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PHIS

Pharmaceutical Health Information System

EVALUATION REPORT

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Abbrevations

AAHPN	-	Anglo-American Health Policy Network
AIFA	-	Agenzia Italiana del Farmaco / Italian Medicines Agency
BMG	-	Bundesministerium für Gesundheit / Austrian Federal Ministry of Health
DG ENTR	-	Directorate - General Enterprise and Industry of the European Commission
DG Sanco	-	Directorate - General Health and Consumer Protection of the European Commission
DoW	-	Description of Work
EAHC	-	Executive Agency for Health and Consumers
EAHP	-	European Association of Hospital Pharmacists
EC	-	European Commission
EPHI	-	European pharmaceutical health indicators
EU	-	European Union
EUROSTAT	-	Statistical Office of the European Communities
GÖG/ÖBIG	-	Gesundheit Österreich GmbH, Geschäftsbereich Österreichisches Bundesinstitut für Gesundheitswesen / Austrian Health Institute
HAS	-	Haute Autorité de Santé / French National Authority for Health
HOPE	-	European Hospital and Healthcare Federation
IHHII	-	International Healthcare and Health Insurance Institute
LIS	-	Norwegian Drug Procurement Cooperation
M	-	Month
MS	-	Member States
NICE	-	National Institute for Health and Clinical Excellence

OECD	-	Organization for Economic Co-operation & Development
PHIS	-	Pharmaceutical Health Information System
PMT	-	Project Management Team
PPRI	-	Pharmaceutical Pricing and Reimbursement Information
SUKL	-	State Institute for Drug Control
WHO	-	World Health Organization
WHO CC	-	WHO Collaborating Centre
WP	-	Work Package

Executive Summary

The Pharmaceutical Health Information System (PHIS) project was created to develop and coordinate a European health information and knowledge system. The project aimed at increasing knowledge and exchange of information on pharmaceutical policies, in particular on pricing and reimbursement, in the European Union Member States, covering both the out-patient and the in-patient sector. The Utrecht WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis based in the Netherlands was commissioned to undertake an independent external evaluation of the PHIS project, between August 2010 and March 2011. A list of evaluation indicators was developed to evaluate if the PHIS project has successfully met the predefined objectives. Existing documents were collected and reviewed, a questionnaire was circulated among PHIS network members, and interviews with over 15 key people were conducted.

The findings confirm that the consortium partners have been extremely successful within the limited time frame of the project and considering the budget constraints. The deliverables that were agreed with the EU have been met. The project fulfils the expectations and primary needs of those involved in the project and provides the transparency of the pharmaceutical sector as was originally the intention of the project. The Hospital Pharma report and (the model and functioning of) the PHIS network itself are considered the two most outstanding achievements of the PHIS project.

Before the start of the PHIS project, the knowledge of pharmaceutical policies in the in-patient sector was poor. Many saw the in-hospital sector as a “black-box” and processes were secluded, with an almost non-existing exchange of information even between hospitals within the same country. The PHIS Hospital Pharma report provides the first insights in and comparisons of pharmaceutical policies and especially pharmaceutical prices and practices in this sector, and complements what was already known. This report raised two important public health issues, i.e extreme discounts and rebates in hospitals and the interface management. Although disclosure of this type of information could have occurred through other initiatives or under economic pressure, the PHIS project speeded up the process and does not limit itself to one or two countries but provides a broad comparative overview. Although the Hospital Pharma report is considered an excellent and very important achievement of the PHIS project, some limitations such as lack of external peer review and the small number of countries and hospitals involved in the price comparisons (limiting external validity) should be acknowledged.

The PHIS project, including the PHIS Hospital Pharma report, would not have been possible without the many voluntary contributions of the PHIS network and advisory committee

members. The strength of this network consists of its mutually interdependent and cooperative nature. The unique nature of the PHIS network with close contacts between people from different countries in relevant positions has largely accounted for this achievement. As such, the PHIS network undoubtedly qualifies itself as one of the main partners in future projects in this field.

A challenge for the evaluation team was judging the potential impact of the PHIS project, as the project is still ongoing - some deliverables are due after deadline of this evaluation report - and assessment of public health impact needs further attention. At this point in time, three main points of concern were identified: the absence of a predefined dissemination plan which has led to lack of benefit from the results of the PHIS project by external people, the delay in finalization of the country profiles and filling and public availability of the PHIS database.

Dissemination of the results (to external people) and final completion of PHIS deliverables need to be monitored and actively supported. More opportunities for dissemination within countries exist, e.g. through national pharmaceutical or medical journals and/or presentations at national conferences or seminars. PHIS network members could take the lead in this and take a pro-active approach, especially those working within Ministries of Health or Third Party Payers.

Future network meetings could take place on a (bi-)annual basis. To ensure active involvement of the present network members, including hospital experts, after completion of the PHIS work the program will need to fulfill their needs and should be attractive. A descriptive, comparative analysis of (a selection of) core and supplementary indicators should be the performed as soon as possible, but is seen as the first step in a row of more in-depth, analytical studies. The PHIS consortium partners should carefully consider more in-depth, secondary analyses of the existing data. Academic institutions may need to be involved in these analyses. Willingness to share information is seen as a critical factor, and public availability of the PHIS database, which should include up-to-date high quality information, is considered crucial. Finally, a final evaluation of the impact of the PHIS project should be considered 2-3 years after project ending.

European Commission funding of further pan-European studies of hospital prices and interface management and their impact on the pharmaceutical sector is strongly recommended. The evaluation institution recommends building upon the PHIS network as this network has proven its usefulness and ability to obtain relevant data. The evaluation institution strongly feels that adequate funding by the European Commission to maintain the network should then also be considered.

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1. Introduction

This report presents the evaluation of the Pharmaceutical Health Information System (PHIS) project. The PHIS project aims at increasing knowledge and exchange of information on pharmaceutical policies, in particular on pricing and reimbursement, in the EU Member States, covering both the out-patient and the in-patient sector. Within the PHIS project pharmaceutical health system information is surveyed and monitored from a public health perspective. The PHIS project was commissioned by the Executive Agency for Health and Consumers (EAHC) and is co-funded by the Austrian Federal Ministry of Health (BMG). The PHIS project started 1 September 2008 and will end 30 April 2011.

The PHIS project management, in accordance with the commissioning parties Executive Agency for Health and Consumers and Austrian Ministry of Health and PHIS, has commissioned the Utrecht WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis to undertake the external evaluation of the PHIS-project (see Appendix 1 for more detailed information about the Centre).

According to the Description of Work, the evaluation had to be finalised before 31 March 2011. As such, the present assessment is an evaluation of an ongoing project. Outcomes of this evaluation must therefore be seen as preliminary or mid-term outcomes.

For its research, the Centre established evaluation indicators to assess if the PHIS project succeeded to meet the predefined objectives. In this report the evaluation methodology will be described and the results will be presented per objective. Finally, preliminary conclusions and recommendations will be given.

The target audience of this report is the European Commission (EC), PHIS Consortium members, the PHIS Advisory Board, PHIS network members and all others who are interested in the outcomes of the PHIS project.

2. Background information

2.1 Background PHIS project

The PHIS project aims at increasing knowledge and exchange of information on pharmaceutical policies, in particular on pricing and reimbursement, in the European Union (EU) Member States, covering both the out-patient and the in-patient sector. Within the PHIS project pharmaceutical health system information is surveyed and monitored from a public health perspective. For this purpose, key pharmaceutical health indicators which may be included in a European Health Information System have been developed. The development of the information system is achieved through eight different work packages (WPs). These work packages have specific objectives that are described in more detail in the section below.

In order to guarantee sharing of results of the PHIS project with public and other interested experts and to increase future sustainability, the PHIS project involves a large network of (hospital) pharmacists, competent authorities (mostly Ministries of Health and Medicines Agencies), Third Party Payers, hospital pharmacists and experts and other relevant institutions in the field of medicines from all European Union Member States and beyond.

The PHIS project was launched following the Pharmaceutical and Pricing Reimbursement information (PPRI) project coordinated by Gesundheit Österreich GmbH/Geschäftsbereich ÖBIG (GÖG/ÖBIG) together with WHO Europe. In the PPRI project the major focus was on the out-patient sector. Although there is no formal link between the PHIS project and the PPRI project, the PHIS network was directly based on the existing PPRI network - extended with new contacts (i.e. the hospital experts) - and was able to build on the experiences of the PPRI network. Similarly, the PHIS country profiles were modeled after the PPRI profiles.

2.2 PHIS work packages and objectives

Work package 1: Coordination of the project

The project management consists of the main consortium partner (Gesundheit Österreich GmbH/Geschäftsbereich ÖBIG) and four associated partners (International Healthcare and Health Insurance Institute (IHHII, Bulgaria), State Institute for Drug Control (SUKL, Slovakia), SOGETI Luxembourg and the Italian Medicines Agency (AIFA, Italy)). The main partner is responsible for the whole project, including the three horizontal work packages and one work package, and each of the associated partners has the lead in one of the work packages.

An Advisory Board was set up to guide the process and to evaluate project outcomes. The following institutions were part of the advisory board:

- Executive Agency for Health and Consumers
- European Commission, DG Sanco,
- European Commission, DG Enterprise
- European Commission, DG Eurostat
- Organisation for Economic Co-operation & Development (OECD)
- World Health Organization, Regional Office for Europe (WHO EURO)
- World Health Organization, WHO Headquarters

The role of and expected contributions from the PHIS Advisory Board were discussed at the first PHIS Advisory Board meeting. The PHIS Advisory Board was included in all communications of the PHIS project management to the PHIS network, and received all documents for review and approval.

Work package 2: Dissemination of the results

The objective of this work package is 'communication, information-exchange and dissemination'. The dissemination strategy of the PHIS project considers the following principles: covering the whole European Union, reaching all relevant stakeholders, making the community co-funding visible, using different dissemination methods and channels and making use of the PHIS network and PHIS website as a key information source and dissemination tool.

Work package 3: Evaluation of the project

The evaluation of the project has been undertaken independently and is documented in this evaluation report.

Work package 4: Terminology

The objective of this work package is 'common language': developing and promoting a common understanding, based on a shared language and terminology. The deliverable of this work package is the PHIS Glossary, a tool containing important terms and definitions for concepts related to pharmaceutical pricing and reimbursement in the European context, from a public health perspective.

Work package 5: Monitoring

The objective of this work package is 'updated country-specific information'. This work package produces up-to-date comparable reports on the pharmaceutical systems in the

European Union, aiming at as many as 27 Member States. The deliverable is the PHIS Library, an online documentation system, which contains country-specific information on the in-patient and out-patient pharmaceutical sector, and which can be regularly up-dated.

Work package 6: Indicators

The objectives of this work package are 'methodology' and 'Pharmaceutical Health Information System (PHIS) indicators'. The PHIS project reviews the existing pharmaceutical indicators from a public health perspective and the PHIS taxonomy is produced based on this review. The PHIS taxonomy is a tool for gathering comparable and methodologically-sound information and data for relevant European Pharmaceutical Health Indicators. The development of the taxonomy is seen as a milestone in the process of setting up the PHIS database, an information system which is filled with data from the EU Member States. The PHIS database is considered as an important element for a European Pharmaceutical Health Information System.

