EPIDEMIOLOGY

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- The word epidemiology comes from the Greek words *epi*, meaning on or upon, *demos*, meaning people, and *logos*, meaning the study of

Definitions…

Epidemiology

It is the *study* of *frequency*, *distribution*, and *determinants* of *diseases* and *other* *health-related* conditions in a human *population*

and

the *application* of this study to the prevention of disease and promotion of health

Definition

- ”the study of the distribution and determinants of health related states and events in specific populations and the application of the study of control health problems"

(John.M.Last 1988).

Concepts of Epidemiology

- Epidemiology is concerned with wellbeing of a society as a whole than with the well being of the individuals .
- There are three components common in the concept of epidemiology

Concepts of Epidemiology

1.Study: Systematic collection, analysis and interpretation of data

Epidemiology involves collection, analysis and interpretation of health related data

Epidemiology is a science

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2. ***Frequency***: the number of times an event occurs

Epidemiology studies the number of times a disease occurs

It answers the question ***How many***?

Epidemiology is a quantitative science

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3. ***Distribution***: Distribution of an event by person, place and time

Epidemiology studies distribution of diseases

It answers the question ***who, where and when?***

Epidemiology describes health events

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4. ***Determinants***: Factors the presence/absence of which affect the occurrence and level of an event

Epidemiology studies what determines health events

It answers the question how and why?

Epidemiology analyzes health events

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5. *Diseases & other health related events*

Epidemiology is not only the study of diseases

The focus of Epidemiology are not only patients

It studies all health related conditions

Epidemiology is a broader science

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6. *Human population*

Epidemiology diagnoses and treats communities/populations

Clinical medicine diagnoses and treats patients

Epidemiology is a basic science of public health

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CONCEPT OF EPIDEMIOLOGY

- 1. It is a Study
- Epidemiology is a scientific discipline with sound methods of scientific inquiry at its foundation.
- Epidemiology is **data-driven and relies on a systematic and unbiased approach to the collection, analysis, and interpretation of data.**

- epidemiology is a quantitative discipline that relies on a working knowledge of probability, statistics, and sound research methods.

- Second, epidemiology is a method of causal reasoning based on developing and testing hypotheses grounded in such scientific fields as biology, behavioral sciences, physics, and ergonomics to explain health-related behaviors, states, and events. However, epidemiology is not just a research activity but an integral component of public health, providing the foundation for directing practical and appropriate public health action based on this science and causal reasoning.

Other terms

- Applications of epidemiology

Introduction

- Morris has identifies seven distinct uses of epidemiology.
- In that five uses extend epidemiology beyond the search for the cause of diseases
- Bring it closer to day to day concerns of modern medicine

Uses

1. to study historically the rise and fall of disease in the population
2. Community Diagnosis
3. Planning and Evaluation
4. Evaluation of individual risk and chances
5. syndrome identification

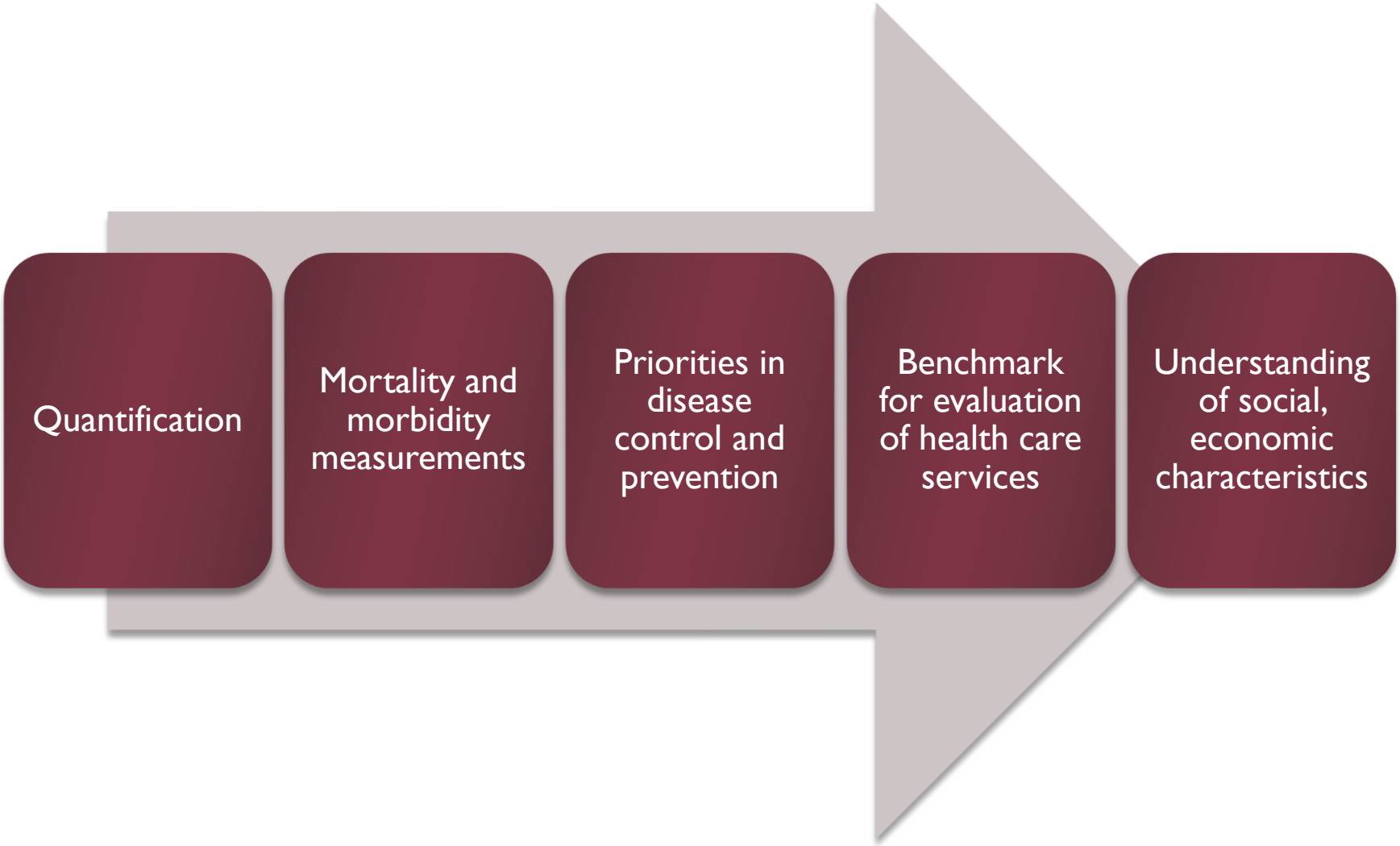
6. Completing the natural history of disease

