

## **Review of IPSE Work Packages:**

**IPSE work packages (WPs) are listed below:**

**WP-1:** European training for infection control doctors and nurses in connection with ESCMID

**WP-2:** EU standards & Indicators for public health surveillance and technical guidelines for the control of hospital-acquired infections (HAI) and antimicrobial resistance (AMR)

**WP-3:** Event warning and rapid exchange on nosocomial infections (NI) and AMR

**WP-4:** Technical support for sustaining and extending of HELICS surveillance of nosocomial infections and control of HAI and AMR

(Surveillance of surgical site infections and intensive care unit (ICU)-acquired nosocomial infections; see specific forms and evaluation report)

**WP-5:** Improving surveillance and controlling antibiotic (AB) resistance in ICUs

**WP-6:** Providing complementary tools for the study and control of AMR in ICU's

**WP-7:** Feasibility study of surveillance of HAI in European nursing homes of European member states

**WP-8 and 9:** Dissemination and project management

IPSE is therefore composed of subprojects that are not all of surveillance nature. The ECDC methodology developed to evaluate European surveillance networks does not apply to all WPs. We, therefore, applied the evaluation report templates to WP4 and partially to WP3. For the other WPs we summarized our analysis and findings in the document below and, when appropriate, included comments for some of them in the evaluation report templates. For each of these WPs all the evaluation team contributed to its analysis; a rapporteur was appointed for each WP to write findings and conclusions that were subsequently adopted by all the evaluation team.

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**06/08/2007**

## Evaluation of IPSE WP-1

WP- 1 title:

European training for infection control (IC) doctors and nurses in connection with ESCMID

Run by **Université Claude Bernard, Lyon 1** (Lyon, France)

Budget: 156,291 Euros (57.9% funded by DG Sanco)

Activity proposed: Document existing differences between member states with regard to the professional status of IC staff and define a common core curriculum for the training of IC staff in Europe.

Due to the delay in signing the grant agreement, the work package started in November 2006 and dates for completion of deliverables were re-scheduled.

Deliverables:

### **D1.1 Register of European Courses in Infection Control and Professional Status**

Original due date: 01/01/2007

Re-scheduled: 01/06/2007

Two surveys have been carried out collecting data to develop the register. The first on IC staffing policy completed by IPSE National contact points and the second on existing training courses on IC completed by appointed institutions. The inventory of courses is completed. The criteria to index courses have been sent to countries for validation and comments.

### **D1.2. Core curriculum for European training (master level)**

Due date: 01/06/2007

Re-scheduled: 01/12/2007

A matrix presenting the main professional tasks and pedagogical objectives has been developed. It will be presented to countries for comments and validation and will be the basis for the core curriculum. Support will be sought from DG SANCO, ESCMID, Union Européenne des Médecins Spécialistes and Comité Permanent des Médecins européens.

Findings:

There was a delay in starting WP-1. Deliverable 1 has been finalized and deliverable 2 will be finished before the end of the project.

The evaluation team recommends publishing the results of the surveys in order to disseminate the information and the differences of professional profiles of IC staff in European countries.

The core curriculum should be circulated among external reviewers for further comments and input.

WP1 provides European added value as it contributes to define a minimum core tasks for IC staff and a European core curriculum.

WP1 may complement and support ECDC training strategy (currently ECDC is defining core competencies for field epidemiologists).

Rapporteur: Marta Valenciano

## Evaluation of IPSE WP-2

WP- 2 title:

EU standards & Indicators for public health surveillance and technical guidelines for the control of HAI and AMR

Run by **WHO/Europe** and **Health Protection Agency** (London, UK)

Budget: 442,694 (39.9% funded by DG Sanco)

Activity proposed: a series of ~6 (technical) workshops

To do the following:

### **1) review existing guidelines, standards and indicators from Infection Control Programs in the EU**

(this activity was not translated into specific deliverable in the IPSE contract, but in the IPSE 2006 Annual Report ( produced in May 2007) some results from a questionnaire sent out to 33 countries in 2006 are presented. Data from 21 countries with a national program on hospital infection control were received and collated in 4 tables covering 2 pages of the IPSE Annual Report 2006).

