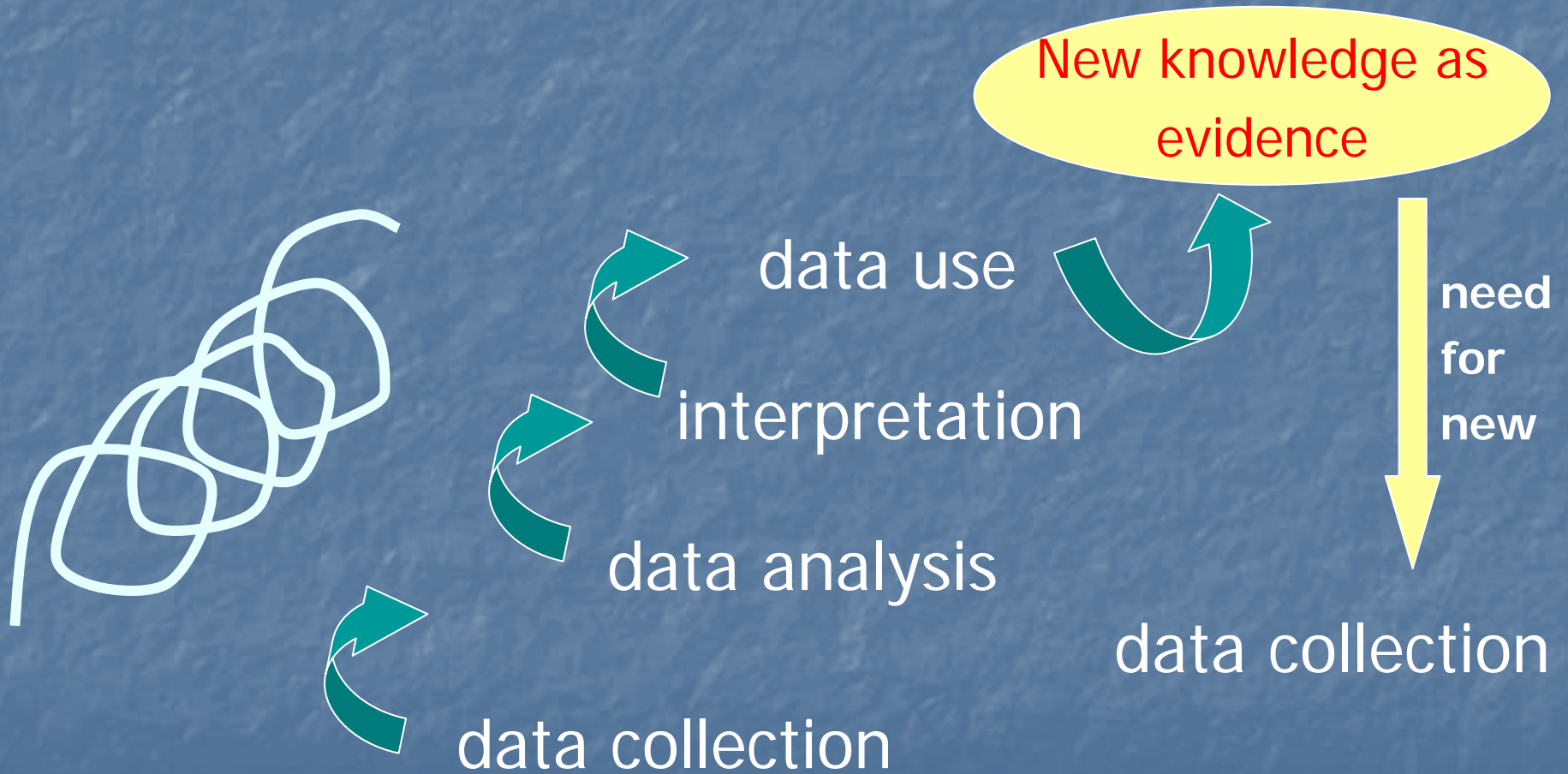
Seeking evidence on the changing burden of disease leads to an interaction with the very foundations of health promotion: an example from Ottawa

A foundation of "health promotion"

- One of the five strategies identified in the Ottawa Charter in 1986 was on supportive environments of health promotion – this is key to understanding present day health promotion in the West

Create Supportive Environments
Our societies are complex and interrelated. Health cannot be separated from other goals. The inextricable links between people and their environment constitutes the basis for a socioecological approach to health. The overall guiding principle for the world, nations, regions and communities alike, is the need to encourage reciprocal maintenance - to take care of each other, our communities and our natural environment. The conservation of natural resources throughout the world should be emphasized as a global responsibility.

