



# **HELICS IV Implementation Phase II**

**INTERMEDIATE REPORT**

**DECEMBER, 2003.**



**Project commissioned by the EC / DG SANCO/ F/ 4**  
Agreement Reference number : VS/1999/5235 (99CVF4-025)

## TABLE OF CONTENTS

	Cover Sheet	
	Contents Page	Page 1
<b>Section 1</b>	Introduction and Background	Page 2
<b>Section 2</b>	Summary of Events and Achievements	Page 3
<b>Section 3</b>	Surveillance of Nosocomial Infections in the ICU	Pages 4-5
<b>Section 4</b>	Surveillance of Surgical Site Infections	Pages 6-7
<b>Section 5</b>	Prevalence of Nosocomial Infections	Page 8
<b>Section 6</b>	Association between Infection Rates and Patient Care Quality Parameters	Page 9
<b>Section 7</b>	Training	Pages 10-12
<b>Section 8</b>	HELICS Database Management System	Page 13
<b>Section 9</b>	Communication	Page 14
<b>Section 10</b>	Conclusion and Future Initiatives	Page 15
<b>Appendix 1</b>	Agenda - Phase II Kick-off Meeting, 14 <sup>th</sup> February, 2003, Lyon.	Pages 16-17
<b>Appendix 2</b>	Agenda - Network Meeting, 16 <sup>th</sup> & 17 <sup>th</sup> May, 2003, Brussels.	Pages 18-19
<b>Appendix 3</b>	Programme - Training Course, 10 <sup>th</sup> & 11 <sup>th</sup> December, Brussels.	Pages 20-22
<b>Appendix 4</b>	Agenda - Network Meeting, 12 <sup>th</sup> & 13 <sup>th</sup> December, Brussels.	Pages 23-25
<b>Appendix 5</b>	Operating Manual V12 (Final)	Page 26 & Attached
<b>Appendix 6</b>	Surveillance of Surgical Site Infections Protocol V9 (Final)	Page 27 & Attached
<b>Appendix 7</b>	Surveillance of Nosocomial Infections in Intensive Care Units V5 (Final)	Page 28 & Attached

## Section 1 Introduction and Background

Reported rates of nosocomial infections show large variations across Member States of the European Union. This variability reflects differences in surveillance methodology, in the functioning of the health services and in the adoption of policies, guidelines and technologies which could reduce the level of risk. The availability of European standardised comparable data has been recognised as a considerable support to evaluation, risk assessment and control activities to reduce the burden of these infections.

The HELICS programme is an international network aiming at the collection, analysis and dissemination of valid data on the risks of nosocomial infections in European hospitals. It is dependant on the cooperation of the surveillance systems established by the European Union countries. The main objective of the HELICS programme is to establish a large reference data set required mirror national data to guide preventive activities and stimulate comparative and evaluative approaches. HELICS monitors variations in the risks of nosocomial infections over time and between different countries, and according to the characteristics of healthcare organisations. The project also seeks to support the implementation of new surveillance networks, improve the quality and comparability of data and extend the capacity of data exchange between the existing European networks in Member States and Applicant Countries.

The current phase of the project, HELICS IV Implementation Phase II, commenced at the beginning of 2003 and will run until the end of 2004. The primary targets are as follows;

- the surveillance of the incidence of surgical site infections.
- the surveillance of the incidence of infections in intensive care units.
- the harmonisation of prevalence hospital-wide studies.

Phase II also contains initiatives in the areas of the association between infection rates and patient care quality parameters ('the Complementary Study'), training and communications.

Under the guidance of the Programme Coordinator, the HELICS Programme Management (PMG) Team share the responsibility for programme management. During 2003, the PMG members were as follows;

Coordination Team, Lyon.	Jacques Fabry Ian Russell Sylvy Fayolle	Programme Coordinator Assistant Coordinator Administration Assistant
Collaborative Team, Brussels. (Data Analysis)	Carl Suetens	Epidemiologist/IC Specialist
Collaborative Team, London. (Training)	Barry Cookson	Microbiology & IC Specialist
Collaborative Team, Barcelona. (Prevalence Studies)	José Rossello	Epidemiologist/IC Specialist
Collaborative Team, Berlin. (Complementary Study)	Petra Gastmeier	Epidemiologist/IC Specialist
Bilthoven	Annette de Boer	Epidemiologist/IC Specialist

## Section 2 Summary of Events and Achievements

### Events

- HELICS Implementation Phase II, Kick-off Meeting.  
14<sup>th</sup> February, 2003, Lyon.
- HELICS Network Meeting.  
16<sup>th</sup> & 17<sup>th</sup> May, 2003, Brussels.
- “Training the trainers” Module  
10<sup>th</sup> & 11<sup>th</sup> December, Brussels.
- HELICS Network Meeting.  
12<sup>th</sup> & 13<sup>th</sup> December, Brussels.