### **2) provide manual of international standards for HAI/AMR surveillance including**

- indicators of incidence of HAI/AMR
- indicators of control capacities
- guidelines for pathogen specific prevention measures
- guidelines for intervention with specific routes of HAI's (water, air, innate objects, HCWs?)
- basic guidelines for standard precautions
- set of ( process, resources, outcomes) indicators for use in Global

Atlas

Deliverables stated:

D 2.1: '*Guidelines on Infection Control in Health care settings in Europe: recommended practices and indicators for monitoring and evaluating progress (2000 copies).*'

Due date: July 2006

D 2.3: '*Internet-based geographic information system on HAI and AMR*'

Due date: January 2007

**3) produce educational materials (slides shows, case studies) supporting implementation of guidelines.**

Deliverable stated:

D 2.2: '*Related training materials on the web*'.

Due date: January 2007

**4) distribute products from 2 and 3.**

Findings:

There was a delay in starting WP-2 , it did not start but in 2006. The leadership of WP-2 switched from Bernardus Ganter to Nedret Emiroglu and they have hired Andreas Gilsdorf as project scientist since July 2006. They have put out a questionnaire to IPSE contact points and received an answer from 29/33. They presented data at ECCMID (Munich April 2007), and , at the meeting in Lyon, gave evaluators an interim report dated May 16<sup>th</sup>.

As a consequence of their initial questionnaire and from contacts with national representatives the IPSE team decided to adjust their goals. Upon request by the evaluation team, the IPSE team produced an adjusted WP-2 statement that is printed and highlighted below:

**WP2** European standards & indicators for Public Health surveillance and technical guidance for the control of HCAI & AMR

**Results and Dissemination:**

The general outline of the Work Package is to review existing guidelines, standards and indicators from Infection Control programs in the European Union and provide a manual of international standards for both HCAI and AMR.

The work package was discussed and developed further following the contract signing. European countries have developed technical documents with recommended practices, but it was expressed by the IPSE Member States that it would be very helpful to develop an approach focusing on organization, policies and structure on infection control at national and hospital levels.

It was suggested by the IPSE representatives of the Member States to develop guidance documents instead of guidelines, which would be formally more difficult to distribute to the Member States. Therefore Deliverable 2.1 would be renamed into: Guidance on Infection Control in Health care settings in Europe.

These developments also led to adjustments in the expected results within the remaining deliverables:

- (a) Develop and disseminate standards and indicators for national and local control capabilities of HCAI and AMR.
- (b) Develop guidance for implementation and improvement of infection control practices at national and hospital levels.
- (c) Develop training material to support the use of the guidance at the hospital level
- (d) Define a set of the developed indicators and include them into an internet based Geographic Information System.

This guidance on infection control practices will be distributed (see also WP8) to the IPSE member states and will be designed so that they can serve as useful tools for ECDC or WHO to tackle IC-control related problems in health care institutions.

The description of the work didn't change. (see page 44 in the grant agreement)

The interim report given to evaluators was a first draft of their restated deliverable D 2.1 and this draft included an overview of the 6 different categories on which they will produce recommended practices, standards and indicators for monitoring the control of HAI & AMR. Also, the IPSE team presented their plans for a simple set of criteria, condensed into 8 topics, that can be used by individual hospitals for a self assessment regarding their control of nosocomial infections. With regard to deliverable D 2.3, the IPSE team stated they will not have data to fill the Global Atlas at the end of the project, only a set of indicators that can be used to do so.

Based on what has been done, what remains to be done and the methods used, it is also the opinion of the evaluation team that the real cost of doing WP2 is certainly below the budget awarded initially.

**Conclusion:** WP-2 started late and has changed directions so as to produce standards and indicators of proper infection control rather than the manual or set of internationally accepted basic guidelines for infection control initially targeted. They will also produce a self assessment tool for individual hospitals regarding the infection control efforts. The practical usefulness and potential impact of these two WP-2 products could not be ascertained at this time. Certainly, the perceived need for an EU manual on infection control indicators and guidelines including procedures and best practices to combat nosocomial infections will not be met by WP-2.

