

# Vaccination: a key contributor to Health and Innovation in Europe

## *"The Successful Implementation of Vaccination Policies: A Public Health Challenge"*

**Thursday 6 November 2008 from 09:30 to 12:00**

**Lisbon Congress Centre, Auditorium III-IV**

**Organised by EUPHA, supported by Sanofi Pasteur MSD**

The new generation of vaccines poses major and unprecedented challenges to the vaccination policies in Europe. New diseases, new target populations, new vaccination outcomes and new levels of prices dramatically unsettle the principles governing the introduction of new vaccines in the national vaccination programmes.

Following the roundtables held during previous EUPHA conferences addressing the shifts in vaccinology paradigms linked to the characteristics of new vaccines (EUPHA 2006) and the decision-making process to recommend them (EUPHA 2007), the EUPHA 2008 round table on vaccination will analyse some of the **practical issues public health authorities are facing with the implementation of vaccination programmes.**

The introduction of new vaccines in vaccination programmes is based on public health needs, the assessment of the vaccine-preventable burden of disease both medical and social, and the safety and efficacy of the vaccine. This leads to the decision to recommend and fund vaccination programmes. With most vaccines intended to prevent childhood diseases, the success of vaccination policies essentially relied on the public awareness of the severity of the disease to be prevented and the willingness of health care professionals and the parents to actively protect their children against severe diseases. This explains the usually high vaccination uptake of childhood vaccines achieved in most countries.

But, despite recommendations and their proven efficacy or effectiveness, some vaccines remain underused, especially in older age groups. With more and more vaccine targeting new diseases less perceived as life-threatening or intended to adolescents, adults and/or the senior population, new factors will influence the level of implementation of vaccination programmes. They are, to a large extent, linked to the individual perception of the value of being vaccinated. These individual or general attitudes must be thoroughly analysed and understood as they will represent major drivers or barriers to the successful adoption of vaccination policies and their public health impact.

The two major players in this field are the health care professionals and the patients themselves, but they can be influenced by others stakeholders in the more and more complex environment of vaccinology. The concept of acceptability of vaccination must be introduced early in the development, regulatory and policy-making processes to introduce new vaccines. It includes not only sociological approaches but will also request the development of specific and validated tools to assess some of the patient-related outcomes linked to vaccination that will influence the acceptability of the programme.

|                         |   |  |
|-------------------------|---|--|
| <b>Roundtable</b>       | <b>“The Successful Implementation of Vaccination Policies: A Public Health Challenge”</b>   |  |
|                         | Chair: Graça Freitas, Ministry of Health, Portugal, Deputy Director General   |  |
| 09h30 – 09h40           | Opening remarks   | G. Freitas<br>Ministry of Health, Portugal,<br>Deputy Director General   |
| 9h40 – 10h05            | <b>General principles leading to the successful introduction of new vaccines</b><br><br>[presentation available]  | M. do Carmo Gomes<br>University of Lisbon,<br>Associate Professor,<br>Portuguese Technical<br>Committee for Vaccination  |
| 10h05 – 10h30           | <b>Communication challenges:<br/>Drivers and barriers that lead health care professionals to actively support vaccination policies</b><br><br>[presentation available]                    | P. Kuteev Moreira<br>European Centre for<br>Disease Prevention and<br>Control (ECDC),<br>Communication Unit,<br>Executive Director   |
| 10h30– 10h55            | <b>Specific and validated tools, which could be used to support the implementation of new vaccination programmes</b><br><br>[presentation available]                                      | P.L. Lopalco<br>European Centre for<br>Disease Prevention and<br>Control (ECDC), Scientific<br>Advice Unit - Vaccine<br>Preventable Disease<br>Coordination, Senior Expert |
| 10h55 – 11h20           | <b>How lessons learnt from the recent introduction of HPV vaccines could be used to improve the implementation and adoption of vaccination programmes</b><br><br>[presentation available] | L. Hessel,<br>Sanofi Pasteur MSD,<br>Policy Affairs Department,<br>Executive Director  |
| <b>Panel Discussion</b> | <b>Analysing the elements that drive the acceptability of vaccination programmes by the target population</b>   |  |
| 11h20 – 12h00           | Chair: R. Gellertie<br>Regional Director, Health Protection Agency, UK; EUPHA Infectious Disease Section<br><br>Co-chair: P. Valente, Hospital S. Maria                                   | Previous speakers and<br>P. Valente<br>Hospital de Santa Maria,<br>Lisbon, Head of Paediatrics Department  |

# The successful implementation of vaccination



## A PUBLIC HEALTH CHALLENGE

Manuel Carmo Gomes



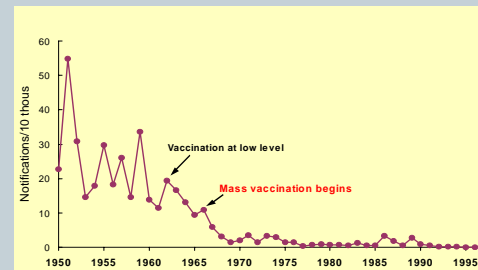
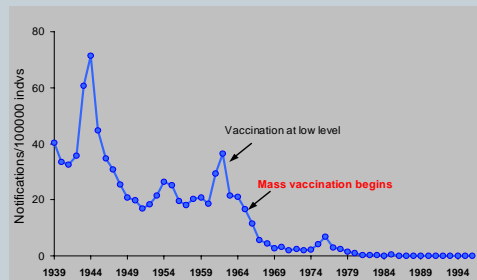
*Faculty of Sciences, Univ Lisbon*



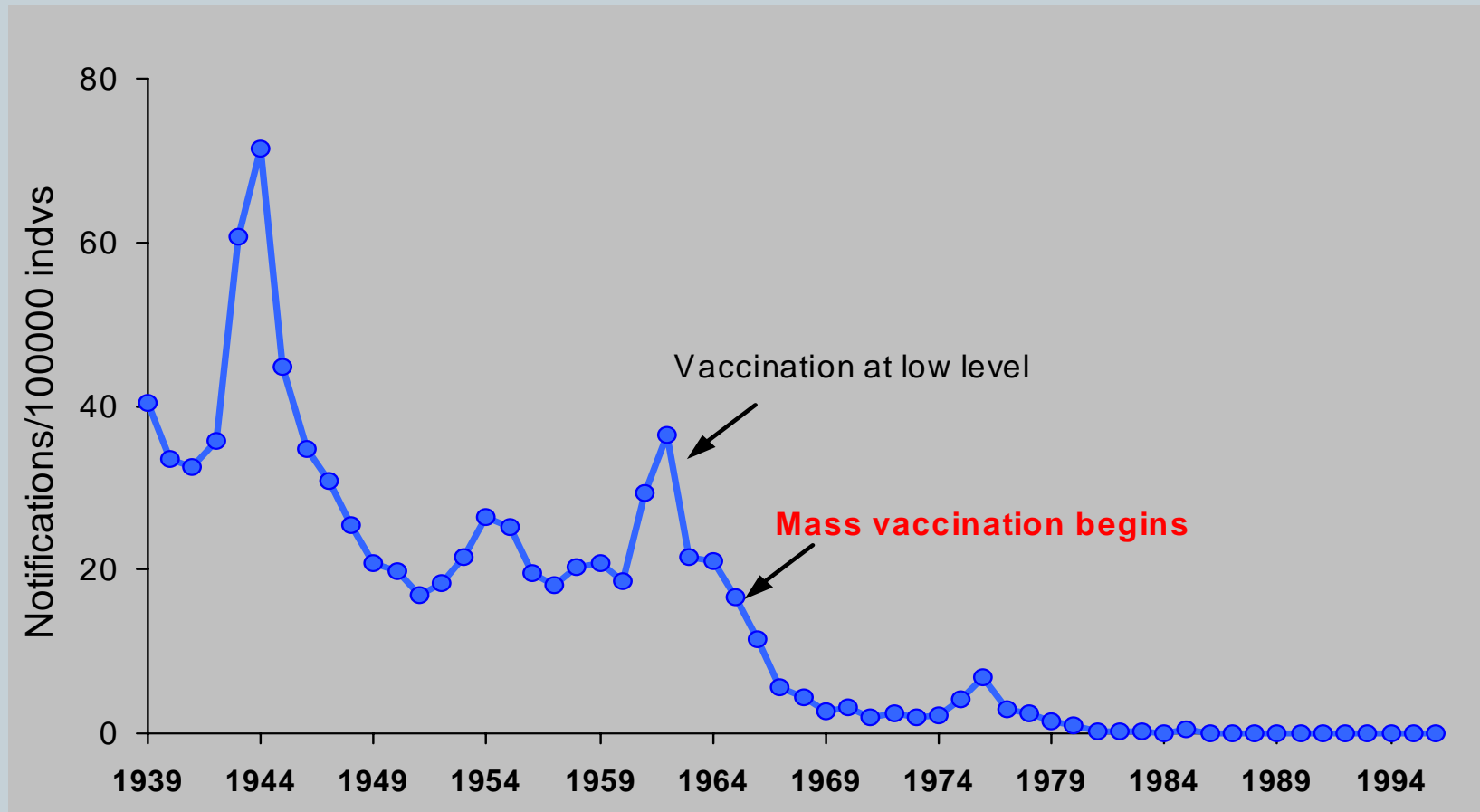
*Technical Comission of Vaccination*

# The (recent) past success

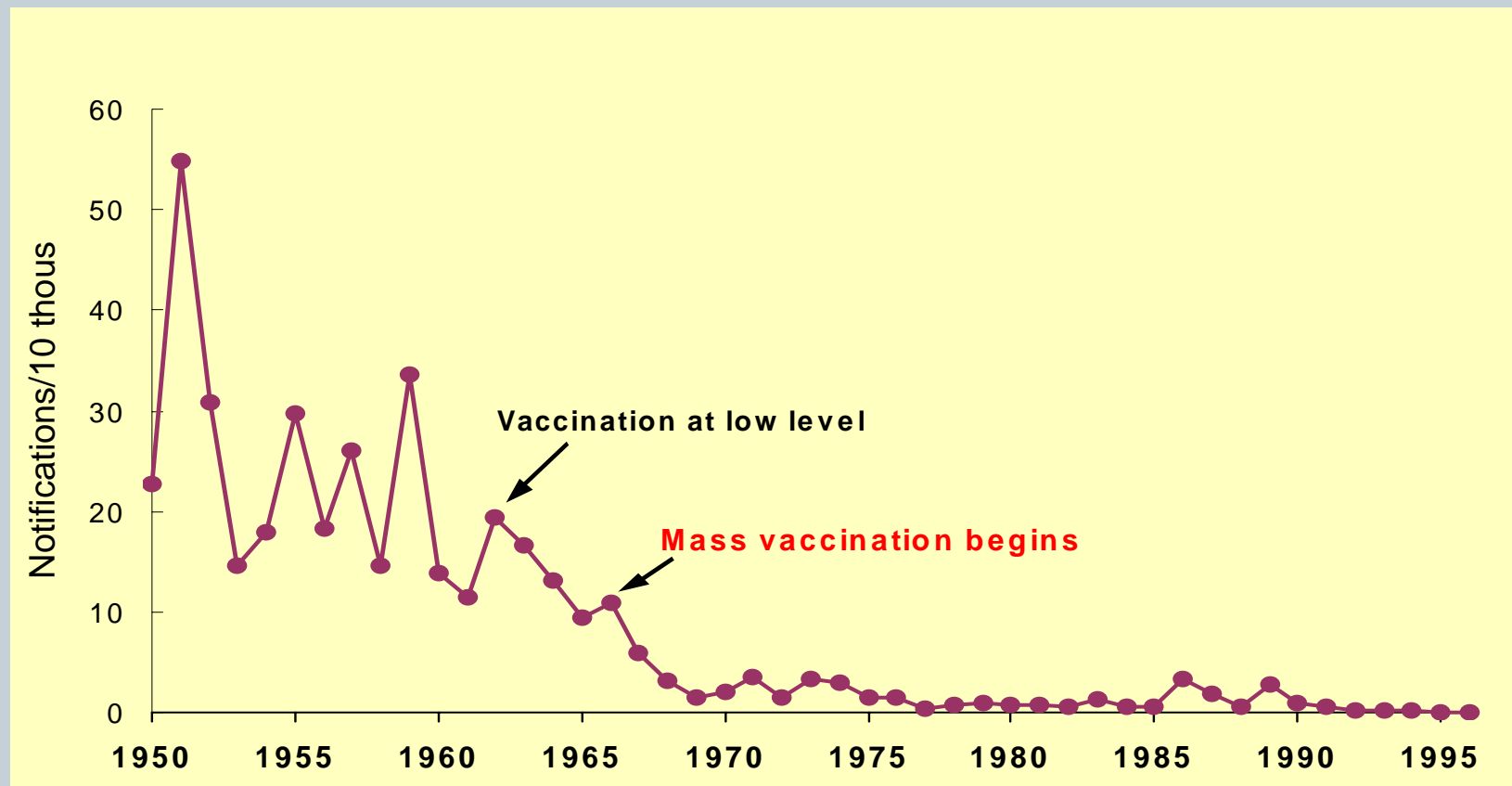
- Immunization programs have been enormously successful in controlling vaccine-preventable diseases.
- in Europe: long absence of vaccine-preventable childhood diseases is taken for granted



# Diphtheria in Portugal, 1939-



# Pertussis (whooping cough) in Portugal, 1950 -



# Strong public health impact



- Debilitating and sometimes fatal diseases, once responsible for high morbidity and mortality, became non-noticeable due to immunization

smallpox

poliomyelitis

diphtheria

tetanus

measles

pertussis

rubella

meningitis

mumps

# Immunization has a long history



1798 Edward Jenner



## *The XXth century challenges:*

- To establish sustainable National Immunization Programmes
- To develop mass vaccine production
- To find effective ways of delivering vaccination to populations in need
- Expanded Programme of Immunization, WHO (TB, diphtheria, tetanus, pertussis, polio, measles)



# Current major challenges



- Tackle threats to public acceptance of long-standing immunization programmes

*what are the threats ?*

- To develop vaccines for additional diseases and integrating them into the immunization schedules

*what are the constraints on new vaccines introduction ?*



# Current threats to long-standing programs

# ***Vaccination falls victim of its own success***



- **Loss of appreciation for the seriousness of the diseases**  
by public and health-care personnel.  
young doctors have not seen cases of some vaccine-preventable diseases.
- **Loss of fear of disease** leads to questioning need and/or safety of vaccines.  
Fear of disease may be substituted by fear of the vaccine  
Parents may feel risk of vaccine is greater than risk of disease.
- Greater **vulnerability to anti-vaccine movements**
- Vaccines are **increasingly under media spotlights**, too often for wrong reasons

In a 2005 survey of 391 US parents who claimed vaccine exemption required for school attendance:

- 69% said vaccines might cause harm
- 20,9% said that the disease was not dangerous;
- 37,2% said their children were not at risk of disease

Salmon *et al.* 2005, *Arch Pediatr Adolesc Med* **159**:470-6

In a 2005 survey of 203 Swedish parents choosing not to vaccinate children

- Main reason: fear of side effects from the vaccine
- Main source of information... the media

Dannetun *et al.* 2005. *Scan J Primary Health Care* **23**:149-53

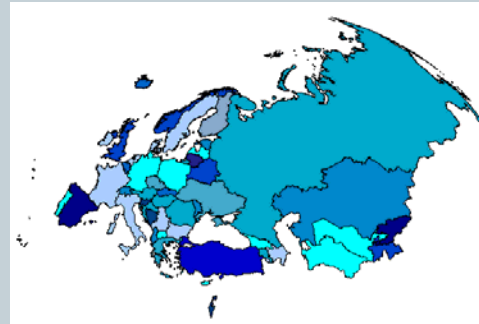
In a 1999 survey of 491 Dutch parents regarding the Nation Immun Prog

- Parents held the belief that children receive too many vaccines and this interferes with their development

Paulussen *et al.* 2006. *Vaccine* **24**:644-51

# WHO European Region: 500 000 infants are out

- Expanded Programme of Immunization (EPI)  
(TB, diphtheria, tetanus, whooping cough, poliomyelitis, measles)



Within the WHO European Region,

- ~ 500 000 infants do not receive full immunization
- ~ 32 000 die each year from vaccine-preventable diseases