### Achievements

- Surgical Site Infection and Intensive Care Unit surveillance protocols were agreed and issue as ‘final’ for implementation.
- A protocol for Prevalence Studies was further developed and will soon be finalised.
- The transmission of pilot datasets for aggregation and central analysis in a single European database was demonstrated.
- Data from 10 countries was used to create datasets for Intensive Care Unit and Surgical Site Infection surveillance. More data from other countries is under preparation and will be added to this.
- Interactive analysis of these data was demonstrated which will lead to the publication of a detailed analysis of the data early in 2004.
- Representatives from 7 of the EU Applicant Countries were in attendance at the Network Meeting in December with a view to participating in HELICS.
- A Complementary Study linking infection rates and quality of care was further developed. A protocol will soon be finalised.
- Approval was given to the proposed HELICS Database Management System. Development will proceed allowing the first regular transfer of prospective data in July, 2004.
- A 2 day “Training the trainers” module for 48 attendees from 21 countries and was very highly rated on post course assessment.

### **Section 3**     Surveillance of Nosocomial Infections in the ICU

The proposal for the standardised methodology for the surveillance of nosocomial infections in Intensive Care Units (ICU) was elaborated during HELICS III after an in-depth analysis of existing surveillance networks, group discussions, questionnaire and on-site visits (ICU working party coordinated by C.Suetens and A.Savey, see HELICS III report). In February 2003, during the HELICS Phase II Kick-off Meeting in Lyon, the protocol was again reviewed and remaining issues (mainly definitions for which no final agreement had been obtained) were discussed. The protocol was finalised in the following months, circulated for remarks, reviewed a last time during the HELICS Network meeting in Brussels, 16th-17th May, 2003, and submitted to the Network Committee for review in May, 2003, for discussion at the NC meeting on 2nd-3rd June, 2003.

The protocol primarily focuses on ICU-acquired bloodstream infections and pneumonia. Denominator data collected to calculate and stratify infection rates are either unit-based (level 1 surveillance) and/or patient-based (level 2 surveillance).

Missions performed to present and discuss the protocol with national representatives in 2003 were the following:

Scotland: Glasgow (26/8), Stirling (31/10)  
Wales: Cardiff (27/8)  
Ireland: Dublin (28/8)  
Northern Ireland: Belfast (29/8)  
England: London, HPA (5/9)  
Portugal: Lisbon (5/6-11)  
EU, intensivists: Paris (28/2), Amsterdam (6-8/10)  
Austria: Vienna (14/5)  
Eastern countries: WHO workshop, Slovenia (14-15/11)  
France: Lille (5/3), Paris (28/1)  
Visit to Brussels: Norway (4/8)

Some countries have made adaptations to their protocol to achieve compatibility with the HELICS protocol (France, first national ICU protocol and Belgium), started a new ICU-surveillance network (Austria) or started piloting one (Scotland, Norway). Wales is exploring the possibility of starting pilot level 1 surveillance. Ireland is waiting for specific (governmental) funding for a national NI surveillance programme. In Portugal, the continuation of the surveillance network also depends on additional specific funding of the government. Other EU countries which have not given priority to nationwide NI surveillance (Italy, Greece, Sweden, more recently Denmark) should be visited again.

In order to support the French consensus process on the national protocol for surveillance in intensive care, a scientific paper on HELICS-ICU was written in a French scientific journal<sup>1</sup>. The French methodological consensus was obtained in the first half of 2003 and put into practice from July 2003 in one of the regional networks (C.Clin Sud-Est). National data for France will be available in 2004.

---

<sup>1</sup> Suetens C, Savey A, Lepape A, Morales I, Carlet J, Fabry J. Surveillance des infections nosocomiales en réanimation: vers une approche consensuelle en Europe. *Réanimation*. 2003; 12(3) :205-213

In November 2003, a data collection round was organized to test the feasibility of creating an EU database from existing surveillance networks. Data from 2000 to 2003 (some partial) were obtained from 8 countries (AT, BE, DE, ES, FR, LU, NL, PO) from 532 hospitals representing 659 ICUs (see table).

Country	N of hospitals	N of ICUs*	Period covered	N of patients	N of pt-days
AT	13	13	12/2002-11/2003	2095	22211
BE	99	133	1/2000-11/2003	40655	286090
DE	150	214	1/2001-12/2001	160843	566714
ES	155	155	4/2000-8/2002	15608	127188
FR1	62	70	1/2001-12/2002	29502	327827
FR2	17	18	1/2003-6/2003	2236	24527
LU	1	1	1/2001-9/2003	1047	13773
NL	21	41	7/1997-12/2000	3913	40956
PO	14	14	10/2001-12/2002	832	11560
<b>Total</b>	<b>532</b>	<b>659</b>		<b>256731</b>	<b>1420846</b>

\*no ICU identification within hospital for AT and ES; FR1: France-SE, 2001-2002; FR2: France-SE 2003 protocol, Helics-adapted micro-organism-codes and case definitions

Data were converted to the HELICS data format for level 1 surveillance (unit-based surveillance, all countries) and level 2 surveillance where applicable (patient-based protocols, all – Germany) and a first analysis was performed during the HELICS network meeting in Brussels, 12th-13th December, 2003.

