

Towards Integrated Syndromic Surveillance in Europe?

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**Triple-S partners including Anette Hulth, Alexandra Ziemann,
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Outline

- Context
- The Triple-S project
- European site visits
- Overview of systems in Europe
- Veterinary syndromic surveillance
- Emerging themes
- Guidelines for Europe



Context

ISDS conferences - New York 2003, Boston 2004

INTERNATIONAL SOCIETY FOR DISEASE SURVEILLANCE



ISDS



Context

Critical mass of public health professionals in Europe



Context

EUROPEAN
COMMISSION



Executive
Agency for
Health and
Consumers

€800k over 3 years



TRIPLE...**S**
Syndromic Surveillance Systems in Europe



Triple-S aims

Overview of syndromic surveillance systems in Europe

Support harmonization of the main data sources for morbidity syndromic surveillance.

Support the development and implementation of syndromic surveillance systems

Develop synergies between animal and human syndromic surveillance systems

Promote dialogue between syndromic and traditional surveillance networks

Triple-S partners

Associated Partners

National public health institutes

France, England, Scotland, Belgium, Italy,
Greece, Finland, Sweden, Hungary, Denmark,

Maastricht University, Marseille University

Collaborating partners

Spain, Italy, Portugal, Netherlands

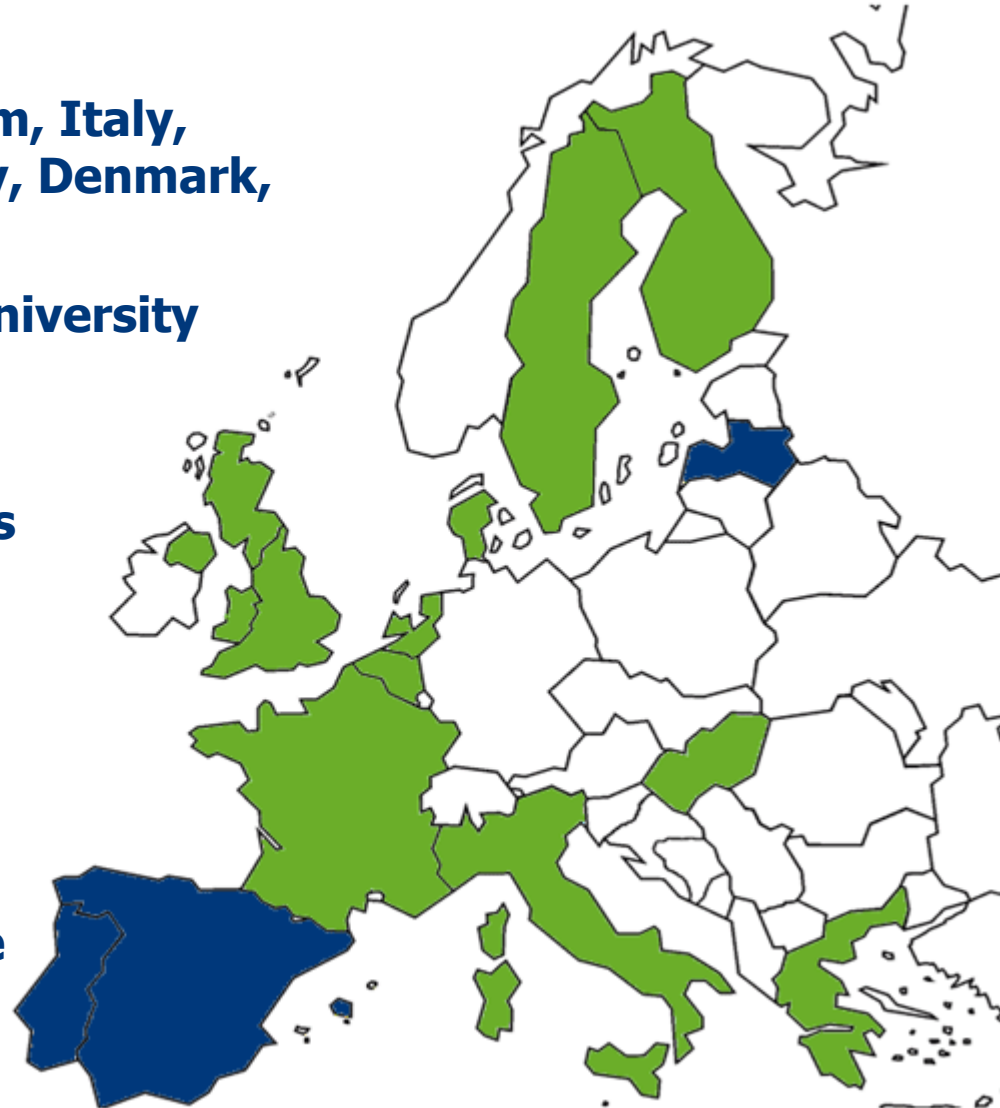
Advisory board

European Centre for Disease
Prevention and Control (ECDC)

European Commission

ISDS

World Health Organization Europe



Triple-S work packages

Work package 1: Coordination of the project

Work package 2: Dissemination of the project

Work package 3: Evaluation of the project

Work package 4: Inventory of existing systems

Work package 5: Site visits, knowledge transfer, data source description

Work package 6: Guidelines for implementing syndromic surveillance in Europe



Triple-S outputs

- Network of contacts
- Knowledge exchange

- Inventory of systems
- Data source descriptions
- Guidelines for implimenting syndromic sureveillance
- Proposal for a EU strategy for Syndromic surveillace



Triple-S Stakeholders

- Triple-S partners
- Member state and European policy makers (ECDC networks, EU)
- The public health community (human and animal disease surveillance)
- The scientific community



European site visits

- *Mutual knowledge exchange*
- *Gather information*
- *Not for evaluation purposes*
- *Inform guidelines*

*Eight country visits
(2011-2012)*



Emerging themes

European site visits

Huge differences in data source structure

Those considering and developing systems require training in syndromic data sources

A framework rather than standardized/harmonized system was requested

The visits expanded horizons from infectious disease event detection to also include:

- mass gathering surveillance
- non-communicable health impact, e.g., environmental threats
- reassurance - nothing is happening as well as detection



Emerging themes

European site visits

Best practice

Collaboration with data providers repeatedly emphasised

Need to understand health systems and health seeking behaviour

Link to animal health surveillance

Best practice methodology – is there one?



