

# IDRC International Disaster and Risk Conference

The European Union funded Project



GUARD ANTICIPATION AND PREDICTION

of Global Health Threats

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# Agenda

- Introduction and Purpose
- The GAP Approach
- The GAP Project
- GAP Present Status and Recent Outcomes
- Summary and Conclusions

# Introduction

- GAP is a project, EU-promoted, funded and supported, **aimed at improving Global Health Crisis (HC) response:**  
“**Helping decision makers to raise the flag and alert** the national and multinational administrations and populations in an **early and timely span**”
- The GAP Approach can enable a **wider uptake of the results of European research** and to **improve the competitiveness of European industry**

# Purpose

- **Raising awareness, spread the conclusions and gather the view of other key players** through workshops to **produce a road map for a future common policy and protocol**
- This contribution to **IDRC Davos 2008** is part of our dissemination effort

# The GAP Approach

- Focus is on **information, predictive and anticipative models**, to produce **generic predictive models** for specific risks
- GAP scope is in next slide

# The GAP Approach



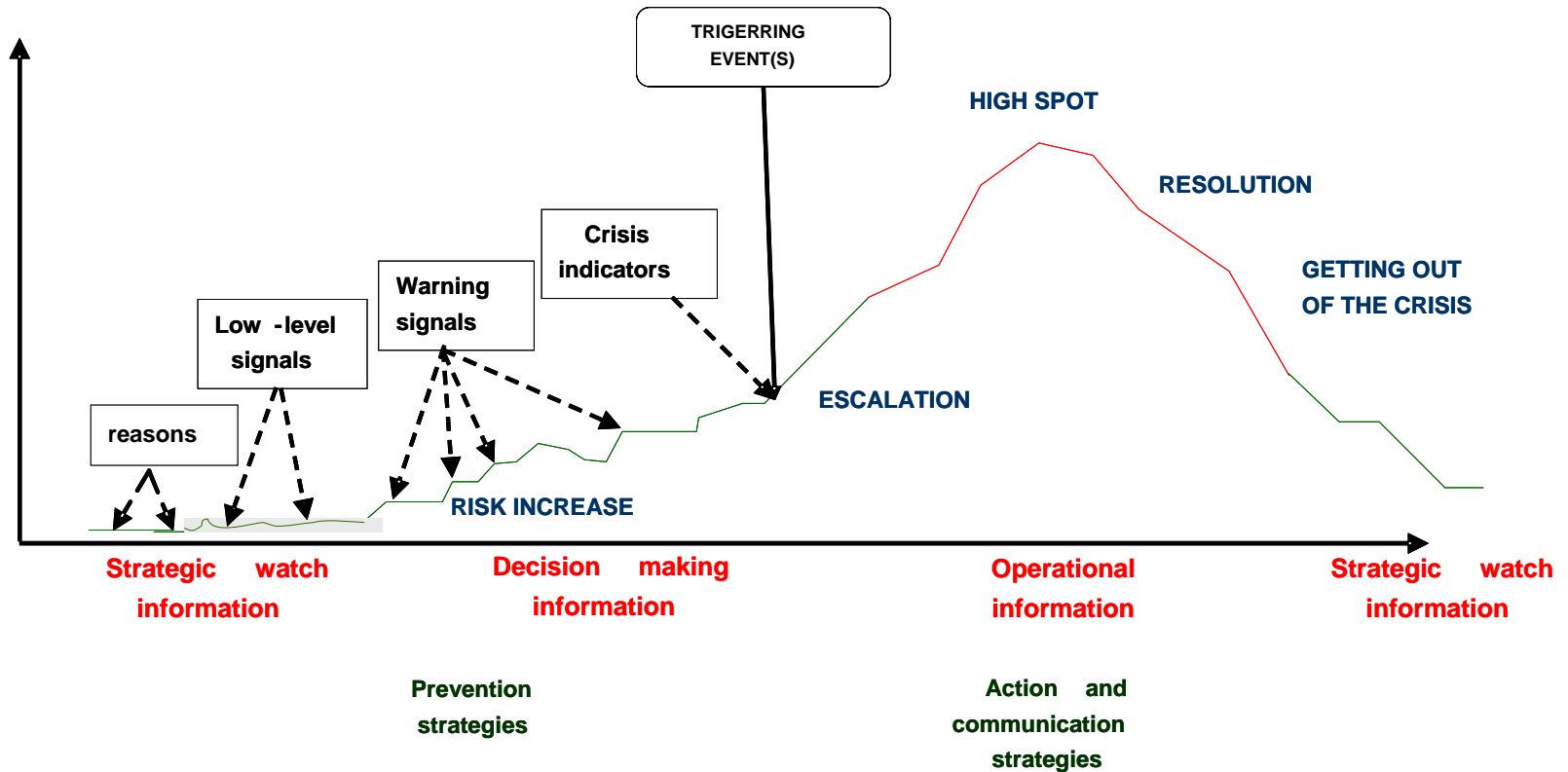
# The GAP Approach

- **Anticipation** includes looking into:
  - **Research in risk** prediction, assessment and management tools
  - Aimed at preparation, surveillance, support and intervention in case of **large-scale adverse health events**
- This investigation uses **information** to help **improve Health Emergency and Consumer Protection**