Work package 7: Hospital Pharma

The objectives of this work package are 'updated country-specific information' and 'in-patient survey'. Information and data regarding the in-patient pharmaceutical system is gathered by a survey. This survey aims at covering the whole European Union and including case studies (price surveys) on selected countries. The findings are presented in a 'PHIS Hospital Pharma Report', integrating country specific findings about the hospital sector in the form of PHIS country hospital reports.

Work package 8: Networking

A major outcome of the PHIS project is the establishment of the PHIS network, which should comprise both competent authorities, payers as well as hospital pharmacists/experts. This network is seen as an important element of the internal and external communication strategy. The outcomes of all other work packages are presented to the network and then revised based on the network's feedback. All information meetings with the network and the Advisory Board are considered as milestones for the progress of the project.

A complete overview of the specific PHIS objectives can be found below:

Specific PHIS objectives	Related work packages
Common language	WP 4 Terminology, WP 8 Networking
Methodology	WP 6 Indicators
Updated country specific information	WP 5 Monitoring, WP 7 Hospital Pharma, WP 8 Networking
PHIS indicators	WP 6 Indicators
In-patient survey	WP 7 Hospital Pharma
Communication, information-exchange and dissemination	WP 2 Dissemination, WP 8 Networking

3. Evaluation Methodology

3.1 Approach for the PHIS evaluation

In agreement with the Terms of Reference of WP3, the evaluation was carried out in three phases:

- development of an evaluation plan
- realization of the evaluation plan
- writing of the evaluation report

The first phase, development of an evaluation plan, took place in the period 1 August 2010 until 30 September 2010. The project evaluation plan consisted of a list of evaluation indicators to evaluate if the PHIS project has succeeded to meet the predefined objectives (see section 3.2 for more details).

The second phase, realization of the plan, took place in the period September 2010 until 31 January 2011. The evaluation was undertaken independently and without interference as the Utrecht WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis was not involved in the PHIS project.

The third phase, writing of the evaluation report, took place in the period January until 31 March 2011 (delivery date of the evaluation report). The results of the evaluation are provided in the present evaluation report, which will be submitted to the EAHC within one month of the delivery date (end of April 2011). The evaluation report will also be presented at the Fifth PHIS Information Meeting in Sofia, Bulgaria (28 April 2011).

3.2 Development of the evaluation indicators

The Description of Work (DoW) in the Grant Agreement of the PHIS project - work package nº3 ‘evaluation of the project’ - served as basis for the development of the list of evaluation indicators. In the DoW, 14 indicators were proposed; ten process and policy impact indicators (e.g. number of documents/projects based on PHIS related terminology or five information meetings), three indicators regarding sustainability of the project and one public health indicator. Two new public health evaluation indicators, ‘impact of the PHIS project’ and ‘cost-effectiveness of the PHIS project’, replaced the public health evaluation indicator regarding the availability of medicines. This indicator was replaced because the evaluation institution doubted whether (i) it would be possible to obtain the necessary data, (ii) changes might be expected at such a short period of time, and (iii) any observed changes can be attributed to the PHIS project as availability of medicines is affected by many factors. All other indicators were modified and / or refined as well, resulting in a draft list of evaluation indicators. This draft list has been extensively discussed with the project management and

the Advisory Board during the Fourth PHIS Information meeting in Rome in September 2010. The final list of 27 developed evaluation indicators including short descriptions can be found in Appendix 2. The evaluation indicators were categorized according to the specific objectives as defined in the DoW (see section 2.2).

3.3 Information sources for the evaluation report

To conduct the evaluation, existing documents were collected, a questionnaire was circulated among PHIS network members and interviews were conducted. The main partner (GÖG/ÖBIG) provided access to all relevant documents and materials and bridged contact with the associated partners, the PHIS Advisory Board and PHIS network members.

Representatives of the evaluation institution attended the Fourth PHIS Information Meeting on 27 and 28 September 2010 in Rome, Italy to observe a PHIS information meeting and to meet the Advisory Board members. During this meeting, interviews were held with a selection of key people involved in the project who attended the meeting. The purpose of these interviews was to gather views and opinions on the process, outcomes and sustainability of the PHIS project. Additional interviews with key people were held in the months thereafter. In January 2011, representatives of the evaluation institution visited GÖG/ÖBIG in Vienna for final interviews and documentations. See Appendix 3 for an overview of the interviewed persons.

A questionnaire was developed to gather general views on certain aspects of the PHIS project (see Appendix 4 for the final version of the questionnaire). Members of the Advisory Board and the work package leaders provided feedback on a draft version of the questionnaire. The questionnaire was distributed among PHIS network members. The questionnaire was enclosed in the meeting folder of the Fourth PHIS Information Meeting in Rome, Italy. A reminder was sent twice (2 and 4 weeks after the Fourth PHIS Information Meeting in Rome) to those members who were not able to fill in the evaluation questionnaire during this meeting or those who were not able to attend the Fourth PHIS Information Meeting in Rome. A total of 23 completed questionnaires with respondents from at least 12 different countries (9 respondents did not indicate country) were collected and used for the evaluation.

4. Results

The results of all evaluation indicators are discussed below per specific PHIS objective. For some indicators, more detailed information is provided in Appendix 5.

4.1 Objective 1. Common language

The PHIS Glossary has been developed in WP 4 'Terminology' with the Italian Medicines Agency as the WP leader. The purpose of the PHIS Glossary was to create a common language among PHIS network members. Terms relevant for the glossary refer to pharmaceutical pricing and reimbursement in a European context, from a public health perspective. Hospital terms, which have rarely been addressed with regard to medicines management, were explicitly included.

Information on the methodology used for the development of the PHIS Glossary has been described in the "Background to the PHIS glossary". This document, which was delivered to the EAHC, is unavailable from the public part of the PHIS website, which hampers external assessment of the glossary development procedure *(evaluation indicator 2)*. The Glossary itself provides a list of references and data sources used for the development of the PHIS Glossary. During the development procedure existing glossaries (to avoid any kind of duplications) were identified and analyzed and approaches, criteria and methodologies used in other glossaries were compared to make the best use of previous experiences

Feedback was received from different bodies at different points in time during the development of the PHIS Glossary. The PHIS Advisory Board and the PHIS network members provided feedback during PHIS project meetings following sharing draft versions with the network. A PHIS Glossary Training Session was held during the Second PHIS Network Meeting on 8/9 June 2009 in Luxembourg. Documents of this training session are available on the PHIS intranet. Feedback on the glossary from representatives of international institutions including the World Health Organization, the Organisation for Economic Co-operation and Development, EUROSTAT, the European Hospital and Healthcare Federation (HOPE) and the European Association of Hospital Pharmacists was received. Some terms were commissioned to external experts from acknowledged institutions such as National Institute for Health and Clinical Excellence (NICE) and French National Authority for Health (HAS). During the scope of the PHIS project two versions of the PHIS glossary have been placed on the website. The necessity of the glossary updates is related to the aim of the glossary; the contribution in developing and promoting the use of a common understanding language, based on a shared, unequivocal language and terminology which is continually getting renewed and enriched. The current version of the

glossary was released in May 2010 and included new and modified terms. The May 2010 update was due to the fact that during the finalisation of the PHIS Hospital Pharma report a need for defining and including terms on hospital pharma became evident. It is planned to upload a new version at the end of April 2011 including some new terms proposed by AIFA and GÖG/ÖBIG.

The PHIS Glossary can be downloaded from the PHIS website which also provides a search function. There was no separate dissemination plan to promote utilization of the PHIS Glossary. The PHIS Glossary has been disseminated internally (within the PHIS network) and to a more limited extent externally (*evaluation indicator 4*).

Internal communication:

- Email; the final and updated version of the PHIS Glossary was sent to all PHIS network members as attachment and a link to the online version was provided.
- The network members were advised to use the PHIS terminology; in particular, the Guidelines of Authors in the Templates of the country reports ask the authors to stick to the PHIS terminology according to the Template. The review of the country reports took care that the PHIS glossary was considered.
- The PHIS project team management asked the PHIS network members at each PHIS meeting to disseminate PHIS, including the PHIS Glossary.

External dissemination:

- A reference to the Glossary was always included in external PHIS presentations (see Appendix 5 for overview of presentations). The Glossary was mentioned at two additional external meetings; an Austrian stakeholder meeting (“Pharmaplattform”) and a meeting of the Working group of the Pharmaceutical Committee on the rational use of medicines of the Austrian Ministry of Health.
- Newsletters; the newsletter of the GÖG/ÖBIG department (Health Economics newsletter) mentioning the PHIS Glossary was distributed to more than 3000 persons in German speaking countries and 3,000 additional persons in other countries. Among these persons were people from the industry in Europe, policy makers, medicines agencies, academia, libraries, wholesalers etc. The newsletter referred to both the PHIS Glossary as well as the German version of the PHIS Glossary (see below).
- One peer-reviewed article (in press) written by members of the PHIS project management team was explicitly based on the terminology of the PHIS Glossary

In addition, the project management team urged the PHIS network members to support the dissemination of the PHIS terminology by producing PHIS glossaries in national language, which is beyond the framework of the project according the Grant Agreement. The GÖG/ÖBIG team produced a German glossary and distributed the hard-copy of this Glossary extensively with meetings with the stakeholders in Austria. Additionally, a Dutch version of the PHIS glossary (only limited number of terms) was developed by an intern with GÖG/ÖBIG; it is currently under review.

Questionnaire results showed that the majority of users (50%) used the web based version of the PHIS Glossary. All questioned people (100%) agreed on the easiness of use and 95% will use the PHIS Glossary in the near future *(evaluation indicator 3,* see appendix 5*)*. The majority of users (85%) were of the opinion that the terminology helped them to better understand the pharmaceutical systems of other network members. As such the PHIS Glossary fulfils its purpose and the needs of the PHIS network members. The project management team who as reviewers of the country reports took care about the consistency with the glossary observed that a greater compliance with the glossary was ensured when PHIS network members were directly involved in writing reports (personal communication GÖG/ÖBIG team.

PHIS terminology has been used in all country profiles (including posters) and the PHIS Hospital Pharma Report (*evaluation indicator 1)*. Besides, various (external) presentations were based on PHIS related terminology (see appendix 5, indicator 19 for an overview of presentations). In addition PHIS related terminology has been used in the WHO Glossary – Pharmaceutical country profiles (in total the WHO Glossary contains 118 terms (in 16,9% (20/118) PHIS is mentioned as a source)) and in the WHO Pharmaceutical Country Profile for Austria:
http://www.who.int/medicines/areas/coordination/coordination_assessment/en/index1.html
In addition, the PHIS Glossary will be used in EU projects such as EMI-NET and EUnetHTA (personal communication Mrs. C. Habl, GÖG/ÖBIG and Mrs. L. Muscolo, AIFA).