Rapporteur: Henri A Verbrugh

### **Evaluation of WP 3 & 4:**

WP-3 title: Event warning and rapid exchange on NI and AMR

WP-4 title: Technical support for sustaining and extending of HELICS surveillance of nosocomial infections and control of HAI and AMR

(Surveillance of surgical site infections and intensive care unit (ICU)-acquired nosocomial infections; see specific forms and evaluation report)

Budgets:

WP3: 72,349 (29.1% funded by DG Sanco)

WP4: 206,768 (70.4% funded by DG Sanco)

See Evaluation templates and evaluation reports that both focus on WP3 and 4

(Please note that the results reported from the State epidemiologists and National epidemiologists focal points surveys focus on WP4).

Rapporteurs: Agnes Hajdu and Marta Valenciano

## Evaluation of WP5

WP- 5 title:

Improving surveillance and controlling AB resistance in ICUs

Run by **Swedish Institute for Infectious Disease Control** (Stockholm, Sweden)

Budget: 111,152 Euros (64.4% funded by DG Sanco)

Activity proposed: Implementing a web-based programme for the coordinated collection of information on intensive care unit (ICU) structure, infection control policies, antibiotic (AB) policies, AB-use and AB-resistance in national ICU network or individual ICUs in Europe.

Five deliverables were specified:

### **D 5.1 Standard protocol for web-based data collection on antimicrobial resistance and related indicators in the ICU**

Due date: 1 October 2005

### **D 5.2 Web-based data entry and feedback tool**

Due date: 1 April 2006

### **D 5.3 Creation of an EU database on antimicrobial resistance surveillance in the ICU**

Due date: 1 October 2006

### **D 5.4 Report on antimicrobial resistance in the ICU: descriptive data analysis**

Due date: 1 April 2007

### **D 5.5 Results including best practices guidelines will also be presented at professional societies, scientific meetings, in medical journals and on the project website**

Due date: 1 April 2007

Findings: The web-based programme was developed in the frame of the Swedish strategic programme against antimicrobial resistance (STRAMA) in 2000. The programme has been integrated as a WP to IPSE to integrate it in a wider project on HCAI and AMR in European health care settings. After approving and promoting the method at IPSE meetings, the aim was to include some ICUs from every country during a pilot phase in order to validate the tool at the European level. The data entry and feedback tool is accessible through a link on the IPSE website, annual data are collected by a notably detailed questionnaire on ICU-structure and practices, ICU-demography, AB-consumption, species and antimicrobial resistance distribution.

The system allows the reporting ICU to download an automatic feedback and export data.

In total, 28 ICUs from 9 countries (6 member states and 3 accession/candidate countries) participated in the pilot data collection in 2005. Additional seven countries are planning or already initiated the recruitment of ICUs through IPSE national contact points. In the IPSE Annual Report 2006, a brief summary of the pilot results is published with focus on antimicrobial resistance findings. A questionnaire for the evaluation of the feasibility of data collection, validation of data quality and statistics is to be answered by pilot ICUs.

The WP-5 team is planning to finalise the last deliverable (D5.5) during the next 6 months, which is to present results from the questionnaire including analysis and best practices guidelines *for the individual ICUs*. As presented to the evaluation team, best practice as regards to AB-policy and hygiene interventions may vary between and within ICUs and will certainly vary over time, but as this is a long-term project, it will allow continuous revision in the struggle to control AMR.

The ICU-demography questionnaire has been adapted to the ARPAC project (Antibiotic Resistance: Prevention and Control, 2002-2004, DG XII) questionnaire to enable comparison between two European data sets. It has been planned that WP5 would provide data to the BURDEN project and collaboration was intended with IPSE WP-4 and 6.

Comments: Manuals for users, national administrators, set of variables, microbiology species tree and antimicrobial resistance coding are published on the IPSE website as separate documents. The evaluation team recommends integrating these documents into a standard protocol which is required as deliverable.

If high data quality is achieved, a complete overview can be gained on the infection control problem at local level and it is possible to analyse correlation between consumption of antibiotics and resistance as well as hygienic precautions in ICUs. With better representativeness, WP5 would provide added value at national and European level as it contributes to establish core guidelines for best practices of antibiotic policy and hygiene interventions.

The evaluation team also concludes that collaboration between WP-4, 5 and 6 should have been sought from the beginning of the project to combine patient data on ICU-acquired infections (WP-4), ward-level data (WP-5) and genotyping of strains (WP-6) in ICUs.