7. Searching for causes and risk factors

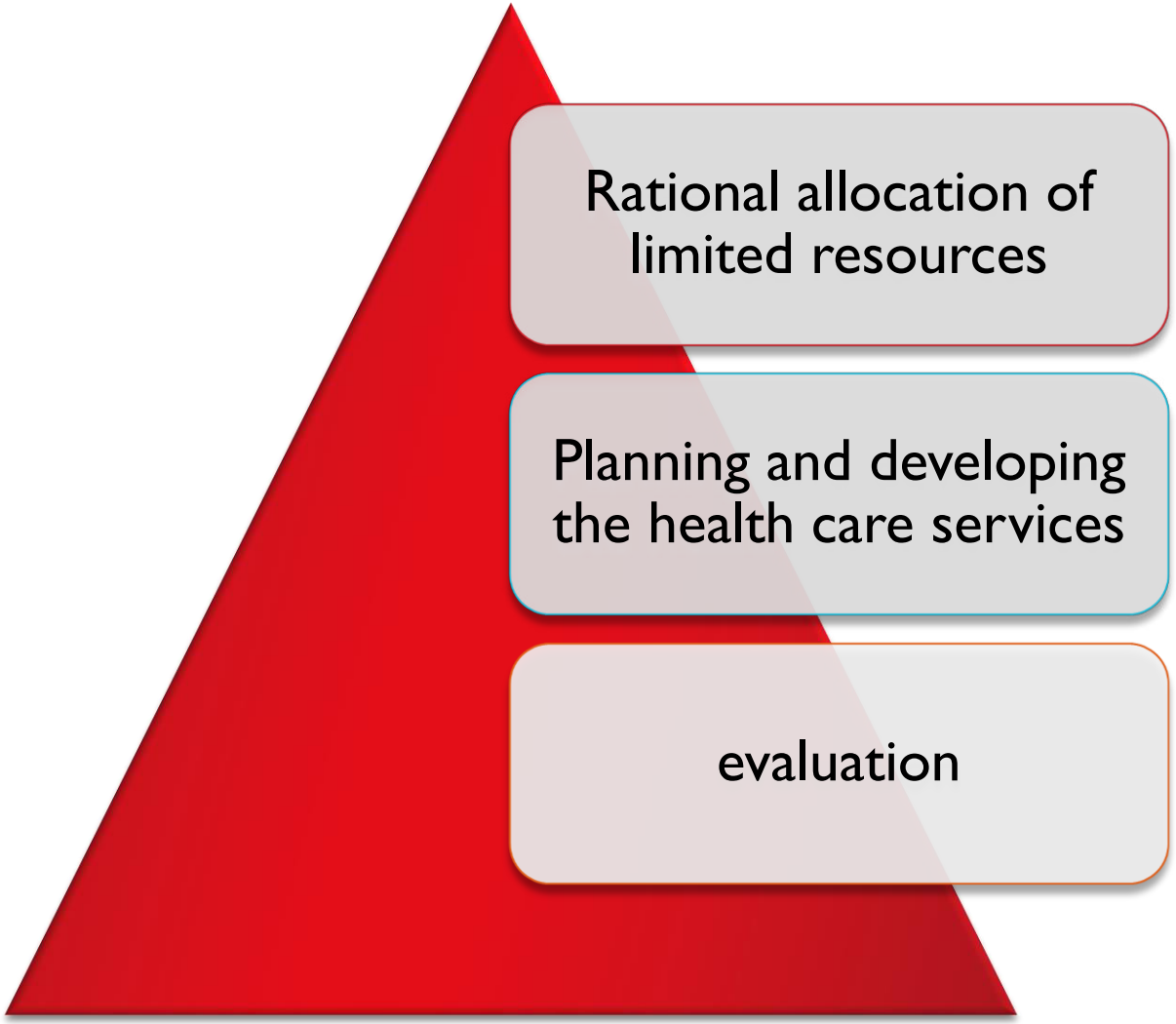
1. to study historically the rise and fall of disease in the population

