

# EUROPEAN PROTOCOL FOR PREVALENCE SURVEYS

Working Party 3



## OBJECTIVE

To elaborate a consensus protocol on methodology of prevalence surveys on nosocomial infections in Europe, feasible to be implemented at a single hospital, national, and european level.



# OBJECTIVES FOR A PREVALENCE SURVEY

- To get a general picture of the problem of N.I., including information regarding:
  - microorganisms (with information regarding resistance)
  - risk factors
  - use of antimicrobials
- To detect time trends by repeated prevalence surveys
- To make comparisons
- To be used as a tool for:
  - managerial and quality improvement programs
  - education



# HELICS CENTER

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## WP3 MEMBERS

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# METHODOLOGY

The draft protocol will be prepared through a continuous and interactive way among all members of the working group, by email, in order to reach general agreement on all the elements of the document.

## Specific topics to be discussed:

Study design, hospitals, target population, definitions, infections & risk factors, data collection, questionnaire, protocol, analysis, validation, basic reporting.



# AGENDA

## 2000

Jun-Dec

Setting up of the working group  
Literature search and review

## 2001

Jan-May

Literature update dossier to all members  
Preparation of first draft of the document  
Expert meeting in Barcelona

1<sup>st</sup> June

June-Oct

Preparation of draft document

Nov

1<sup>st</sup> version submission to HICAB

## 2002

Final report, diffusion through Internet



# CHRONOGRAM

## SP 3: EUROPEAN PROTOCOL FOR PREVALENCE SURVEYS

Barcelona

Year 2000	Jan	Feb	Mar	April	May	June	July	August	Sept	Octob	Nov	Dec
- Setting-up of the working group												
- Literature research + review												
Year 2001	Jan	Feb	Mar	April	May	June	July	August	Sept	Octob	Nov	Dec
- Literature update dossier to all members												
- Preparation first draft of recommendations												
- Expert meeting in Barcelona												
Preparation draft document												
- Manuscript submission to HICAB												
Year 2002	Jan	Feb	Mar	April	May	June	July	August	Sept	Octob	Nov	Dec
- Final report												
- Diffusion through Internet												



# ACHIEVEMENTS

Research consultant designated to collaborate with the project coordinator

Constitution of the working group

Literature search and review

- dossier with 49 prevalence surveys published

Barcelona meeting: 1<sup>st</sup> june 2001



PREVALENCE SURVEYS

LITERATURE DOSSIER

HELICS III - WORKING PARTY 3  
MARCH 2001



# LITERATURE REVIEW

MEDLINE: prevalence, cross infection  
and handsearch:

- references of relevant articles
- the last 10 years of  
“J Hosp Infect”, “Infect Control Hosp Epidemiol”

49 prevalence surveys were selected

*With special thanks to Dr. Louis Ayzac*



## MULTI-CENTRE STUDIES IN EUROPEAN COUNTRIES

Belgium	1984, 1992 (psych.)
Germany	1994 NIDEP
France	1990, 1996
Italy	1983, 1988 (ped.)
Luxembourg	
Netherlands	
Denmark	1979, 1991 (uti), 1999
Ireland	1993
Great Britain	1980, 1993



## MULTI-CENTRE STUDIES IN EUROPEAN COUNTRIES

Greece	1994 - 1996	
Spain	1990 - 2000	EPINE
Portugal		
Austria		
Finland		
Sweden	1975	
Norway	1979, 1991, 1997	
Switzerland	1996	
Czech Rep.	1984, 1987 - 1988	



## MULTI-CENTRE INTERNATIONAL STUDIES

European UTI	1980
EPIC Study	1992
WHO	1983

## NON-EUROPEAN COUNTRIES

Hong Kong, Thailand, USA, Brazil,  
Mexico, New Zealand, Australia



# LITERATURE REVIEW

## RELEVANT DIFFERENCES FOUND IN MULTICENTRIC SURVEYS:

- Hospital sizes
- Hospital-wide vs selected areas
- Personnel for data collection
- Reported results
- Sites of infection
- Risk factors
- Definitions



## STUDY DESIGN

- Point / period prevalence survey
  - \* complete each ward/unit in a single day
- Patient inclusion / exclusion criteria
  - All patients, except diagnosis and therapy procs.