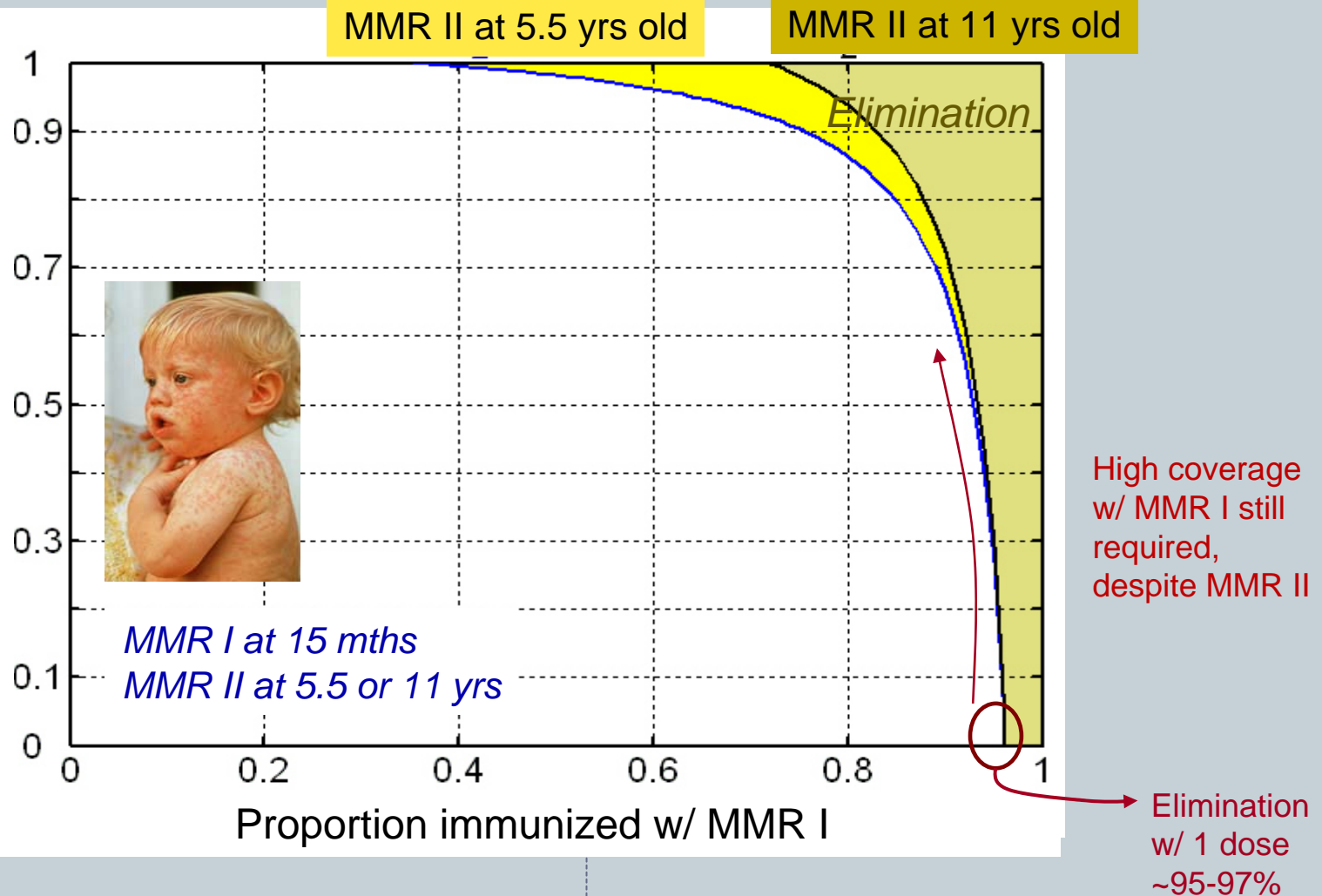
WHO 2008. *Setting the Immunization Agenda Through Advocacy and Communication*  
UK Dptm of Health & WHO Regional Office for Europe.

# Measles and rubella elimination in WHO-ER



- Member states of the WHO-ER have established a goal of eliminating measles and rubella by 2010  
...but, there are concerns,
- In 2007, approximately 50% of all cases in the WHO-ER occurred in European Union countries.  
With well established immunization services and high vaccination coverage
- Some susceptible groups are not receiving the MMR vaccine.  
Strategies are needed to promote the elimination goals.

# What it takes to eliminate measles with 2 doses





# Challenges to the introduction of new vaccines



# Conflicting challenges faced by authorities

- Attempts to reduce long-standing immunization (vaccines are unsafe, budget cuts, too many shots ... etc)
- Pressures to expand immunization to new vaccines and population groups

## Already In the market

1999 - **Conjugate Meningo-C**  
2000 - **7-valent Pneumo Conjug**  
2006 - **Rotavirus**  
2006- **HPV**

In the making or recently licensed  
for endemic, biodefence and traveller's  
(needle-free, single dose, temperature  
stable)

**Cholera,**  
**Typhoid fever**  
**Anthrax**  
**Plague,**  
**Shigella,**  
***E coli* ...**

## With various innovative approaches

**Pre-pandemic *Influenza* + trivalent  
seasonal Infl**

**Meningo - B**

**Coronavirus (SARS)**

**Pluri-valent -Pneumo Conjugate**

***M. tuberculosis***

**Malaria**

# Two steps for introduction

- The introduction of a new vaccine commonly takes 2 steps:

1. A recommendation by a national vaccine advisory board  
(CTV, Technical Commission for Vaccination, in Portugal)

*What are the main concerns of the advisers?*



2. An official decision is taken by national health authorities

*What are the constraints if the decision is YES ?*

# New vaccines force advisory enlargement



Childhood  
diseases



|             |                             |
|-------------|-----------------------------|
| Adolescents | (eg HPV)                    |
| Adults      | (eg pre-pandemic influenza) |
| Elderly     | (eg Influenza)              |
| Travellers  | (eg yellow fever)           |

Advise is coming from broader sources

**Portuguese Technical Commission of Vaccination**  
16 permanent members

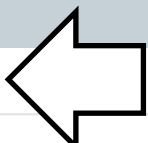
Pediatricians  
Public health physicians  
Biomathem modeller  
Biologist  
Nurse

+ Gynaecologists  
+ Immunologist

**Consulting non-permanent  
members**

Experts and expert groups

Health professional societies



# First decision: Vaccination strategy

- What is our goal for this vaccine ?

- Individual protection only  
no intention to impact epidemiology significantly
- Special risk groups only  
e.g. travellers, professionals
- Change disease epidemiology !  
Crush incidence... eliminate disease

## ***Basis for a decision:***

Extent of burden in Morbidity & Mortality  
... and projections for the future

Vaccine efficacy and safety

Age or Groups affected – *can we reach them ?*

Pattern of disease transmission (how fast ?)

Complications of disease for those affected

# Concern n° 1: Safety and Efficacy



Evaluation based on trials reported in the Product Characteristics (from the producer) and scientific literature

## **Constrains:**

- Diseases and adverse effects are rare and require very large samples to be detected (persons-time in exposed and non-exposed)
- Phase III clinical trials usually lack power (do not reject  $H_0$  even if  $H_0$  untrue). Hard to apply evidence-based medicine.
- Protection duration often ignored (need booster doses ?)
- Decisions based on best available evidence – always prone to review ...pharmaco-vigilance pos-introduction is essential !

# How does the vaccine fit into the NIP ?



## The new vaccine schedule should fit into the current National Immunization Program

- Does it interfere with immunologic response to other vaccines ?  
[Data often insufficient for a full answer ]

- Does it force more visits to the health center ?



- Does it force more shots in a single visit ?



[illegible]

# Cost effectiveness



1960's - 1980's...      Primary concern: burden of disease, save lifes.  
No pharmaco-economic analysis

A bit later...      *Some* vaccines may save lifes... and money

Burden of disease decrease measured in  
QALY's    (Quality Adjusted Life Years)

Is the vaccine “cost-effective “ ? How much does it cost to gain 1 QALY?

burden of disease,  
effectiveness,  
immunity duration,  
costs of vaccine and health care



# The logistics never end...



- After a favourable official decision...
  - Open and conduct a competitive contest for producers
  - Fit the vaccine into (an already existing) budget
  - Need to reinforce the cold chain ?
  - Inform health professionals:  
... briefings, written guidelines, web sites...
  - Prepare pharmaco-vigilance:  
Monitor the changing epidemiology  
Monitor adverse effects of the vaccine



# HPV example: not a typical childhood vaccine !

- **Targets adolescent girls before sexual debut (3 doses)**

**Goal: prevent cervical cancer in adults**

- **Does not substitute early detection by cytology-screening:**

- The vaccine is prophylactic, not therapeutic
- Does not cover all HPV types
- Condoms do not stop HPV transmission

*Impact may take >10 years to be felt*

Special delivery strategies required to reach the target population

13 yrs-old routine, 17 yrs-old catch-up

*Will adolescents show up for the 3 injections ?*

Extensive communications required...

*In*

- Reproductive-sexual appointments
- Schools
- Media

# HPV: link to reproductive health education



## **HPV: case-study for a future HIV vaccine**

**Prevent an STI in connection with sexual-reproductive health counselling**

**Opportunity to strengthen education on prevention of STI's**

*Careful though...*

**Delivery and promotion of a vaccine against sexually transmitted infections ...  
maybe sensitive issue in some cultural settings**

Essential to avoid a backlash against sexual and reproductive health education



# HPV: not business as usual



## **Need to build synergies between different health services**

- **Vaccination services**
- **Cancer control**
- **Sexual and reproductive health education**

Find ways to work together: Public + Private sector

*In Portugal: Ministry of Health & Ministry of Education*

### Local school-based Health Programs

- School sends groups of girls to HC
- HC sends personnel for briefings at school

Parents required to sign informed consent



Local schools



Local schools



Local health center



Local health center

Central health authorities



### Meetings between:

Heads of regional vaccination & pharmaceutical producer

to plan local stock piling and delivery

### Upgrade of national informatic network of vaccination record (SINUS)

- real-time notification
- estimates regional coverture

# The media hype

- Needs stories with highly emotive content to attract readers and sell to advertisers.
- Most articles are short (300-400 words), with simple messages – often in black and white terms.
- Medical research moves in small increments and rarely through dramatic breakthroughs. Media are drawn to cover sensational issues, including scare stories, rather than sober scientific issues.

## Cervical cancer vaccine 'will encourage girls to be more promiscuous'

By Aislinn Simpson

CONCERNS are mounting among family groups over the vaccination of schoolgirls against the virus that causes cervical cancer, amid fears it may lead to increased sexual promiscuity and may not be effective in the long term.

The jab will protect against human papilloma virus (HPV), which is sexually transmitted.

programme won't be felt for many years. Cervical screening remains vital."

Stephen Green, the national director of Christian Voice, said the vaccine could create future health problems.

It is 70 per cent effective against HPV but only 44 per cent effective for those who have already been exposed to the virus. The Government

## Cervical cancer jabs for pre-teen girls could save 400 lives a year

► £100m programme aimed at 12-year-olds

► Vaccine needed before onset of sexual activity

David Rose

Girls as young as 12 will be vaccinated

programme, but may be able to have the vaccine privately or on the NHS. Experts have suggested that it would not be effective in girls who have already started to have sex.

Primary care trusts will plan how to deliver the vaccination programme at a local level, although the JCVI recommends that it is given in schools. There are two vaccines available: Cervarix,

that it requires further investigation," he said.

Ann Keen, a health minister, had earlier defended the cost of the vaccine. Addressing suggestions of whether the move could encourage young girls into promiscuity, Ms Keen said: "This is about preventing cancer, not about sexual activity and promoting it. On discussions with parents

## It's a fantastic breakthrough

### DELIGHT AT CANCER JAB FOR GIRLS

HEALTH campaigners yesterday hailed the cervical cancer jab for young girls as a "fantastic breakthrough" against the devastating disease.

From next September, all girls aged 12 to 13 will be offered a vaccination to help protect against the human papilloma virus which causes 70 per cent of all cases of the cancer.

The Government, which announced the

By EMILEY COOKE, Health Correspondent

Michelle Vinall knows the devastating impact of cervical cancer after surgery two years ago.

"The teaching assistant is starting to rebuild her life but is adamant daughter Francesca, 10, will never have to go through the ordeal.

Michelle, 37, of Wraybury, Middlesex, said: "This vaccine is brilliant news. I lost 10 months

## Sex jab for girls

GIRLS as young as 12 will be vaccinated against the sexually-transmitted virus that causes cervical cancer.

Offering the jab to girls in England aged 12 to 13 from next September will cost the Government up to £100million a year.

Health Secretary Alan Johnson said: "Prevention is always better than cure." The scheme could save 400 lives a year.

## MENINGITIS VACCINE CHILD IS IN A COMA

PRESS CUTTINGS

# How to turn the media from threat to ally



- To improve media coverage, scientists and authorities must be more proactive in approaching the media and providing appropriate information beforehand.
- *a posteriori* conciliatory messages from health authorities can be seen as patronizing, defensive and indicative of having something to hide.

# Implementation of new vaccines: a personal view on recommendations



- *Keep NIP's permanently under mental revision*
  - Can new combined vaccines simplify the NIP ? At what cost ?
  - Is the schedule still adequate ? (Expl: should MMR I be anticipated to 12 mths ?)
- *Work on creating synergies at:*
  - Advisory level:                      enlarge advisement sources;  
   treasure advisors independence;  
   communicate and advocate recommendations
  - Official authorities for Health services and Education



# Implementation of new vaccines: a personal view on recommendations



- *Improve communication skills and strategies*
  - Remind that vaccine-preventable diseases are **SERIOUS**
  - Use **HARD DATA** to show that vaccination is safe and effective and is saving lives as we speak. Also use data to counter claims of anti-vaccination lobbyists
  - Be **PROACTIVE** in dealing with the media: do regular briefings when there is no vaccine scares.  
Be quick to respond to vaccine scares using the same channels
  - Pay close attention to the doubts of health-care professionals at all levels  
Provide them briefings and written guidelines

# Final remark



- Ultimately decisions concerning new vaccines depend on national policy in each country.
- As the vaccine may target new (age, social) groups, it may “fit” into different country-specific programs.

Considerations should be given to a comprehensive delivery and support structure that makes good use of these programs.

**ESCAIDE 2008 / Session: Reaching the hard to-reach. A Health Communication Challenge.**

Paulo Moreira, Deputy Head of the Health Communication Unit / [paulo.moreira@ecdc.europa.eu](mailto:paulo.moreira@ecdc.europa.eu)



**PANEL**

**The successful implementation of vaccination policies**

**Public health communication:  
Evidence and strategic challenges**

**J. Paulo Moreira, *PhD***

**ECDC**

**Deputy Head of the  
Health Communication Unit**



# Plan

- a) Health Communication: nature and added-value
- b) Health Communication at ECDC: the HCU
- c) Evidence from Health Communication Studies:  
Vaccines, credibility and health policy
  - Some findings



# Why do we Study Communication?



Why do we  
Study Communication?

... to (learn how to)  
**Change Behaviours**

*Enforcement*

**Persuasion**





- The Origins of Communication Studies

... and since  
when do we  
study  
communication

Hippocrates?

No, Aristotle!

**The Art of  
Speaking well  
in Public  
(Eloquence)**

An also... CICERO!

**The Art of  
Writing well  
(*Latinitas*)**

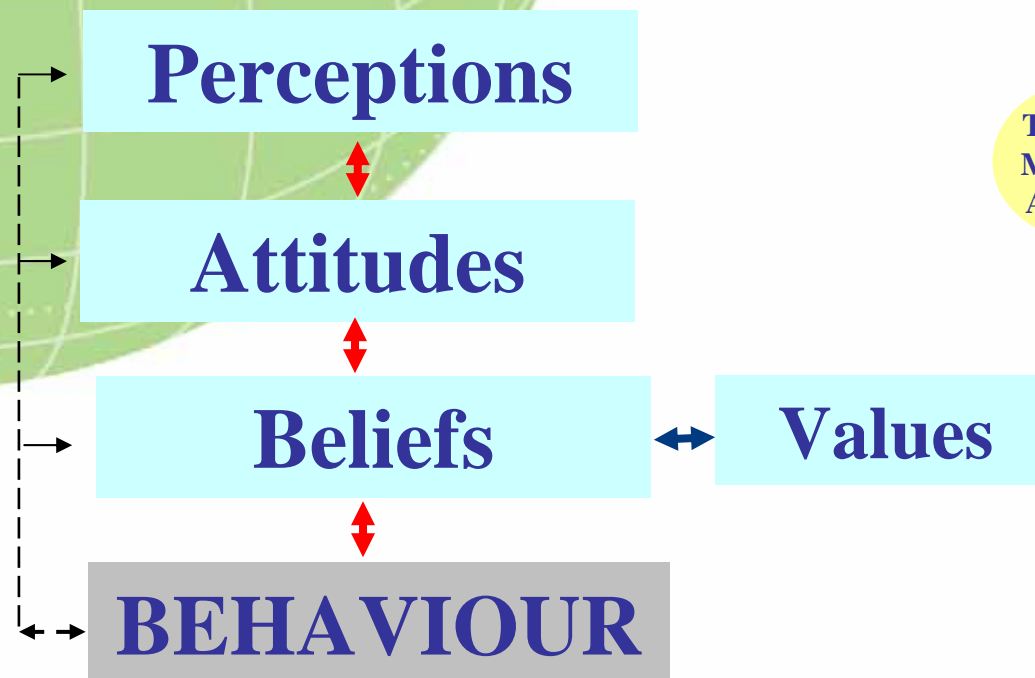


- **The Contemporary role of Health Communication Studies for PRACTICE**
- Effective Public Presentations in healthcare settings
- Leading Effective Meetings
- Leading Team Work in healthcare
- Change and Innovation Management
- Conflict Management in healthcare settings
- Interpersonal communication (patient communication)
- Public Opinion Influence and Public Health issues
- Image Management (people / organisations / social causes)
- Writing Texts/Speeches (i.e.: health policy)
- Behavioural change and Health Promotion
- Strategic Communication in health systems