4.2 Objective 2. Methodology

The PHIS taxonomy has been developed in WP 6 'Indicators' with SOGETI as the WP leader. The development of the taxonomy included a technical and a content part.
A review of relevant projects and sources (e.g. OECD, EUROSTAT, PPRI, SOGETI) was undertaken to identify relevant existing pharmaceutical indicators from a public health perspective for the out-patient sector. The development process has been adequately

described and is accessible through the PHIS website (*evaluation indicator 6*). In short, all information that was gathered was reviewed and summaries of the defined indicators were made. For the in-patient indicators, the selection was based on already existing in-patient indicators and on the basis of collaborative work undertaken within the work package Hospital Pharma within the PHIS project. During the Second PHIS Information Meeting in Luxembourg, the indicators were presented and discussed. Feedback was received from the other members of the Project Management Team, the Advisory Board and PHIS network members. Several rounds of feed-backs of several drafts of the taxonomy took place before final selection of the core and supplementary indicators.

Questionnaire results showed that the majority of users (78%) agreed that the structure of the PHIS taxonomy was logical, the description of the indicators was clear (82%) and the indicators addressed their information needs (63%) (*evaluation indicator 7,* see appendix 5).

A Google search using the term “PHIS taxonomy” resulted in six relevant hits: three websites, two pdf files and one excel file (*evaluation indicator 5*, see Appendix 5). All websites and documents refer or belong to institutions that are directly involved in the PHIS project. No references to the PHIS taxonomy by external institutions were identified. However, the evaluation institution was informed that a contact was established to the Joint Action for ECHIM (European Community Health Indicators Monitoring project) for the further development of specific indicators of the ECHIM short and long list of indicators (e.g. no. 74 Medicine use). In addition, a comparative analysis of pricing and reimbursement in European countries, which is explicitly based on the PHIS indicators, will be published in a peer-reviewed journal in April 2011.

4.3 Objective 3. Updated country-specific information

Updated country-specific information was developed in WP 5 Monitoring with the International Healthcare and Health Insurance Institute as the WP leader.
As of 1 March 2011, 12 EU of the 27 EU countries participating in the PHIS project (44%) developed a national PHIS Hospital Pharma Report and 11 (41%) EU countries produced a PHIS Hospital System poster (see also section 4.5). As of 1 March 2011, 8 (30%) EU countries produced both a PHIS Hospital Pharma Report and a PHIS Hospital System poster, 3 (11%) produced a report only, 3 (11%) produced a poster only, and 13 EU countries (48%) produced neither a report nor a poster (*evaluation indicator 11*). All countries with a report delivered one version of the PHIS Hospital Pharma Report in the year 2009/2010 (*evaluation indicator 12*). The evaluation institution was informed that 4 additional

EU PHIS Hospital Pharma reports are currently in the pipeline (updated information, end March 2011). Two non EU PHIS network member countries (Norway and Turkey) produced a PHIS Hospital Pharma Report of which one (Norway) also produced a PHIS Hospital System poster. Two non EU PHIS network member countries produced a PHIS Hospital System poster only. More detailed information is provided in Appendix 5.

The PHIS project aimed at providing updated information about the pharmaceutical systems in both the in-patient and out-patient sector, thus to create integrated information. The integrated way of presentation of the in-patient and out-patient system was discussed within the project management team and with the Advisory Board. A template for the integrated PHIS Pharma Profiles, including a template for an integrated flowchart of the system, was developed and feedback on the template was received from PHIS network members as well.

An integrated (in- and out-patient) system poster was developed by 15 (56%) of all EU countries in 2010. In addition two integrated system posters were developed by non EU PHIS network member countries. Full reports are not publicly available so far, but 2-5 are expected within due course (before project end date). For several EU member states (n=9; 33%), full information for the in- and out-patient sector is available in 2 separate reports (PHIS Hospital Pharma report and PPRI Pharma profile, respectively). Ten EU member states (37%) generated a PPRI profile only (all before 2009), 3 EU member states (10%) generated a PHIS Hospital Pharma report only, and 5 EU member states (19%) generated neither a PPRI profile nor a PHIS Hospital report for their country (*evaluation indicators 8 and 9*).

Within the work package, several actions were undertaken to facilitate the writing of the country profiles. Besides the development of the template, data were pre-filled if possible for eleven countries which agreed to accept this service provided by the project leader. Those network members who could not (yet) write a full profile were asked to prepare a poster on their system; these posters were presented at the 4th PHIS Meeting in Rome in September 2010. This encouraged them to gather all relevant data, which could then be used to fill in the template. Reasons for not having a (complete) report have been explored through the questionnaire and interviews (*evaluation indicators 10 and 13,* see appendix 5). Questionnaire results show that the majority of the respondents (63%) were of the opinion that the data collection and writing the country report took a reasonable amount of time, and that it was difficult to find the right experts to provide the data for the in-patient setting (58%).

Interview data revealed that possible barriers for countries to provide information specific related to the in-patient sector were lack of manpower (mostly in low income countries), not understanding the importance (some pharmacists may be afraid of transparency because

they believe to have the best prices and making those transparent would force industry to increase them) and less regulation at national level (personal communication with Mr. R. Frontini, EAHP)

A Google search using the term “PHIS Library” (performed 8 January 2011) yielded 115 hits. Only two results seemed to be related to the actual PHIS Library. These two results refer to the PHIS website itself, so no citations in external documents written by non-PHIS members could be identified (*evaluation indicator 14*). The experience of the PPRI Pharma Profiles learned that the uptake and citation of the Profiles started some time after their publication. In addition, people outside the PPRI or PHIS network take up the information without correctly citing it. In some cases, citations were even discovered by chance, which may happen to the PHIS Pharma Profiles as well (personal communication GÖG/ÖBIG team).

4.4 Objective 4. European pharmaceutical health indicators system (PHIS) database

A total of 3 core and 20 supplementary indicators have been developed (*evaluation indicator 15*; see Appendix 5 for full overview). While pharmaceutical health information indicators usually only address the out-patient sector, the PHIS indicators aimed to cover both the out-patient and in-patient sector, where appropriate. The core indicators consist of two quantitative indicators and one qualitative indicator. All three core indicators request in- and out-patient breakdown. Only two of the 11 quantitative supplementary indicators (S16 Consumption and S19 Share of generics) provide information on the in-patient sector (explicitly), whereas seven of the nine qualitative indicators do so. Already available data indicate that results for sub-indicators often differ considerably for the out-patient and in-patient sector which confirms that breakdown per indicator is very useful.

The due date of the database was January 2011, and by then the database was technically established and submitted. However, the database still needs to be filled with data. Due to the delays in the incoming profiles it is not possible, as originally planned, to obtain data from the PHIS profiles. Therefore, the PHIS project management team decided to take the data from several sources established during the project time, which is more difficult and time-consuming (personal communication GÖG/ÖBIG team). As the database syntax is quite complicated, it was decided that the data management (validation, upload, download) is completely done by the PHIS team at GÖG/ ÖBIG and SOGETI. Before the PHIS Database will be published at the PHIS website in spring 2011, the PHIS network members will have the possibility to double-check their data.

The dissemination policy for the PHIS Database was decided, in accordance with the PHIS Advisory Board and the PHIS network, to be two-fold: Information on the defined indicators will be accessible for the public on the external PHIS website. The technical database itself will be accessible in the PHIS intranet for all PHIS network members and will allow people with database knowledge to conduct their own queries.

As of 1 March 2011, the database was not online available to allow full assessment of the coverage and quality of the core and supplementary indicators by the evaluation institute (*evaluation indicator 16*). As a quick scan of the coverage of core indicators C1 and C2, available country reports (n= 12) were checked for these data. This scan revealed that in 11 out of 12 reports information for core indicator C1 was filled in. Eleven (92%) reports mentioned health expenditure per funding, five (42%) reports mentioned health expenditure per segment. Information for core indicator C2 was filled in for all reports although only 10 (83%) reports mentioned pharmaceutical expenditure per funding and only 7 (58%) reports mentioned pharmaceutical expenditure per segment.

4.5 Objective 5. In-patient survey

The Hospital Pharma work package, work package 7 led by SUKL, included two major parts:

- Country information on Hospital Pharma (European survey)
- Case studies (including a price survey)

A PHIS Hospital Pharma report was developed which contains a comparative compilation of information and data of the European survey and the findings gained in the case studies.
The content of this integrated PHIS Hospital Pharma report was discussed during the PHIS Hospital Seminar on 26 February 2010 in Bratislava.

Ad 1:
The European survey aimed at gaining information about medicines management in the in-patient sector in as many EU Member States as possible. The PHIS project management team opted for a broader approach than requested, asking network members to write a whole country report. The backup option for those who did not have the resource to write a full report was to provide data and information through a questionnaire. In the PHIS Hospital Pharma report, results were finally based on 20 PHIS Hospital Pharma country reports and questionnaire information and data provided by seven further countries (5 EU countries and two non EU volunteering countries).
PHIS Hospital Pharma country reports are at the end of March 2011 publicly available for 14 EU countries (*evaluation indicator 17*) and two non EU member states. This number is less

than the number of countries which delivered data for the PHIS Hospital Pharma report (n=27). Although the in-patient survey produced more information than asked for as the result of the broader approach, the aim of full coverage for the EU was not reached. Findings on two countries (Greece and Luxembourg) are missing in the compilation report.

Involvement of hospital pharmacists or experts in drafting the PHIS Hospital Pharma country reports could not be fully assessed (*evaluation indicator 17*). In publicly available PHIS Hospital Pharma country reports, hospital experts were listed as (co-)author or acknowledged for providing data (numbers ranges from 1 or 2 to up to 10 hospital experts per country). The two hospital experts that completed the evaluation questionnaire indicated that they had contributed to their country's report.

Ad 2:

The methodology for the case studies has been described in detail in the PHIS Hospital Pharma report and a methodology paper which was developed by SUKL and GÖG/ÖBIG. The case studies consisted of two parts: a qualitative survey to gain more in-depth information about the medicines management in hospitals (interviews with hospital pharmacists), and a price survey for selected active ingredients which were also surveyed during personal study visits in the hospitals.

The methodology of the selection of countries (n=5) and active substances (n=12) is well described in the PHIS Hospital Pharma report (*evaluation indicator 18*). For an overview of the selected countries and active substances, see Appendix 5. The number of hospitals included per country varied from two in Norway to 11 in Slovakia (NB: price data of eight hospitals were considered because four hospitals are under one management and have the same price data).

For presentation in the PHIS Hospital Pharma Report only prices of almost identical products for which most data were available were chosen. The results of the price study show that these medicines were well chosen. Almost all selected medicines were available in at least one of the hospitals participating in the case study in each country. The availability of actual hospital prices per unit for oncologic and cardiovascular medicines was higher than the availability for the other medicines.

4.6 Objective 6. Communication, information-exchange and dissemination

It should be noted that Objective 6 as described in the Grant Agreement is rather broad and covers several aspects and multiple work packages. Three evaluation indicators related to this objective have been developed, covering the dissemination of results, the five PHIS

information meetings and the organization of two additional workshops/seminars (*evaluation indicators 19-21*, see final list of evaluation indicators in Appendix 2).