Inventory of systems across Europe

Inventory of human syndromic surveillance systems - 2011

Brief questionnaire to identify systems sent to 28 EU countries

24 responses

7 replied that no system exists

17 countries reported 35 systems

22 currently active systems, 5 pilot systems, 4 systems for mass gathering events, and 2 planned systems

In depth questionnaire to obtain further information

Inventory still open <http://www.syndromicsurveillance.eu/systems-in-europe>



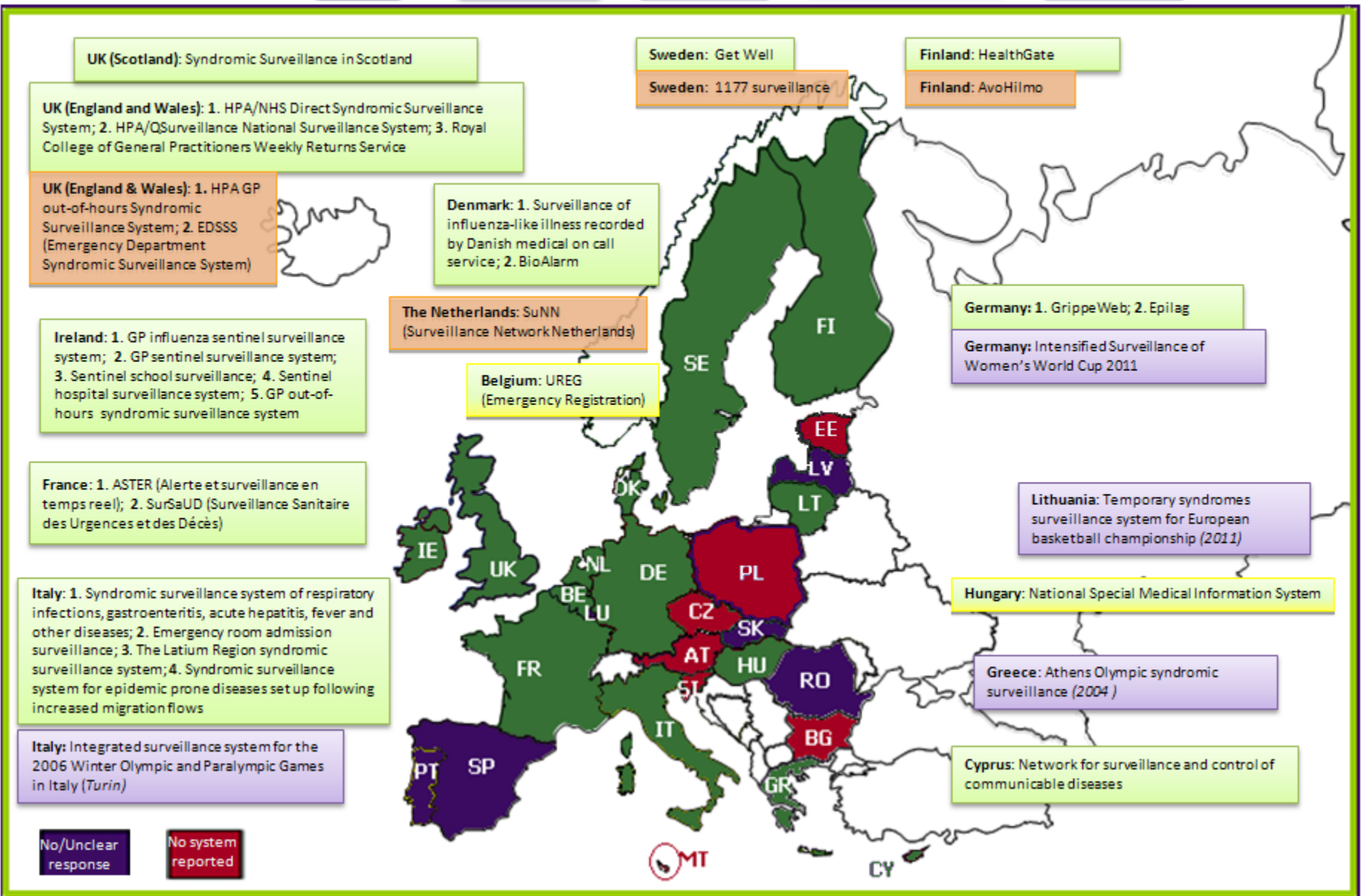
System reported

Active systems

Pilot systems

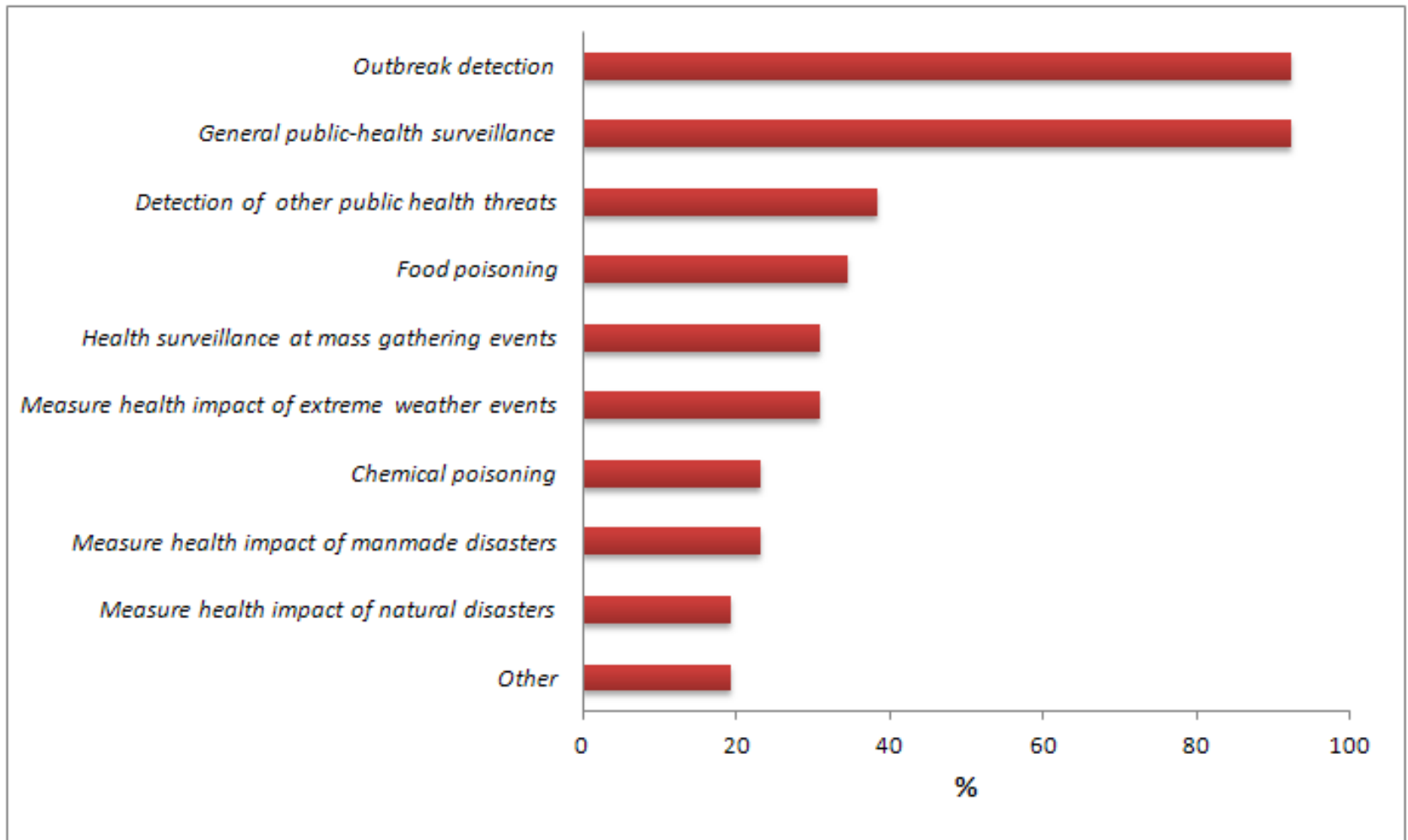