## HOSPITALS

- Teaching / non-teaching
- Public / private
- Psychiatric / long-term care ??
- Large / small



## DEFINITIONS - INFECTION SITES

Consensus: CDC definitions

Bloodstream infection → CDC def.

## RISK FACTORS

- Risk indices:

All patients → ASA score

Surgical patients → NNIS risk index

- Use of antibiotics (not just as a risk factor)



# RISK FACTORS - Intrinsic

	YES	NO
Unconsciousness (impaired sensorium)		X
Chronic obstructive pulmonary disease		X
Cirrhosis		X
Renal failure		X
Diabetes		X
Nutritional status		X
Decubitus ulcer		X
Malignancies/neoplasms		X
Immunodeficiency <sup>1</sup>	X	
Neutropenia	X	

<sup>1</sup> = Acquired immunodeficiency syndrome is collected as specific infection.



# RISK FACTORS - Extrinsic

	YES	NO
Urinary catheter (foley, suprapubic catheter) <sup>1</sup>	X	
Venous and arterial line (intravascular catheters) <sup>2</sup>	X	
Peripheral/central insertion site	X	
Central umbilical catheter	X	
Nasogastric tube (enteral tube).		X
Parenteral nutrition	X	
Tracheostomy		X
Mechanical ventilation	X	
Immunosuppresants		X
Previous Antibiotics therapy in the week before the survey		X

<sup>1</sup> = Open and close system description would be optional.

<sup>2</sup> = Intravascular catheter without distinction between venous and arterial catheters.

*Include exposure to risk factors the week before the prevalence day*



# SURGICAL PROCEDURE

	YES	NO
Duration of operation	X	<input type="checkbox"/>
ASA class	X	<input type="checkbox"/>
Elective/emergency surgery	X	<input type="checkbox"/>
Endoscopic and laparoscopic surgery	X	<input type="checkbox"/>
Wound classification (clean, clean-contaminated, contaminated, dirty)	X	<input type="checkbox"/>

*Identify NNIS surgical procedures*



# DATA COLLECTION

- How?

chart review, bedside examination

- When?

seasonal variations

- How long?

all information available in a single day,  
including microbiological results

- Who?

team responsible for data collection:  
external & hospital staff



## QUESTIONNAIRE / PROTOCOL


- Single sheet
- Minimum data set
- Automatic reading - possible
- Written protocol

## OTHER

- Analysis
- Validation
- Basic report: hospital, national, european

There was a general agreement regarding the convenience of carrying out a PILOT SURVEY





**WHAT CAN BE OBTAINED  
FROM  
NATIONAL OR EUROPEAN  
PREVALENCE SURVEYS?**



An invaluable tool for decision making in public health, and for the evaluation of national or trans-national IC actions, providing an incentive for better definition of priorities.

A complete picture in a quick, probably cost-effective way of the problem of NI in a wide area or territory.

When used repeatedly, one can evaluate trends in NI, exposure to risk factors, antibiotic use and multiply resistant microorganisms.



An estimation of cumulative incidence and incidence density.

An estimation of the proportion of inpatients exposed to risk factors in our facilities.

If linked to hospital discharge records, it is possible to use DRGs for risk stratification, to know the patient's status at discharge, and to use other relevant data as total length of stay, which add value to prevalence data.



## NEED FOR EUROPEAN COLLABORATION

The interest about prevalence surveys in european countries has been widely demonstrated.

Nevertheless, the different methodologies used do not allow to extrapolate or make comparisons of results beyond the local level.

A european protocol based on the consensus of a wide group of experts from different countries will provide a unique method to approach the issue of prevalence of nosocomial infections.