**The Successful Implementation of Vaccination Policies:  
A Public Health Challenge.  
A Communication Challenge.**

**A classical  
model of  
Behaviour  
change**



**The Social  
Marketing  
Approach**

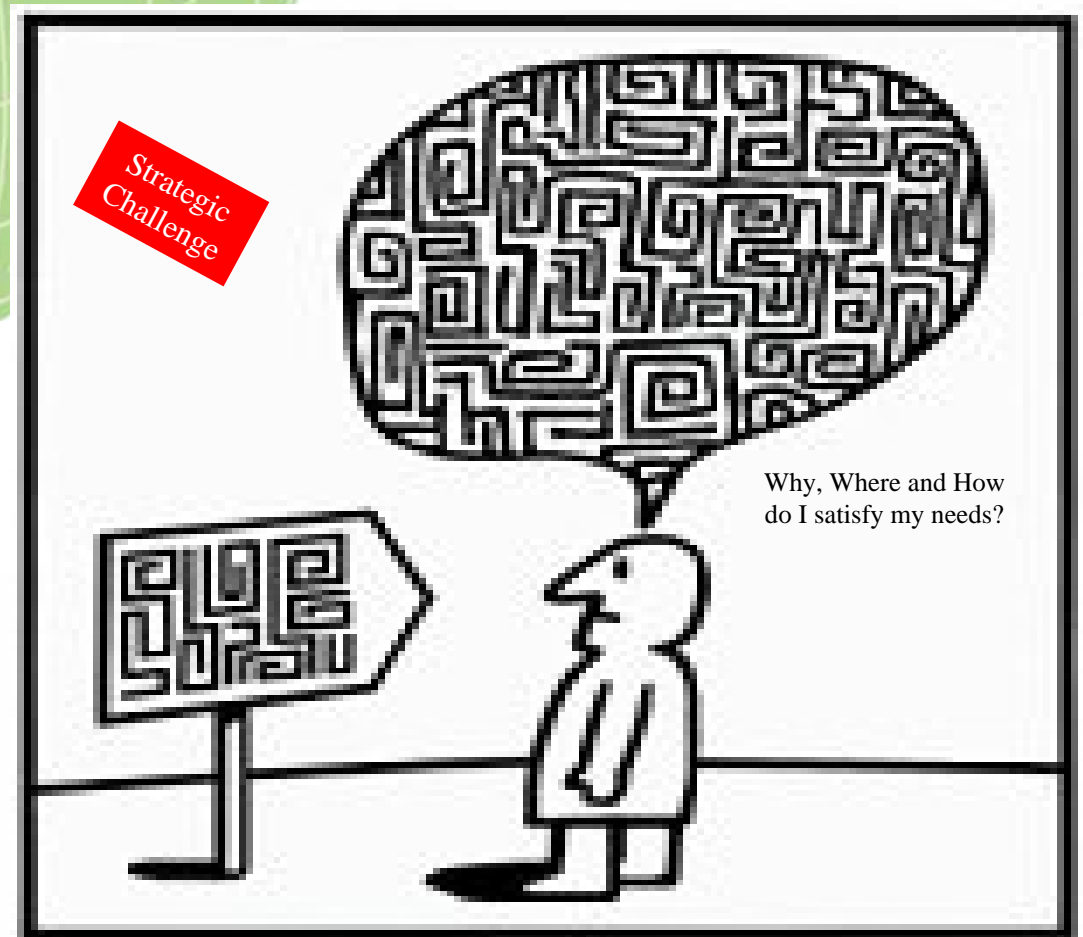
**For References See:**

Paulo K. Moreira 'Public Health in Practice: framework for a new rhetoric of persuasion'  
(400 pages) available at [www.amazon.com](http://www.amazon.com)



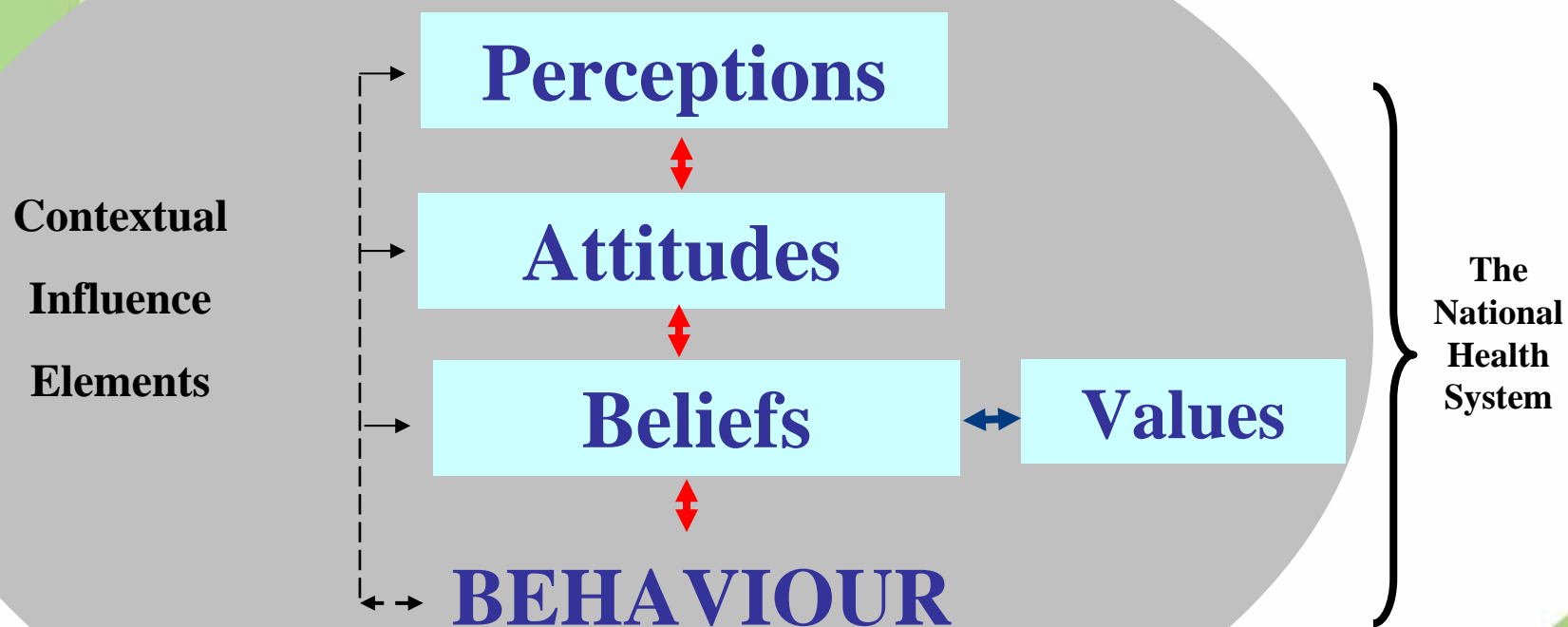
## The Successful Implementation of Vaccination Policies: A Public Health Challenge. A Communication Challenge.

*Whose Contributions to guide the citizen in the health system?...*



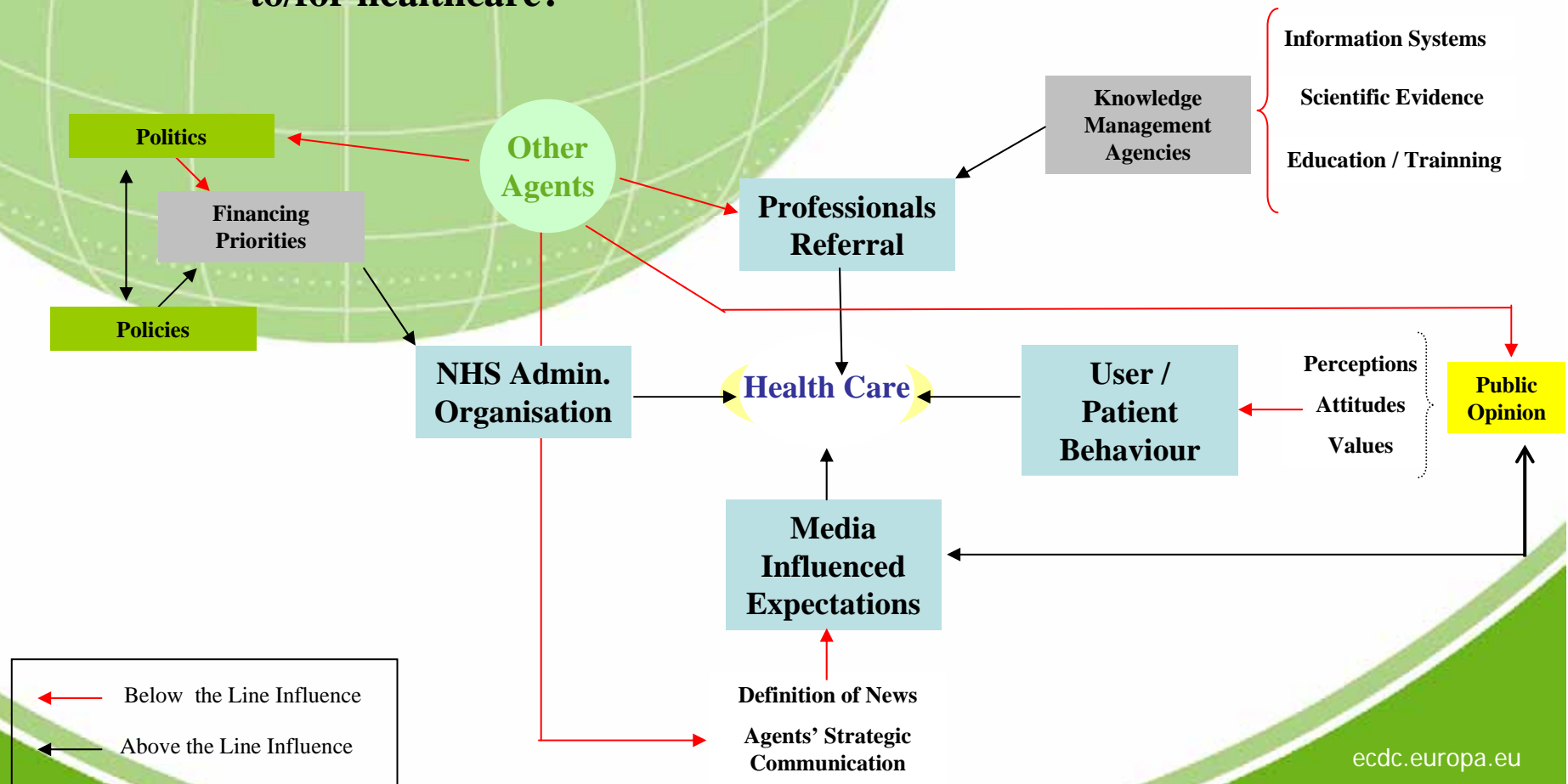


**The Successful Implementation of Vaccination Policies:  
A Public Health Challenge.  
A Communication Challenge.**



## The Successful Implementation of Vaccination Policies: A Public Health Challenge. A Communication Challenge.

### What Influences Access/Demand to/for healthcare?





**The Successful Implementation of Vaccination Policies: A Public Health Challenge. A Communication Challenge.**

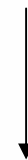
# Conceptual Frameworks for Change in Health systems:

Behaviour and Organisational Change



Therapeutic  
Compliance?

Vaccine Intake?



NHS Reforms:

-cost-effectiveness

- equity

-Health Gains / VACCINES?





## b) How do we study Communication?



## How do we study communication? Research methodology and data gathering Methods

### **Formative Research**

utilizes methods to extract "information on target audiences beliefs, values, attitudes, knowledge and behaviours related to the health problem of interest, and seeks to answer questions about the context that influences, and is influenced by, these individual factors

### **Surveys**

Surveys can be conducted using focus Groups techniques, in-depth interviews, questionnaires, Delphi panels, etc.

### **Other types of Surveys:**

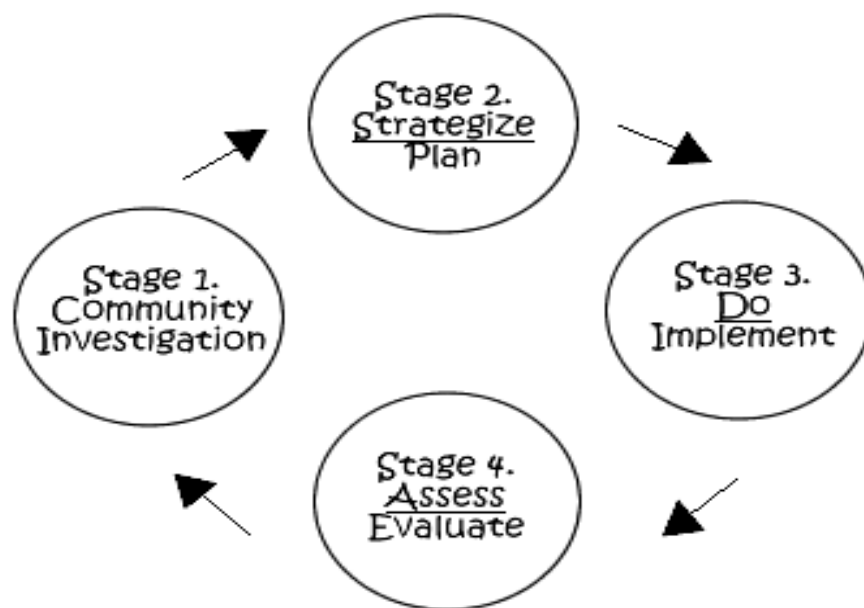
**Random Sample - Public Opinion/Attitude Survey**

**Self-Selected Survey - Newspapers, Mail, Internet and Written Questionnaires**

### **For References See:**

Paulo K. Moreira 'Public Health in Practice: framework for a new rhetoric of persuasion' (400 pages) available at [www.amazon.com](http://www.amazon.com)

### Four Stages Of Building A Campaign



| Stage?                                    | Research? |
|---|-----------|
| Know your audience                        |           |
| Define Message and channels investigation |           |
| Implement                                 |           |

#### For References See:

Paulo K. Moreira 'Public Health in Practice: framework for a new rhetoric of persuasion' (400 pages) available at [www.amazon.com](http://www.amazon.com)





## c) Evidence from Health Communication Studies: Some research findings



- Health Communication at ECDC:  
Health Communication Challenges in the EU

A Key dimension of Knowledge Management

**Why is this  
irrefutable PUBLIC  
HEALTH success  
being questioned?**

**Communication  
challenge...**

Comparison of 20th century annual morbidity and current morbidity  
from childhood vaccine preventable diseases (USA)

|  | 20th Century<br>Annual Morbidity | Morbidity<br>year 2000 |
|--|----------------------------------|------------------------|
| Diphtheria   | 175 885                          | 1                      |
| Measles  | 503 282                          | 86                     |
| Mumps  | 152 209                          | 338                    |
| Pertussis  | 147 271                          | 7 867                  |
| Polio (paralytic)  | 16 316                           | 0                      |
| Rubella  | 47 745                           | 176                    |
| Tetanus  | 1 314                            | 35                     |
| <i>H. influenzae</i> type b and unknown<br>< 5 years old | 20 000                           | 293                    |

Schwartz B and Orenstein WA.  
Vaccination Policies and Programs.  
Immunizations 2001; 28(4):697-711.  
Summary of notifiable diseases, United States, 2000.  
CDC. MMWR 2002; 49(53):1-102.