Changing patterns of life, work and leisure have a significant impact on health. Work and leisure should be a source of health for people. The way society organizes work should help create a healthy society. Health promotion generates living and working conditions that are safe, stimulating, satisfying and enjoyable. Systematic assessment of the health impact of a rapidly changing environment - particularly in areas of technology, work, energy production and urbanization - is essential and must be followed by action to ensure positive benefit to the health of the public. The protection of the natural and built environments and the conservation of natural resources must be addressed in any health promotion strategy.

The meaning of the statement

- Our societies are **complex** and interrelated. Health cannot be separated from other goals. The inextricable links between people and their environment constitutes the basis for a **socioecological** approach to health. The overall guiding principle for the world, nations, regions and communities alike, is the need to encourage reciprocal maintenance - to take care of each other, our **communities and our natural environment**. The conservation of natural resources throughout the world should be emphasized as a global responsibility.

- Changing patterns of life, work and leisure have a significant impact on health. Work and leisure should be a source of health for people. The way society organizes work should help create a healthy society.

But how do we track the changes over time in these conditions?

- **Systematic assessment of the health impact of a rapidly changing environment** - particularly in areas of technology, work, energy production and **urbanization** - is essential and must be followed by action to ensure positive benefit to the health of the public. The protection of the natural and **built environments** and the conservation of natural resources must be addressed in any health promotion strategy.

Our concern remains with

Change

Time
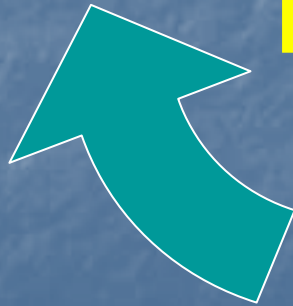
A widely held assertion

There are those who believe that the environment, supportive or unsupportive, for health promotion **has changed** markedly since the development of the Ottawa Charter: Bangkok Charter* reflects this notion

- Increasing inequalities - inequities
- Newly emerging patterns of consumption, communication, (globalization)
- Global environmental change
- Urbanization

*The WHO Bangkok Charter for Health Promotion in a Globalized World (2005) identifies actions, commitments and pledges required to address the determinants of health in a globalized world through health promotion. The Charter affirms that policies and partnerships to empower communities, and to improve health and health equality, should be at the centre of global and national development.

Bangkok Charter: Scope and Purpose

The Bangkok Charter identifies actions, commitments and pledges required to address the determinants of health in a globalized world through health promotion.

The Charter affirms that policies and partnerships to empower communities, and to improve health and health equality, should be at the centre of global and national development.

We are concerned with

- The environment and we focus on the CONTEXT as our word for "environment"
- Social context
- Cultural context
- Reference is made to social determinants seen as context

The Components of Social Determinants from a HP Perspective

- **LIFESTYLE**: Collective pattern of life conduct

- **LIFE CONDUCT**: Pattern of behavior of an individual in their day-to-day lives

- **LIFE CONDITIONS**: Patterns of resources of an individual or group (including health status)

- **LIFE SITUATION**: Collective pattern of life conditions

- **LIFE CHANCES**: Structural-based probability of correspondence of lifestyle and life situation

- Adapted from Rutten, A. (1995). The implementation of health promotion: a new structural perspective. Social Science & Medicine, 41(2), 1627-1637.

The context and determinants are seen as changeable through intervention

- We track that change through surveillance

And build the evidence

The challenge of 'evidence'

- What is new, what is old
- What work needs to be done
- What is "inside" the evidence debate
- What is "outside" the debate
- Recognize what we "know" versus what we "wish for".