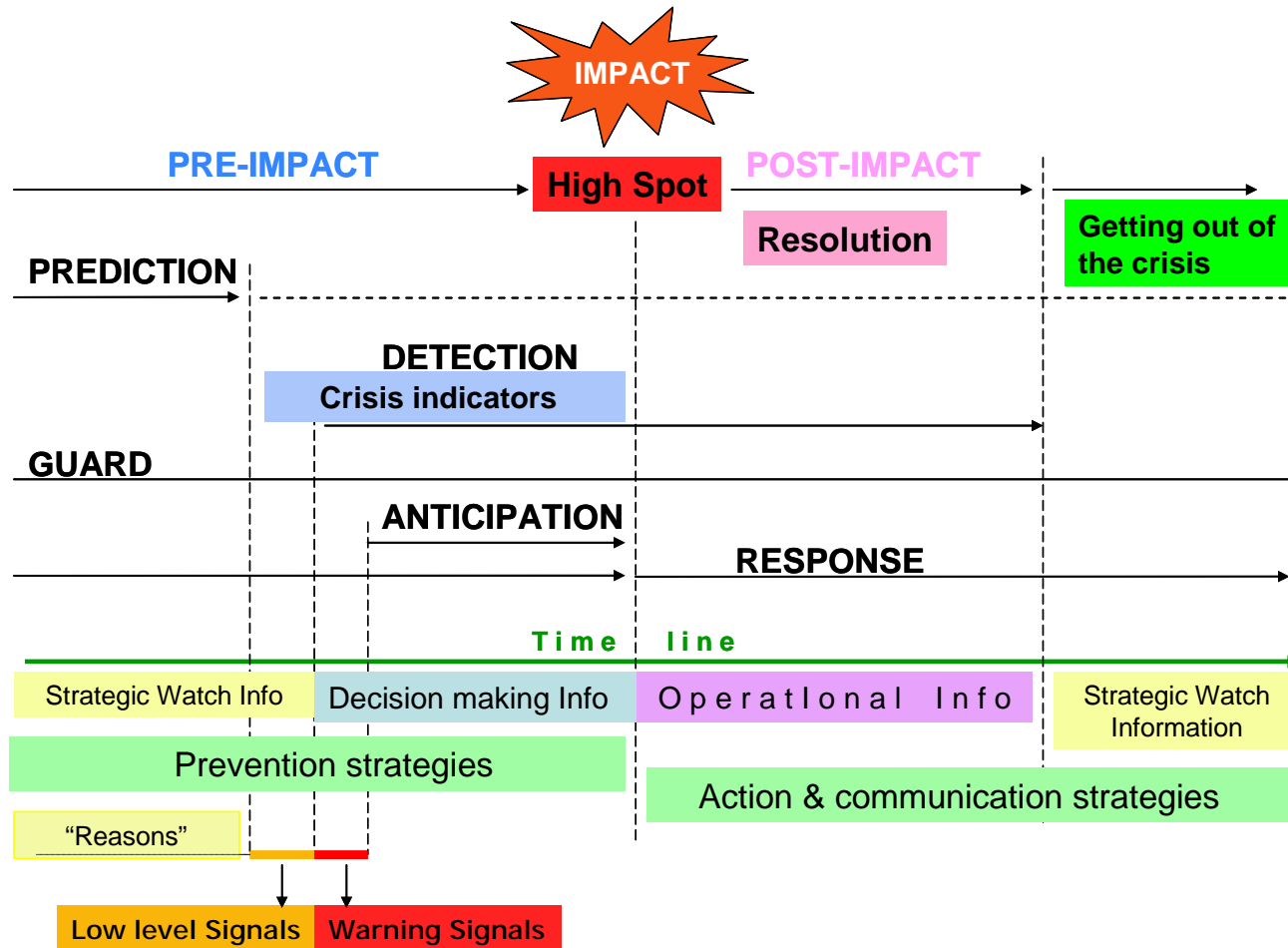
# GAP Outcomes

- GAP Project expected Outcomes are finding:
  - Regularities,
  - Patterns or
  - Pathways
- Towards early alerts