Dissemination of results

Although a dissemination strategy was described at high level in the Grant Agreement, no predefined and / or detailed plan to disseminate the results of the PHIS project to internal and external parties was further developed (interview data). The dissemination of the results of the PHIS project within the PHIS network has been realized by sending out minutes of all meetings to the whole network. The minutes are also available on the PHIS intranet. PHIS network members were encouraged to disseminate the results in their own country. Dissemination of the results (to external parties) through several means such as the website, presentations at (national) conferences or by writing scientific articles has been assessed (*evaluation indicator 19*).

A total of 50 presentations were registered by the PHIS secretariat, which might be an underestimation of the total number of presentations since the project management team is sometimes not aware of or informed about presentations by other PHIS network members. An overview of the 50 presentations can be found in Appendix 5 (and via the PHIS website). The majority (n=40; 80%) of the registered presentations were at international meetings. Most of these (n=31, 62%) were presented at “public health related meetings”, 8 (16%) were held at business meetings and 11 (22%) were held at scientific conferences.

A total of 14 documents (articles/opinions/notifications) based on PHIS results have been registered by the PHIS secretariat. Some of them (n=7) are available via the PHIS website.

Between January 1 2009 and December 31 2010, 6,780 visits have been made to the PHIS website. Visitors from in total 98 different countries (data available on request) have accessed the PHIS website; approximately 45% accessed the website directly, 31% accessed the website through references of other websites and 23% accessed the PHIS website through ‘search engines’.

Five information meetings

Four PHIS information meetings have taken place so far. Each of the five institutions in the PHIS project management has organized or will organize a meeting. The fifth meeting is planned for 28+29 April 2011 in Sofia, Bulgaria. An overview of the attendance of PHIS network members to the different meetings is shown in Appendix 5 (*evaluation indicator 20*). The number of invited PHIS network members considerably increased from the first to fourth

meeting (from 88 to 134), whereas the number of participants stayed approximately the same (40-50 participants, of whom approximately 60-70% were self-funded). In general most of the countries (60-70%) involved in the PHIS network were represented during the PHIS network meetings. Over 70 different institutions were invited for the last meetings. The attendance of the different institutions was lower, approximately 45%. On average 3-5 hospital experts attended each PHIS information meeting.

Additional workshops/seminars

A PHIS Hospital Seminar for the public was held on 26 February 2010 in Bratislava to share information on pharmaceutical pricing and reimbursement policies in the hospital sector in European countries. Eleven EU countries and 2 non-EU PHIS network member countries presented a poster on the in-patient pharmaceutical provision, purchasing, financing and interface management in their country. As the PHIS Hospital Pharma seminar was designed as a dissemination activity open to the public, the attendance rate of hospital experts to this seminar was significantly higher than to the PHIS information meetings, being approximately 40. In total, the PHIS Hospital Pharma Seminar was attended by 110 people.

Two additional workshops were held for the PHIS network. A PHIS Glossary training session was held during the second PHIS Information meeting and a PHIS Indicators training session was held during the third PHIS Information Meeting. The attendance rates to these workshops were assumed to be equal to the PHIS information meetings as they were on the same day and at the same location (in the framework of the meetings) (*evaluation indicator 21*). Furthermore, an abstract for a public training workshop at the First Global Symposium of Health System Research in November 2010 in Montreux was submitted but was not accepted.

4.7 Additional indicators, not related to specific PHIS objectives

Time bound deliveries

A total of 10 deliverables are listed in the DoW section 3.2. Of these deliverables, 7 were due before finalisation of this evaluation report. Deliverables, dates foreseen and dates of achievement are listed in Appendix 5. All deliverables were submitted on time, but the PHIS Database was only technically established at time of submission (*evaluation indicator 22*). The database is currently being filled and is not yet online on the public part of the PHIS website, see section 4.4. Although the documents in the PHIS Library were delivered on time, the library is not complete as not all EU member states have been able to produce a

PHIS Hospital Pharma country report or an integrated poster and/or are still working on the integrated PHIS Pharma Profiles (see section 4.3).

Impact of the PHIS project

As the PHIS project is still ongoing, the full impact of the project cannot be measured and observed changes in national policies may not be attributable to the PHIS project yet. Possible changes in policy measures, under discussion, being considered or implemented, that are the direct or indirect result of the PHIS project were therefore identified through interviews and the questionnaire among the PHIS network members (*evaluation indicator 23*).

Among the responders to the questionnaire, 4 out of 23 were aware of any change in a policy measure in their country. These measures included:

- More transparency introduced in regulations (price and reimbursement or financing) of medicines used in the in- and out-patient setting (n=2).
- Both PHIS and PPRI were used as reference for policy changes regarding pricing, reimbursement systems and procurement (n=1).
- Pressure on budget recognition of hospitals with respect to medicines and education of hospital pharmacists (n=1).

According to those who participated in the interviews, the opening of the door for secluded processes, i.e. the in-patient sector processes and the description of the regulatory environment of the hospital sector, is the most important public health impact that has already been attained.

Cost effectiveness of the PHIS project

At this point in time, integrated Pharma system profile posters have been generated for 15 EU countries plus Iceland and Croatia. It is expected that full profiles will be available for 5-7 EU countries before end of the project, and full profiles will be available for all of these 12-15 countries before 2012. The EC contributed a maximum of EUR 370,397 euro to the PHIS project in total, including a maximum of EUR 300,864 to the consortium partners leading work packages responsible for (assistance with) data gathering and writing the integrated profiles. Depending on the exact number of full integrated reports that will be available (range 5-15), one could say that EC contribution per country Pharma system profile ranges between approximately EUR 20,000 and EUR 60,000 (*evaluation indicator 24*). It should be noted this sum includes establishment of the PHIS Hospital report (which includes data on a total of 27 European countries and additional case studies). The lower range of costs is considered to

be modest when compared to the costs that would have to be paid in case the writing of the reports would have been outsourced to a third (commercial) party.

It should be borne in mind that the actual costs for preparing the full integrated profiles is (much) higher due to (in-kind) contributions by the Austrian Ministry of Health, PHIS consortium partners, PHIS network members and others who have been involved in the Pharma system profiles at the country level. A conservative estimate for these additional costs, not covered by the EC but of eminent importance for the success of the PHIS project, is EUR 972,772. This includes the consortium's financial contribution as indicated in the DoW (EUR 246,972 of which EUR 160,230 is borne by the Austrian Ministry of Health), in-kind contributions for the attendance of the consortium meetings (EUR 250,000) and person-time (in-kind) for many other activities including generating the profiles, the PHIS hospital Pharma reports and validation activities (EUR 475,800). A more detailed breakdown of costs can be found in Appendix 5.

Sustainability of the PHIS project in general

The sustainability of the PHIS project is a matter of concern and under discussion within the Project Management Team (PMT). A final conclusion on the sustainability of the PHIS project can therefore not be drawn at this point in time. All interviewed people are of the opinion that the information in the PHIS profiles is very useful and provides important information to the countries themselves. There is willingness by PHIS network members to continue to participate. Nevertheless, no budget has been allocated for future activities so far.

Recently, GÖG/ÖBIG has been designated WHO Collaborating Centre (WHO CC) for Pharmaceutical Pricing and Reimbursement Policies. The WHO CC has made the commitment to maintain the PHIS website for the coming time.

Sustainability of PHIS network (evaluation indicator 25)

The sustainability of the PHIS network is one of topics on the agenda for the Fifth PHIS network meeting in Sofia, Bulgaria in April 2011. No further PHIS network meetings have been planned at this point in time, although it is expected that PHIS network members are engaged in and will attend the PPRI conference in Vienna on 29 and 30 September 2011. This conference is organized by the GÖG/ÖBIG team and covers specific PHIS topics such as the hospital setting as key sector. Future merging of PPRI and PHIS meetings with special hospital pharma sessions is currently being considered.

Maintenance of the PHIS website and integration and possible updates of its outcomes in the WHO CC website (at a time when the results may become out-dated) by the new WHO Collaborating Centre might ensure that all project results continue to be available to a broad

public after the end of the project. (Administrative) costs for this maintenance will be borne by the WHO Collaborating Centre under the prerequisite that the Republic of Austria secures funding for the WHO Collaborating Centre (personal communication GÖG/ÖBIG team).
Sustainability including funding of the PHIS network is currently under discussion. Most people felt that the network is very important and must be sustained. Knowing each other will contribute to future activities and sharing of information. People feel the additional and practical use of the network for the daily work. However, some fear that member states may discontinue their involvement in the PHIS network as they feel that no new information can be obtained from other countries. In addition, continuous involvement of hospital experts will be a challenge (see discussion section for further assessment).

No funding for maintenance of the PHIS network activities has been obtained so far. According to Mr. G. Spanninger (Austrian Federal Ministry of Health), Austria "*should be regarded as one of the 27 EU member states when it comes to financing the future activities of the PHIS network. Austria would be willing to continue to contribute financially, but its share should now become equal to that of the other member states*".

Sustainability of PHIS Glossary and PHIS Library (evaluation indicator 26)

The PHIS Glossary will be maintained by the newly designated WHO Collaborating Centre, and (administrative) costs for this maintenance will be borne by the Centre under the prerequisite as stated above. The question whether the PHIS Library will be kept up-to-date is currently being discussed as well. It is generally felt that a more pragmatic way should be found, by asking for regular short updates, to ensure the sustainability of the PHIS Library.

Sustainability of the PHIS database (evaluation indicator 27)

The sustainability of the database is difficult to assess as the database is still under construction. Therefore, it is unknown how useful the database will be, which might be an important asset of sustainability. Countries will probably not be able to enter or change information in the database themselves. The database will be installed at the GÖG/ÖBIG server and GÖG/ÖBIG will act as an intermediary performing data quality checks before data will be entered. For further discussion of the sustainability of the PHIS database, see discussion section below.

5. Discussion

This report presents the evaluation of the PHIS project. Because the project is still ongoing - some deliverables are due after deadline of this report - the results must be seen as preliminary or mid-term outcomes. Conclusions and recommendations may be taken into account in the final stage of the project or maybe helpful for future projects. A final evaluation of the impact should be considered 2-3 years after project ending.

The evaluation institution believes that the consortium partners have done extremely well within the limited time frame of the project and considering the budget constraints. The project fulfils the expectations and primary needs of those involved in the project, and promotes the transparency of the pharmaceutical sector as was originally the intention of the project. The Hospital Pharma report and (the model and functioning of) the PHIS network itself are considered the two most outstanding achievements of the PHIS project. Prior to the PHIS project very little work had been done to examine how hospital pharmaceutical sector related to the overall health system. The potential impact of the PHIS project, however, is beyond what can be achieved by the current descriptive state as was required by the EC and provides further opportunities.