Mass gathering events

Planned systems



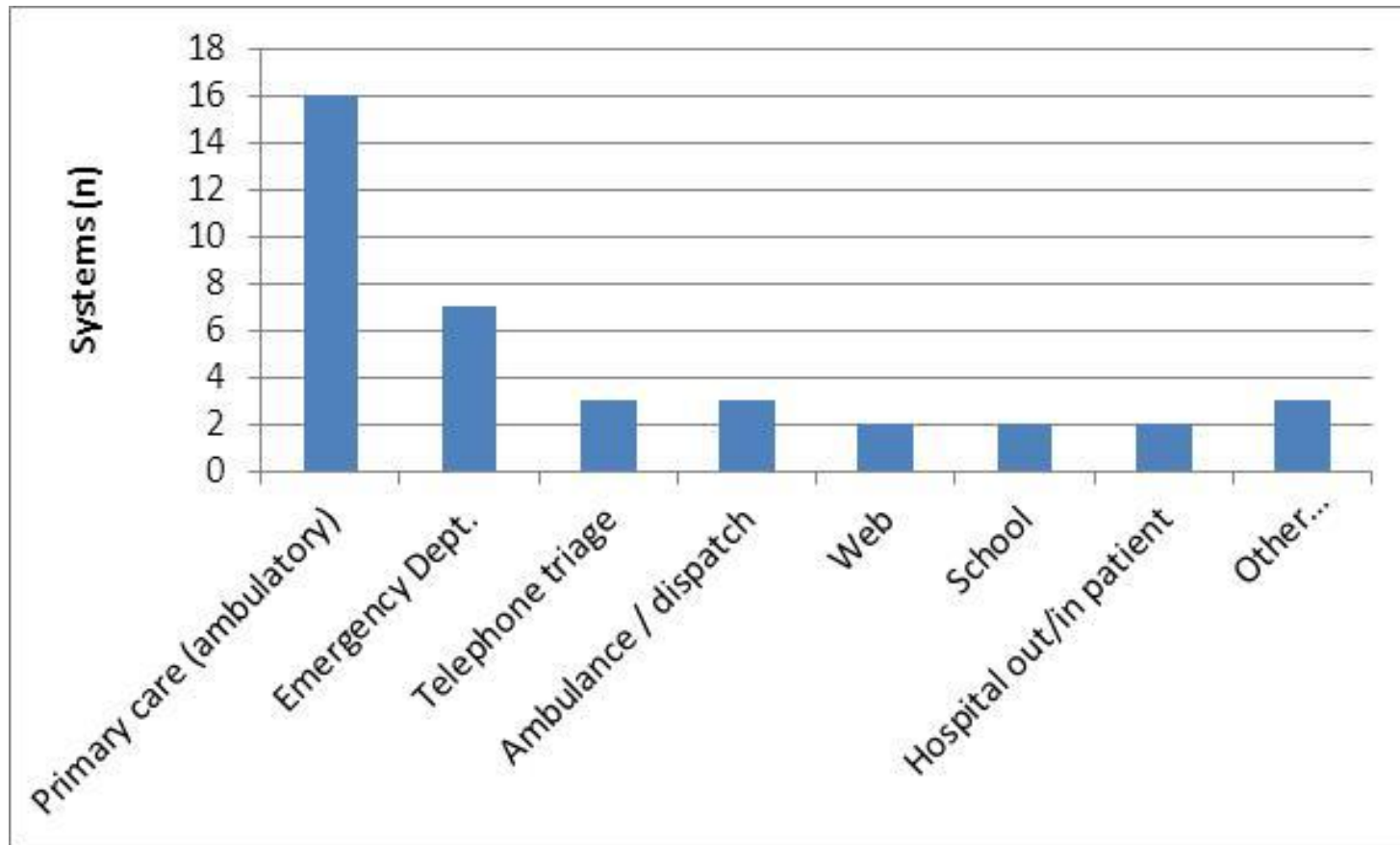
Inventory of systems across Europe

Functions / objectives



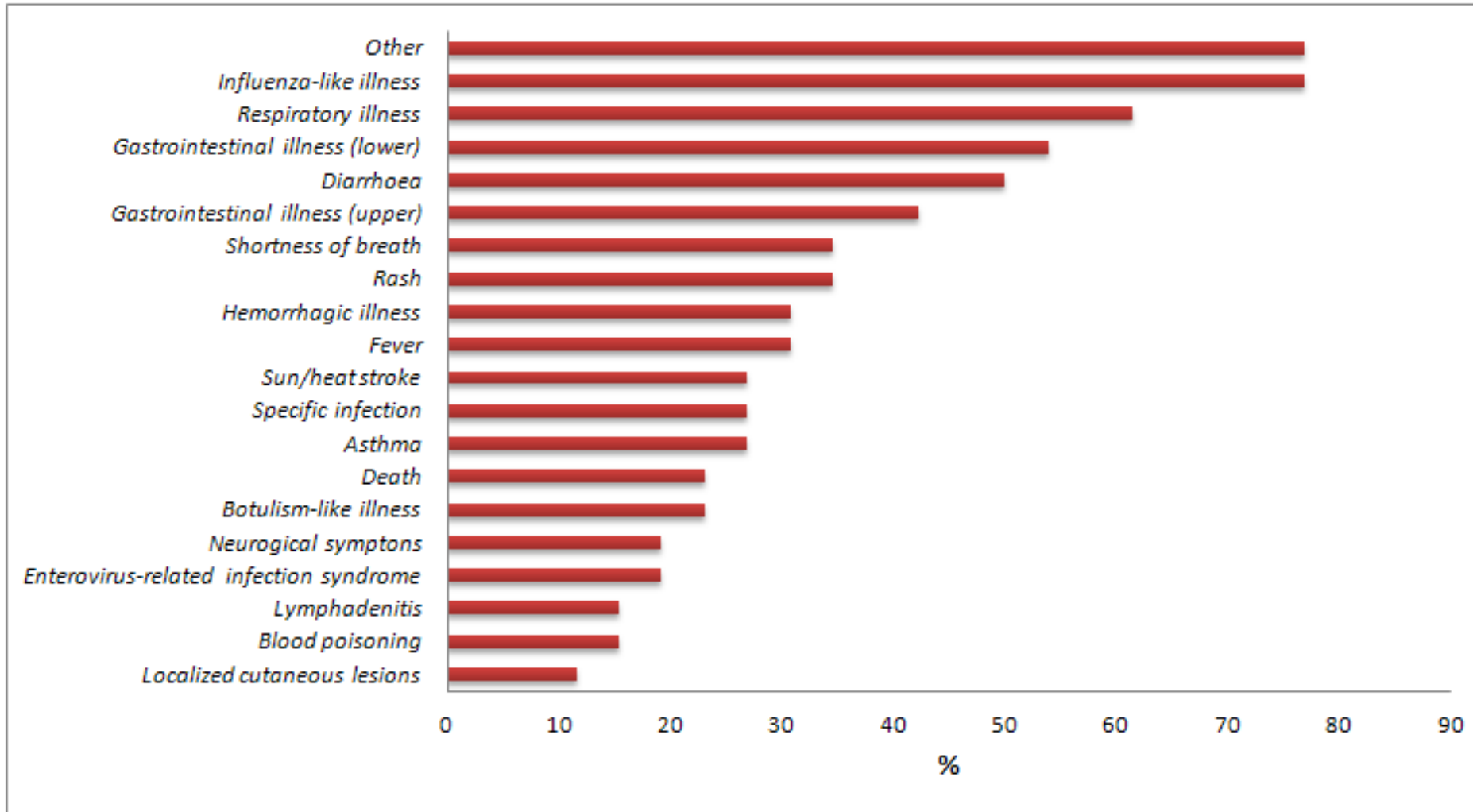
Inventory of systems across Europe

Data sources



Inventory of systems across Europe

Syndromes



Inventory of systems across Europe

Dissemination

Nearly all systems report via email and web

Dissemination

- **Real time (3)**
- **Weekly (19)**
- **Only in response to statistical alarms (5)**
- **Monthly (1)**

Emerging themes

European inventory

Primary aim of systems is outbreak detection, particularly for respiratory disease / influenza

Emergency department and primary care (GP) are the main data sources

Cost effective, high quality, timely data described by most systems

BUT

Some resource intensive systems lacking coding structures or automation

Full results not available yet



Veterinary syndromic surveillance

<http://www.syndromicsurveillance.eu/systems-in-europe/vet-systems>

Inventory of existing or planned veterinary syndromic systems

Scoping - 45 candidate systems identified

Inventory - 27 questionnaires sent, 24 returned

Very few systems are operational yet - still at an early stage.