As important differences exist between the national protocols for surveillance of NI in the ICU, considerable assistance was needed from the Brussels Data Centre to convert the data into the HELICS format. However, mostly the information was available and could be extracted (sometimes from different variables to one) from existing protocols. The data conversion tools for these countries (Spain, Portugal, France, Belgium, the Netherlands) are now available. In the Netherlands however, the protocol has changed from a largely HELICS L2-compatible protocol to a specific protocol for ventilator-associated pneumonia that is being piloted at the moment. This protocol still provides patient-based data, but only for patients with at least 48 hours of invasive ventilation.

The analysis of the pilot database showed that level 1 data compatibility varied from good to acceptable for coding of micro-organisms (minimal list), type of infections (at least bloodstream infections and pneumonia) origin of bloodstream infections and presence of invasive devices. There was less agreement on the details necessary to classify the infections into the different categories of the HELICS case definitions (see protocol). Compatibility for denominator data (the number of patient-days and admissions for patients staying more than 2 days in the ICU by surveillance period) and stratification variables. Also for one country (Germany), the necessary denominator data for the calculation of level 1 indicators was not yet directly available (only estimations could be made). Level 2 (patient-based) data were available in 7 of 8 networks, but the number of risk factors included was variable.

A more complete analysis of the HELICS ICU database will be published early in 2004.

## Section 4 Surveillance of Surgical Site Infections

The proposal for the standardised methodology for the surveillance of surgical site infections (SSI) was elaborated during HELICS III after an analysis of existing surveillance networks, working group discussions and on-site visits (SSI working party coordinated by O.B.Jepsen and A. De Boer, see HELICS III report). In February 2003, during the HELICS Phase II Kick-off Meeting in Lyon, remaining issues of the protocol were discussed. The protocol was finalised in the following months, circulated for remarks, reviewed a last time during the HELICS Network meeting in Brussels, 16th-17th May, 2003, and submitted to the Network Committee for review in May, 2003, for discussion at the NC meeting on 2nd-3rd June, 2003.

The protocol focuses on the surveillance of SSI in selected surgical procedures: hip replacement (HPRO), cholecystectomy (CHOL), colon surgery (COLO), Caesarian section (CSEC), coronary surgery (CABG: CBGB and CBGC) and laminectomy (LAM).

Missions performed to present and/or discuss the protocol with national representatives in 2003 were the following:

Scotland: Glasgow (26/8), Stirling (3/12)  
Wales: Cardiff (27/8)  
Ireland: Dublin (28/8)  
Northern Ireland: Belfast (29/8)  
England: London, HPA (5/9)  
Portugal: Lisbon (5/6-11)  
Austria: Vienna (14/5)  
Eastern countries: WHO workshop, Slovenia (14-15/11)  
France: Lille (5/3)

In November 2003, a data collection round was organized to test the feasibility of creating an EU database from existing surveillance networks. In November and December 2003, data from 2000 to 2003 (some partial) were collected from 7 countries (BE, DE, ES, FI, NL, PL, UK-EN & SC) from 288 hospitals (see table 1). Data from France and HPRO data from Wales, Northern Ireland and Scotland were still expected at time of this report.

N of hospitals by procedure and country

coun	CABG	CHOL	COLO	CSEC	HPRO	LAM	Total
BE	10	4	39	0	39	39	41
DE	8	43	34	32	0	0	70
ES	4	12	17	6	17	4	24
FI	0	0	0	0	8	0	8
NL	2	7	16	7	41	4	44
PL	6	19	20	16	0	3	20
UK-EN	0	0	0	0	74	0	74
UK-SC	0	0	0	7	0	0	7
<b>Total</b>	<b>30</b>	<b>85</b>	<b>126</b>	<b>68</b>	<b>179</b>	<b>50</b>	<b>288</b>