# The GAP Approach



# The GAP Approach



# Team at Work

- Project Coordinator: Health Department of the Government of Catalonia
- The multinational team at work includes:
  - Governments, institutions, project management or consulting companies and individual experts
  - From:
    - Denmark (Southern Region),
    - France,
    - Israel,
    - Italy and
    - Spain (Catalonia)



Generalitat de Catalunya  
Departament de Salut  
Secretaria d' Estratègia i Coordinació



Inserm



Region Syddanmark



# Stakeholders

- Main National institutional or supporting stakeholders are:
  - Security Agencies,
  - Emergency Response,
  - Disease Control Agencies,
  - Military and others

# Stakeholders

- EU level institutional stakeholders are:
  - Surveillance, the European Centre for Disease Prevention and Control (ECDC),
  - Early Warning and Rapid Alert (EWRS...),
  - Medical Intelligence,
  - Biological incident response and environmental sampling...

# GAP's Open/Systemic Approach

- GAP proposes the development of a **holistic and full life cycle** approach that **may start in the early detection of weak and warning signals**
- For information **signs and signals**, it will include:
  - Collection,
  - Distribution and
  - Analyses

# GAP Work Packages

- WP1: What is the “state of the art”, identification of existing tools at participants’ country level
- WP2: Building the Model
- WP3: Dissemination and Networking
- WP4: Validation and future HC Prediction Roadmap to the EU
- WP5: Project Management and Administration

# WP1

- WP1 includes:
  - GAP's perimeter and GAP definitions
  - European and National organizational and technical systems inventories have been described or drawn
  - Opportunity of a generic model
  - Bibliography

# WP2

- WP2 includes:
  - Qualification of the referent system.
  - Crossed-analysis
  - Overlapping the national data at the European level
  - Crossing of the national data at the European level
  - Etc.

The importance of Early  
Warning follows...

# **The Nation's Current Capacity for the Early Detection of Public Health Threats including Bioterrorism**

**Funded by a grant from the  
Agency for Healthcare Research and Quality  
“Using Information Technology to Improve Clinical Preparedness  
for Bioterrorism”**