- Winston Churchill said
- " the farther back you look, the farther towards we can see"
- Study the history of disease in human population
- Health and disease is never constant in the population
- Fluctuations over short and long period of time.

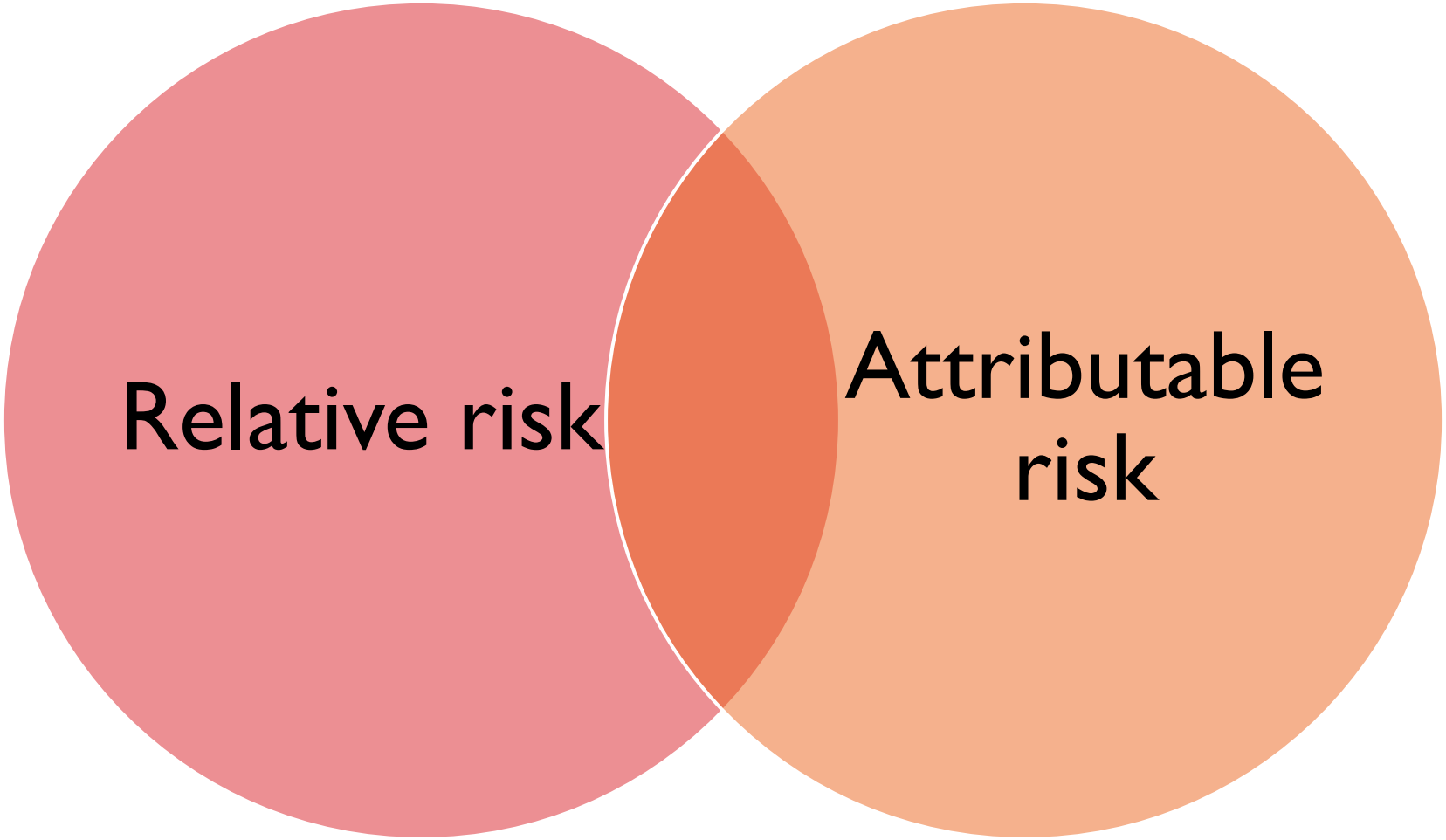
2. Community Diagnosis



3. Planning and Evaluation



4. Evaluation of individual risk and chances



5. syndrome identification

3000 syndromes

Define syndromes

Ex: Patterson Kelly syndrome

6. Completing the natural history of disease

7. Searching for causes and risk factors