Новгородский Государственный Университет
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Pskov Youth Reproductive Health Project

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Institute for Global Health

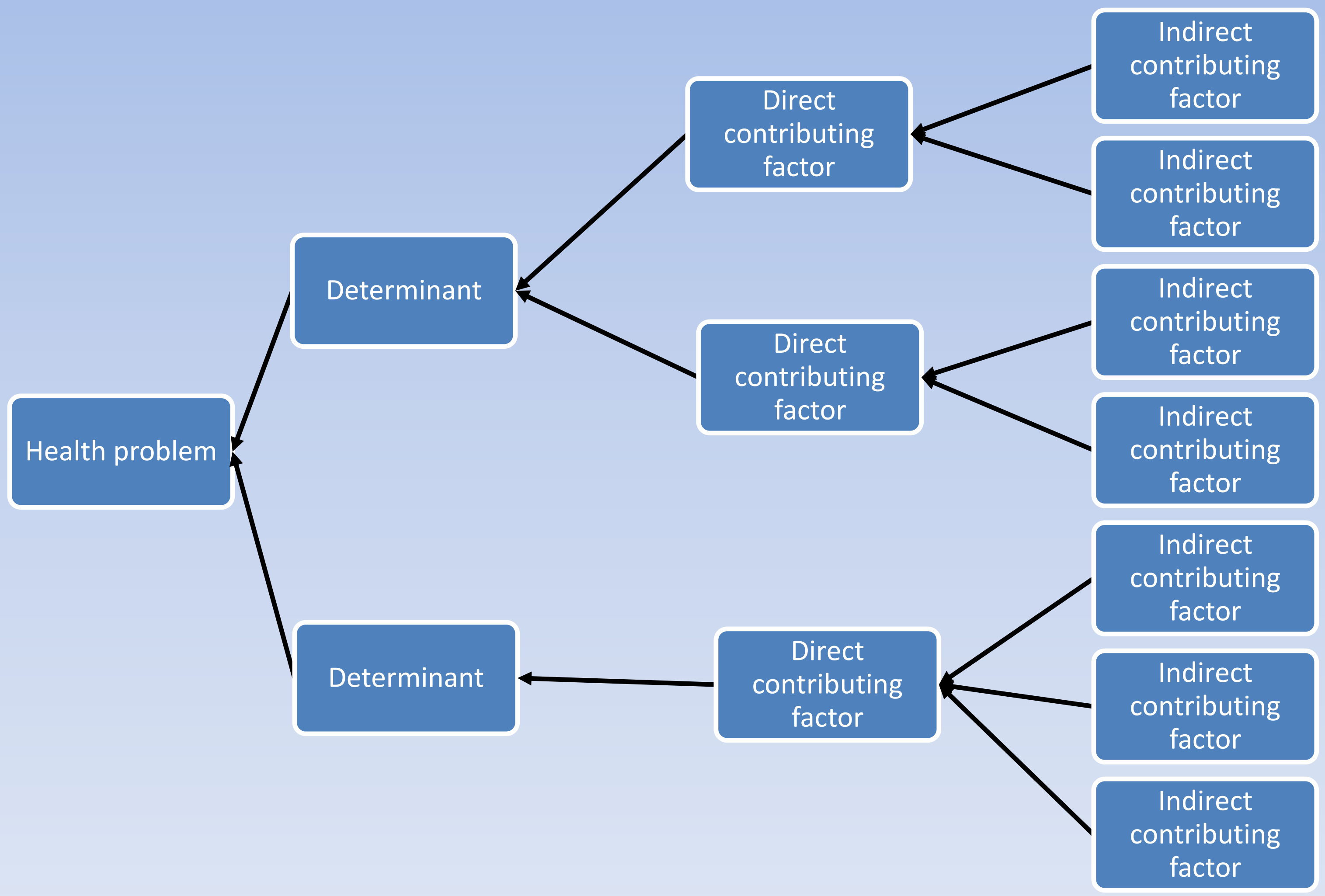
Organization of Presentation

- Epidemiological Risk Factor Model
- Research designs & strength of evidence
- Pskov Youth Reproductive Health Project