Identified need for information / technical help regarding data analysis and alert response

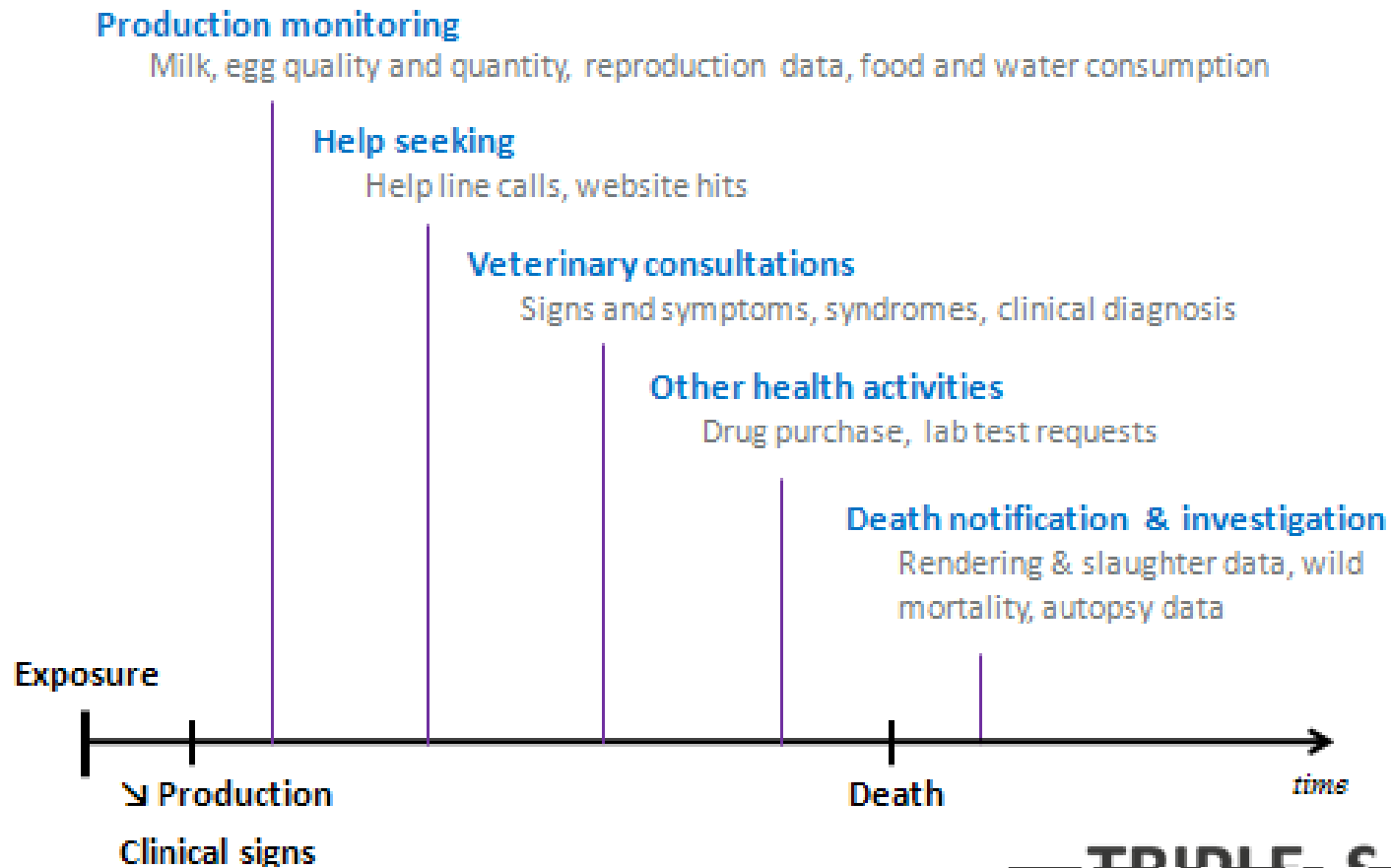
“Animal - human synergy” interests

- **Common statistical and epidemiological issues → Knowledge transfer (methods, expertise)**
- **Common threats: zoonoses, animal sentinel → Share important signals, investigation findings**
- **Importance of ‘synergy’ networks**



Veterinary syndromic surveillance

“Developing synergies between human and animal health SyS systems”



Dissemination, so far

- press release announcing the project
- translated into four other languages

Ambiente e Salute

Triple-S: Sorveglianza dei rischi per la salute

Le istituzioni europee per la prevenzione delle malattie collaborano per migliorare la sorveglianza di salute.

(23/12/2010) Un progetto denominato Triple-S è stato promosso dalla Comunità europea per decidere quali siano le indicazioni su come organizzare la sorveglianza delle malattie e gli interventi conseguenti più tempestivi. A tale progetto parteciperanno 24 organizzazioni appartenenti a 14 paesi.

I rischi per la salute sono individuati tramite sistemi di sorveglianza che possono però essere o non sempre sufficienti coprire non del tutto capaci di rilevare tutti gli eventi che in effetti si verificano. Per questa ragione, la Sorveglianza si basa sul rilevamento di segni e sintomi rappresenta uno strumento essenziale. Esempi di dati utilizzati in questo tipo di prodotti dei dipartimenti di emergenza, le vendite di farmaci, le chiamate telefoniche per consigli medici, richieste di salute veterinaria e le informazioni raccolte dai cosiddetti medici sentinella. La Sorveglianza sindromica dovrà essere capace di rilevare quasi in tempo reale malattie infettive o rischi ambientali al fine di limitare la morbilità e quindi uno strumento che può consentire di rendere sempre moderna ed efficace la sorveglianza dei fenomeni con di salute.