Most outstanding achievements: Hospital Pharma report and PHIS network

Before start of the PHIS project, the knowledge of pharmaceutical policies in the in-patient sector was poor. Many saw the in-patient sector as a “black-box” and processes were secluded, with an almost non-existing exchange of information even between hospitals within one country. At the same time it was evident that some of the problems seen in the out-patient sector were caused by the in-patient sector. The PHIS Hospital Pharma report provides the first insights in and comparisons of pharmaceutical policies and especially pharmaceutical prices in this sector and complements what was already known about Hospital Pharma from the surveys of the European Association of Hospital Pharmacists (www.eahp.eu). Although disclosure of information similar to the information in the PHIS Hospital Pharma report would probably have occurred through other initiatives or under economic pressure, the PHIS project speeded up the process. In addition, the PHIS Hospital Pharma report provides a broad, pan-European overview.

The PHIS Hospital Pharma report has raised two important public health issues, which should be on the agenda of national governments in all EU member states. First, discounts and rebates were identified as common in several of the 27 PHIS countries (in a few countries up to 100%). Although done or accepted by hospital pharmacists to manage

budgets in the in-patient setting, this may have profound influence on the out-patient use and expenditures. Raising and documenting these issues in countries is of utmost importance. Second, lack of standardization and quality assurance in the interface management – for example lack of communication between the first and second line – has been identified as a new issue. The poor interface management negatively affects quality of care and influences total pharmaceutical expenditure as well in case medicines are used unnecessarily. Creating awareness of these issues is seen as important as the actual results of the PHIS Hospital Pharma report by many of the interviewed people. As such, the study is seen as "the most important medicines study in the past 30 years" by Mr. G. Spanninger from the Austrian Federal Ministry of Health.

Although the Hospital Pharma compilation report is considered an excellent and very important achievement of the PHIS project, some limitations should be acknowledged. First, no external peer review[1] of the PHIS hospital report has been performed, and the scientific validity of the data - obtained by network consultations - and data analyses have not been subject to public scrutiny. Secondly, two countries are missing in the Hospital Pharma Report (Greece and Luxembourg) and an important country such as Germany has not produced a PHIS Hospital Pharma country report (although it must be mentioned that the national PHIS Hospital Pharma reports were not a deliverable agreed in the Grant Agreement, but an extra and voluntary output provided by the PHIS network members). Thirdly, the price surveys and comparisons were, in line with the Grant Agreement, designed as supportive case studies and thus limited to five countries, 12 substances and just a few hospitals per country (except Slovakia). These small numbers hamper the external validity of the data. Finally, an integrated study of effects of policies in the in-patient sector on the out-patient sector, taking medicines consumption into account, has not been done yet but would be a next step forward. All of these limitations – the last one beyond the scope of the current project - warrant further research in one or more follow-up studies. Building on the established PHIS network, but combining this with the involvement of academic research institutions will be needed to obtain the best possible results.

The PHIS project, including the PHIS Hospital Pharma report and the content of the PHIS Database (based on the indicators which were also included in the PHIS Pharma Profiles), would not have been possible without the many voluntary contributions of the PHIS network

[1] With 'external peer review' the evaluation institute refers to feedback from 'external' institutions (e.g. academia and other relevant institutions) that are not part of or closely linked with the PHIS consortium members, the PHIS Advisory Board or PHIS network members.

members. The strength of this network consists of its mutually interdependent and cooperative nature. Network members who genuinely feel that they may gain from the network in terms of practical use for their every-day work are willing to contribute to the network achievements as well. “Hot questions” will remain and changes will continue to occur, which may ensure sustainability of the network in terms of willingness to participate. The mutual support and commitment to attend the PHIS network meetings is unique in the experience of work package leaders and Advisory Board members. According to Mr. R. Laing (WHO), “the value of the network as a global model remains very attractive.” The model is now being used in the Western Pacific region for sharing public sector procurement information, which has resulted in the launch of a price reporting website (http://piemeds.com/). “This would not have happened without PHIS and/or active involvement of members of the PHIS secretariat.”

Building on the positive experiences of the PPRI network, the PHIS network has been able to continue existing contacts and engage new people (i.e. the hospital experts) directly from the beginning. The contribution of hospital experts has been of immense value for the network.
Network members reported that their lack of knowledge about the in-patient sector motivated them to get into contact with hospital experts, which was often the first contact between the in-patient and out-patient sector on this level. The added value of the network, however, may be less clear for individual hospital experts. The evaluation institution encountered divergent opinions on the added value for these experts. Although individual hospital pharmacists may not directly benefit from the network, it is important to create awareness among hospital pharmacists about the potential (negative) effects of in-patient policies (e.g. acceptance of discounts and rebates) on medicines use and prices in the out-patient sector, and they may learn from other country experiences as well. However, this may be better achieved by participation of PHIS representatives in EAHP meetings and publication of articles in the EAHP journals as is currently done than by involvement of individual hospital experts in the PHIS network.
Involvement of individual hospital experts in the network is also hampered by the fact that it is hard to find 1-2 key people from the hospital sector in each country that are directly responsible for the information that is being shared. Hospital experts who participated in the network meeting on a regular basis mainly did so as representatives of (national) hospital pharmacist associations. Funding of travel was - again - identified as an important prerequisite for involvement of individual hospital experts not representing an (international) association since, with a few exemptions, all PHIS network members are completely self-funded (e.g. no remuneration for their work, no coverage of travel expenses).

Additional education and training of (individual) network members is seen as a missed opportunity as they could have benefited more from the project. Some network members started to express their interest in scientific articles, but others seem unaware of what they could do with the data in a sophisticated fashion. Incorporation of or adding training sessions to the network meetings could enhance sustainability of the network.

The key issues identified for sustainability of the network include financing of at least a secretariat to coordinate the activities of the network and highlighting of the added value of the network to its members. The generous co-funding of the Austrian Ministry of Health can rightfully not be expected in future. Joint financing by all EU member states is seen as a serious option to be explored, although the evaluation institution feels that adequate funding by the EC to maintain the network should also be considered in light of funding of future studies or projects. For the added value, the organisation of educational sessions as described above may serve as such. Especially for hospital experts, additional analysis such as the policy impact or additional hospital surveys may be more important.

The PHIS network has proven its usefulness and ability to gather relevant data that was never shared before. The unique nature of the PHIS network, built on trust that was already developed during the years of the PPRI project, with close contacts between people from different countries in relevant positions has largely accounted for this achievement. As such, the PHIS network undoubtedly qualifies itself as one of the main partners in future projects in this field.

Other PHIS results: PHIS Glossary, PHIS Taxonomy, PHIS Database and PHIS Library

The glossary is pan-European and there is no other comparative source of information for the EU. It is a dynamic tool, which needs to be adjusted regularly. New terms might need to be included or others need to be defined in more detail as is acknowledged by the consortium members (comments and suggestions are explicitly asked for on the PHIS website). The project management team is applauded for the initiative of translating the PHIS Glossary in other (national) languages. The commitment by GÖG/ÖBIG as WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies to maintain the glossary adequately ensures sustainability of this glossary. The PHIS Glossary clearly served its purpose as a tool for common language among PHIS network members. All users agreed on the easiness of use, although it should be acknowledged that this result may be biased as most users were at least to some extent involved in the development of the glossary. The uptake of several PHIS Glossary terms in the glossary of the WHO/Global Fund Pharmaceutical Country Profile Project can be seen as a proof of success of the PHIS Glossary.

Within the EU, the OECD indicators are still leading in the field of health service indicators. Hospital indicators that are described in the PHIS Taxonomy may be new (although adapted from other indicators), but most of them are qualitative indicators. A point of concern is that the indicators have been developed within the PHIS network, but have not undergone external peer review[2]. The evaluation institution gained the impression that the list of sources consulted during the process of taxonomy development was not complete (more EC funded projects developing indicators with a general health care perspective were ongoing at the same time, e.g. PHAMEU). External peer review could have confirmed or rejected this impression. A quick scan of the quantitative core indicators C1 and C2 as presented in PHIS Hospital Pharma country reports, which served or will serve as main basis for the integrated PHIS Pharma profiles, revealed that they were virtually complete, although breakdowns per segment were not always available. Assessment of the qualitative core indicator C3 (pricing policies) was more difficult. The length of this specific paragraph in the Hospital Pharma country reports varied widely, and completeness could not be assessed as the evaluation institutions is unaware of all pricing policies in individual countries. For some indicators it was known in advance that they would be difficult to fill in but they should motivate countries to establish adequate data collection mechanisms (supplementary indicators S6 and S8; personal communication Mrs. N. Zimmermann (GÖG/ÖBIG). The evaluation institution agrees that creating awareness that this type of information is difficult to obtain is an important result in itself.

It is understood that the PHIS database was ready as a technical database as of February 2011, but the database is not online yet. The question arises whether filling of indicators in the PHIS database will be completed before end of the PHIS project. It is acknowledged that the GÖG/ÖBIG team has done its utmost best to fill the database with data from different sources in case country profiles were unavailable, which is a rather time-consuming approach (see section 4.4). The decision to ask countries to validate the entered data is seen as a sensible decision to ensure high data quality, but this additional step should not compromise filling of the database.

The usefulness of the PHIS database cannot be assessed at this point in time, and will at least partially depend on the question whether the database will be kept up-to-date. Public availability of this database is seen as critical for usefulness and dissemination of the PHIS results (see below). Since set up of the database is still in a preliminary phase and any

[2] With 'external peer review' the evaluation institute refers to feedback from 'external' institutions (e.g. academia and other relevant institutions) that are not part of or closely linked with the PHIS consortium members, the PHIS Advisory Board or PHIS network members.

funding after the end of the project is still lacking, full set up, maintenance and public health impact of the database are points of concern.

At time of the evaluation, no full integrated country reports were publically available, but 5-7 draft reports were close to completion and in total 12-15 are expected to be finalized within reasonable time after the end of the PHIS project. The high number of posters presented at the Fourth PHIS Information meeting (n=18) provides sufficient reassurance that these profiles will indeed be completed. Time constraints and workload are seen as the main reasons for delay in the generation of the full integrated PHIS profiles. In addition, input from multiple people, from the in- and out-patient, was usually needed to compile all data needed for the profiles. Building upon the available PPRI template, experience with country profiles and pre-filling of the PHIS pharma profile templates with already available data has enhanced filling of the PHIS templates. The information in the PHIS profiles is very useful and needed for the countries themselves, as was confirmed by PHIS network members who reported changes in policy measures in their country. Identification of best practices, being able to have an overview of the array of policy options in case of an upcoming national change, and learning from failures were quoted as very useful. The PHIS profiles and network can provide the just-in-time information. Even a country such as Norway – usually regarded as doing excellent in (spending in) health care - indicated that there is a lot to learn from other, sometimes 'smaller' countries (personal communication Mr. T. Aanes, LIS). However, no uptake of this information outside the PHIS network could be identified so far, although the GÖG/ÖBIG team frequently receives requests from external people for updated or missing profiles (personal communication Mrs. N. Zimmermann). Time may play an important role in this as was the case with the PPRI profiles, but dissemination of the PHIS country information should be carefully considered (see below). The fact that the WHO/Global Fund Pharmaceutical Country profiles are modelled after the PHIS country profiles can be seen as an acknowledgement of the quality of the PHIS work.