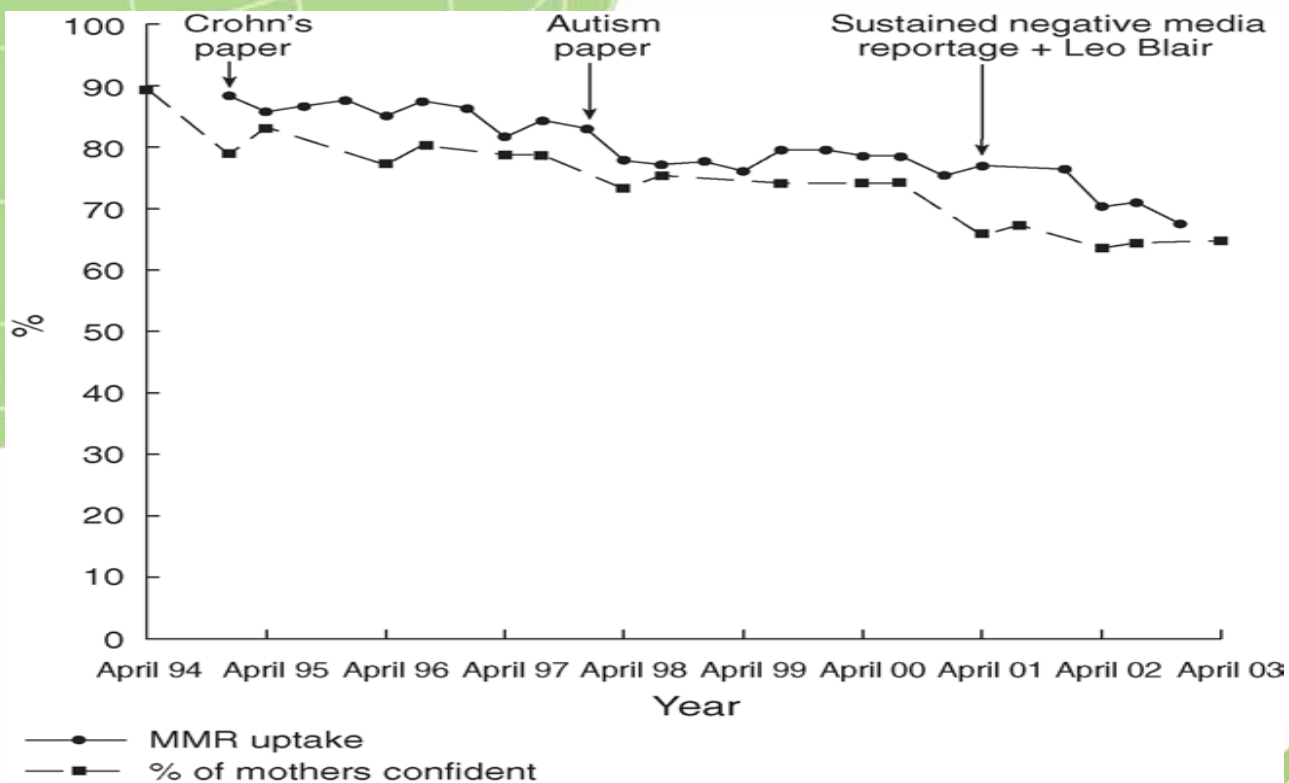


- Health Communication at ECDC:  
Health Communication Challenges in the EU

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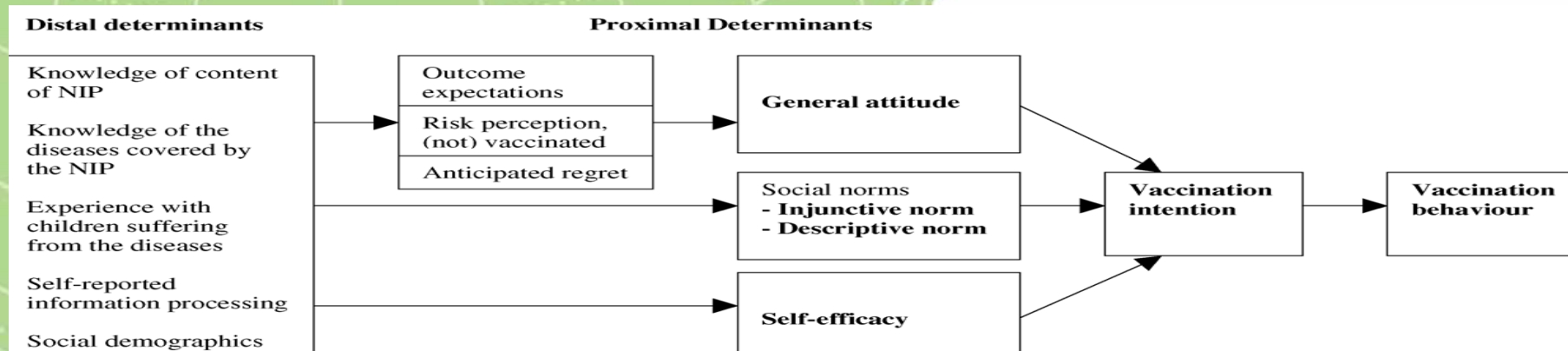
**Communication  
challenge...**



- Health Communication at ECDC:  
Health Communication Challenges in the EU

A Key dimension of Knowledge Management

Models...



Correlations and descriptive statistics of variables in the study

|    | Model variables                          | 1      | 2      | 3      | 4      | 5     | 6      | 7     | 8      | 9      | 10    | 11   | 12   | 13   |
|----|--|--------|--------|--------|--------|-------|--------|-------|--------|--------|-------|------|------|------|
| 1  | Vaccination intention                    | 1.00   |        |        |        |       |        |       |        |        |       |      |      |      |
| 2  | General attitude                         | .51**  | 1.00   |        |        |       |        |       |        |        |       |      |      |      |
| 3  | Outcome expectations                     | .46**  | .37**  | 1.00   |        |       |        |       |        |        |       |      |      |      |
| 4  | Risk perception, not vaccinated          | .29**  | .33**  | .32**  | 1.00   |       |        |       |        |        |       |      |      |      |
| 5  | Risk perception, vaccinated              | .03    | .09    | -.09*  | .26**  | 1.00  |        |       |        |        |       |      |      |      |
| 6  | Anticipated regret                       | .31**  | .29**  | .43**  | .17**  | -.04  | 1.00   |       |        |        |       |      |      |      |
| 7  | Injunctive social norms                  | .16**  | .19**  | .22**  | .12**  | -.01  | .15**  | 1.00  |        |        |       |      |      |      |
| 8  | Descriptive social norms                 | .15**  | .14**  | .27**  | .06    | .00   | .14**  | .15** | 1.00   |        |       |      |      |      |
| 9  | Self-efficacy                            | .32**  | .25**  | .66**  | .20**  | -.09* | .21**  | .14** | .21**  | 1.00   |       |      |      |      |
| 10 | Knowledge of the content of the NIP      | .04    | -.05   | .01    | -0.00  | -.04  | .03    | -.04  | .01    | .03    | 1.00  |      |      |      |
| 11 | Knowledge of diseases covered by the NIP | .14**  | -.13** | -.13** | -.11** | .10*  | -.03   | -.06  | -.08   | -.04   | .21** | 1.00 |      |      |
| 12 | Experience with the diseases             | .14**  | -.07   | -.15** | -.10*  | .01   | -.08   | -.09* | -.17** | -.11*  | .10** | .12* | 1.00 |      |
| 13 | Self-reported information processing     | -.12** | -.04   | -.15** | -.04   | .12** | -.12** | -.03  | -.09*  | -.13** | -.03  | .04  | .07  | 1.00 |

\*  $p < .05$ .

\*\*  $p < .001$ .



## Diverse Evidence

### A Key dimension of Knowledge Management

Some studies (2004, 2006, 2007) suggest that...

a) ... when given the choice, most parents prefer to have their children completely vaccinated under the NIP

b) ... parents hold positive attitudes towards vaccination, social norms were generally in favour of vaccination

c) parents perceive relatively high self-efficacy

Some studies (2004, 2006, 2007) suggest that...

d)... Parents did not engage in a lot of information processing about their decision to Vaccinate

e) ... Most parents indicated that they did not actively process information about the benefits and drawbacks before deciding whether to have their child vaccinated

f) ... Only (average) 19% of the parents reported having thought about the issue thoroughly before making a decision.





## Evidence on Parents' Perceptions... a sample

### A Key dimension of Knowledge Management

...parents' self-efficacy was most negatively affected by the belief that doctors and institutions provide selective information about the benefits and drawbacks of vaccination...

...parents also found it difficult to schedule an appointment at a convenient time...

...different levels of parental trust in the fullness of information received from doctors...

...Parents with lower vaccination intentions have the impression that doctors mention only the advantages of the vaccines and disregard the drawbacks. ....

...To a lesser extent, lower vaccination intentions were caused by the belief that "doctors hardly know what they are doing".

...not knowing where to go for vaccinations...

...the possibility of having to stay at home for a few days to take care of their child if it falls ill as a result of the vaccine...



A Key dimension of Knowledge Management

## Evidence on Parents' Perceptions... a sample

Vaccination related beliefs, by parent group (% very/somewhat agree): key results of factor analysis

| Factors and beliefs <sup>a</sup>   | Vaccine Believer <sup>b</sup><br>(n = 599) | Cautious <sup>c</sup><br>(n = 416) | Relaxed <sup>d</sup><br>(n = 626) | Unconvinced <sup>e</sup><br>(n = 179) |
|--|--|------------------------------------|-----------------------------------|---------------------------------------|
| <i>Safety of vaccines</i>  |  |                                    |                                   |                                       |
| Immunizations are one of the safest forms of medicine ever developed   | 89% <sup>d,e</sup>                         | 90% <sup>d,e</sup>                 | 60% <sup>e</sup>                  | 26%                                   |
| Immunizations are getting better and safer all the time as a result of medical research                              | 95% <sup>d,e</sup>                         | 92% <sup>d,e</sup>                 | 77% <sup>e</sup>                  | 46%                                   |
| Immunizations are always proven to be very safe before they are approved for use                                     | 72% <sup>d,e</sup>                         | 75% <sup>d,e</sup>                 | 40% <sup>e</sup>                  | 13%                                   |
| <i>Vaccine recommendations and school requirements</i>   |  |                                    |                                   |                                       |
| I was not sure about vaccinating my child, but my doctor recommended it  | 5%   | 38% <sup>b,d</sup>                 | 9% <sup>b</sup>                   | 45% <sup>b,d</sup>                    |
| Parents should be allowed to send their children to school or daycare even if those children have not been immunized | 4%   | 18% <sup>b,d</sup>                 | 9% <sup>b</sup>                   | 42% <sup>b,c,d</sup>                  |
| I am opposed to government immunization requirements because I know what is best for my child                        | 5%   | 25% <sup>b,d</sup>                 | 14% <sup>b</sup>                  | 50% <sup>b,c,d</sup>                  |
| <i>Disease protection</i>  |  |                                    |                                   |                                       |
| Vaccines are more important than ever today because immigrants bring diseases with them to the U.S.                  | 76% <sup>d,e</sup>                         | 84% <sup>b,d,e</sup>               | 54%                               | 57%                                   |
| Vaccines are more important than ever today because global travel brings higher risk of diseases                     | 92% <sup>d,e</sup>                         | 93% <sup>d,e</sup>                 | 79% <sup>e</sup>                  | 60%                                   |
| <i>Vaccination information seeking behavior</i>  |  |                                    |                                   |                                       |
| I spent a lot of time discussing my child's vaccination with the doctor  | 54% <sup>d</sup>                           | 72% <sup>b,d,e</sup>               | 38%                               | 47% <sup>d</sup>                      |
| I actively seek the most recent information about childhood immunizations  | 74% <sup>b,e</sup>                         | 78% <sup>e,d</sup>                 | 48%                               | 54%                                   |
| <i>Necessity of vaccines</i>   |  |                                    |                                   |                                       |
| There is very little chance of measles epidemic today  | 19%  | 32% <sup>b,d</sup>                 | 25% <sup>b</sup>                  | 28% <sup>b</sup>                      |
| My child does not need to be vaccinated for diseases that are not common in the U.S.                                 | 8%   | 19% <sup>b,d</sup>                 | 14% <sup>b</sup>                  | 33% <sup>b,c,d</sup>                  |
| My child should not be given a lot of shots at the same time   | 42%  | 61% <sup>b,d</sup>                 | 47%                               | 82% <sup>b,c,d</sup>                  |
| <i>Combination vaccines</i>  |  |                                    |                                   |                                       |
| A combination shot of all childhood vaccines would save my child from pain   | 54% <sup>d,e</sup>                         | 57% <sup>d,e</sup>                 | 40% <sup>e</sup>                  | 30%                                   |
| Combining all childhood vaccinations into one shot could be dangerous  | 55%  | 69% <sup>b,d</sup>                 | 53%                               | 76% <sup>b,d</sup>                    |



A Key dimension of Knowledge Management

*Some findings 1*

**Evidence on Parents' Perceptions... a sample**

- Vaccination intention is mainly affected by parents' attitudes toward vaccination
- The beliefs underlying these attitudes are not, in most cases, the result of a detailed search for information or thorough thinking about the issue.
- Educational messages about vaccination should, therefore, contain full information about the benefits and drawbacks
- Communication actions should be aimed at enabling parents to make well-considered decisions





A Key dimension of Knowledge Management

*Some findings 2*

**Evidence on Parents'  
Perceptions... a sample**

- Medical doctors and other health-care providers play an important role in the persuasive communication process
- The reliability of the sources of information and the credibility of information process are important aspects of persuasive communication
- Practitioners are not always thought to be credible or reliable; parents doubt whether doctors themselves are knowledgeable about side-effects
- Medical practitioners should, therefore, be knowledgeable and give full information about all aspects



A Key dimension of Knowledge Management

**Evidence on Parents' Perceptions... a sample**

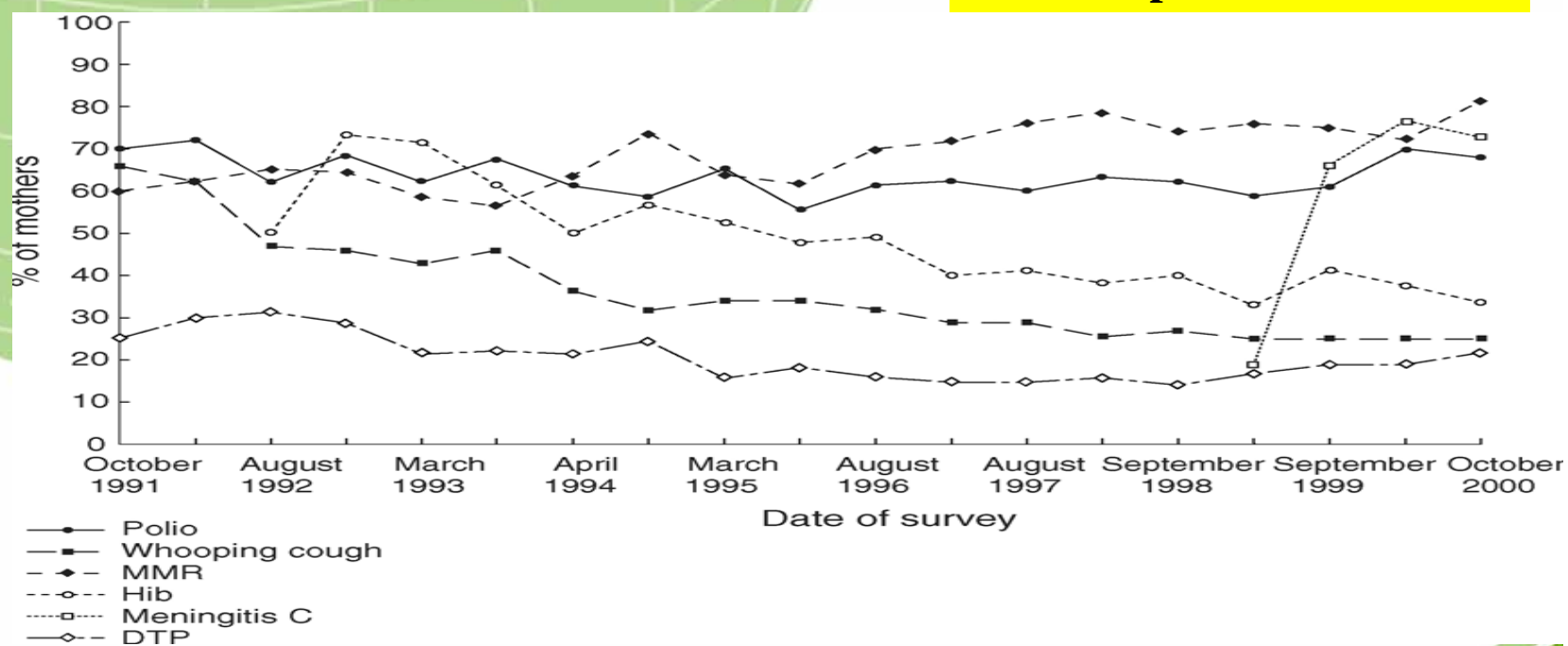
*Some findings 3*

- In response to parents' concerns about the number of vaccines children receive at the same time, it is important not to increase the number of injections children receive (regardless of the effectiveness of a new vaccine).
- Educational messages need to tackle the perception that vaccination is a threat to the immune system and that it might lead to auto-immune Diseases
  - Parents with a full picture of the benefits and drawbacks will be more prepared to resist counter-arguments that question their initial positive attitudes towards vaccination. ("psychological inoculation").

A Key dimension of Knowledge Management

*Evolution of Perceptions*

**Evidence on Mothers' Perceptions... a sample**



An evolution of mothers' perceptions and awareness of individual childhood vaccines.