Definition of risk factor

- A health risk factor is anything that increases one’s chances of getting a disease. Common categories of risk factors include:
  - Biological or physiological factors
  - Behavioral factors
  - Psychosocial factors
  - Physical Environment
  - Social determinants of health
- Key distinction: neither necessary nor sufficient

Risk Factor Analysis



Examples of <u>Physiological</u> risk factors

- Malnutrition: anemia, Vitamin A deficiencies
- High blood pressure
- High cholesterol levels
- Blood sugar regulation in diabetes

Examples of <u>Behavioral</u> Risk Factors

- Poor diet
- Unsafe sex
- Smoking
- Alcohol & drug use
- Lack of physical activity

Examples of Psychological Risk Factors

- Mental health
- Stress
- Depression

Social Environmental Risk Factors

- Social support
- Social norms
- Stigma, discrimination

Physical Environmental risk factors

- Unsafe water supply
- Poor air quality
- Exposure to lead poisoning

Social structural risk factors

- Poverty, Income
- Education
- Employment
- Housing & the Environment
- Mobility/Transportation
- Nutrition & Agricultural Policy

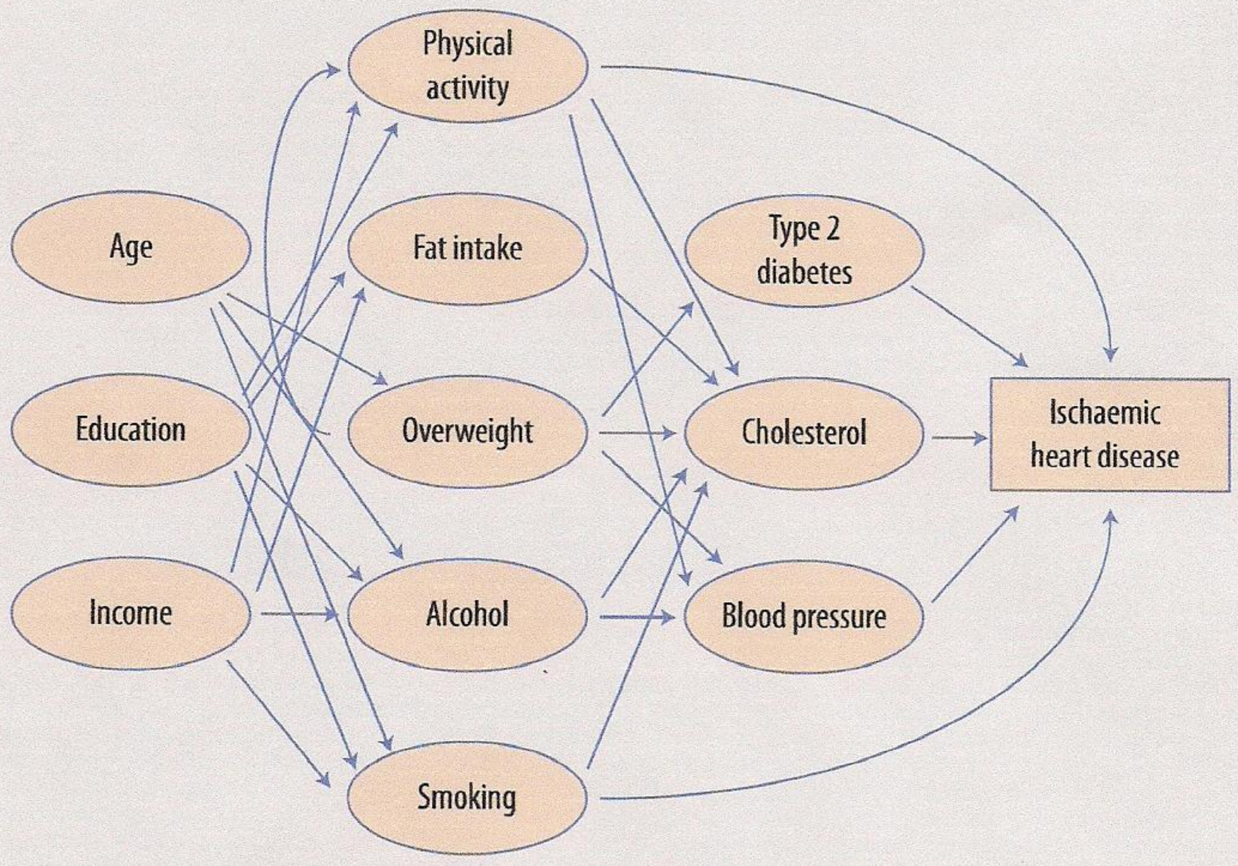
Key differences between “causes” & risk factors