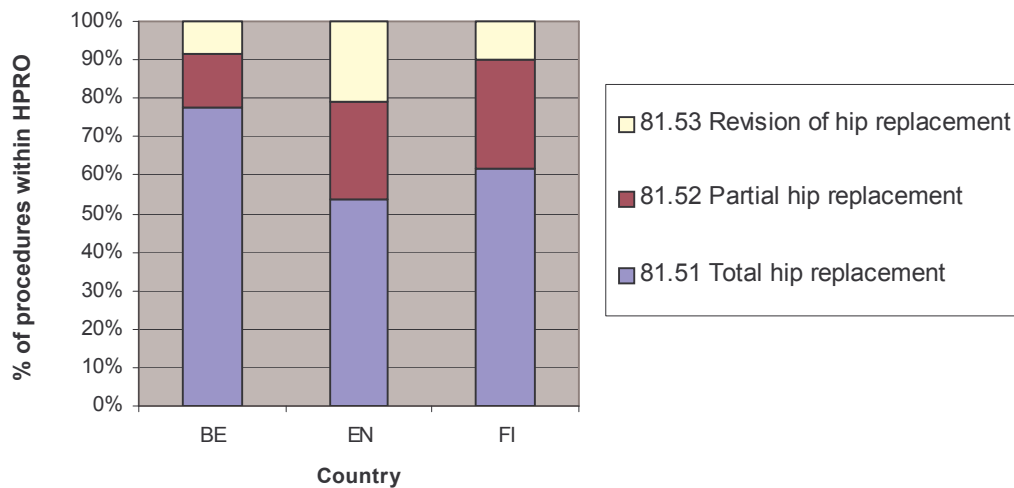
A total of 73,389 surgical procedures were included in the database. The most frequently included procedures were hip prosthesis, cholecystectomy and caesarean section (see table 2).

country_id	CHOL	COLO	CSEC	HPRO	LAM	CABG	CBGB	CBGC	Total
BE	57	1325	0	2093	1911	0	470	85	5941
DE	6784	3038	6391	0	0	0	3599	1281	21093
ES	734	1254	494	1408	163	0	197	53	4303
FI	0	0	0	5288	0	0	0	0	5288
NL	1078	1218	1042	13612	876	0	536	0	18362
PL	2682	648	1146	0	4	370	0	0	4850
UK-EN	0	0	0	12347	0	0	0	0	12347
UK-SC	0	0	1217	0	0	0	0	0	1217
<b>Total</b>	<b>11335</b>	<b>7483</b>	<b>10290</b>	<b>34748</b>	<b>2954</b>	<b>370</b>	<b>4802</b>	<b>1419</b>	<b>73401</b>

Unlike in ICU surveillance, data conformity in SSI surveillance networks has always been very high and was largely based on the NNIS methodology. Therefore, most countries were able to convert their national data to the HELICS data format without assistance of the HELICS team (Brussels and/or Lyon).

The most important difference between the SSI surveillance networks is the coding of surgical procedures. Many countries use national procedure codes, e.g. used by the national health insurance system for reimbursement or because of other reasons (e.g. national consensus). Since most coding systems can be converted to the larger NNIS operative categories (CDC), it was decided to use NNIS categories as minimal data for HELICS. However, differences in surgical practices between countries may cause important differences in infection rates, the (optional) collection of more detailed ICD-9 CM codes should be encouraged (only reported by 4 countries until now). An example of such differences with potential impact on SSI rates is given in figure 1.

Figure 1. Differences in underlying procedures (ICD-9 CM codes) in the HPRO (hip prosthesis) operation category used in the NNIS/CDC protocol and HELICS minimal data.



Another important aspect to work on in SSI surveillance is the collection of the hospital discharge date in all SSI surveillance networks, in order to correct for differences in post-discharge surveillance practices (performed in varying degrees of intensity in some countries, not at all in others). At this moment, the hospital discharge date, which allows the calculation of in-hospital infection rates (more comparable case-finding), is reported in 6 out of 7 countries.

A more complete analysis of the HELICS ICU database will be published early in 2004.

## **Section 5**     Prevalence of Nosocomial Infections

During HELICS IV Implementation Phase I, the main outcome of Working Party 3 was the elaboration of a comprehensive protocol. This document reflects the consensual opinion of the different members of the working group regarding the rationale and methods required to perform prevalence surveys at local, national and international levels. The protocol covers all the necessary aspects to carry out prevalence surveys, namely, common definitions for nosocomial infections, a set of selected intrinsic and extrinsic risk factors to be surveyed, inclusion and exclusion criteria for inpatients and hospitals, methods for data collection and analysis, data collection forms, and a description of the main results that can be obtained.

There is a need to adapt the document to the common format used by other HELICS surveillance components, namely, the Surgical Site Infection and Intensive Care Unit components, and this task was performed partially during 2003. The 'master protocols' constitute the operative documents for implementing the surveillance components. This document will specify the indicators to be produced at European level, definitions of nosocomial infections, procedures for participation in the survey, criteria for data collection (including the specific format for the minimum data set), control of the quality and validation of data, confidentiality issues, and transfer, storage and accessibility of the collected data. While issues regarding definitions, inclusion and exclusion criteria, data collection and the variables to be included in the minimum data set have already been adapted, the other sections of the document still require to be completed.

In the course of 2004, the first task will be to complete the master protocol for prevalence surveys. The next step for this surveillance component will be to explore the availability of current and future members of the European Union in using the protocol and participating in a prevalence survey. The fact that most of the future members of the European Union have a limited development of their infection control systems constitutes an opportunity for the use of prevalence surveys as a starting point of the programs aiming to control nosocomial infections. Other tasks planned 2004 are the establishment of a link between the participating countries and the coordinating data centre, the realisation of a pilot survey, the creation of the European database, with the aim of the final implementation of a European Prevalence Survey of Nosocomial Infections.