Further use of the information in the PHIS profiles and PHIS database and publication of this information in (peer-reviewed) scientific literature is strongly recommended. A descriptive, comparative analysis should be performed as soon as possible, but is seen as the first step in a row of more in-depth, analytical studies. The question arises "as to whether the PHIS partners will have the time or be capable of completing this further, more analytical work" (personal communication Mr. R. Laing, WHO). Increase of analytical skills among PHIS network members could have been part of the network meetings (see above).

An update of the country information should be feasible on a regular basis (approximately every 2 years), especially if the sustainability of the PHIS network has been ensured. The focus should then be on the most important changes. A clear choice should be made

whether the country profiles themselves will be rewritten / updated or whether updated information will only be included in the PHIS database.

Organisation and dissemination of results

The PHIS project was well-organised, and all partners and network members were genuinely involved in the work undertaken. The GÖG/ÖBIG team was involved in almost all tasks, but avoided being the sole driving force behind the project. Again, the collaboration was mainly cooperative in nature which was highly appreciated by those involved in the project.

The absence of a predefined and detailed dissemination plan beyond the high level strategy as described in the Grant Agreement is a point of concern. Currently, network members have benefited most from the results of the PHIS project. The website is adequate as a tool for passive dissemination of the PHIS project results, although a few documents could not (yet) be found on the public part of the website (e.g 'Background to the PHIS glossary' and several of the articles / reports based on PHIS results). Web statistics showed that the website is visited by people from a wide array of countries. The Hospital Pharma report has been presented at a seminar in Bratislava with over 100 participants from more than 20 countries, including representatives from the hospital sector. The report is also available from the PHIS website. Further dissemination of the results of this report is limited to a few national (mainly Austrian and also Slovak) publications and presentations, mainly undertaken by the teams from GÖG/ÖBIG and SUKL. More opportunities for dissemination within countries exist, e.g. through national pharmaceutical or medical journals and/or presentations at national (hospital pharmacy or general health) conferences or seminars. PHIS network members could take the lead in this and take a pro-active approach, especially those working within Ministries of Health or Third Party Payers. They also seem to be in the best position to ensure that the issues raised in the PHIS project appear on the agenda of the Minister of Health. In addition, representatives of the EAHP could play an important role in dissemination within the hospital sector. For all of these additional dissemination activities, some but few good examples exist from individual countries.

Given the little money available, dissemination among the key target group of the PHIS project – policy makers – is considered reasonably adequate. Some additional suggestions from interviewed persons that are supported by the evaluation institution are to continue to summarize the outcomes of the PHIS project and send them out to national agencies to learn and provoke discussion and/or share these results with institutions like the Anglo-American Health Policy Network (AAHPN) and industry. So far, a broader group of people – outside the key target group - has not benefited from the work of the PHIS project or has done so to only a very limited extent. As a next step, the consortium partners should strive to increase

dissemination through international, peer reviewed publications. Increasing the current level of analyses is important to increase the level of interest for external people. It is acknowledged that some initiatives are ongoing, but more work needs to be done to achieve the full potential benefit of this project for public health. Willingness to share information is seen as a critical factor, and public availability of the PHIS database, which should include up-to-date high quality information, is considered crucial.

It is recognised that DG Sanco did not ask for a higher level of data analysis. According to one of the Advisory Board members, “the mandate of the project was not beyond description, which is the result of the limited scope as originally defined by DG SANCO. They could have asked for more.” The evaluation institution fully agrees with this comment, and would like to urge DG Sanco to consider funding of follow-up analyses and research.

A few interviewed people reported that they were disappointed by the level of involvement of DG Sanco in the project (e.g. in terms of involvement in dissemination of the results) and felt that this was a missed opportunity, but this point of view was not endorsed by all. The divergence in opinions has led the evaluation institution to conclude that it would have been helpful if DG Sanco would have expressed its expectations on the level of involvement. A similar disagreement is encountered regarding the role of DG Enterprise. While some felt that their involvement is justified, others were of the opinion that their presence caused tension because they are not officially involved (e.g. in terms of funding) but asked input from the PHIS network members who are already under great pressure of time and money.

6. Recommendations

Based on the above-mentioned considerations, the evaluation institution has come up with the following recommendations:

PHIS deliverables

- Although all deliverables were submitted on time, delays in PHIS country profiles and filling of the PHIS database need further attention:
  - Country representatives are urged to finalize the PHIS country profiles as soon as possible. The representatives may benefit most from the supportive role of PHIS consortium partners if they involve the consortium partners as early as possible in the process (e.g. writing of first draft).
  - Filling of the database is time-consuming and follow-up funding is lacking. Therefore, filling of the database should receive top priority until end of the PHIS project.
- Documents eligible for dissemination should be uploaded on the website. Currently, some documents (e.g. 'Background to the PHIS Glossary', the PHIS Technical Interim Report and several of the articles / reports based on PHIS results) seem absent.

Further dissemination of results

- The PHIS consortium partners should try to publish available results in peer reviewed journals. Peer review ensures an external check of the validity of the work undertaken, and provides an opportunity for further dissemination of the results.
- The PHIS Advisory Board is encouraged to support the publication activities of the PHIS project management team.
- Outcomes of the PHIS project could continue to be summarized and sent out to national agencies to learn and provoke discussion and/or shared with institutions like the Anglo-American Health Policy Network and industry.
- PHIS network members could take the lead in dissemination within countries, e.g. through national pharmaceutical or medical journals and/or presentations at national (hospital pharmacy or general health) conferences or seminars.
- Especially those network members working within Ministries of Health, national agencies or Third Party Payers should try to achieve that the issues raised in the PHIS project appear on the agenda of the Minister of Health.
- Representatives of the EAHP should strive to disseminate the results of the PHIS Hospital Pharma report within the hospital sector, not only on a European but also on a country level.

Future (projects), beyond the mandate of the current project

- The PHIS Glossary and the PHIS database could be maintained and further elaborated by GÖG/ÖBIG as WHO Collaborating Centre.
- The methodology of country profiles could be further technically developed by GÖG/ÖBIG as WHO Collaborating Centre.
- The PHIS network should strive to update the country information on a regular basis (approximately every 2 years). The focus should be on the most important changes. A clear choice should be made whether the country profiles themselves will be rewritten / updated or whether updated information will only be included in the PHIS database.
- Joint financing of the PHIS network by all EU member states and/or the EC should be further explored. Financing should at least cover maintenance of a secretariat to maintain contacts within the network and coordinate network meetings.
- Network meetings could take place on a (bi-)annual basis. To ensure active involvement of the present network members, including hospital experts, after completion of the PHIS work, the program will need to fulfill their needs and should be attractive. Options to consider are focusing on “hot topics”, combination with training and education sessions, and involvement of the network in additional data gathering and analysis.
- Solutions should be sought how to combine or merge the work of the PHIS network and the PPRI network, which is a similar network with competent authorities, however without hospital experts.
- Active collaboration with or involvement of EAHP and national hospital pharmacy associations is necessary as this seems the best way to keep hospital experts on board for those topics that are of interest to them or when their expertise is needed (e.g. specific hospital issues, interface management).
- A descriptive, comparative analysis of (a selection of) core and supplementary indicators should be the performed as soon as possible, but is seen as the first step in a row of more in-depth, analytical studies. The results should be disseminated among policy makers and submitted to a scientific journal.
- The PHIS consortium partners should carefully consider more in-depth, secondary analyses of the existing data. Academic institutions may need to be involved in these analyses. Public availability of the database is identified as a critical step as well.
- For the PHIS project, a final evaluation of the impact should be considered 2-3 years after project ending.
- The EC should consider funding of further pan-European studies of hospital prices and interface management and their impact on the pharmaceutical sector, especially consumption patterns. The EC should require involvement of academic institutions to

assist with more in-depth and comparative analyses and provide funding accordingly. In addition, the evaluation institution recommends building upon the PHIS network for these further studies as this network has proven its usefulness and ability to obtain relevant data; focus on limited samples should be avoided. The evaluation institution strongly feels that adequate funding by the EC to maintain the network should then also be considered.

7. Conclusion

The evaluation institution concludes that the consortium partners have done very well within the mandate of the project. The deliverables that were agreed with the EU have been met within the time frame of the PHIS project. Besides, the PHIS project has resulted in additional achievements, which were not funded in the PHIS project. The PHIS project is satisfactorily on its way to fulfill its objectives, despite the delay in integrated country profiles and filling of the PHIS database. A clear spin off for public health has been achieved through the PHIS Hospital Pharma report. This report raised two important public health issues, i.e. discounts and rebates in hospitals and the interface management. The PHIS network as a global model of information sharing remains very attractive. As such, the PHIS project has delivered good value for money.

EC funding of further pan-European studies of hospital prices and interface management and their impact on the pharmaceutical sector as well as on networking activities is strongly recommended. For the PHIS project, a final evaluation of the impact should be considered 2-3 years after project ending.

Appendix list

- Appendix 1: Description Utrecht University, Department of Pharmacoepidemiology and Clinical Pharmacology, and Utrecht WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis
- Appendix 2: Final list evaluation indicators with descriptions of what to measure
- Appendix 3: List of interviewed people
- Appendix 4: Evaluation questionnaire (distributed at Fourth PHIS Information Meeting in Rome)
- Appendix 5: Detailed results individual evaluation indicators

Appendix 1

Description Utrecht University, Division of Pharmacoepidemiology and Clinical Pharmacology and Utrecht – WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis

Utrecht University, Division of Pharmacoepidemiology and Clinical Pharmacology

Utrecht University, from which the basis was laid in the seventh century, is a Dutch University located in the city of Utrecht. Utrecht University is a research university comprising seven faculties which collectively span the entire academic spectrum in teaching and research. The Department of Pharmaceutical Sciences forms a part of the Faculty of Science, standing alongside the Departments of Mathematics, Information and Computing Sciences, Physics and Astronomy, Chemistry, and Biology. The Utrecht Institute for Pharmaceutical Sciences (UIPS) was established in 1992 as the research division of the Department of Pharmaceutical Sciences. Its mission is to carry out high-quality fundamental research in pharmaceutical sciences. The Division of Pharmacoepidemiology and Clinical Pharmacology is one of the four UIPS divisions. The division consists of 6 main chair holders, 5 special chairs, approximately 40 faculty and approximately 40 parttime and fulltime PhDs. The Division consists of a multidisciplinary team of young and internationally oriented researchers. The research program is directed at several epidemiological, therapeutic, and policy aspects of chronic drug use, especially focusing on anti-asthmatics, cardiovascular drugs, and psychotropics.

Utrecht – WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis

In March 2008, the Division of Pharmacoepidemiology and Clinical Pharmacology of Utrecht University was designated WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis (Scientific Director: Prof. dr. H.G.M. (Bert) Leufkens).
By establishing the Centre, the Division aims to create innovative synergies between the methods and contents of pharmacoepidemiology and pharmaceutical policy analysis, providing new and breakthrough answers to public health questions. The Division wants to contribute to finding these answers because of its strong scientific and independent record in pharmacoepidemiology, its expertise in a broad range of clinical areas, its strong international network with an array of other scientific institutes, regulatory environments, NGOs, and the like, and its growing experience in pharmaceutical policy evaluations.