In terms of explaining disease incidence:

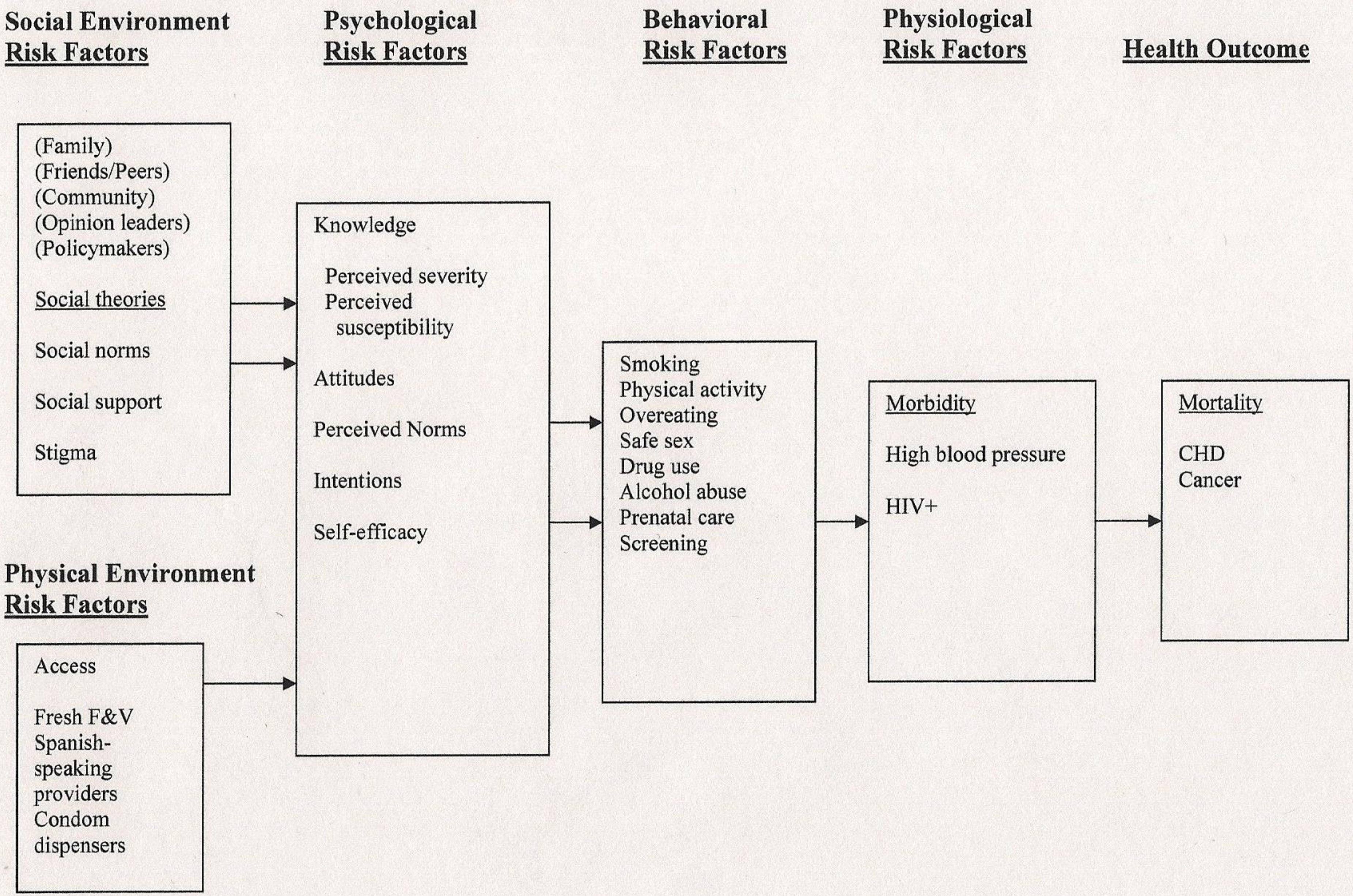
- Risk factors are neither <u>necessary</u> nor <u>sufficient</u>
- They increase susceptibility, but there is no absolute relationship between “cause” and “effect” (unlike the causes of infectious diseases).
- There is <u>*not*</u> a one-to-one relationship between the presence of a risk factor and the presence of disease.
- Rather, the relationship is statistical, probabilistic.