## **Section 6**     Association between Infection Rates and Patient Care Quality Parameters

The objectives of this study are as follows;

- to associate surveillance data of individual hospitals, ICU's and surgical departments with patient care quality parameters.
- to draw conclusions for infection control guidelines and recommendations.

For each surveillance component (ICU and SSI) two endpoints will be investigated:

### 1. ICU component:

- primary bloodstream infections per 1000 patient days.
- primary MRSA bloodstream infections per 1000 patient days.

### 2. SSI component

- SSI per 100 HIP operations.
- SSI due to MRSA per 100 HIP operations.

The nosocomial infection rates for the individual ICU's or surgical departments will be derived from the two surveillance components. The patient care quality parameters will be received from questionnaires. A univariate and multivariate analysis will be carried out in order to identify risk factors. Chi square test and odds ratios will be determined in the univariate analysis and logistic regression models in univariate and multiple analysis. The results will be given as feedback to the individual countries in order to draw their own conclusions.

During 2003 drafts for these questionnaires were developed and sent to the national surveillance systems for comments. During the last HELICS meeting all comments were discussed with the participating countries and the final versions of the questionnaires were created. These final versions have been sent to the representatives of the scientific societies for intensive care and for orthopaedics, in order to ask them for comments. In addition, the protocols for the study were finished. Also, countries not able to send data for the European database have been invited to participate in this complementary study in order to provide descriptive data for estimating the situation in the field of infection control.

Because the development of databases for the ICU component and the SSI component are prerequisites for the complementary study and these databases will not be in place until the third quarter of 2004, most of the work for this study will be performed during 2004. Therefore the following steps are planned during the forthcoming months:

- Sending of the protocols to the networks of the participating countries and asking for participation (until 28.02.04).
- Translation of the questionnaires into the language of the various countries (until 30.04.04)
- Data collection period (from 01.05.04 to 30.09.04)
- Descriptive data analysis (until 31.10. 2004)
- Risk factor analysis (until 30.11.04)
- Final report

Members of the Network gave particular importance to the complementary approach to the surveillance. Indicators on NI inform epidemiological features and trends, they are also powerful indicators of the quality of health services and, as such, quality indicators (related to the infection under surveillance) provide "indispensable" additional information for quality improvement activities.

## Section 7 Training

The aim of the training element was to design and hold a “Training the Trainers” Module and reflect on the outcomes. The module was held in Brussels at the Institut Scientifique de la Santé Publique on 10<sup>th</sup> and 11<sup>th</sup> December, 2003. It was intended for professionals working for the existing European surveillance networks or in charge of the implementation of such networks.

In order to organise the event, a training group was convened by the leader Professor Barry Cookson of the Health Protection Agency in London. Discussions took place via emails and telephone conversations and face to face meetings in London between the UK speakers. The agreed approach was that the training module would help HELICS create a European network of professionals with a shared vision and harmonised approaches to the collection, analysis and use of national and European nosocomial infection data.

All HELICS Participants were notified of the meeting and requested to complete questionnaires which informed the lecturers and allowed the preparation of a truly owned and powerful reflective meeting. Attendees were reminded of the need to be familiar with the HELICS protocols sent before the meeting and to have reflected on the issues.

They were also informed of the following:

“This module will enable us:

1. To prepare network presentations from those with most experience within that area and reflect with the rest of the group on their experiences and views.
2. To reflect on what is needed in terms of tools to assist the surveillance centres in establishing databases that will contribute to HELICS aims for this phase of the project. Review examples of training material that exists within the HELICS Surveillance centres
  - a. Whether they are useful *per se*?
  - b. How they could be improved: do they need to be adapted for HELICS?
  - c. Whether more examples are needed?
  - d. What other materials are required?
3. To consider the development of a manual that contains training material that would be available on the www?
4. To produce an action list of what is needed relating to each section for the HELICS Project.

The final programme is shown in Appendix 3 and comprised a mixture of lectures and discussions. Lectures included didactic coverage of the subjects or practical exercises analysing data or reflecting on bottlenecks and issues relating to the surveillance process.

There was also an evening social programme which the attendees paid for, which increased interactions and enabled new collaborations and future communication so important to the extension of the network.

### Overview of the Course

The course proved to be highly popular and, perhaps uniquely, comprised nine lecturers from five countries and 38 attendees from 21 countries. The lectures and practicals were very well received and there were extensive discussions in which all the lecturers present also contributed. A post

course questionnaire was completed by attendees which showed an exceptionally high score (Excellent or Very Good) for all of the sessions and all recommended that the module should be repeated in the future as the network develops and also as new members join it.