Rapporteur: Agnes Hajdu

## Evaluation of IPSE WP-6

WP-6 title: Providing complementary tools for the study and control of AMR in ICU's

Run by **Freiburg University Hospital** (Freiburg, Germany)

Budget: 119,193 Euros (48.1% funded by GD Sanco)

Activity proposed: collecting and collating patient-based data from ICU's with high levels of AMR, selected from those participating in WP-5, and genotyping of selected AMR strains to distinguish strains imported into ICU from those transmitted in and exported from those ICU's. In this manner ICU's are made more aware about the various transmission routes of AMR bacteria in their unit. Two deliverables were specified:

D 6.1 Protocol for patient data collection and genotyping for the control of AMR bacteria in ICU's. Due date: September 2005

D 6.2 Report on cross-transmission, import and export of AMR bacteria in ICU's. Due date: October 2007

Findings:

The first deliverable is available on the website of IPSE with further linkage to the University of Freiburg, leading this WP. However, it has been difficult to enlist ICU's with high incidence of AMR's. Thus, other ICU's not necessarily linked to WP-5 were enlisted but, even so, the number of datasets collected so far are a bit disappointing. An interim report, part of IPSE Annual report 2006, presented during the meeting in Lyon stated that only 19 ICU's from 5 EU countries had delivered datasets (ie patient data plus strains) to the IPSE WP-5 group I Freiburg. The data base now includes only 379 data sets with quite a few data missing. Therefore, the data quality collected and centralized is not optimal and the overall quality of the work may not be so competitive for an international publication. Although it is clear that AMR bacteria can be genotyped and, thus, their origin tracked much better than previously, and that AMR bacteria are circulating in the ICU's as well as being imported and exported, it is not clear for the evaluation team what impact the WP-5 report will have if the number and quality of the datasets is not considerably improved.

However, it is acknowledged by the evaluation team that genotyping is a very valuable tool that should somehow be made available across Europe at no or low costs for hospitals trying to control their AMR problems. Currently these genotyping techniques are not available for the large majority of hospitals in Europe; only academic level hospitals and university medical centers are currently equipped to do so. Probably this can be amended at a national level through the efforts of national reference laboratories under the stimulus from ECDC.

Rapporteur: Henri A Verbrugh

## Evaluation of IPSE WP-7

WP-7 title: Feasibility study of surveillance of HAI in European nursing homes of European member states

Run by **Agenzia Sanitaria Regionale, Emilia-Romagna (Italy)**

Budget: 55,899 Euros (53.6% funded by DG Sanco)

Activities proposed:

- To improve infection surveillance and control activities in European nursing homes

Due to the delay in signing the grant agreement, the work package started in November 2006 and dates for completion of deliverables were re-scheduled.

Deliverables:

### **D7.1 Report summarizing the systems of care and infection control activities in European nursing homes, the existing experiences for surveillance of HCA infections in NH and their characteristics**

Original due date: 01/01/2007

Re-scheduled: 01/07/2007

The survey collecting information on long term care (LTC) characteristics, infection control and infection surveillance in LTC is finished. The results underline that only few European countries have surveillance in place, those with a surveillance system have different standards and there are usually not enough resources to carry out surveillance. In addition, LTC facilities are defined differently in the countries making difficult comparisons.

### **D7.2. Proposal for a harmonized protocol for surveillance of HCA infections in European nursing homes.**

Due date: 01/01/2007

Re-scheduled: 01/07/2007

A common protocol for prevalence surveys will be presented to IPSE National contact points in November.

Findings:

There was a delay in starting WP-7. Deliverable 1 has been finalized and deliverable 2 will be finished before the end of the project. Even if a common ongoing surveillance system seems not be feasible, a common protocol for prevalence surveys would be available in November for countries willing to implement it.

WP-7 provides a European added value: using a common protocol for prevalence surveys would allow comparing European countries.

Through WP-7, IPSE has addressed the neglected issue of nosocomial infections in nursing homes. Initiating surveillance activities in NH and LTC through a European common core prevalence survey method would be an effective approach. With an aging European population, NH and LTC infection surveillance should be included in ECDC activities.