Located in the Department of Pharmaceutical Sciences of Utrecht University, the Centre tries to create an innovative platform for knowledge transfer by providing research and policy oriented advanced training, education and consulting opportunities for an international network of public health professionals, policy makers and regulatory experts. These activities will help in meeting the needs of a new generation of well-skilled and educated pharmaceutical policy analysts. The Centre nurtures an environment for both need based pharmaceutical policy research, formulation and analysis, as well as science driven, blue-sky thinking about innovative approaches in public health and medicines and supports and responds to pharmaceutical policy work of WHO.

For more information please visit our website: www.pharmaceuticalpolicy.nl

Appendix 2

Final list of evaluation indicators

List of evaluation indicators to evaluate PHIS project (adapted from p. 50-51 of Grant Agreement no. 2007 333)

The evaluation indicators will be evaluated through:

- Existing documents (D)
- Surveys (S): a survey will be conducted among PHIS network members and hospital experts that will serve as (part of) the basis for the evaluation
- Interviews (I): interviews with key people in the project will be conducted to gather views and opinions on the process, outcomes and sustainability of the PHIS project.

Objective 1: Common Language			
Workpackage 4: Terminology			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
1.	Number of documents/projects based on PHIS-related terminology	- Count number of relevant documents based on PHIS-related terminology - List of type of documents	D
2.	Quality of glossary development	- Assess whether a review has been conducted - Transparency of glossary development procedure (who was involved/what was done?) - Existence of dissemination plan to promote utilization of glossary (yes/no) - Websites/presentations/visitations for promoting the glossary	D/I
3.	Applicability and appropriateness of common terminology in practice	- Opinions on applicability and appropriateness of common terminology according to users	S/I
Workpackage 8: Networking			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
4.	Dissemination of glossary	- Count number of institutes/ persons to whom the glossary was sent - Calculate rate per country and per institution. - Count number of glossary "hits' on PHIS website (feasibility to be checked)	D

Objective 2: Methodology			
Workpackage 6: Indicators			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
5.	Number of quotations of / references to PHIS methodology and taxonomy in scientific and policy papers.	- Count number of relevant documents that quote PHIS taxonomy by google search - List of type of documents	D
6.	Quality of methodology development	- Assess whether a review has been conducted - Transparency of indicator development procedure (who was involved/what was done?) - Have all intended indicators been developed? - Have all indicators been developed according to intended procedure?	D/I
7.	Applicability and appropriateness of taxonomy in practice	- Opinions on applicability and appropriateness of taxonomy according to users	S/I
Objective 3: Updated country-specific information			
Workpackage 5: Monitoring			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
8.	Out patient setting # of countries with PHIS profile	- Count number of countries with PHIS profile/posters on website - Calculate % of countries with profile among those involved - Reasons for no PHIS profile/poster - Activities of PHIS to obtain country profiles	D S/I I
9.	Out patient setting Up to date of country profiles	- Assess latest year of update and compare to 2009 (as year of reference) - Calculate % of countries with updated profile - Reasons for not being up to date	D S/I
10.	Out patient setting Completeness and quality of data	- Check completeness of data in most recent version of country profile - Reasons for incompleteness if applicable - Activities by PHIS to obtain complete data - Quality of data (estimated data, expert opinion)	D S/I D
11.	In patient setting # of countries with PHIS profile	- Count number of countries - Calculate % of countries with profile among those involved - Reasons for no PHIS profile/poster - Activities of PHIS to obtain country profiles	D S/I I

12.	In patient setting Being up-to-date of country profiles;	- Assess latest year of update and compare to 2009 (as year of reference) - Calculate % of countries with updated profile - Reasons for not being up to date	D S/I
13.	In patient setting Completeness and quality of data	- Check completeness of data in most recent version of country profile - Reasons for incompleteness if applicable - Activities by PHIS to obtain complete data - Quality of data (estimated data, expert opinion)	D S/I D
14.	Number of citations of PHIS library information in scientific papers	- Count number of citations - Google search for citations in external documents written by non-PHIS people	D
Objective 4: European pharmaceutical health indicators (EPHI)			
Workpackage 6: Indicators			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
15.	List of developed indicators	- Number of core indicators developed - Number of supplementary indicators developed	D
16.	Coverage and quality of all core and supplementary indicators	- % of coverage of core and supplementary indicators - Quality of data (estimated data, experts opinions) - Average % of core and supplementary indicators filled with country data - How many countries have at least filled 80% of the (core) indicators with data? - Reasons for low coverage	D S/I
Objective 5: In-patient Survey			
Workpackage 7: Hospital Pharma			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
17.	PHIS Hospital Pharma reports	- Count number of countries for which a PHIS Hospital Pharma report is available (published/draft/in form data in benchmarking table/included in the overall PHIS Hospital Pharma report) - Evaluate involvement of hospital pharmacists/experts in the drafting of the PHIS hospital pharma reports	D
18.	Case studies (price survey)	- Count number of countries which have participated in the price survey of the PHIS Hospital Pharma Report - Count number of hospitals which have participated in the price survey of the PHIS Hospital Pharma Report	D

		- Count number of active substances surveyed - Coverage of price information (prices for how many products were available in the case study hospitals)	
Objective 6: Communication, information-exchange and dissemination			
Workpackage 2: Dissemination			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
19.	Dissemination of results	- Number of presentations at congresses (type of congress, (national/international, business/health/science) - Number of presentations in the media - Number of meetings at a national level where PHIS were presented or discussed - Number of newsletters (internal and external) - Number of scientific publications + abstracts either submitted or accepted (type of journal, peer reviewed/not peer reviewed, national/international) - Number of hits website by type of organization and per country (if feasible) - How has dissemination been planned?	D S I
Workpackage 8: Networking			
20.	Five information meetings.	<u>Invitations</u> - Distribution of institutions among invitations - Count how many countries were invited - % countries / involved countries <u>Attendance</u> - Distribution of institutions/countries/PHIS network members/PHIS hospital experts/pharmacists among attendees at PHIS meeting - Count how many countries attended - % countries / involved countries - Calculate rate per country and per institution <u>Feedback</u> - How was feedback given, especially to people unable to attend the meeting	D D/I

21.	Two additional workshops/seminars	Invitations - Distribution of institutions among invitations - Count how many countries were invited Attendance - Distribution of institutions among attendees - Count how many countries attended - Calculate rate per country and per institution	D
Extra			
Time bound deliveries			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
22.	Time bound deliveries	- % of documents and milestones achieved - % of documents and milestones achieved on time - Reasons for delays	D D I
Public Health Indicator			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
23.	Impact of the PHIS project	- Changes in policy measures, under discussion/being considered or implemented, that are the direct or indirect result of the PHIS project (especially focusing on interface management, linking outpatient and inpatient sector)	S/I
24.	Cost effectiveness of the PHIS project	- Estimate of EC contribution per PHIS country profile	D
Sustainability			
No.	**Title Indicator + Description**	**What to measure**	**Approach**
25.	Sustainability of the PHIS network	- Are there any project related activities planned after this project - Are all projects results available to a broad public after end project? - Have efforts been made for receiving funding after end? - Have efforts been made to maintain website? - Have efforts been made to maintain the network	I
26.	Sustainability of the PHIS library/glossary	- Will glossary / library be kept up to date after project end date? - Can countries upload updated profiles after the end of the project? - Uptake of glossary by third parties/other projects	I

27.	Implementation of the PHIS database and sustainability	- Will database be kept up to date after project end date? - Can countries themselves enter information into the database after the end of the project? - Uptake of indicators by third parties/other projects	I

Appendix 3:

List of interviewed persons

The following persons were interviewed (in alphabetical order of surnames)

- *Mr. Tofinn Aanes - PHIS Hospital expert*
  Administrative Director, Norwegian Drug Procurement Co-operation (LIS), Norway
- *Mrs. Gergana André - PHIS Project management*
  Head of Pharmaceutical Analysis And Drug Policy Department, International Healthcare and Health Insurance Institute (IHHII), Bulgaria
- *Mrs. Elfriede Dolinar - PHIS Hospital expert*
  Director of Pharmacy Department, General Hospital Vienna (AKH), Austria
- *Mr. Pietro Folino - PHIS Project management*
  Director/Manager of Study Center, Italian Medicines Agency (AIFA), Italy
- *Mr. Roberto Frontini - PHIS Hospital expert*
  President, European Association of Hospital Pharmacists (EAHP), Germany
- *Mrs. Claudia Habl - Deputy Project Manager*
  Health Economics Department, Austrian Health Institute (GÖG/ÖBIG), Austria
- *Mr. Kees de Joncheere - PHIS Advisory Board*
  Regional Advisor for Pharmaceuticals, World Health Organization Europe (WHO), Denmark
- *Mr. Richard Laing - PHIS Advisory Board*
  Medical Officer, World Health Organization (WHO), Switzerland
- *Mrs. Christine Leopold - PHIS Team member*
  Health Economics Department, Austrian Health Institute (GÖG/ÖBIG), Austria
- *Mrs. Sophie Lopes - PHIS Project management*
  CNAMTS, France (SOGETI, Luxembourg at time of PHIS project, France
- *Mr. Ján Mazag - PHIS Project Management*
  Director State Institute for Drug Control (SUKL), Slovakia
- *Mrs. Valérie Paris – PHIS Advisory Board*
  Organisation for Economic Co-operation and Development (OECD), France
- *Mr. Gernot Spanninger – co-funder PHIS project*
  Head of Department III/B/3, Austrian Federal Ministry of Health, Austria
- *Mrs. Sabine Vogler - Project Manager/Deputy Project Manager*
  Health Economics Department,Austrian Health Institute (GÖG/ÖBIG), Austria
- *Mrs. Nina Zimmerman - PHIS Team member*
  Health Economics Department, Austrian Health Institute (GÖG/ÖBIG), Austria

Appendix 4:

Evaluation questionnaire (distributed at Fourth PHIS network meeting in Rome)

Pharmaceutical Health Information System

Evaluation questionnaire

General Information

1 Role in the PHIS project (more options possible):
□ Network member
□ Advisory Board members
□ Project management team
□ Other, please specify
_____

2 Background
□ Competent Authority (e.g. Ministry of Health, Medicines Agency, Social Insurance Institution,..)
□ Hospital
□ Other, please specify
_____
_____

Common Language – PHIS Glossary

3 Do you use the glossary?
□ Yes, namely: □ paper version □ webbased version
□ No, please proceed to question 8

4 I started to use the glossary
□ due to the training session at the 2nd PHIS Network Meeting in Luxembourg in June 2009
□ due to writing reports (e.g. Hospital Pharma report)
□ Other, please specify
_____
_____

		Strongly agree	*Agree*	*Neutral*	*Disagree*	*Strongly disagree*
5	The PHIS glossary is easy to use	□	□	□	□	□
6	I intend to use the glossary in future	□	□	□	□	□
7	The work on the common terminology helped me to better understand the pharmaceutical systems of other network members.	□	□	□	□	□

Methodology and PHIS indicators

		Strongly agree	*Agree*	*Neutral*	*Disagree*	*Strongly disagree*
8	The structure of the PHIS taxonomy is logical	□	□	□	□	□
9	The description of the indicators is clear	□	□	□	□	□
10	The indicators address my information needs.	□	□	□	□	□

If you disagree, why?