Conceptualizing the impact of different categories of risk factors

Figure 1: The causal chain. Major causes of ischaemic heart disease are shown. Arrows indicate some (but not all) of the pathways by which these causes interact.



Generic Risk Factor Model



Evidence-based public health

- Hierarchy of knowledge
  - Randomized Controlled Trials
  - Quasi-Experimental Research Designs
  - Prospective Cohort Studies
  - Cross-sectional Studies
  - Retrospective Case-Control Studies
  - Case Series & Registries
  - Case Studies

- Evidence-Based Working Group. (1992) Evidenced-Based Medicine: A New Approach to Teaching the Practice of Medicine. *JAMA,* 268(17):2420-2425.

Threats to Validity

- History
- Maturation
- Testing
- Instrumentation
- Statistical regression to the norm
- Selection biases
- Attrition
- Hawthorne effect

Epidemiological Studies - Hill's criteria

- Temporal association
- Strength
- Dose-response relationship
- Consistency
- Biological plausibility
- Alternative explanations
- Specificity
- Coherence

Pskov Youth Reproductive Health Project

- Epidemiological analysis
  - Pskov: Population ~180,000
  - Teen (≤ 19 years) pregnancies: ~400 per year
  - Teen abortions: ~200 per year
  - Abandoned newborns: ~40 per year
- Funding: $400,000 from USAID
  - Additional contributions: UNFPA, UNICEF

Pskov Youth Reproductive Health Project

- Project Goals
  1. Reduce unwanted pregnancies, abortions, STIs
  2. Promote healthy pregnancies among disadvantaged; reduce complications, reduce abandonment
  3. Improve parenting skills among disadvantaged

Pskov Youth Reproductive Health Project

- Methods: Training of Trainers
  - Health care provides: physicians, nurses, school counselors, social workers
    - Effective communication skills
  - Project coordinators
    - 12-week classes on ante-natal care; parenting skills
  - Peer educators
    - Outreach, contraceptive education
  - Community Advisory Boards

Pskov Youth Reproductive Health Project

- Impact Evaluation
  1. number of abortions (relative to previous years and oblast-wide trends);
  2. number of sexually transmitted infections diagnosed;
  3. number of women provided with birth control pills, IUDs or other effective birth control methods;
  4. number of low birth weight babies, or otherwise comprised health; and,
  5. number of infants who are abandoned to orphanages & number of abandoned infants with health problems

Pskov Youth Reproductive Health Project

- Process Evaluation
  1. number of “trainers” trained by the Institute for Family Health, Center for Efficient Information and Health and the IGH (including the number and types of trainings provided);
  2. number and types of trainings conducted in Pskov and Velikiye Luki by the project staff after receiving their expert ToT training, including the number of participants in attendance and their role or position;
  3. number of participants who attend the peer education sessions;
  4. number of youth at high risk who are contacted by various outreach activities;
  5. amount of educational materials distributed,
  6. level of attendance and products produced by the two existing Community Advisory Boards (CABs);
  7. the creation and level of participation in the new Healthy Pregnancy CAB; and
  8. the creation and level of participation in the new Positive Parenting CAB for Young Mothers.