A questionnaire survey was conducted, the results of which were analysed and presented during the meeting exploring what participants had done that had worked well and also what had not worked so well and what they had learnt or done about this. These data were useful in the reflections of the whole group.

Data showed that many centres had training material and four had material on the web. However, few examples of these were presented at the meeting.

### Outcomes from the Course

#### **1) *www training material was needed:***

- The lectures from the course would be a useful resource for the HELICS Network and should be made available via the www HELICS site.
  - Any pictures of patients should be checked to ensure they had been cleared for teaching purposes.
  - HELICS Members would be asked if there were other lectures that could be added in future.
  - The material included training exercises that the Belgium centre had translated with permission from the German network's material.
- For the four countries which already have www training material, the possibility of translating this into English would be explored so that others could use or translate it, if needed, into their own languages.
- Links would be established between these sites via HELICS so that all the network could see what is on these sites in order to avoid duplication of effort.

Perhaps the network itself could contribute towards needs assessments for any new training material that any country produced? In essence we are relying on Mutual Reward Theory for the network to produce more comprehensive and additional examples of training material. Such training material would be piloted in each country to ensure that it works and then other countries could perhaps provide feed back to them with assessments of how it worked in their own networks?

- We would explore in the future if there is EU funding to extend this work.

#### **2) *Training Manual***

It was felt that HELICS should develop a "Training Manual". However, no resources are currently available for this. From the course it was apparent that better guidance should be established on;

- Data Collection methods
- Validation methods
- Analytical methods
- Indicators
- Selling surveillance: politics/media training

3) *The group identified the need to reflect further on some important aspects of the training module:*

- We felt that we could not be prescriptive as there are no gold standards for the topics in 2) above.
- We needed to develop an algorithmic approach based on our reflections and relate these to HELICS.
  - Are there advantages if we do this for current networks?
  - Are there advantages if we do this for new networks?
- We will need to address this in the long term: we may have other drivers such as Quality Assurance and Accreditation?

## **Section 8**     HELICS Database Management System

The HELICS Database Management System is a software which will collect and manage the Intensive Care Unit and Surgical Site Infection datasets at the European level. As part of the same development work, a software is also being developed to enable input, analysis and export of surveillance at the hospital level.

A proposal was prepared for the development of this system in November, 2003, in order to seek formal approval from the HELICS Project Management Group to proceed with the project. That approval was given and was then further endorsed by the network representatives during the HELICS Network Meeting in Brussels on the 12th and 13<sup>th</sup> December, 2003. Development work will commence in January, 2004, and the system is planned to be in place for the first regular transfer of prospective data in July, 2004.

The system is being developed as a collaborative effort between the Coordinating Centre in Lyon and the Collaborating Centres in Berlin and Brussels. On completion, the system will be installed in Lyon, where the data management will be carried out. Once operational, the system will allow receipt of data from the surveillance networks, combination of the data into a single European database and transfer of the data to the Collaborating Centres for analyses. The software which is being developed for the hospital level will be developed in the Brussels Collaborating Centre and is being offered as an option, primarily intended for new surveillance networks.

The technical aspects of the proposal are summarised as follows;

### Software at the European Level

- Database to be developed in Microsoft SQL Server 2000.
- Development via the Microsoft .NET platform.
- Main development language C#.
- Data format for send up in XML.
- Encryption software will use Open Source software gnuPG.
- Data presented for analysis in STATA and SAS.

### Software at the Hospital Level

- Development in Microsoft Access 2000.

The system proposal was prepared after considering elements necessary to ensure the success of the project;

- the possible loss of project members in the development groups.
- selection of tools in which project members have expertise and which project members have used previously.
- the chosen tools have been successfully used on other projects.
- selection of tools which cater for possible future developments in HELICS.

## Section 9 Communication

A number of initiatives were agreed during the Network Meeting held in December in Brussels to improve communication between all the stakeholders in the HELICS project. This exercise helped to define more clearly the main stakeholders in the project and the means by which the communication would take place. The means for communication were agreed as follows;

- 'HELICS Rapid Communication System' (see below)
- Reports
- HELICS News Bulletin and Leaflet
- Papers
- Conferences
- HELICS website (<http://helics.univ-lyon1.fr>)

The need for a rapid mechanism to disseminate information about HELICS was identified. Two levels of information were discussed. The first related to information of a general nature of interest to HELICS (special events, new activities, methodological problems and solutions). Redevelopment of the HELICS website commenced during the year and this will continue with a view to meeting the needs of this type of communication. The second level of information related to the threat of the international spread of nosocomial infection epidemics. With this in mind, it is intended to more clearly establish the role of nosocomial infection in the EU Early Warning System in the forthcoming period.

