



State of Maryland Syndromic Surveillance System

ECONOMIC EVALUATION MODEL

By

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Overview



- **Background**
 - Syndromic Surveillance System
 - Economic Evaluation
- **Method**
- **Model Design**
- **Discussion**

Syndromic Surveillance System



**Threat of biologic
terrorism and
resurgence of
virulent form of
infectious diseases**

**Response:
Applied
technologic
advances to disease
surveillance**

Syndromic Surveillance System



Based on
existing
computerized
Health care
data



ESSENCE



Alerting
system

Others emerging health
conditions

National Capital Region



Why Economic evaluation of the Syndromic Surveillance System?



Health Department resources allocation issue because resources are scarce



Vulnerability of the population: cost of doing nothing



Substantial costs to obtaining data

Economic Evaluation



CEA

CUA

CBA

Economic Evaluation



Cost-Effectiveness Analysis

Compares **the costs** and **health effects** of an **intervention** to assess whether it is worth doing from the **economic perspective**

Cost-Utility Analysis

A type of Cost Effectiveness analysis in which benefits are expressed in terms of ***cost per QALY gained***

Economic Evaluation



Cost-Benefit Analysis

Used to answer the question whether the given goal is worth pursuing. Cost and Benefit in monetary units. More appropriate for business purposes

Economic Evaluation



• **Cost-Effectiveness**

- The minimum cost for a given benefit,
- The maximum benefit for a given Cost
- Or a balance of low costs and high benefits that has maximum utility