A Key dimension of Knowledge Management

**Evidence on Parents MESSAGE  
EXPECTATIONS... a summary**

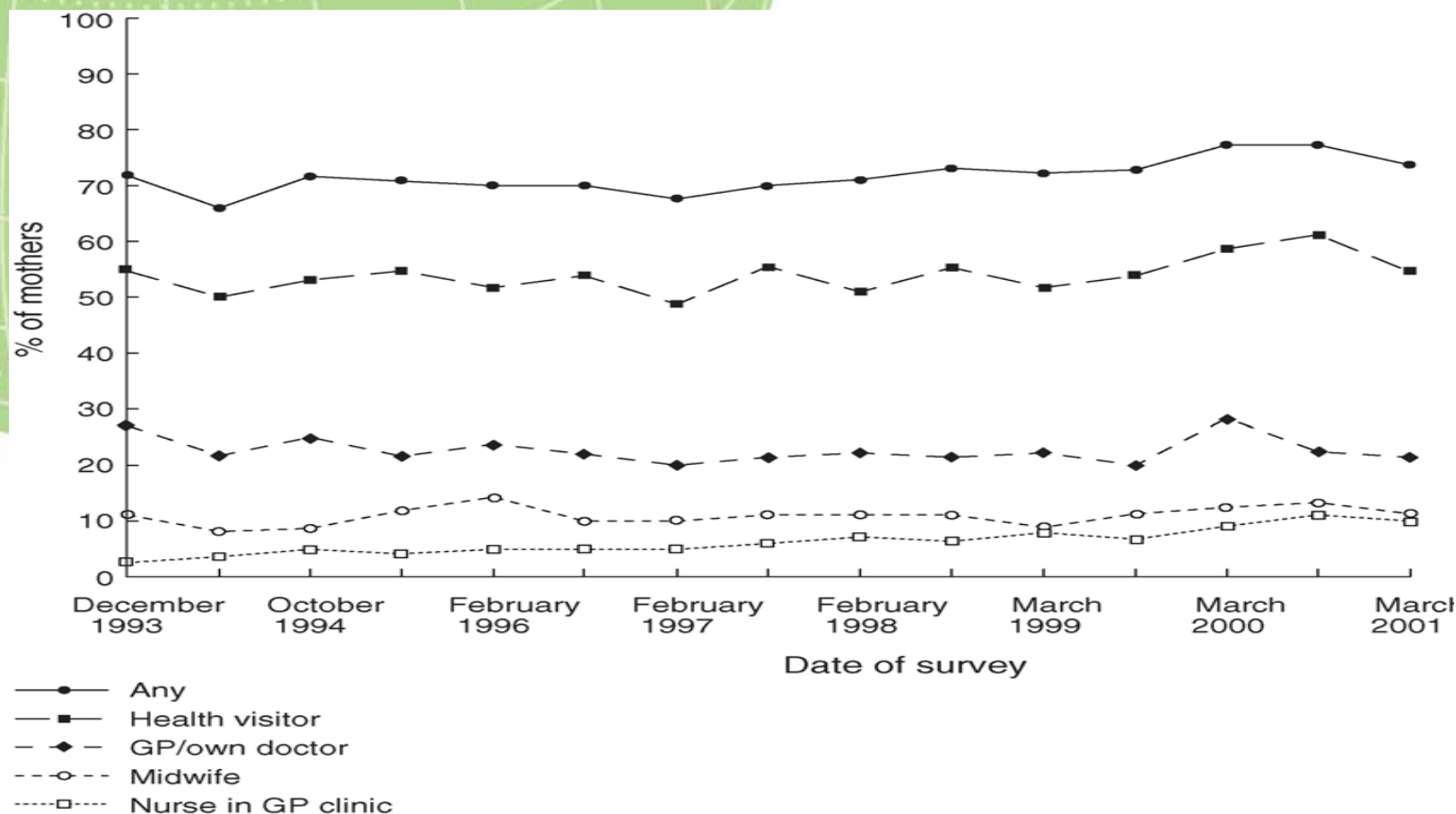
- clarity;
- consistency;
- factual information;
- openness;
- diverse routes/sources for receiving information;



## Evidence on Professionals' Perceptions... a sample

A Key dimension of Knowledge Management

The health professionals with whom mothers discussed immunisation before their child's immunisations were due.





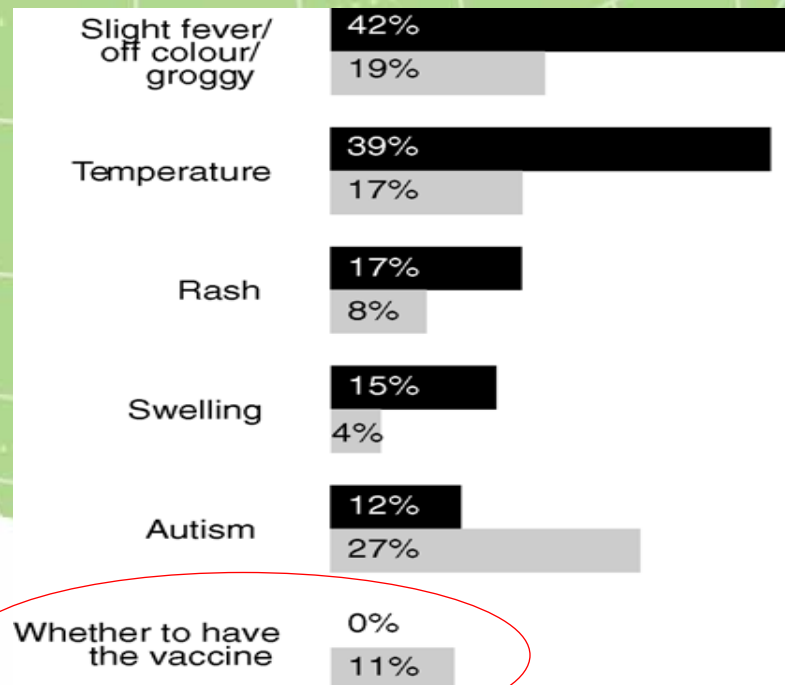


A Key dimension of Knowledge Management

Evidence on Professionals'  
Perceptions... a sample

Side effects  
discussed.

Base: All mothers of 0–  
2s who discussed side  
effects



Base: All mothers of 0-2s who discussed side effects Wave 20

■ With a health professional (n=540)  
■ With anyone else (n=489)



A Key dimension of Knowledge Management

## Evidence on Professionals' Perceptions... a sample

**What about Medical Doctors?**

A 2008 Survey on Dutch GPs...

Reasons for not being vaccinated Number (%)

- I have no medical indication for vaccination (52%)
- I am protected against influenza by frequent professional exposure to the virus (28%)
- I doubt whether vaccination will be effective (16%)
  - I forgot the vaccination (14%)
- I fear adverse effects from vaccination (6%)

**ESCAIDE 2008 / Session: Reaching the hard to-reach. A Health Communication Challenge.**

Paulo Moreira, Deputy Head of the Health Communication Unit / [paulo.moreira@ecdc.europa.eu](mailto:paulo.moreira@ecdc.europa.eu)



**Follow-up on Evidence, References and any other issues**

**[paulo.moreira@ecdc.europa.eu](mailto:paulo.moreira@ecdc.europa.eu)**

**For References See:**

**Paulo K. Moreira 'Public Health in Practice: framework for a new rhetoric of persuasion'  
(400 pages) available at [www.amazon.com](http://www.amazon.com)**

[ecdc.europa.eu](http://ecdc.europa.eu)





**Thank you !!!**



**Paulo K. Moreira**

Deputy Head of *the* Health Communication Unit, ECDC



***Specific and validated tools,  
which could be used to support the  
implementation of new vaccination  
programmes***

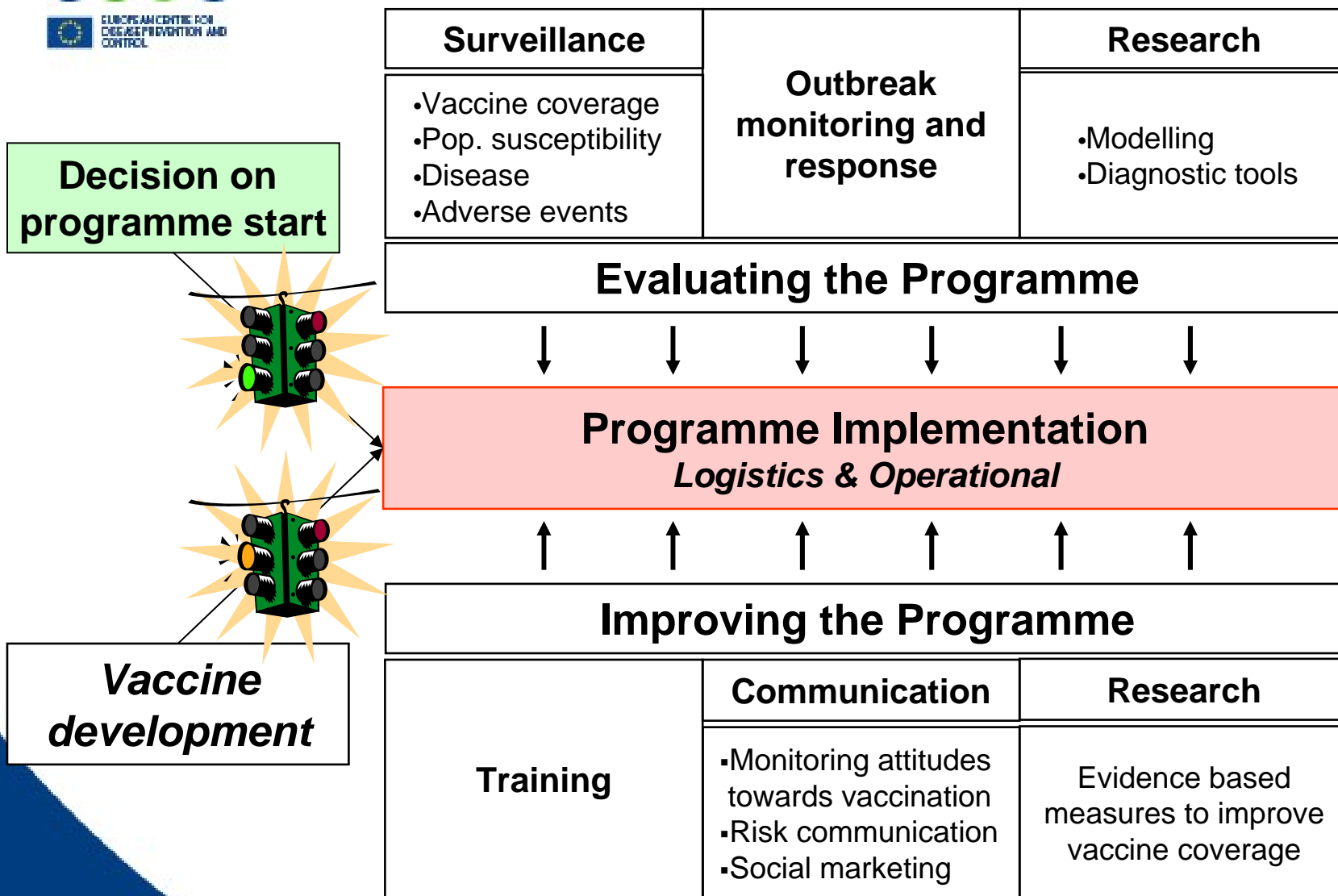
Pier Luigi Lopalco

*European Centre for Disease Prevention and Control*

**6 November, 2008  
Lisbon**

# **1 - Identify critical points**

# Components of immunisation programmes



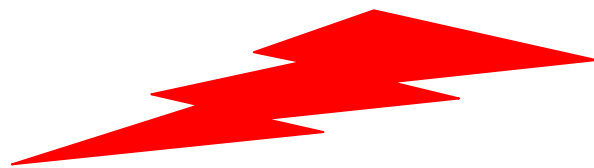
## Figure out specific handlers

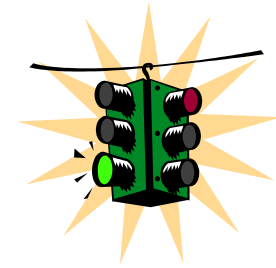
Barriers to  
**decision making**

Barriers to  
**access**

Socio-economic  
Organization  
Cultural  
Political

**Specific stakeholders:**  
communication  
advocacy  
support





- [illegible]

### Other preventive services in the “basket”:

colorectal cancer screening (8), hypertension screening (8), cervical cancer screening (7), cholesterol screening (7), injury prevention counselling (4), [...]

## **2 - Monitoring and managing vaccine safety**



# Is Vaccine Safety an issue in the EU?

## BBC News, March 2005: 'No link' between MMR and autism

The jab has been highly controversial  
Scientists say they have strong evidence that the MMR vaccination is not linked to a rise in autism.



1998, the Wakefield controversy

## Health Protection Agency, August 2008

A recently published study predicting the number of children susceptible to measles in the population suggests the possibility of a measles epidemic is very real



# Is Vaccine Safety an issue in the EU?

## signals and rumours on vaccine safety

France, 1991: Multiple Sclerosis and the Hepatitis B Vaccine

Germany, 2003: Hexavalent vaccines and SID

Israel, 2006: Deaths after Influenza vaccination

Austria, 2007: HPV vaccine and SUD

# Main limitations of institutional systems in place

- Quality of reporting
- Underreporting
- No dedicated system for AEFI
- Signal generation is limited
- Causality assessment often requires long and expensive studies

Major effort is needed to put in place stronger systems for AEFI monitoring and managing.