## **Section 10**    Conclusion and Future Initiatives

The year 2003 was a very productive year for the HELICS project. The ‘Kick-Off’ meeting for HELICS IV Implementation Phase II took place in Lyon in February. The main achievement since then has been the pilot transmission of datasets (in Surgical Site Infection and Intensive Care Unit surveillance) and aggregation and central analysis in a single European database. Data from most of the European Union Member States was used in this process and a number of the other Member States are in the process of setting up surveillance systems which in due course will also contribute to this. By the end of the year, the development plan for the HELICS Database Management System was agreed and, with development proceeding, this will allow the first regular transfer of prospective data in July, 2004. The remainder of Phase II (until the end of 2004) will therefore see the consolidation of the data management processes which the project collaborators have worked so hard to establish until now. The project also achieved important progress in the areas of the Complementary Study (Association between Infection Rates and Patient Care Quality Parameters), Training and the Prevalence of Nosocomial Infections, and these initiatives will continue.

Another active year in 2004 can therefore be anticipated for the project. One very important activity which will require to be addressed will be securing the prolongation of HELICS beyond the end of HELICS IV in December, 2004. “HELICS V” will not only continue the work of the project and its achievements to date, but also respond to the changing needs of the social environment existing in Europe at the present time. With increasing movements of populations across borders and, in this case, with the right of access to services of a recognised quality, HELICS will seek to bring its own specific contribution to this challenge. Also, as the project approaches a more mature phase, the emphasis will shift from the basic data collection mechanisms towards the dimensions of data quality, data analysis, communication and interventions to reduce the burden of nosocomial infections.

**Appendix 1** Agenda - Phase II Kick-off Meeting, 14<sup>th</sup> February, 2003, Lyon.

## Agenda - Phase II Kick-off Meeting, 14<sup>th</sup> February, 2003, Lyon.

### Friday, 14<sup>th</sup> February

- 10.30 Meeting of the Project Management Group.  
Discussion of the procedures for financial management and the timetable for the deliverables (J.Fabry, EZUS-UCBL).
- 12.30 Sandwiches buffet – Coffee
- 13.30 Summary of the presentation of the 3 HELICS protocols
- prevalence survey (J.Rosello)
  - incidence in ICU (C.Suetens)
  - incidence of SSI (A. de Boer)
- 14.30 Expression of each of the invited national/regional networks on:
- objectives
  - methods
  - information to be collected
  - analysis to be feedback
  - ethical issues
- 16.30 Coffee break
- 17.0 Discussions of the first orientations for:
- collection of data on hospitals, units and IC practices (P.Gastmeier)
  - information technology initiative (J.Fabry, C.Suetens)
  - training initiative (B.Cookson)
- 18.30 End of the session
- 20.0 Free evening

### Saturday, 15<sup>th</sup> February

- 09.0 Session in 4 working groups
- SSI
  - ICU
  - Prevalence
  - Information Technology
- Achievement: a precise planning of the development of the HELICS network for each of the components.
- 12.30 Sandwiches buffet – Coffee
- 13.30 Session in 4 working groups (cont.) and general discussion
- 15.30 Coffee break
- 16.0 Practical Organisation (J.Fabry)
- content of the participation “consortium” agreement
  - organisation of quality control
  - dissemination of information and reporting
  - etc.
- 18.30 End of seminar
- 20.00 Dinner with all participants

**Appendix 2** Agenda - Network Meeting, 16<sup>th</sup> & 17<sup>th</sup> May, 2003, Brussels.

**The HELICS Programme**  
**Meeting of the Participating Networks**  
*Brussels – Institut Scientifique de la Santé Publique*  
*May 16-17, 2003*

**Friday May 16**

10 :00-10 :30	Welcome to participants Objectives. Programme.
10:30-12:30 13:30-15:30	Parallel sessions
Room A	Finalisation of the HELICS Master Protocol on ICU infections C. Suetens, M. Hemmer, A. Savey
Room B	Definition and specifications of the HELICS Information System and strategy for its development. J. Fabry, K. Mertens
Room C	Final review of the HELICS Master Protocol on SSI (10:30-12:30) P. Astagneau, H. Carsaw
16:00-16.30 16:30-18:00	Summary presentation of the work of the three groups (*). Presentation and adoption of the programme of the Dec. 10-11, 2003 Training Session on Surveillance of NI in Europe (including objectives, methods, attendants, faculty, etc.) B. Cookson

**Saturday May 17**

9:00- 11:00	Plenary session: presentation and discussion of the HELICS Operating Manual S. Dufour, J. Fabry
11:30- 12:30	Presentation and discussion of the data collection on Structure (hospitals/wards) and Procedures (complementary information) P. Gastmeier
13:30- 14:30	Definition of the contents and modalities of the Pilot Data Collection Round (individual and aggregated formats) to be realised in September-November to test the Protocols and SOP Manual. J. Fabry
14:30-17:00	Final discussion and adoption of the two protocols (SSI & ICU), the SOP Manual and the Pilot phase calendar. C. Suetens

(\* ) The final written version of the documents will be adopted at the end of the meeting (14:30-17:00).