• **Cost-Effectiveness Ratio**

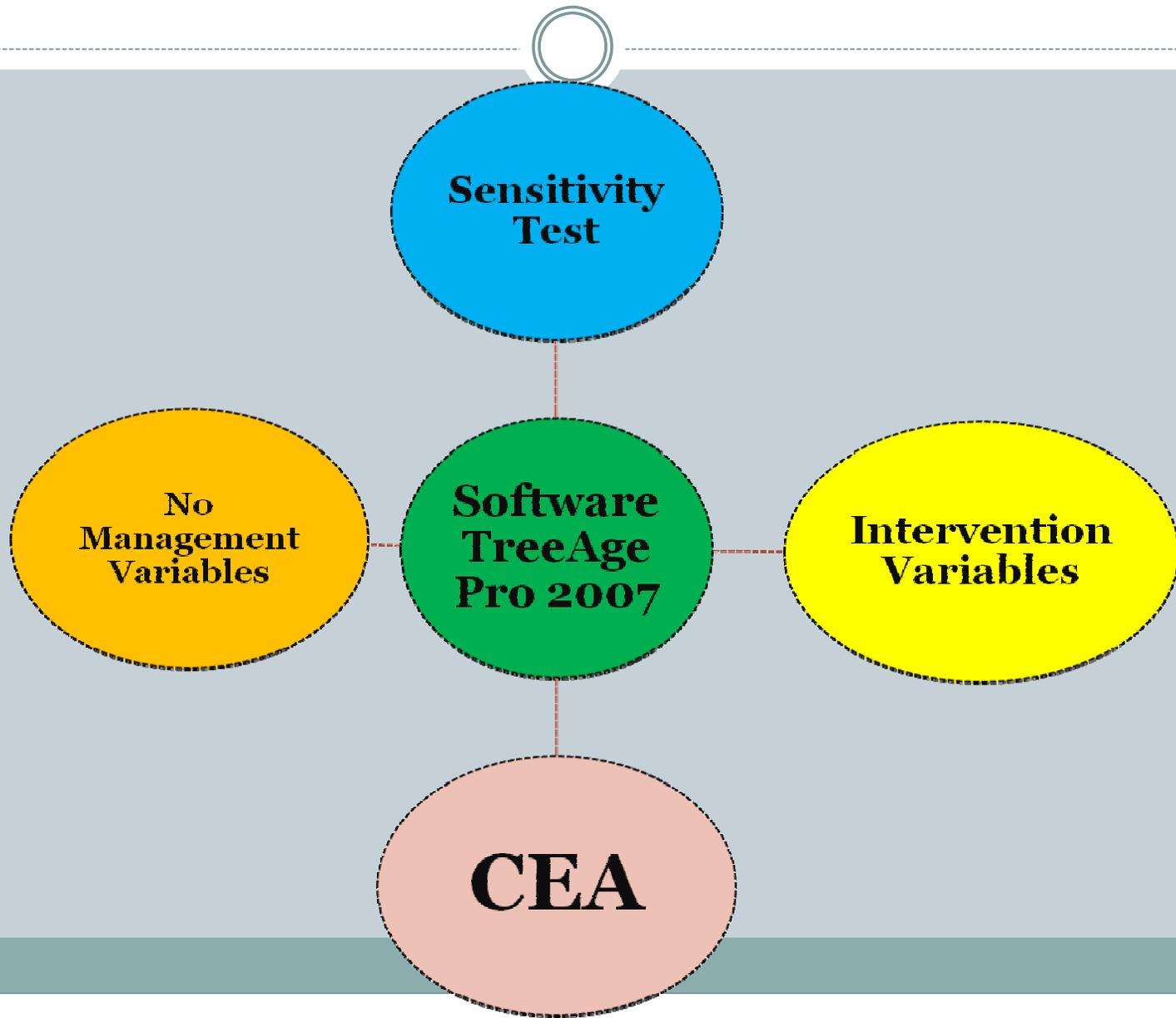
Total cost of investment

Total Accrued benefits

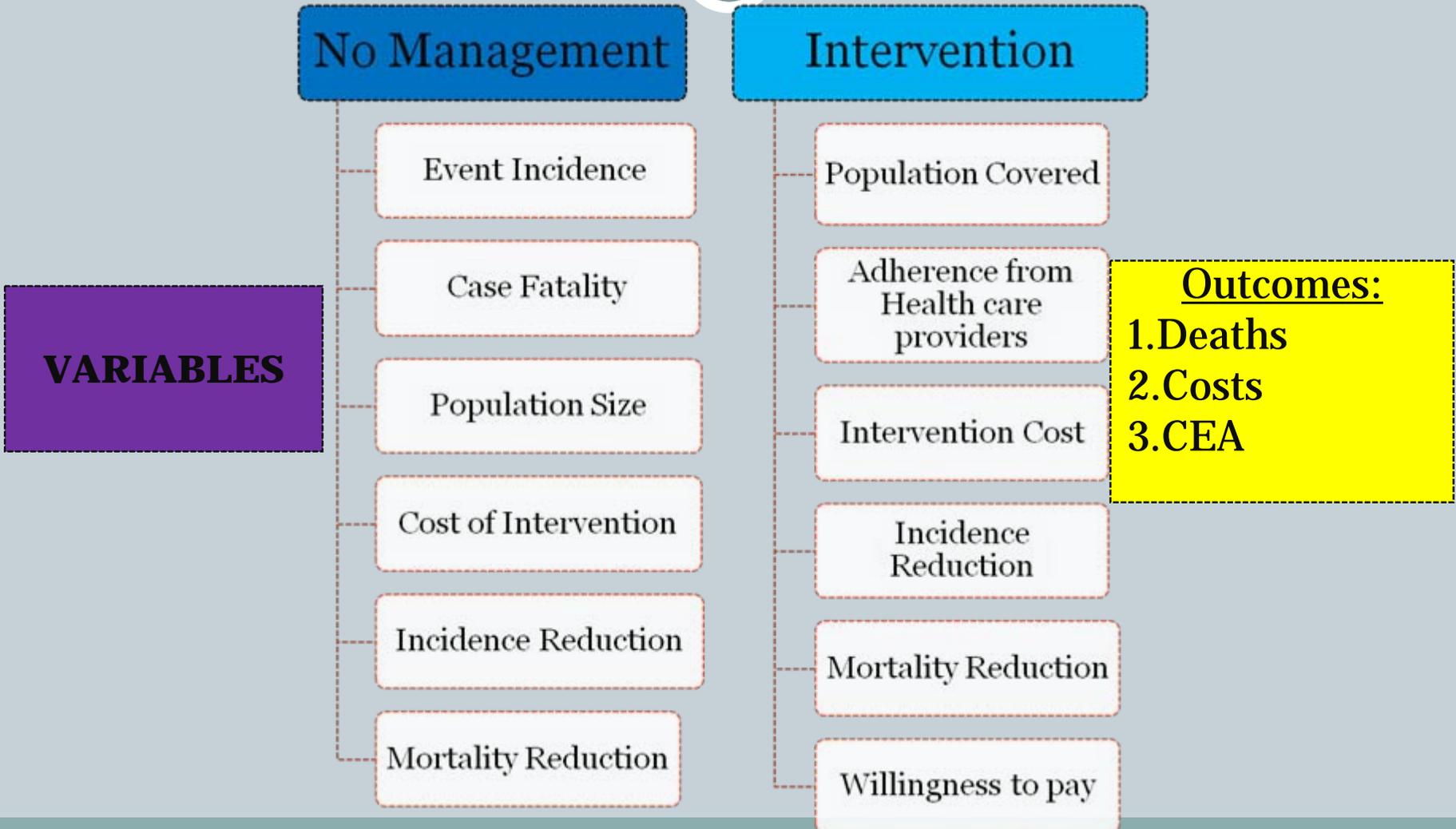


**In term of
both dollars
and benefit value**

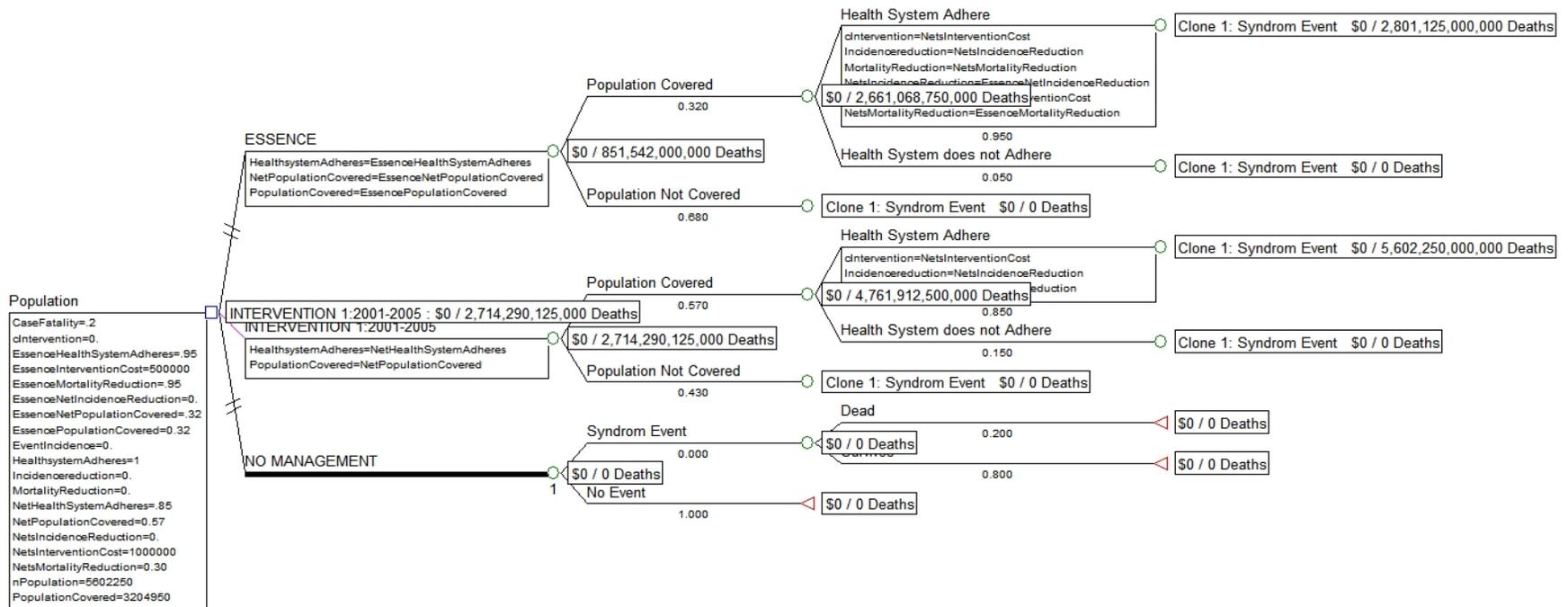
Method



Model Design



Model design



Payoffs

- 1.Deaths
- 2.Cost of the system
- 3.CEA

1. No Incidence Reduction
2. Cost of Intervention
3. Mortality Reduction

Discussions

Strengths

Weaknesses

**Improve technical
and productive
efficiency**

**DHMH decision
support tool**

**Measure the effect
of intervention on
natural unit**

**Multiples sources
of data for costs
evaluation**

No data available

Recommendations



- **Inclusion of economic evaluation on the framework for evaluating Syndromic Surveillance System**
 - Cost Benefit Analysis
 - Cost effectiveness Analysis
 - Cost Utility Analysis
- **Uses of this model in another study to evaluate the cost effectiveness of the system in the State of Maryland**

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