Communiqué de presse

24 instituts européens de veille sanitaire dont l'InVS réunis pour améliorer la su

Cofinancé par la Commission européenne et piloté par l'InVS, le projet « Triple S » au Luxembourg. Il vise à accroître la capacité de l'Europe à exercer une surveillance et de l'évaluation de l'impact des menaces sanitaires permette ainsi d'optimiser

La première réunion de ce projet a réuni l'ensemble des pays partenaires du Centre européen de prévention et de contrôle des maladies (ECDC), l'Organisation des membres du conseil consultatif faciliteront la diffusion et l'utilisation de

En Europe, les menaces potentielles pour la santé publique sont détectées le plus rapidement possible par une détection de toutes les menaces sanitaires. La surveillance des systèmes existants, optimiser le dispositif de veille et d'alerte et moderniser

En utilisant des données des services d'urgence, des ventes en pharmacie, de syndromique suit presque en temps réel la diffusion et l'impact sanitaire dans l'environnement, dans l'objectif de limiter la morbidité et la mortalité associée

ISDS

Welcome to the official blog for the International Society for Disease Surveillance. By serving as a gateway to other ISDS resources, this blog is intended to keep Society members informed on recent Society activity and news in disease surveillance.

Twitter Facebook ISDS Home

25 JANUARY 2011

Triple S Project: Syndromic Assessment towards

The International Society for Disease Surveillance (ISDS) will be serving as ISDS' liaison through updates as they become available.

STATENS SERUM INSTITUTE

Læs højt Kontakt Om SSI Selvbetjening Sygdomsleksikon Sitemap Engelsk

Aktuelt **Smitteberedskab** **Diagnostik** **Vaccination** **Forskning** **Produkter og**

Nyheder fra SSI Forskningsnyt Arrangementer
Nyhedsbreve Temasider RSS - abonnement

Forside Aktuelt Nyheder 2011 Nyt europæisk netværk moderniserer overvågning af folkesundheden

Nyheder

2011

2010

Nyt europæisk netværk moderniserer overvågning af folkesundheden

24. marts 2011

Netværket Triple-S skal med SSI som deltager udvikle en fælles syndrombaseret overvågning af sygdomsforekomsten i Europa. Nuværende overvågnings- og varslingssystemer bliver udvidet med andre datakilder, som fx den danske vagtlægeovervågning af influenzalignende sygdom og overvågning af dødelighed

Triple-S (Syndromic Surveillance Systems in Europe) er et treårigt europæisk projekt, hvis hovedformål er at øge Europas kapacitet til hurtigt og effektivt at forebygge og bekæmpe sygdomme og andre trusler mod folkesundheden. Projektet, der er medfinansieret af EU-kommissionen, omfatter 24

News item in Eurosurveillance

April 2011



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Eurosurveillance, Volume 16, Issue 17, 28 April 2011

News

EUROPEAN INSTITUTES FOR DISEASE PREVENTION AND CONTROL COLLABORATE TO IMPROVE PUBLIC HEALTH SURVEILLANCE

A Hulth (anette.hulth@smi.se)¹, A C Viso²

1. Smittskyddsinstitutet (Swedish Institute for Communicable Disease Control, SMI), Stockholm, Sweden
2. Institut de Veille Sanitaire (French Institute for Public Health Surveillance, INVS), Saint Maurice, France

Citation style for this article: Hulth A, Viso AC. European institutes for disease prevention and control collaborate to improve public health surveillance. Euro Surveill. 2011;16(17):pii=19851. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19851>

Date of submission: 26 April 2011

A new Public Health Action Programme called Triple-S (Syndromic Surveillance Survey, Assessment towards Guidelines for Europe) started in September 2010 and will end in August 2013. The aim of the Triple-S project is to increase the European capacity for real time or near real time surveillance and monitoring of the health burden of expected and unexpected health-related events. During the period mentioned, the project will review and analyse

In this issue

- ▶ Are European immunisation programmes recession proof?
- ▶ Appearance of a novel measles G3 strain in multiple European countries within a two month period, 2010
- ▶ The impact of the 2009 influenza A(H1N1) pandemic on attitudes of healthcare workers toward seasonal influenza vaccination 2010/11
- ▶ Innovations in communication: the Internet and the psychology of vaccination decisions
- ▶ European institutes for disease prevention and control collaborate to improve public health surveillance
- ▶ In the national epidemiological bulletins - a selection from current issues
- ▶ Call for papers for a special issue on immunisation registries in Europe



Comment in Lancet November 2011

THE LANCET

The Lancet, [Volume 378, Issue 9806](#), Pages 1833 - 1834, 26 November 2011
doi:10.1016/S0140-6736(11)60834-9

Assessment of syndromic surveillance in Europe

[Triple S Project](#) 

Potential public health threats are generally detected through specific surveillance systems based on predetermined diseases and rapid biological confirmation. However, such systems are not rapid and they do not detect all health hazards, especially unexpected threats. Syndromic surveillance can support public health professionals in this endeavour.

The idea was first put into practice in the late 1990s with the aim of providing early warning of disease outbreaks and potential bioterrorist action ...

± The Triple S project partners involved in this Comment are: Marta Sala Soler, Anne Fouillet, Anne Catherine Viso, Loic Josseran, French Institute for Public Health Surveillance, 94415 Saint-Maurice, France; Gillian E Smith, Alex J Elliot, Health Protection Agency West Midlands, Real-time Syndromic Surveillance Team, Birmingham, UK; Jim McMenamin, Health Protection Scotland/NHS National Services Scotland, Glasgow, UK; and Alexandra Ziemann, Thomas Krafft, GEOMED Research Forschungsgesellschaft mbH, Maastricht University, School for Public Health and Primary Care, Maastricht, Netherlands





syndromic surveillance



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[HPA - Real-time **Syndromic Surveillance**](#)

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2 Oct 2012 – Definition of syndromic surveillance, work of the team and latest bulletins.