# AEFI monitoring in the EU: Actors and Activities

EMEA

- Eudravigilance
- ENCePP

National pharmacovigilance systems

WHO Uppsala Centre

Brighton Collaboration

DG SANCO

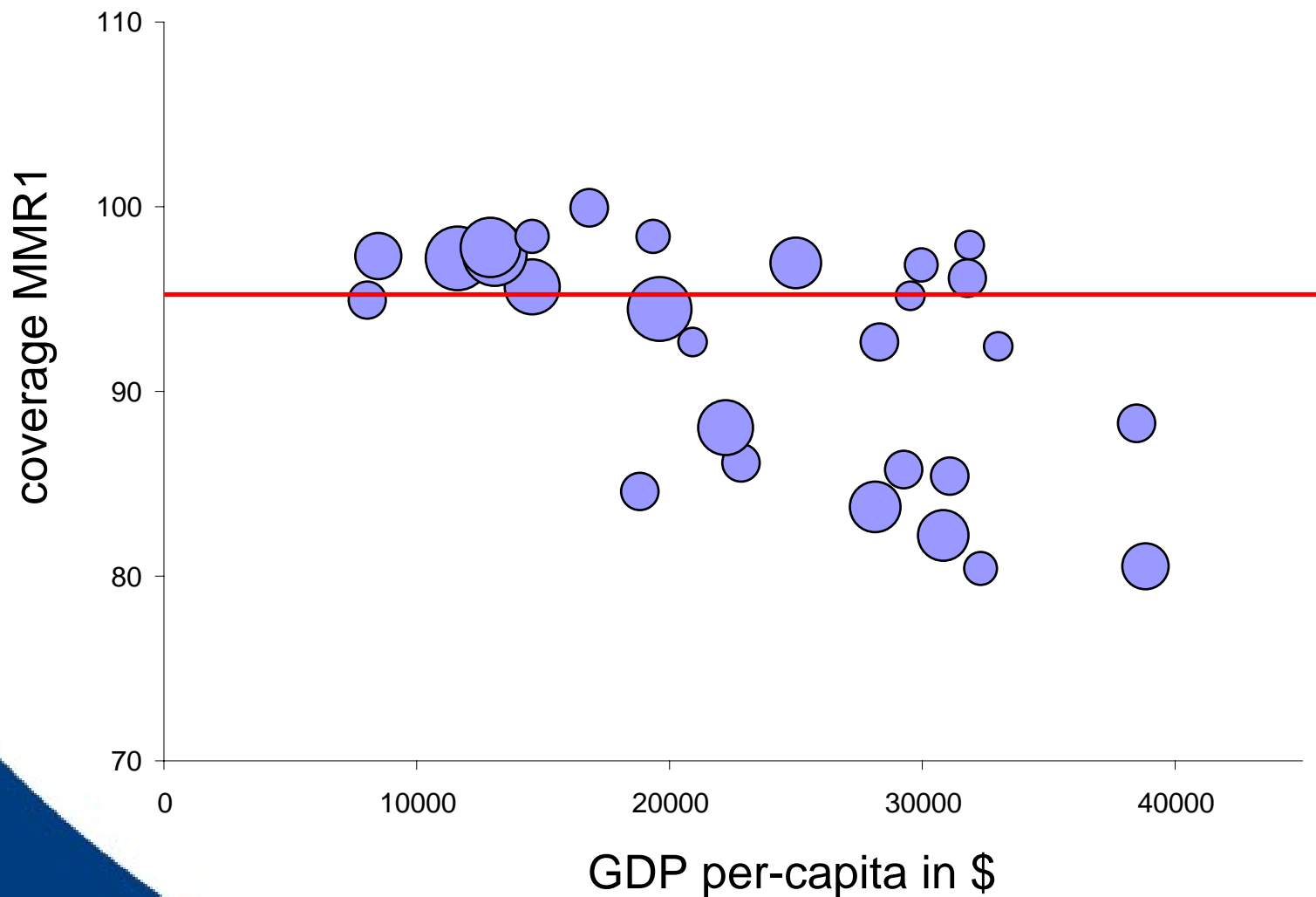
- VENICE WP5
- VACSATC WP4

ECDC

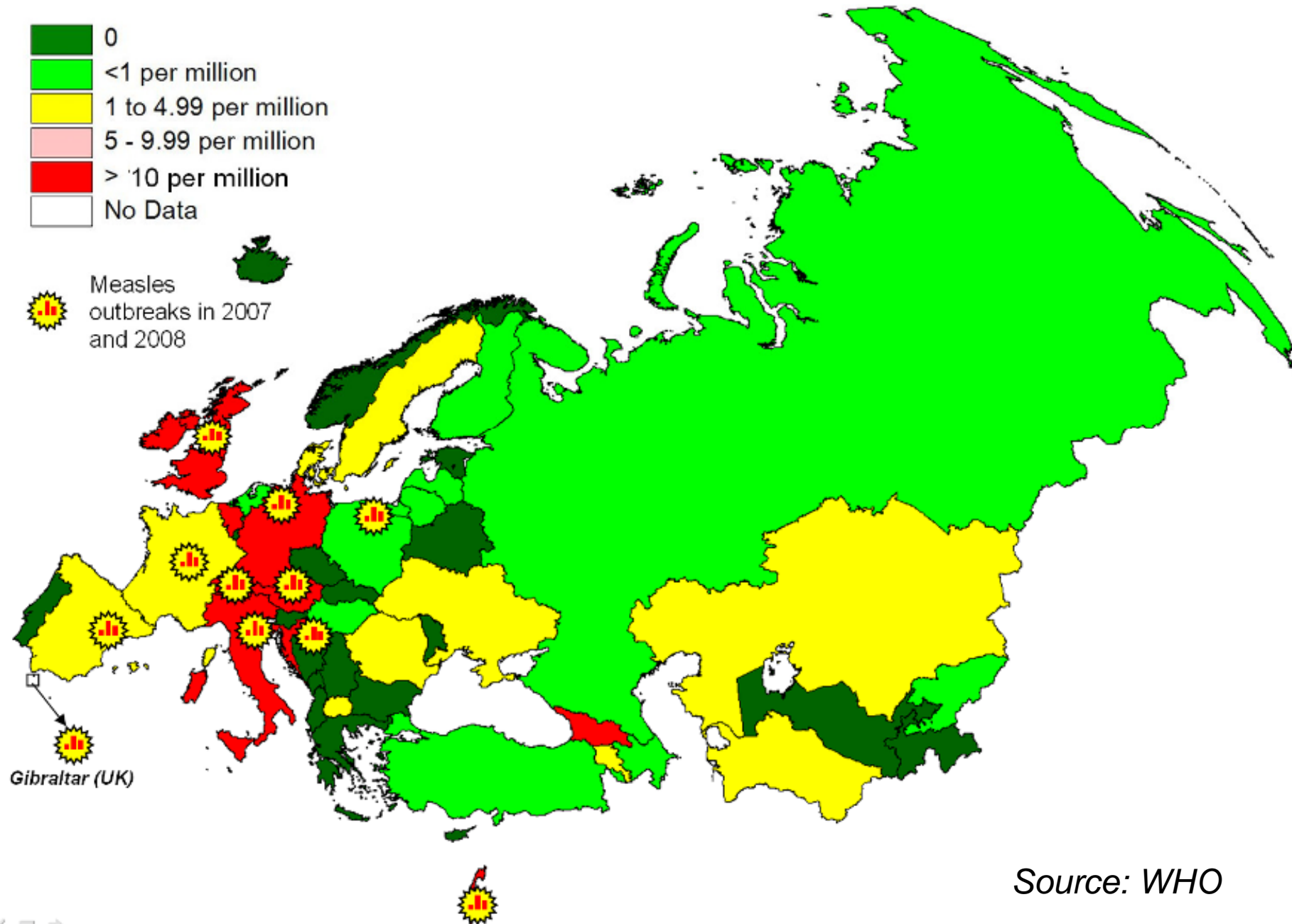
- VAESCO

**3 - Close one chapter before opening  
a new one...**

# MMR coverage and GDP in EU countries



# Last 12 month Measles Incidence and Outbreaks Jul-2007 to Jun-2008





# Measles cases reported in Europe\* in 2008

| 2008                         | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | Total |
|------------------------------|------|------|------|------|-----|------|------|------|------|------|------|------|-------|
| <b>Austria</b> (100%)        |      |      |      |      |     |      |      |      |      |      |      |      | 427   |
| <b>Belgium</b> (100%)        |      |      |      |      |     |      |      |      |      |      |      |      | 97    |
| <b>Croatia</b> (100%)        |      |      |      |      |     |      |      |      |      |      |      |      | 51    |
| <b>Czech Republic</b> (100%) |      |      |      |      |     |      |      |      |      |      |      |      | 2     |
| <b>Denmark</b> (100%)        |      |      |      |      |     |      |      |      |      |      |      |      | 10    |
| <b>Finland</b> (100%)        |      |      |      |      |     |      |      |      |      |      |      |      | 5     |
| <b>France</b> (100%)         |      |      |      |      |     |      |      |      |      |      |      |      | 189   |
| <b>Germany</b> (100%)        |      |      |      |      |     |      |      |      |      |      |      |      | 904   |
| <b>Ireland</b> (100%)        |      |      |      |      |     |      |      |      |      |      |      |      | 46    |
| <b>Italy</b> (67%)           |      |      |      |      |     |      |      |      |      |      |      |      | 1236  |
| <b>Latvia</b> (100%)         |      |      |      |      |     |      |      |      |      |      |      |      | 3     |
| <b>The Netherlands</b> (89%) |      |      |      |      |     |      |      |      |      |      |      |      | 86    |
| <b>Norway</b> (100%)         |      |      |      |      |     |      |      |      |      |      |      |      | 4     |
| <b>Poland</b> (100%)         |      |      |      |      |     |      |      |      |      |      |      |      | 38    |
| <b>Romania</b> (100%)        |      |      |      |      |     |      |      |      |      |      |      |      | 14    |
| <b>Spain</b> (100%)          |      |      |      |      |     |      |      |      |      |      |      |      | 202   |
| <b>Sweden</b> (100%)         |      |      |      |      |     |      |      |      |      |      |      |      | 25    |
| <b>Switzerland</b> (89%)     |      |      |      |      |     |      |      |      |      |      |      |      | 1932  |
| <b>United Kingdom</b> (100%) |      |      |      |      |     |      |      |      |      |      |      |      | 1000  |

*\*only countries that reported >1 case are listed*

Source: [euvac.net](http://euvac.net)

# Dangerous Imports



All cases of measles in the U.S. are linked to imported cases. Amy Parker discusses vaccination, the safest, most effective method to prevent measles.

<http://www2a.cdc.gov/podcasts/player.asp?f=9986>

## **4 - Team work**

# Vaccination programmes are very complex

- No single Nation/Institution/Category of professionals can do this job alone
- It's priority:
  - Breaking the barriers between professionals
  - Establish strong and steady communication/collaboration channels between different sectors of the health care system
  - Open to the civil society
- Establish transparent partnership with the industry

## Conclusions

- Identifying barriers is the first step to figure out specific handlers and put in place specific tools
- Do not underestimate the potential impact of alleged AEFI
- Meeting the goal of measles and rubella elimination is a key issue
- Break all barriers – putting apart any personal interest – in order to achieve a greater goal

**thank you**

[www.ecdc.europa.eu](http://www.ecdc.europa.eu)

The Successful  
Implementation of  
Vaccination policies:  
**Lessons learnt from  
the introduction of  
HPV vaccination**

**Luc Hessel, M.D.**  
*Executive Director  
Policy Affairs, Europe  
Sanofi Pasteur MSD  
Lyon, France*

***Vaccination: a Key Contributor to  
Health and Innovation in Europe***

*EUPHA 2008, Lisbon, 6-8 November 2008*



# Lessons learnt from the introduction of HPV vaccination

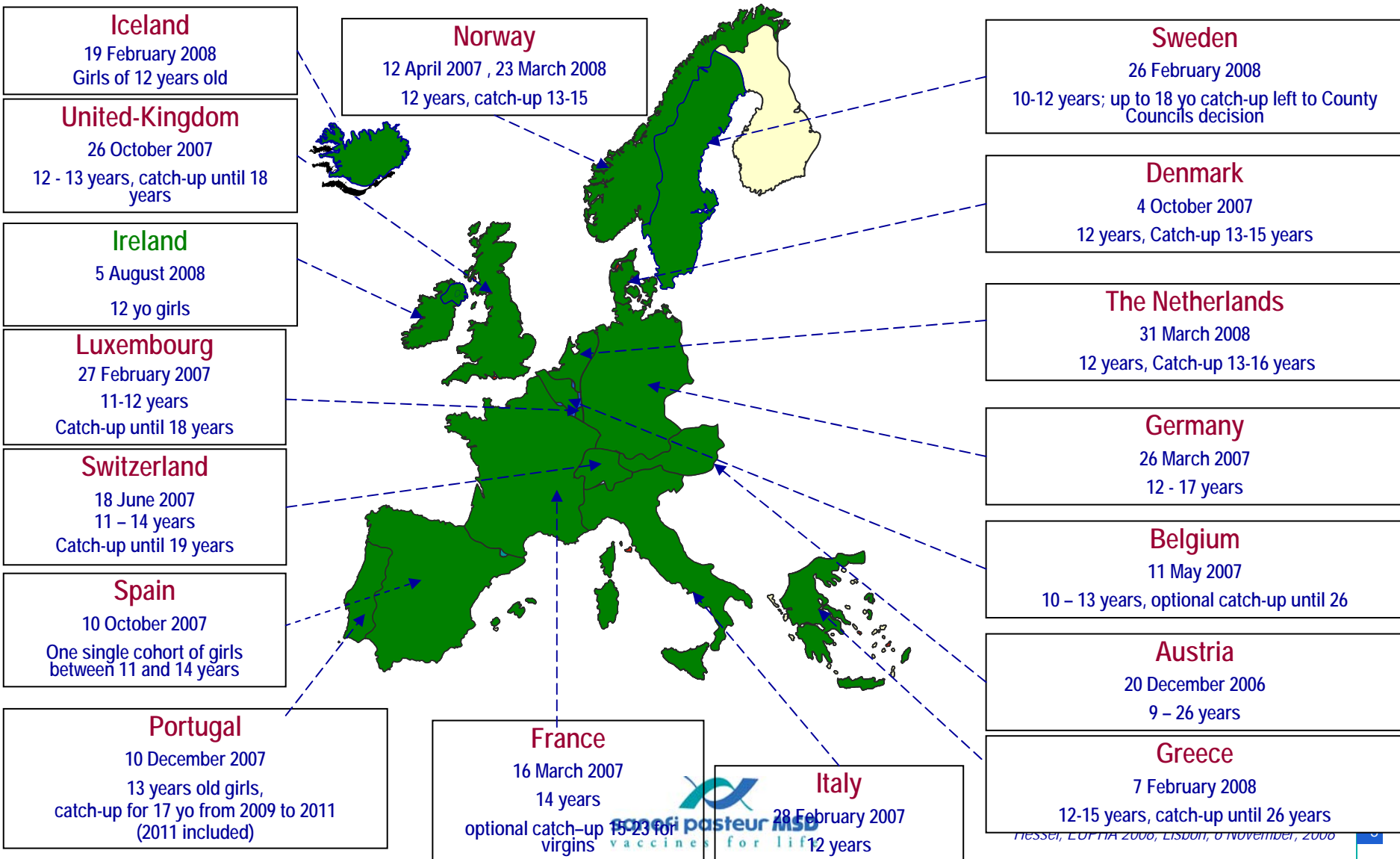
1. The rapid introduction of HPV vaccination has been driven by robust data within the context of a receptive environment
2. Multiple stakeholders are involved in the successful introduction of a new vaccine
3. The success of a vaccination programme is inherently fragile and relies on the continuing commitment of all those who have supported its introduction
4. Implementation is the most complex and challenging process in the adoption of a vaccination policy:
  - ➔ The medical community plays a critical role
  - ➔ Consumer acceptance is a new dimension in vaccinology
  - ➔ The importance of « third party » endorsement

- The successful introduction of HPV vaccine in Europe
- Determinants of the successful introduction of HPV vaccination
- The challenges of implementing and adopting (HPV) vaccination policies
- How to ensure the successful implementation of vaccination policies

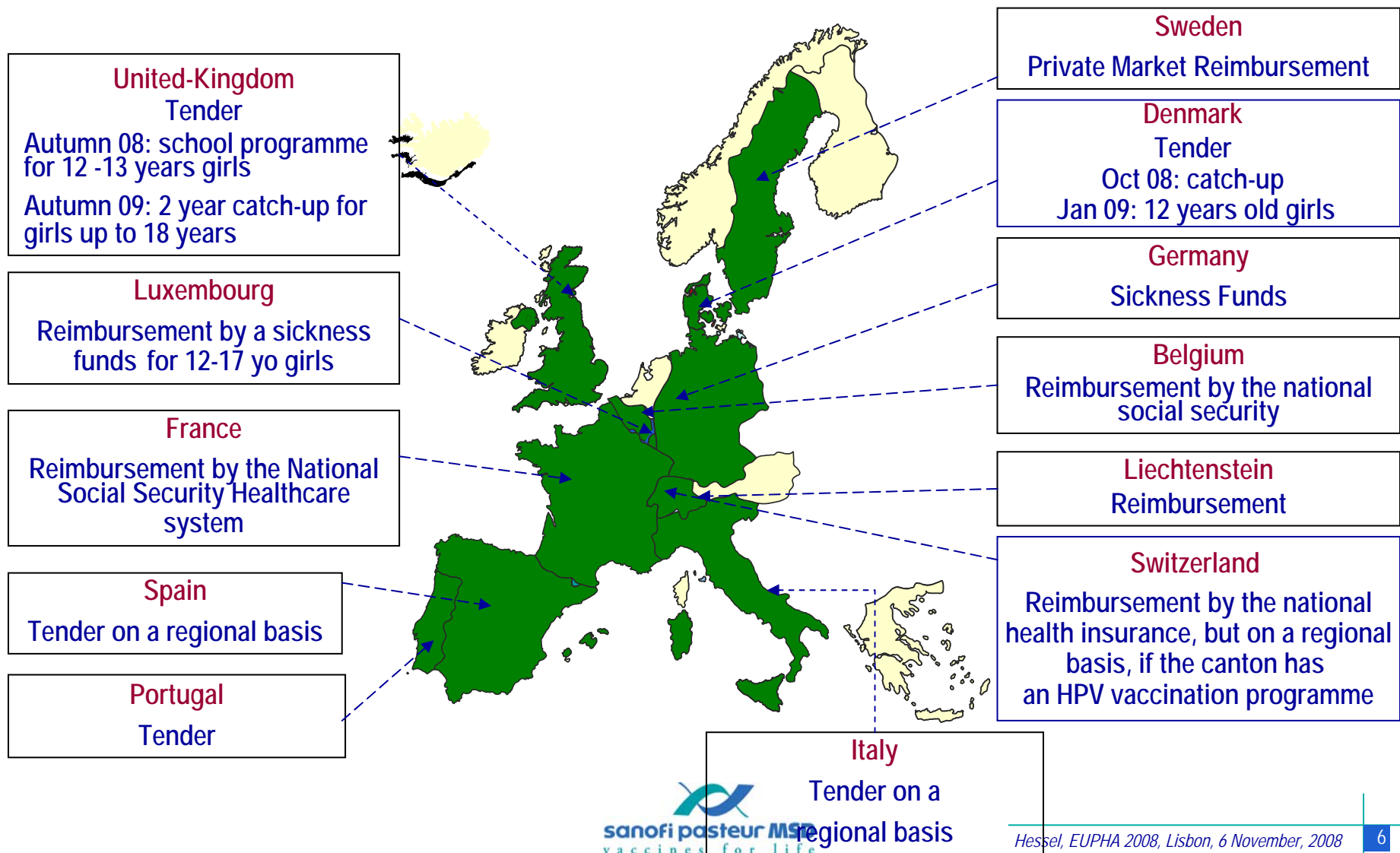
- Fast filing and approval (EMA October 2006)
- Rapid recommendations, funding and implementation of vaccination programmes
- Innovation of HPV vaccines largely recognised by the scientific community and health care professionals

# HPV vaccine recommendations in Western Europe

## October 2008 (18 countries)



# HPV vaccination programmes: funding status in Western Europe (October 2008: 12 countries)



# Determinants of the successful introduction of HPV vaccination

## 1. Epidemiological need

### Disease burden and related costs

- Disease affect several organs & progress stepwise
- 4 virus types cause vast majority of diseases

## 2. Appropriate vaccine design

- Selection of antigens
- Vaccine formulation (VLPs, experience)
- Clinical development plan

## 3. Global evaluation of vaccination benefits

- Meaningful clinical endpoints: pre-cancerous lesions
- Proven clinical efficacy against each targeted disease / virus type
- Anticipated public health and economic impact
- Anticipated social acceptance

Robust data effectively tailored to address scientific, medical, as well as public health needs

*“Vaccines are being submitted to increasingly rigorous evidence-based evaluation. In the case of HPV vaccination, robust data has facilitated the rapid introduction of vaccination, within the context of an environment that was receptive to vaccination against cancer”\**

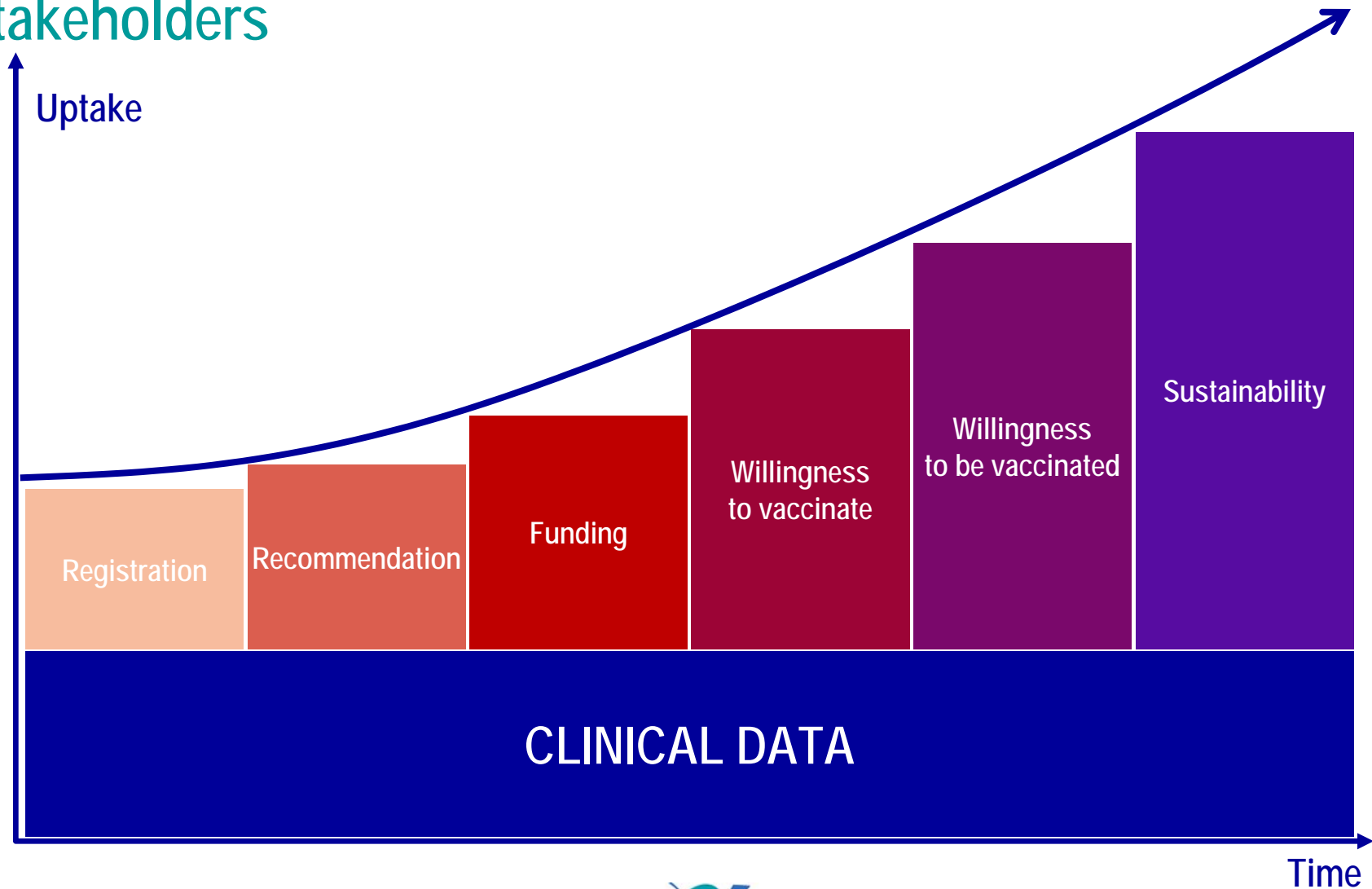
*“The fact that policy makers have been so quick in issuing recommendations demonstrates that the criteria for decision-making have been more precise and standardised”\*\**