Rapporteur: Marta Valenciano

## Evaluation of IPSE WP-8-9

WP-8 and 9 titles: Dissemination and project management

Run by **Université Claude Bernard, Lyon 1 (Lyon, France): Professor Jacques Fabry**

Project Management: Prof J Fabry

Project assistant: Ian Russel

Project secretary: Dorothy Russel

Due dates:

WP8 Dissemination

- *D8.1 IPSE website <http://ipse.univ-lyon1.fr>: The website is being revised and the new version should be available before by June 2007*
- *D8.2 Three annual IPSE plenary meetings: done*
- *D8.3 Two ESCMID/IPSE workshops*
- *D8.4 Six Monthly Newsletter (2 issued)*
- *D8.5 Annual reports 2005, 2006 + Final report 2005-2007:*

WP9 Project Management

- *D9.1 PMG meetings (2005, 2006)*
- *D9.2 Minutes of PMG Meetings*
- *D9.3 Interim financial and activity report (2005,2006)*
- *D9.4 Final financial and activity report (September 2008)*

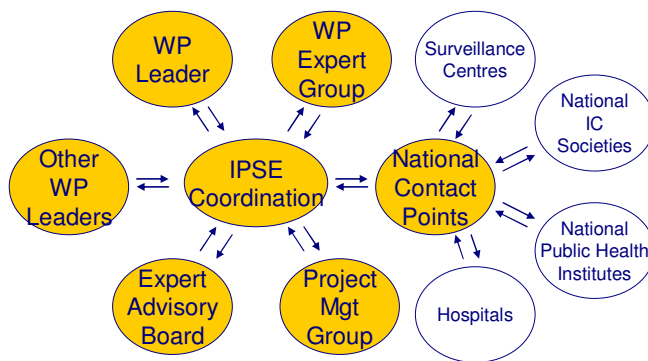
Budget 426,703 Euros (81.6% funded by DG Sanco)

Findings:

The IPSE project is run by a coordination team in Lyon which coordinates all activities within each WP. After planning of activities is validated with the coordination team and at a plenary meeting, WP leaders plan the activities of their package and interact with national focal point for implementation (figure below). WP experts supervise and review the development of the work (see figure "work package coordination model). Collaboration with other WP leaders takes place where appropriate. National Contact Points validate work package deliverables with input from other interested national bodies. WP progress is evaluated at project plenary meetings. The Project Management Group checks WP progress according to plan. The Expert Advisory Board provides an external view. Annual reports are produced by the coordination team with inputs from WP leaders. Annual plenary

meetings are organized by the coordination team. Activity and financial reports to the commission (interim for 2005 & 2006) are put together by the coordination team.

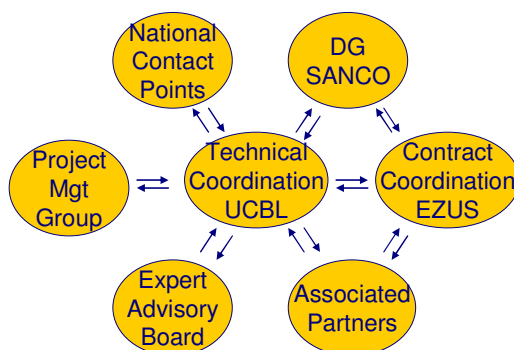
## Work Package Coordination Model



**IPSE**  
Improving Patient Safety in Europe

Overall management:

## Overall Project Coordination



**IPSE**  
Improving Patient Safety in Europe

## Comments:

The overall management of the IPSE project was felt appropriate by the evaluation team. The management team is very dedicated, professional and has a true European public health prospective in a university department that has a long experience in surveillance, research and training on HAI. The fact that the IPSE project coordinator had been responsible for the EU HELICS project in the past is certainly a strength for IPSE since it provides some continuity.

The activities gathered together in the IPSE projects, although related to HAI or AMR are numerous, diverse and relate to surveillance, training issues, development of standards and operational research involving strain typing. Therefore a careful coordination is needed. Some of the WPs were included in the IPSE project not because it was the initial will of the project leader but because these projects could probably not stand alone in the call for projects from the public health programme of the DG Sanco. Some of these projects were also continuation of previous project that could not be resubmitted as such. It was then strongly advised to the IPSE applicant and to those WP leaders to gather together their projects into one global project on HAI and AMR. Although IPSE WP9 deliverables are globally and so far being met with some delay for some, the coordination of the whole IPSE project (9 WPs) was made more difficult than for the earlier HELICS project.