[CDC - Meaningful Use - **Syndromic Surveillance \(SS\)**](#)

[www.cdc.gov/ehrmmeaningfuluse/syndromic.html](#)

27 Jul 2012 – Syndromic surveillance uses individual and population health indicators ... the syndromic surveillance data compiled through Meaningful Use

[Clinical surveillance - Wikipedia, the free encyclopedia](#)

[en.wikipedia.org/wiki/Clinical_surveillance](#)

Jump to [Syndromic surveillance](#): Syndromic surveillance is the analysis of medical data to detect or anticipate disease outbreaks. According to a CDC ...

[Clinical surveillance - Syndromic surveillance - Influenzanet](#)

[What is **syndromic surveillance**?](#)

[www.ncbi.nlm.nih.gov/pubmed/15714620](#)

by KJ Henning - 2004 - [Cited by 194](#) - [Related articles](#)

24 Sep 2004 – What is syndromic surveillance? Henning KJ. New York City Department of Health and Mental Hygiene, 125 Worth Street, CN-6, New York, NY

[Triple-S – the **syndromic surveillance** project](#)

[www.syndromicsurveillance.eu/](#)

The Public Health Action Programme Triple-S (Syndromic Surveillance Survey, Assessment towards Guidelines for Europe, grant agreement GA 2009.11.12) ...

[International Society for Disease Surveillance](#)

[www.syndromic.org/](#)

ISDS. International Society for Disease Surveillance. About ISDS · Partner Organizations · Events Calendar · Annual Conference · Committees · Conference

Bradford, UK

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Towards Integrated Syndromic Surveillance in Europe?

European Centre for Disease Surveillance (ECDC)



FIGURE 2

Epidemic intelligence framework

Indicator-based component
"Surveillance" systems

Event-based component
Event monitoring



Data **Events**
Collect *Capture*
Analyse *Filter*
Interpret *Validate*

Signal
Assess

Public health Alert *Disseminate*

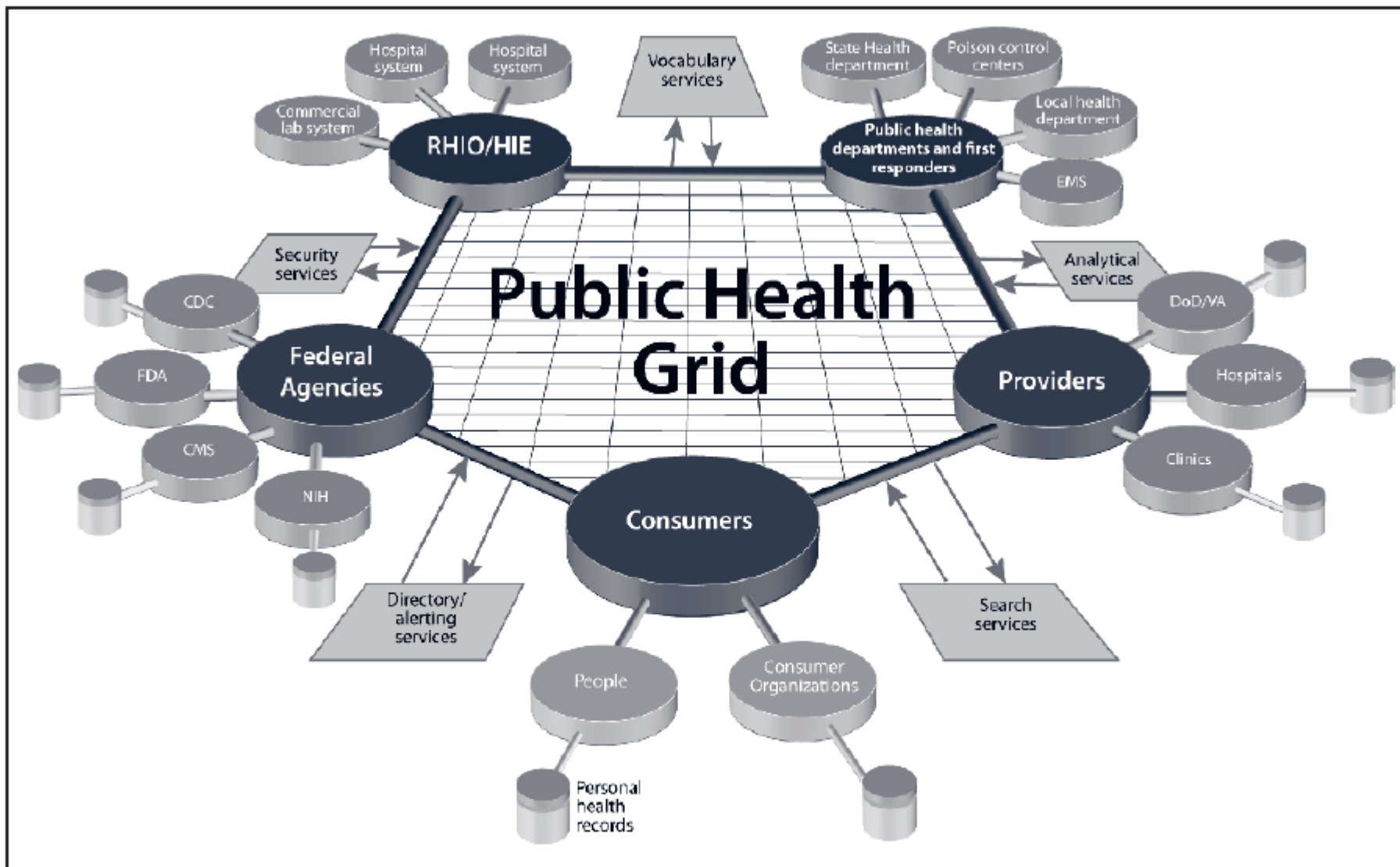
Investigate
Control measures

Confidential: EWRS...
Restricted access: network inquiries, ECDC threat bulletin
Public: Eurosurveillance, press release, web site