**(Principal Investigator: Michael M. Wagner, M.D., Ph.D., Contract Number 290-00-0009).**

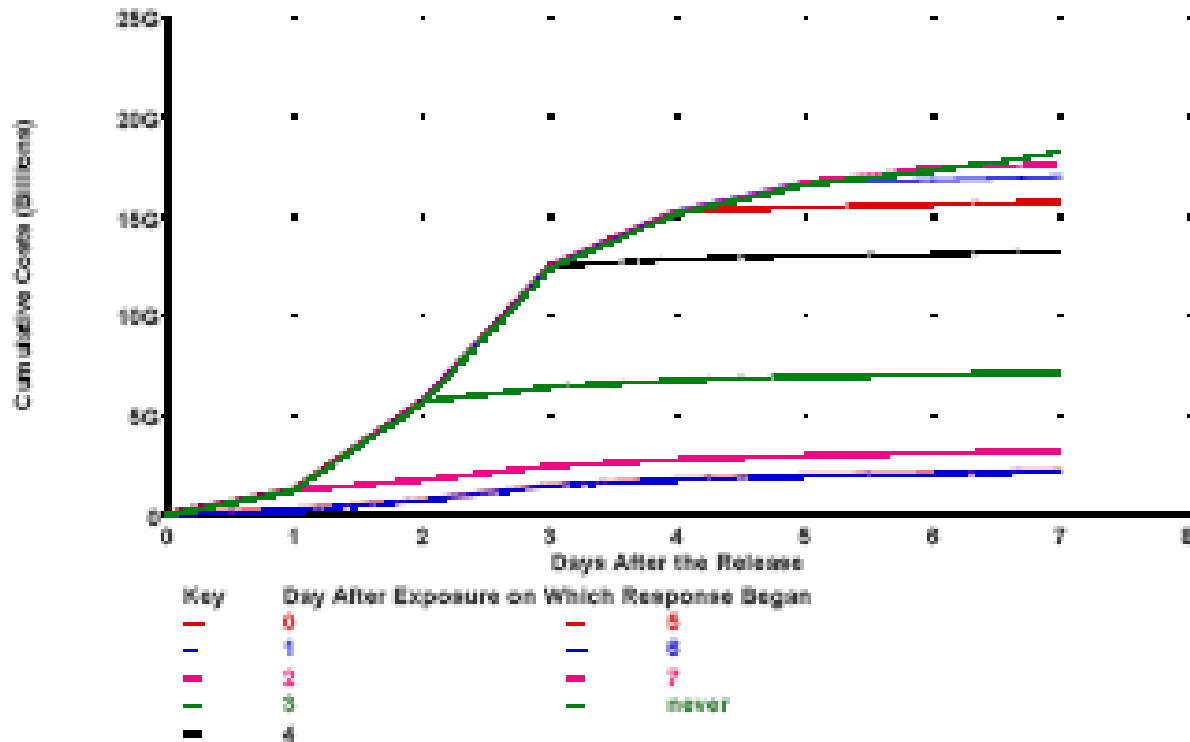


Figure 1. 2. Cumulative cost with and without post-attack treatment following a hypothetical bioterrorist release of *B. anthracis* infecting 100,000 individuals in a community of size one million. Cumulative cost is measured as the economic impact of the epidemic. The bold curve is the cumulative cost without intervention and the other curves correspond to the cumulative cost under the condition that mass prophylaxis and treatment was begun on each of days 7 through 0, respectively. For simplicity, the underlying analysis assumes that once a decision to initiate treatment has been made, that the response is instantaneous (all people treated immediately). Cumulative cost was computed using the following formula: Cumulative cost = (number of deaths x present value of expected future earnings) + (number of days of hospitalization x cost of hospitalization) + (number of outpatient visits x cost of outpatient visits) + cost of intervention. The graph is generated by a model we created using data from <sup>1</sup>.

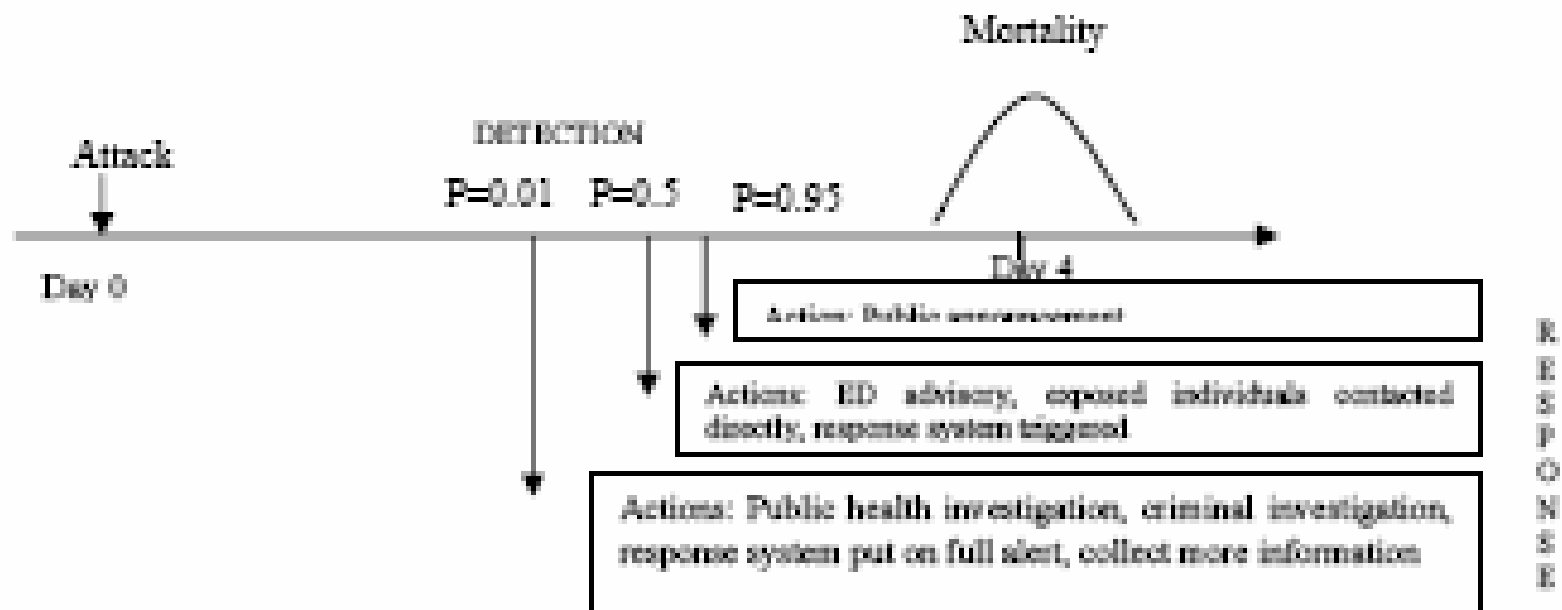


Figure 1.1. Epidemic curve demonstrating the connection between detection and response. Public health authorities have available a set of response options that can be initiated separately or in groups. The decision to initiate a response is informed by the surveillance data and analyses. The surveillance data initially provide very nonspecific information but over time provide a more definitive picture of the epidemic. This uncertainty is represented by probabilities in this figure. The probabilities shown are only for illustration and are not necessarily the probability thresholds that would be used in practice.

Thanks!

Our web page is:

[www.gaptheproject.eu](http://www.gaptheproject.eu)