\* P. Van Damme, S. Pecorelli, E.A. Joura, J Public Health, 2008;16:

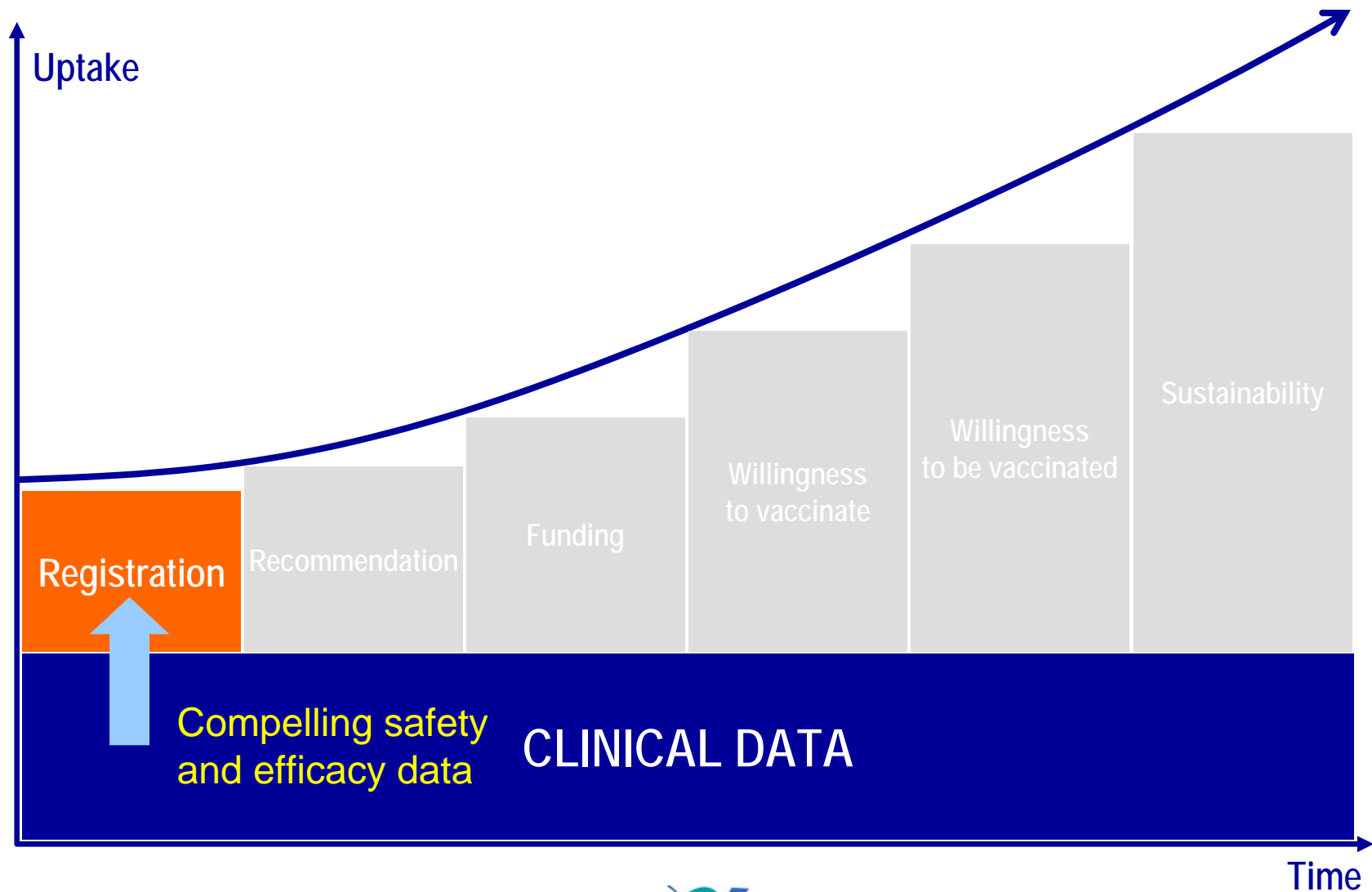
\*\* HJ Hutt, J Public Health 2008;16:245-246



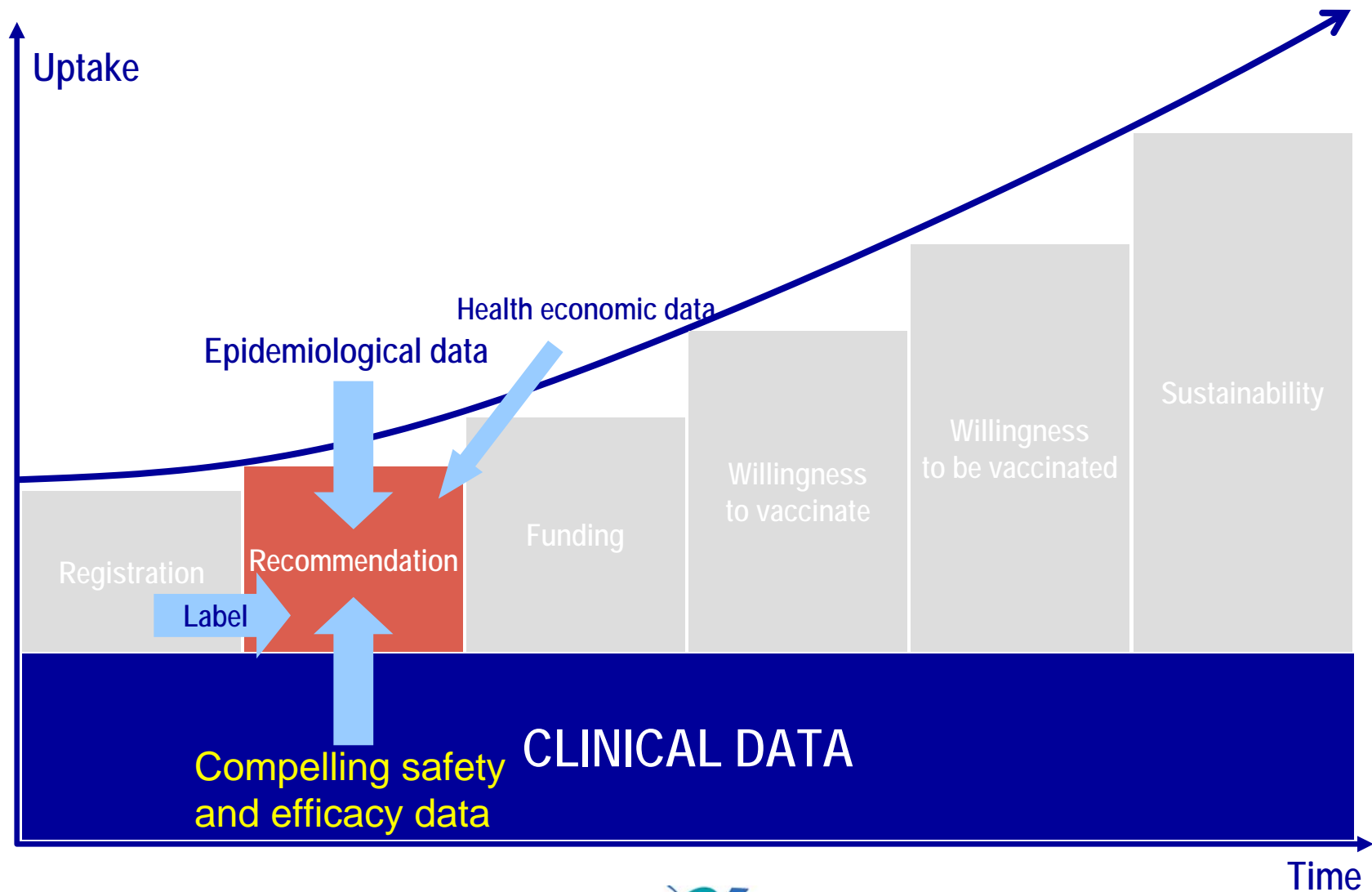
# Determinants of the successful introduction of HPV vaccination: a stepwise approach involving multiple stakeholders



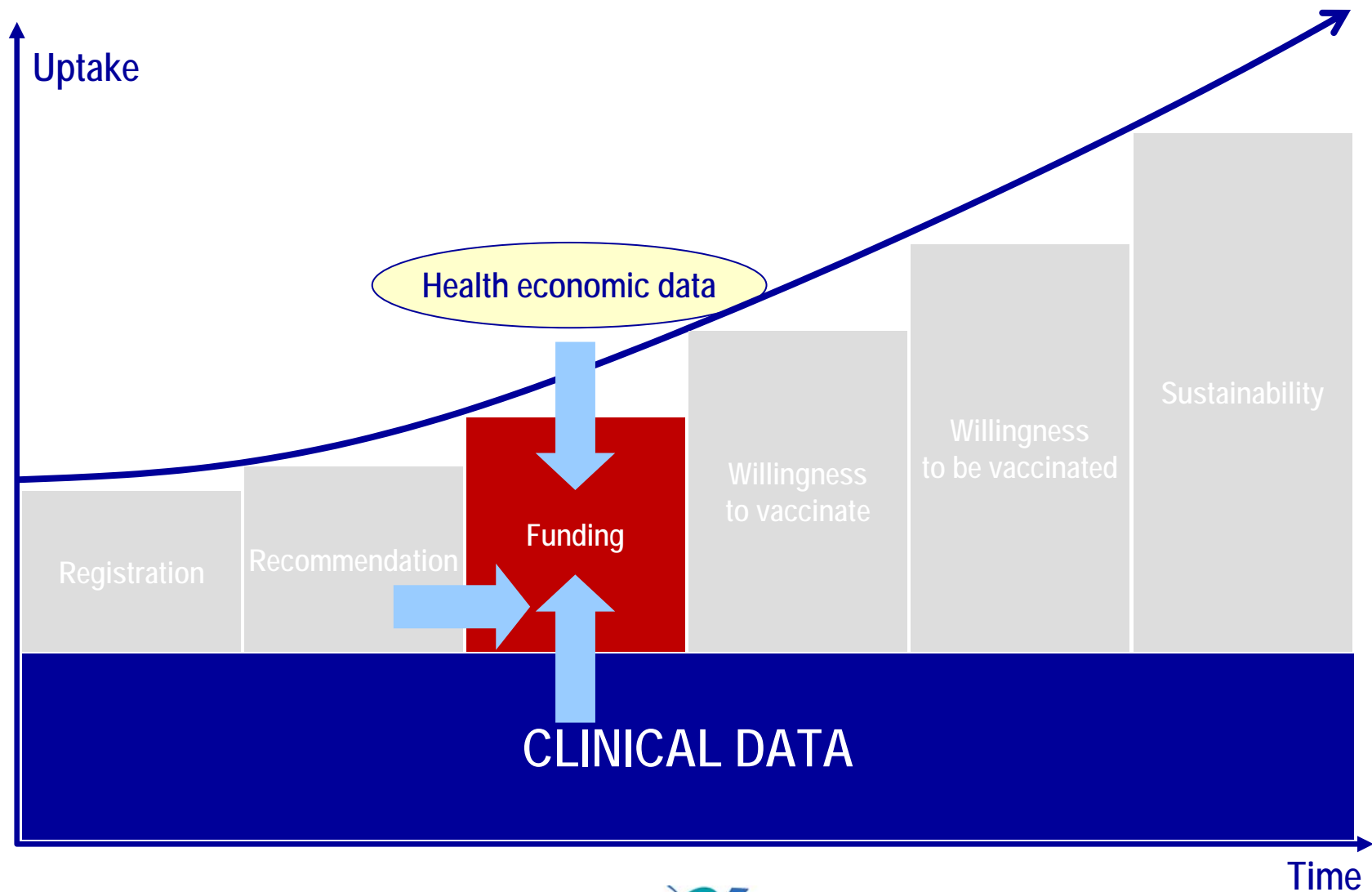
# Determinants of the successful introduction of HPV vaccination: regulators



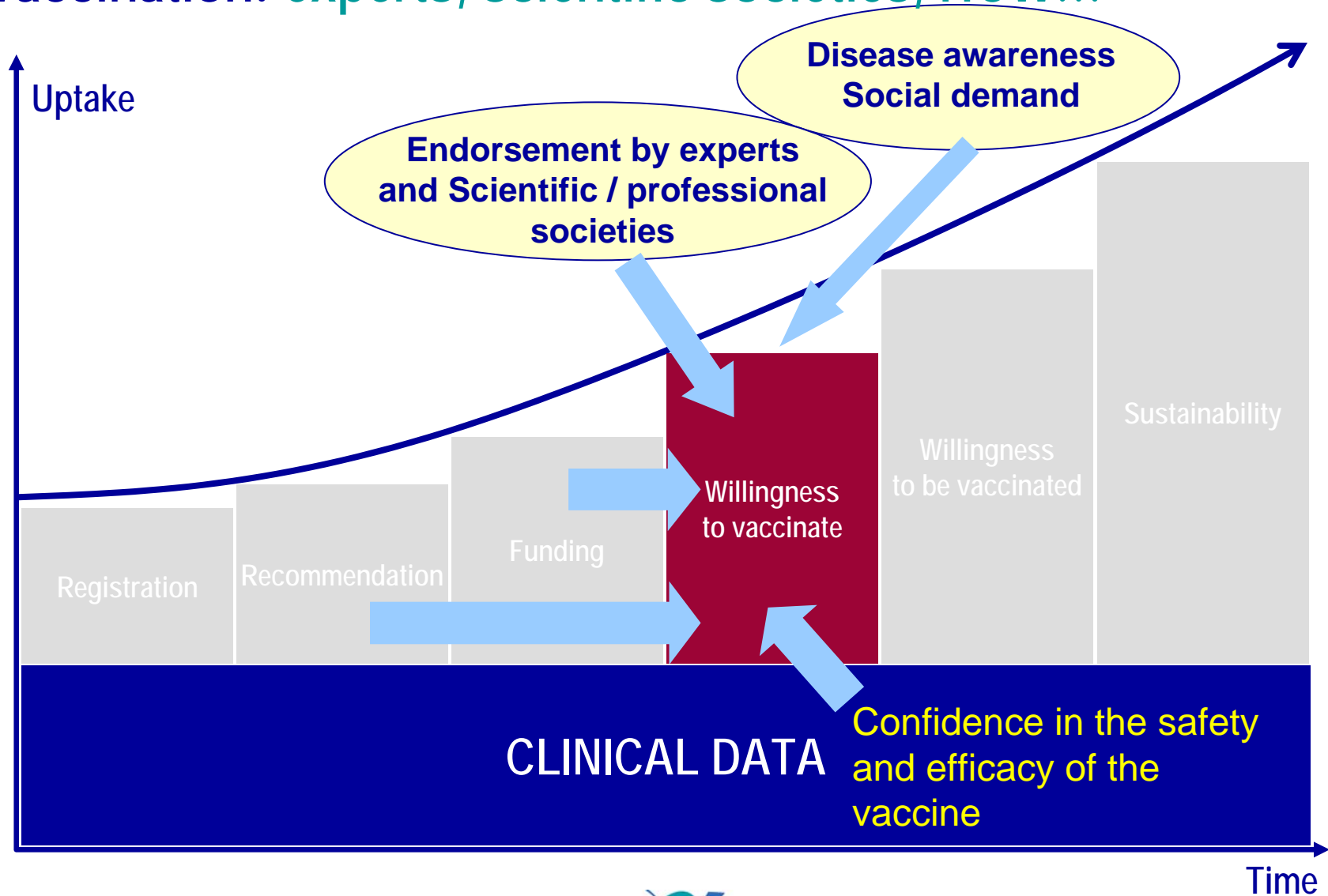
# Determinants of the successful introduction of HPV vaccination: National Vaccine Advisory Committees