This is probably one of the reasons for the global lack of focus of the IPSE projects that the evaluation team perceived. The unity and visibility of the IPSE project probably suffered from this. Some WPs do not interact enough with some other: for instance WP-5 and WP-6 did not appear to interact at their start, although they are related to the same topic; it would have been expected that WP-5 and WP-6 should also have interacted with HELICS ICU-surveillance, whereas they have not.

On the dissemination side, there is a lack of newsletters delivered (two out of four planned) but, as results of WPs are being produced, it is the plan of the coordination team to speed up their production to satisfy the numbers planned initially. This delayed production of newsletter may have contributed to the lack of interaction between some of the WPs.

There is also a lack of publications, particularly from the core surveillance of HELICS, (particularly no paper in Eurosurveillance). The expertise of the HELICS team is good but the technical activity of WP4 seems to take all WP4 resources and limits the analysis, writing, publication and dissemination activity. The visibility of HELICS data and results on the WEBSITE should be improved. The annual reports have been delivered so far, but their content remains rather minimal if one compare to other DSN projects (ESAC, EARSS...). No publication of WP5 & 6 has been done yet. Although, national contact points in the ECDC survey were relatively satisfied, the dissemination policy of IPSE appears to be less successful compared to ESAC and EARSS.

Rapporteur: JC Desenclos

## Synthesis of the IPSE evaluation team (all WPs)

### Major strengths:

- To have maintained and further developed the HELICS surveillance network on SSI and ICU-acquired nosocomial infections
- To have expanded HELICS surveillance to few other countries and improved data completeness
- To have achieved quality of information technology for HELICS surveillance
- In WP-5 the IT tool developed to gather basic information and AMR rates from ICU is very efficient, has a minimal burden to the ICU for data entry and allow an immediate feedback to participants
- To have been able to identify a minimal core curriculum for training on HCAI control, prevention and surveillance through the European Union
- To have addressed the neglected issue of HAI in nursing homes and long term care facilities

### Minor strengths:

- To have attempted to integrate molecular epidemiology and antibiotic consumption to understand AMR transmission in ICUs
- Interaction with EARSS for WP-3 (event warning) and with ESAC for WP-7 (nursing home)
- To have attempted to produce European standards and indicators for public health surveillance and technical guidelines on HAI and AMR

### Major weaknesses:

- There is a lack of focus of the IPSE projects because of the large diversity of WPs: some were integrated in the project for funding purposes
- Some WPs that address similar issues are therefore not enough integrated with each other (WP-5 and WP-6) or not enough to the core surveillance of HELICS (WP-6 and ICU surveillance with no development of a common protocols and tools...)
- Lack of time for analysis and publications of HELICS data
- Lack of visibility of IPSE results in the different dissemination media available (web site, annual reports, news letter and publications...)
- Lack of use of the information for policy planning and evaluation

- WP-2 was delayed quite much and the objectives have been changed by WP leaders
- No use of the IT tool for event warning by participating sites and public health authorities
- Although efforts were done to harmonize existing national protocols with HELICS protocols, completeness of data varies fairly by country and the comparability of data is still an issue

**Minor weaknesses:**

- Difficulties in using the HELICS IT system by some states
- SOPs were have not been updated yet
- Lack of a written protocol for WP-5
- Lack of coverage, representativeness and data quality in some WPs (WP5-6)
- Timeliness of data has been problematic both at national and international level: different timing and length of data collection in the participating countries; delay in feeding back results to the participating countries

**Other finding:**

There are other EU supported surveillance or public health projects that deal more or less with HAI. They are all related to AMR (EARSS, EUCAST,...) and/or antibiotic consumption (ESAC). IPSE's specificity is HAI whether related to AMR or not. A part of IPSE being related to AMR, an interaction with EARSS and ESAC, both funded by the EU public health program is a key point to assess the EU policy on AMR and will need more attention in the future since these activities are now in the remit of ECDC missions. The evaluation has shown some interactions between IPSE, EARSS and ESAC that will need to be taken further by ECDC and DG Sanco in the future.