How to build "good" evidence

- Distinguish evidence of success from evidence of harm

- Methodology of deleting vs building evidence – reduction vs complexity

- Operationalize judgment

- Distinguish evidence from effectiveness from evaluation

How to build "better" evidence

- Distinguish levels of complexity
- Methods follow complexity
- Build data retrieval that is complex
- Move away from reduction
- Collect more data
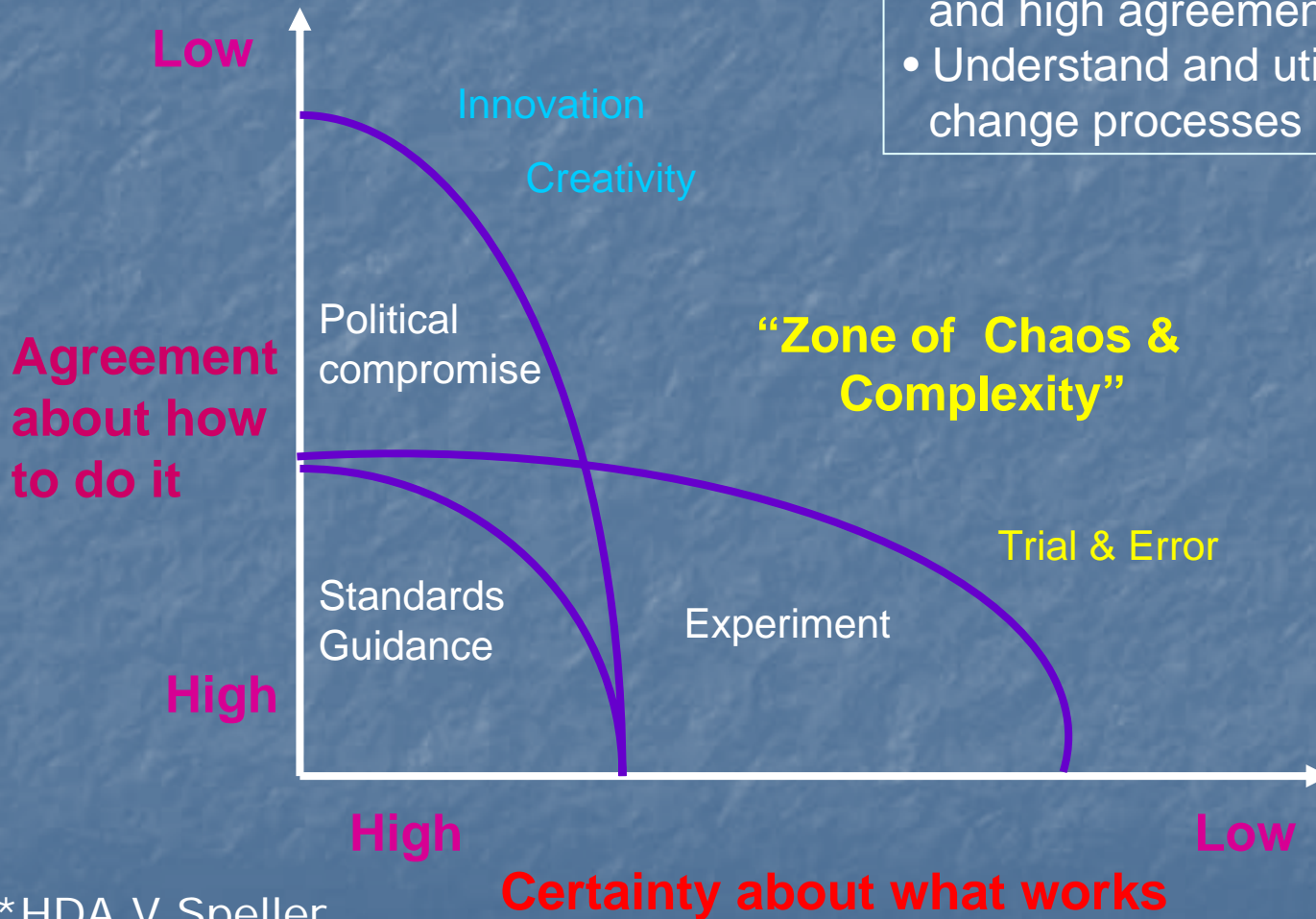- More interventions

Evidence is

- Strength of knowledge base for what works

Effectiveness is

- Agreement about translating the evidence to application

Understanding change processes*: where effectiveness meets evidence

- Focus on areas with high certainty and high agreement
- Understand and utilize effective change processes

Low

Innovation

Creativity

Agreement about how to do it

Political compromise

"Zone of Chaos & Complexity"

Trial & Error

Standards Guidance

Experiment

High

High

Low

Certainty about what works

*HDA V Speller

Zone of Chaos and Complexity: Characteristics

Multiple determinants

Multiple intervention settings

Multiple outcomes

Multiple actors

Multiple paradigms

Cultural diversity

Everything/interactions=probabalistic

Politics

DM1 David McQueen; 12/07/2006

So what can we conclude?

- We have initial evidence that health promotion interventions on the social determinants of health work

- However, comprehensive and/or systematic reviews have only been conducted on a few interventions and almost entirely on western literature

- More importantly, we have no systematic tracking of supposed changes over time attributable to interventions

Three things that we need

- **Many more** health promotion **interventions** based on the best theory of practice
- **Many Comprehensive** and/or systematic **evaluations** of interventions
- A **comprehensive monitoring system that builds the evidence for change over time**

■ More information:dvmcqueen@cdc.gov

Q and A

The 51st World Health Assembly

Urged all Member States to:

"adopt an **evidence-based approach** to health promotion policy and practice, using the full range of quantitative and qualitative methodologies"

WHO, 51st World Health Assembly, Agenda Item 20, Geneva, (1998)