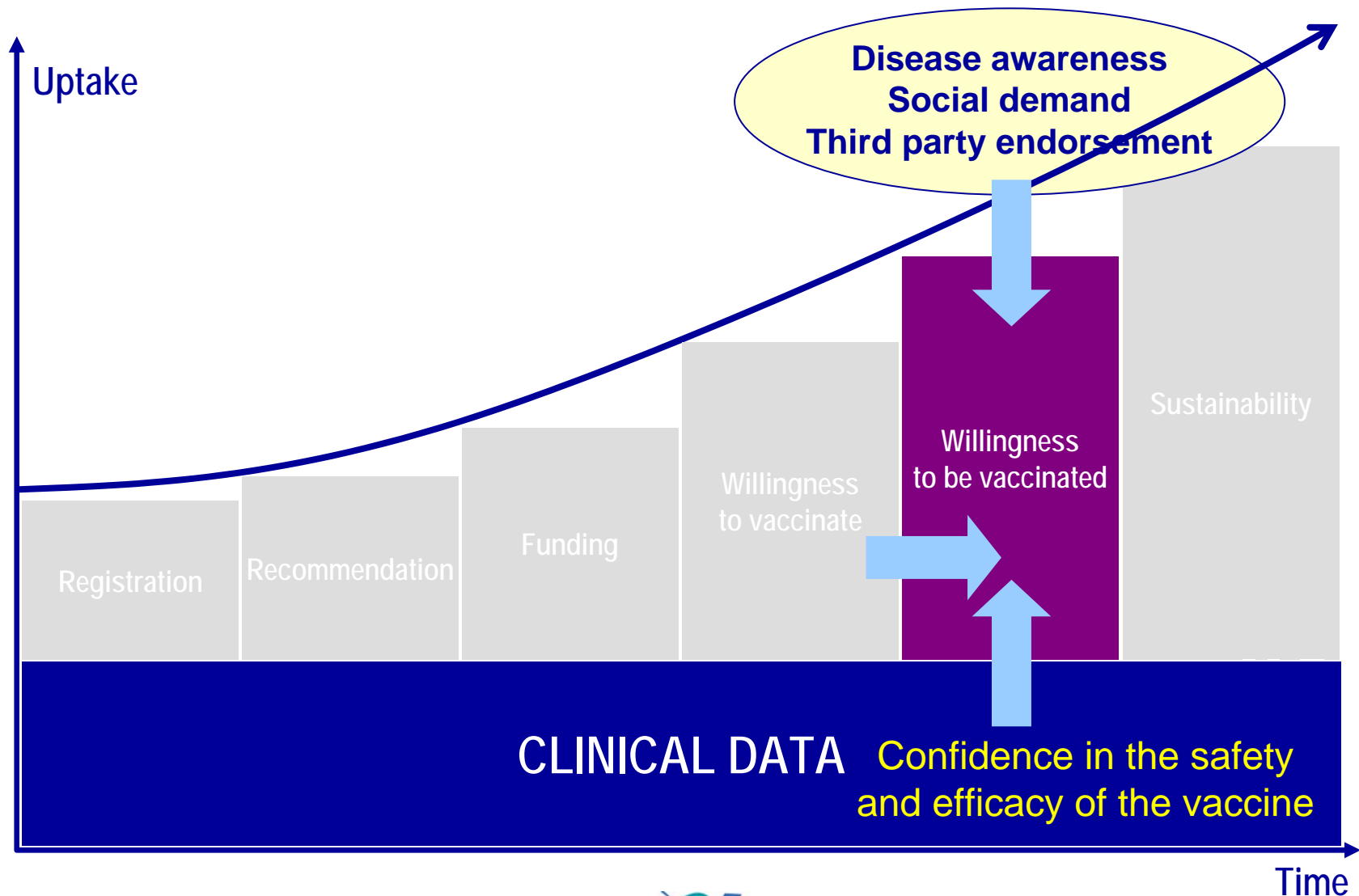
# Determinants of the successful introduction of HPV vaccination: health economic experts



# Determinants of the successful introduction of HPV vaccination: experts, scientific societies, HCW...

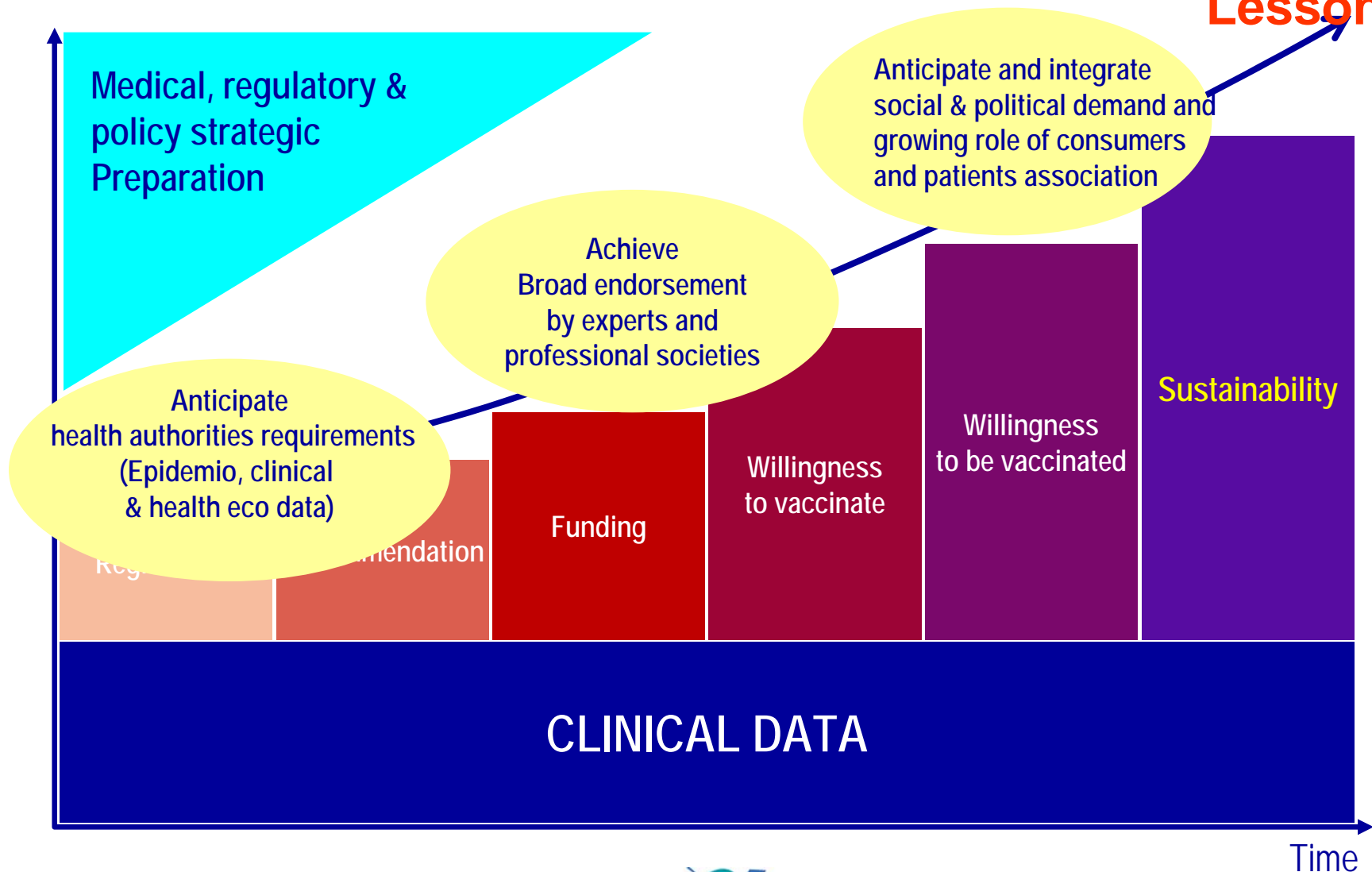


# Determinants of the successful introduction of HPV vaccination: the “civil society”, politicians, patient groups ...



# Determinants of the successful introduction of HPV vaccination: the involvement of multiple stakeholders

## Lesson 2





The « risk of success »: moving from a scientific breakthrough to a vaccine surrounded by unanswered questions

- **First phase**
  - High public demand supporting early recommendation and funding
- **Second phase**
  - Initial enthusiasm challenged by a number of issues
- **Third phase**
  - Cumulative controversies create confusion about the true value of the vaccine and vaccination policies by all stakeholders (Public / media, HCW / experts, health authorities...)

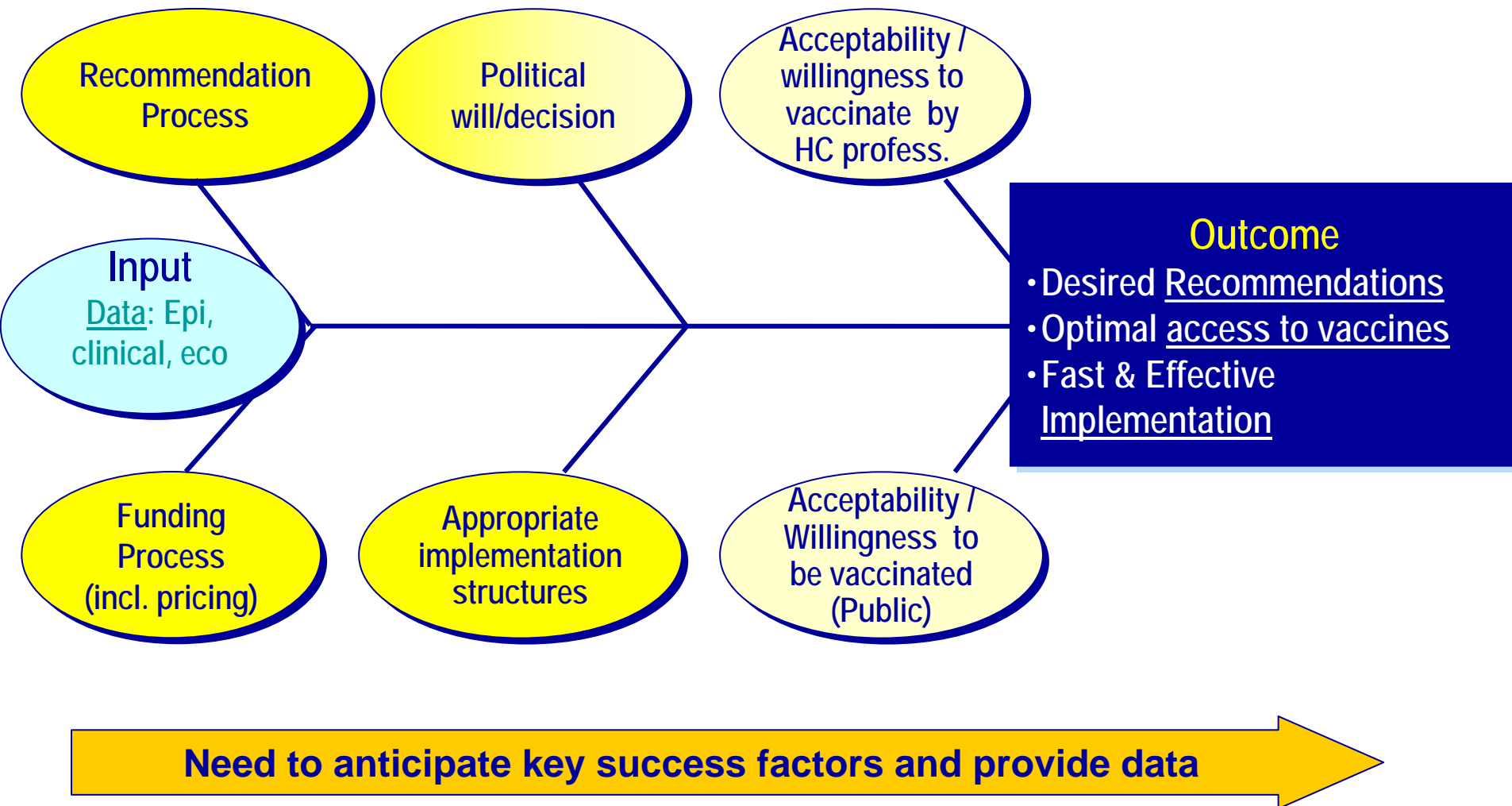
# Case study: controversies about HPV vaccination

- Vaccine safety questioned following reports of various serious & minor AEs: premature introduction without enough testing?
- Vaccine efficacy: actual efficacy against cervical cancer, duration of protection, need for boosters ...
- Value added of primary prevention to, and impact on screening
- Cost-effectiveness of vaccination
- Impact on sexual behaviour
- Marketing and lobbying campaigns
- ...

*« A phenomenon routinely observed upon introduction of new vaccines »*

(Pfleiderer. Eurosurveillance 2008;13:1-2)

# Toward the successful implementation of new vaccine policies



# Implementation a vaccination policy

- *“The greatest challenge to successful implementation of a vaccination programme is its adoption by those who will ultimately benefit from it”\**
- *“Recommendations even when supported by, preferably local, evidence does not necessarily lead to acceptance of the vaccine by the public”\*\**
- **A complex and challenging process which relies on:**
  - ➔ Acceptance and advocacy by HCW
  - ➔ Awareness of the disease
  - ➔ Confidence in the safety and efficacy of vaccines
  - ➔ Access to vaccines and vaccination
  - ➔ Trust in public health institutions (and industry)

\* Van Damme J Public Health 2008;16

\*\* E. Hak Eurosurveillance 2008; 13:43: 2-3

# Key success factors of vaccination campaigns: the influenza vaccination experience\*

## 1. Active role and responsibility of the physician

- Information to patient
- Incentives to vaccinate

## 2. Communication to target populations

- Awareness of the disease
- Who is at risk and why to vaccinate ?
- Confidence in the safety and efficacy of vaccines
- Direct personal information

## 3. Access to vaccines:

- Vaccine and administration free of charge for the patient
- Simple access to vaccines for the patient (vaccines stored at the physician's practices, vaccination centers ...)

\* T. Szucs Third European Influenza  
Conference, Vilamoura, September 2008

# How to ensure the successful implementation of vaccination policies ?

- *“National commitment by government and professionals is crucial and partly explains the successful performance of countries with better [influenza] vaccination coverage”\**
- Ensure the support of stakeholders in charge of implementing the programme: the « willingness to vaccinate »
- Ensure support to the programme by the vaccinees and those who influence them: the « willingness to be vaccinated »
- Anticipate and address controversies to ensure / restore sustained trust and confidence in vaccination

\* E. Hak Eurosurveillance 2008; 13:43: 2-3

# The willingness to vaccinate: the medical community is central to the successful implementation of vaccination:

- Health care professionals are pivotal to influencing attitudes of vaccinees
  - Advocate
  - Reassure
- Different types of stakeholders
  - Those involved in (HPV) vaccination policy making or supporting it
  - Those who vaccinate but not involved in the policy-making process
  - Those who advocate other physicians for vaccination
- Critical issues are not the same for each stakeholder
- Define / develop objectives, strategies, tools, support material
  - To educate HCW on disease risks and vaccine safety and efficacy
  - To help them influencing willingness to be vaccinated
  - To identify best ways to convey messages

# The willingness to be vaccinated: consumer acceptance is a new dimension in vaccinology

## Lesson 4

- *“A programme of vaccination may be particularly vulnerable to public tolerance of risk. Thus the public should be engaged and educated over the long term to maintain interest and to ensure enduring public and professional trust”*
- Different types of “consumers”
  - Vaccinees or their families
  - Patients’s groups and third parties (civil society) involved or not in the decision making process and supporting or not the policy
  - Politicians
  - Media
- Possible causes of scepticism and/or critical issues are not the same for each stakeholder
- Need to develop advocacy strategies, stakeholders coalition, specific tools and support material, and identify best ways to convey messages (social marketing)



# Consumer acceptance: a European Challenge



## FUTURE CHALLENGES

### FOR EU HEALTH AND CONSUMER POLICIES



- *“Understanding motivations and the main determinants behind consumer and health-related behaviour is essential for our policy making”*
- *“We need to continue building confidence by better understanding both citizen’s perception of risk and their behaviour”*
- *“We need to look at other tools for positively influencing behaviours (for example by using “social marketing”)”*
- *“In order to maintain our credibility and to enjoy the continuing support of our stakeholders to our policies, we need to ensure that the role of science in decision-making is well defined and accepted by our stakeholders”*
- *“Adequate and effective communication with citizens is an important factor to build confidence”*

# Conclusion

- The success of a vaccination programme relies on a "*complex mix of society's attitude towards different risks, politics and scientific understanding*"\*
- Risk (of success) must be carefully managed and communicated to retain confidence and to ensure public and professional trust
- "*The greatest challenge to successful implementation of a vaccination programme is its adoption by those who will ultimately benefit from it*"\*\*
- Public trust is contingent upon the continuing engagement of all stakeholders who have supported the introduction of vaccination: "*failure of even one partner could jeopardise the success of this extraordinary public health opportunity*"\*\*

**"Success in public health relies on public trust"\*\*\***

\* Farlow BMJ 2008;337:419-420

\*\* Van Damme J Public Health 2008;16

\*\*\* Wynia Am J Bioethics 2007;7:4-7