Eurosurveillance, Volume 11, Issue 12, 01 December 2006. Epidemic intelligence



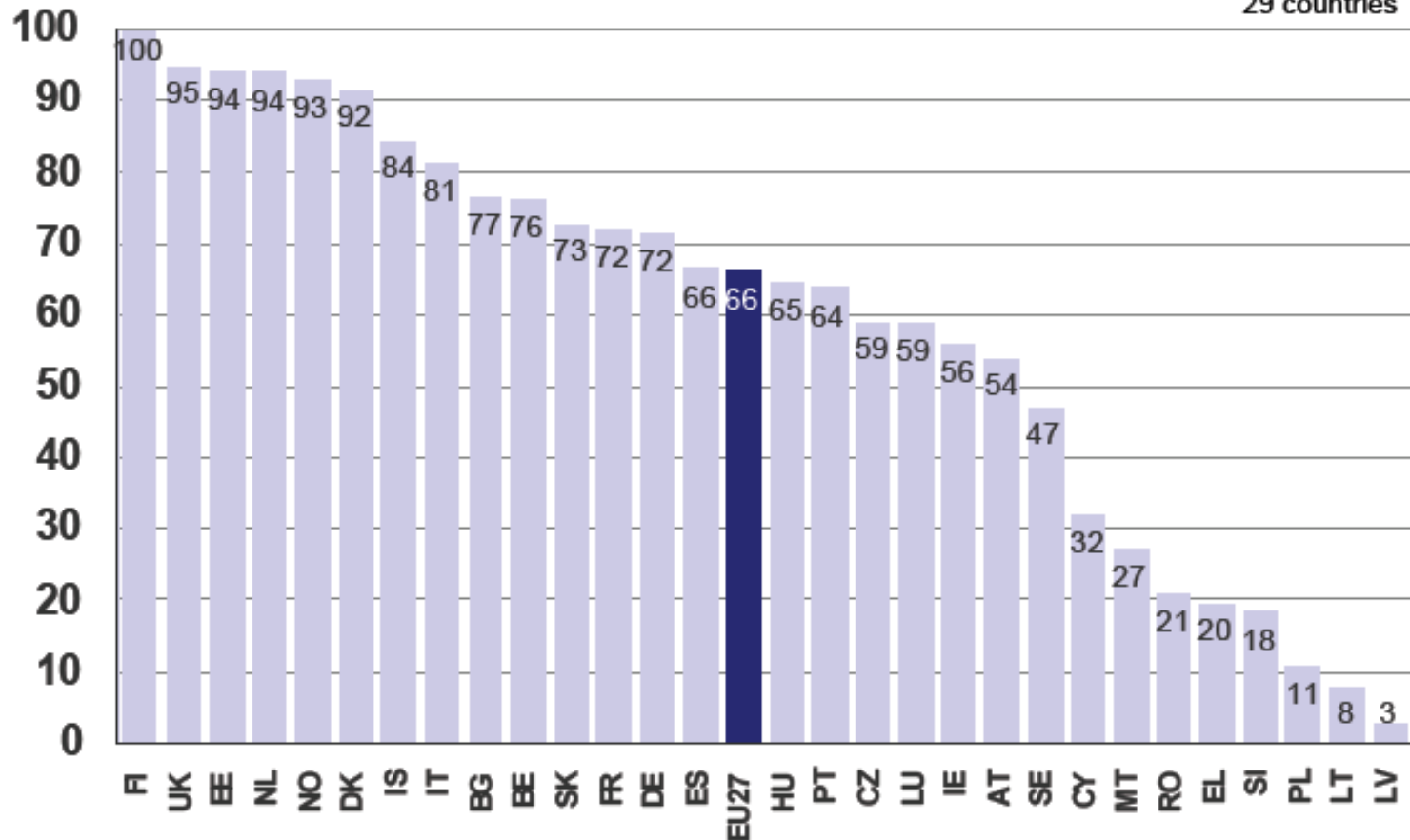


Abbreviations: CMS = Centers for Medicare and Medicaid Services; DOD/VA = U.S. Department of defense/Department of Veterans Affairs; EMS = Emergency Medical Services; FDA = Food and Drug Administration; NIH = National Institutes of Health; RHIO/HIE = Regional Health Information Organization/Health Information Exchange.
Source: Savel TG, Hall KE, Lee B, et al. A public health grid (PH Grid): architecture and value proposition for 21st century public health. *J Med Informat* 2010;79:523-9.

CDC's Vision for Public Health Surveillance in the 21st Century. MMWR. Supplement / Vol. 61 July 27, 2012

European GPs using a computer during consultation, in % (EC Study 2007)

Random samples of 6,789 GPs in 29 countries



Source: empirica: eHealth use among GPs in Europe 2007, Bonn, April 2008

Integrated syndromic surveillance in Europe?

How far do we go with integration / harmonisation?

Guidelines structured around different stages of implementation

Getting started » Data source » Analysis » Communication » Evaluation

Data - simple minimum dataset

Analysis – syndromes/data/methods country dependent. Lexicon

Communication - through existing structures national/European (ECDC, WHO, World Organization of Animal Health, IHR)

Common evaluation criteria - CDC Framework for Evaluating Public Health Surveillance Systems for Early Outbreak Detection

Checklist at every stage – best practice when applicable



Integrated syndromic surveillance in Europe?

Integrated reporting rather than integrated data collection and analysis

Step by step guide to setting up a system

Minimum requirements at each stage of implementation

Best practice from around Europe

Future

Project funded to deliver by April 2012

Afterwards?

ECDC

or

European Society



Website

www.syndromicsurveillance.eu

Thanks for listening