**Appendix 3** Programme - Training Course, 10<sup>th</sup> & 11<sup>th</sup> December, Brussels.



**The HELICS Programme  
Surveillance of Nosocomial Infections in Europe  
Training the Trainers Module**

**Brussels – Institut Scientifique de la Santé Publique  
December 10-11, 2003**

This “Training the Trainers” module will enable attendees and HELICS:

1. To share experience between existing networks for the surveillance of nosocomial infections.
2. To reflect on what is needed in terms of tools to assist the surveillance centres in establishing databases that will contribute to HELICS or to set up a new surveillance network compatible with HELICS.

What are the issues and possible solutions, the pros and cons and likely impact on the dataset and the surveillance system in your own countries?

3. Review examples of training material that exists within the HELICS Surveillance Centres.
4. To develop a manual that contains training material that would be available on the www.
5. To produce an action list as to what is needed relating to each section for the HELICS Project.

**Participants**

- Professionals working for the existing European surveillance networks;
- or in charge of the implementation of such networks.
- Although the HELICS surveillance protocols are briefly reviewed during the module, it is recommended to have read the protocols before the meeting and to have reflected on the issues above.

**Day One – Wednesday 10<sup>th</sup> December, 2003**

10.00	HELICS welcome and presentation of the project Training Course welcome and presentation of the programme	Jacques Fabry Barry Cookson
10.30	HELICS ICU Surveillance Protocol and Definitions	Carl Suetens
11.30	HELICS SSI Surveillance Protocol and Definitions	Jacqui Reilly/Jenny Wilson
12.30	Lunch	
13.30	SSI Surveillance Data Collection/Case Finding Workshop	Jacqui Reilly/Jenny Wilson
14.30	Selling Surveillance To Holland To England To Europe Discussion	Jan Wille Jenny Wilson Carl Suetens Barry Cookson
15.45	Coffee	
16.15	Validation of data In PREZIES In KISS In NSIH Discussion	Jan Wille Irena Zuschneid Ingrid Morales André Charlet
17.30	Finish	

**Day Two – Thursday 11<sup>th</sup> December, 2003**

9.00	Operational Organisation of Data Management	Jacques Fabry/Ian Russell
9.45	IT & HELICS  Designing the HELICS Information System Other examples of IT Systems for Surveillance	Ian Russell Jenny Wilson
10.30	Coffee	
11.00	Indicators in the field of NI (SSI/ICU)	Jacques Fabry
11.45	Data analysis: EU/national/regional	Carl Suetens
12.30	Lunch	
13.30	Data analysis: EU/national/regional (cont.)	Carl Suetens
14.15	Data Analysis 2: using surveillance locally	André Charlet
15.45	Coffee	
16.15	Wash Up	Barry Cookson
17.15	Finish	

**Appendix 4** Agenda - Network Meeting, 12<sup>th</sup> & 13<sup>th</sup> December, Brussels.



**HELICS Network Meeting – Friday 12th & Saturday 13th December, 2003**

**Agenda**

**Thursday 11<sup>th</sup> December**

19.0 PMG Meeting

**Friday 12<sup>th</sup> December**

10.00 – 10.30 **Welcome to Participants**  
Objectives/Programme

Jacques Fabry

**HELICS Database Management System (HDBMS) Project**

10.00 -10.30 Presentation of the IT Proposal  
10.30 – 11.00 Comments/Discussion/Questions

Michael Behnke

**Complementary Study: Association between Nosocomial Infection Rates and Patient Care Quality Parameters**

11.00 – 11.30 Presentation of draft Questionnaire  
11.30 – 12.00 Comments/Discussion/Questions

Petra Gastmeier

12.30 – 13.30 **Lunch**

**Data Analysis and Reporting (using analysis of retrospective data collection 2000+)**

13.30 – 18.00

Carl Suetens

Objectives: To identify remaining inconsistencies in databases.  
To jointly interrogate data with real time input.  
To run first draft pre-programmed national reports.  
To design and prepare a first draft European report.

19.00 Group Dinner

**Saturday 13<sup>th</sup> December**

8.30 – 9.15 **HELICS Training Course Outcomes** Barry Cookson

**Complementary Study: Association between Nosocomial Infection Rates and Patient Care Quality Parameters**

9.15 – 10.30 Finalisation of Questionnaire Petra Gastmeier

**Data Analysis and Reporting (cont.)**

10.30 – 15.30 Carl Suetens

12.30 – 13.30 **Lunch**

15.30 – 16.15 **HELICS Communication Strategy** Jacques Fabry

16.15 – 16.30 **End of the Network Meeting.  
Agenda for future actions.** Jacques Fabry

**PMG Meeting**

16.00 – 18.00

**Appendix 5** Operating Manual V12 (Final)

**Appendix 6** Surveillance of Surgical Site Infections Protocol V9 (Final)