□ More indicators are needed
□ I am only interested in the out-patient sector
□ I am only interested in the in-patient sector
□ Other, please specify

_____

If you (strongly) disagree with one of the above statements (n° 5-7 and/or n° 8-10), please specify

Updated country-specific information

11 Have you provided country specific information?
(multiple answers are possible)

□ Yes, in the form of an integrated flow chart
□ Yes, I have started to write or I plan to write an integrated PHIS Pharma Profile
□ Yes, I wrote a national PHIS Hospital Pharma Report
□ Yes, I provided information to the benchmarking table for Hospital Pharma / I checked this information
□ Not yet, but I plan to do so
□ No, please proceed to question 16

		Strongly agree	*Agree*	*Neutral*	*Disagree*	*Strongly disagree*
12	The data collection and writing the country report takes a reasonable amount of time	□	□	□	□	□
13	It was difficult to find the right experts providing the data for the Hospital Pharma report	□	□	□	□	□
14	The outcomes of the PHIS Hospital Pharma survey gave evidence to existing assumptions.	□	□	□	□	□
15	The outcomes of the PHIS Hospital Pharma survey were of no interest.	□	□	□	□	□

Dissemination

16 Have you participated in meetings on a national level with policy makers or others where you discussed or presented results of the PHIS project? □ Yes □ No

If yes, please specify

17 Are you aware of the perception of the PHIS project outside of the project?
□ no, nobody adressed me
□ yes, people addressed me to learn more about PHIS
□ yes, PHIS is highly recognised (if possible, please specify:_____)

Networking

18 Out of the 4 PHIS network meetings I (or my substitute) attended □ 1 □ 2 □ 3 □4 meetings.

19 Which were the reasons for not coming to the meetings?
□ work load
□ content of the meeting was not interesting
□ travel cost

Public Health Impact

20 Are you aware of any change in a policy measure in your country, under discussion/being considered or implemented, that is the direct or indirect result of the PHIS project? (e.g. interface management, linking outpatient and inpatient sector)
□ Yes
□ No

If yes, please specify

Coordination and general perception

21 How content are you with the work of the PHIS Project Management – in general? □ ☺ □ 😐 □ ☹

- with the progress of the project □ ☺ □ 😐 □ ☹
- with the organisation of the network meetings □ ☺ □ 😐 □ ☹
- with the information flow, allowing for active participation and feedback □ ☺ □ 😐 □ ☹

22 How content are you with the work of the PHIS project?
□ ☺ □ 😐 □ ☹
What would you suggest improving?

Please write down your name and contact details if you would like us to contact you for further information or clarification (optional).

Name: Contact details:

Appendix 5:

Detailed results evaluation indicators

Objective 1: Common Language

Evaluation indicator 3: Applicability and appropriateness of common terminology in practice

Outcomes survey: Common Language – PHIS Glossary (part 1)			
		Total number	**% of total**
Number of completed surveys		23	
Number of completed 'Common Language – PHIS glossary' questions		22	96%
Do you use the glossary?	Yes	20	91%
	No	2	9%
Which version?	Paper	5	23%
	Webbased	11	50%
	Both	1	5%

Outcomes survey: Common Language – PHIS Glossary (part 2)					
	Strongly agree (%)	***Agree (%)***	***Neutral (%)***	***Disagree (%)***	***Strongly disagree (%)***
The PHIS glossary is easy to use	5 (25%)	15 (75%)	0	0	0
I intend to use the glossary in future	6 (30%)	13 (65%)	1 (5%)	0	0
The work on the common terminology helped me to better understand the pharmaceutical systems of other network members.	7 (35%)	10 (50%)	3 (15%)	0	0

Objective 2: Methodology

Evaluation indicator 5: Number of quotations of/references to PHIS methodology and taxonomy in scientific and policy papers

Outcomes ´google` search "PHIS taxonomy" performed on January 8, 2011*

Websites	Webpage
PHIS - Pharmaceutical Health Information System	phis.goeg.at/index.aspx?_nav0033
Glossary | AIFA Agenzia Italiana del Farmaco	www.agenziafarmaco.it/en/glossary/20/lettert
Phis_hospital_pharma_report_en	www.docstoc.com/docs/57848112/phis_hospital_pharma_report_en
Pdf files	
Hospital Pharma - PHIS Hospital Pharma Report	phis.goeg.at/downloads/.../PHIS_Hospital%20Pharma_Report.pdf
Jahresbericht 2009	www.goeg.at/media/download/berichte/GOEG_JB_2009.pdf
Excel file	
Glossary - PHIS - Pharmaceutical Health Information System	phis.goeg.at/content/glossary/glossary.xls

*A 'google' search on "PHIS taxonomy" performed on December 14, 2010 resulted in 5 of these 6 results.

Evaluation indicator 7: Applicability and appropriateness of taxonomy in practice

Outcomes survey: Methodology and PHIS Indicators					
	Strongly agree (%)	***Agree (%)***	***Neutral (%)***	***Disagree (%)***	***Strongly disagree (%)***
Number of completed surveys = 23 Number of completed 'Methodology and PHIS Indicators' questions = 22					
The structure of the PHIS taxonomy is logical	5 (23%)	12 (55%)	5 (23%)	0	0
The description of the indicators is clear	3 (14%)	15 (68%)	4 (18%)	0	0
The indicators address my information needs	3 (14%)	13 (59%)	6* (27%)	0	0

*One person responded with neutral to this question as the respondent was only interested in the in-patient sector.

Objective 3: updated country-specific information and objective 5: in-patient survey

Evaluation indicators 8 – 13 and Evaluation indicator 17: PHIS Hospital Pharma report

	PHIS Hospital Pharma			Integrated in- and out-patient system		PPRI Pharma Profile**
	Included in PHIS Hospital Pharma report	Report (all 2009)*	System Poster (all 2010)*	Full	Poster	Full report
Date of evaluation	*31st March '11*	*31st March '11*	*31st March '11*	*31st March '11*	*31st March '11*	*31st March '11*
EU countries						
Austria	1	1	1	0 [a]	1	1 (2008)
Belgium	1	0[a]	1	0	1	1 (2008)
Bulgaria	1	1	1	0 [a]	1	1 (2007)
Cyprus	1	1	1	0	0	1 (2007)
Czech Republic	1	1	0	0	1	0
Denmark	1	1	1	0	1	1 (2007)
Estonia	1	0	0	0	0	1 (2007)
Finland	1	1	0	0	1	1 (2007)
France	1	1	1	0	1	1 (2008)
Germany	1	0	0	0	0	1 (2008)
Greece	0	0	0	0	0	0
Hungary	1	0	0	0	0	1 (2007)
Ireland	1	0	0	0	0	0
Italy	1	0 [a]	1	0	1	1 (2007)
Latvia	1	1	0	0	1	1 (2008)
Lithuania	1	0 [a]	0	0	1	1 (2008)
Luxembourg	0	0	0	0	0	0
Malta	1	1	0	0	1	0
Netherlands	1	1	1	0	1	0
Poland	1	1	0	0	0	1 (2007)
Portugal	1	1	1	0	1	1 (2008)
Romania	1	0	0	0	0	0
Slovakia	1	1	1	0	1	1 (2007)
Slovenia	1	0	0	0	0	0

Spain	1	0	0	0	0	1 (2008)***
Sweden	1	0 [a]	0	0	0	1 (2007)
UK	1	1	1	0 [a]	1	1 (2007)
Total	*25*	*14*	*11*	0	15	19
Percentage out of total EU countries	*93%*	*52%*	*41%*	*0%*	*56%*	*70%*
Non EU PHIS network members						
Canada	0	1	0	0	0	0
Croatia	0	0	0	0	1	0
Iceland	0	0	0	0	1	0
Norway	1	1	1	0	0	1 (2008)
Turkey	1	0	1	0	0	1

* These are additional deliverables not explicitly provided for in the Grant Agreement, but the PHIS network members did without remuneration on a voluntary basis. It was an important basis for having the information available for the PHIS Hospital Pharma report.

** The PPRI Pharma Profiles are not part of the PHIS project, but they serve as an important basis for the PHIS Pharma Profiles (in particular on the out-patient sector)

***A brief PPRI Pharma Profile on Spain and a comparative analysis incl. Spain is provided in an article published in Pharmaceuticals Policy and Law 11 (2009) 213–234

a) Drafts are available

Evaluation indicators 10 and 13

Outcomes survey: Reasons for incompleteness of PHIS Hospital Pharma report if applicable	***Strongly agree (%)***	***Agree (%)***	***Neutral (%)***	***Disagree (%)***	***Strongly disagree (%)***
Number of completed surveys = 23 Number of responders actively involved in writing a PHIS Hospital Pharma Report = 19					
The data collection and writing the country report takes a reasonable amount of time	8 (42%)	4 (21%)	5 (26%)	2 (11%)	0
It was difficult to find the right experts providing the data for the Hospital Pharma report	3 (16%)	8 (42%)	8 (42%)	0	0
The outcomes of the PHIS Hospital Pharma survey gave evidence to existing assumptions.	1 (0.3%)	12 (63%)	6 (32%)	0	0
The outcomes of the PHIS Hospital Pharma survey were of no interest.	0	0	2 (11%)	8 (42%)	9 (47%)

Objective 4: PHIS indicators

Evaluation indicator 15: List of developed indicators

Pharmaceutical Health Information System (PHIS) Indicators developed in the PHIS project			
Indicator	**Name**	**Type[a]**	**Breakdown (out-patient/in-patient)**
Number of core indicators developed (n=3)			
C1	health expenditure per capita, per funding and segment	QT	Out-patient / in-patient
C2	pharmaceutical expenditure (PE) per capita, per funding and segment	QT	Out-patient / in-patient
C3	pricing policies	QL	Out-patient / in-patient
Number of supplementary indicators developed (n=20)			
S1	demographics – population age structure	QT	n.a.
S2	health status – life expectancy	QT	n.a.
S3	economics – gross domestic product (GDP) per capita	QT	n.a.
S4	inhabitants per prescription-only medicines dispensary	QT	n.a.
S5	top 10 medicines by active ingredients	QL	Out-patient / in-patient
S6	average time period between marketing authorisation and access to patient	QT	Total market
S7	evaluation of medicines	QL	Out-patient / in-patient
S8	uptake of new medicines	QT	n.a.
S9	taxes on pharmaceuticals	QT	n.a.
S10	reimbursement list	QL	Out-patient / in-patient
S11	reimbursement schemes	QL	Out-patient / in-patient
S12	out-of pocket payments	QL	Out-patient / in-patient
S13	reference price system (RPS)	QL	Out-patient
S14	prescriptions per capita	QT	Out-patient
S15	monitoring of prescribing practices	QL	Out-patient / in-patient
S16	Consumption	QT	Out-patient / in-patient
S17	share of prescribed medicines dispensed	QT	Out-patient only
S18	generic policies	QL	n.a.
S19	share of generics	QT	Out-patient / in-patient
S20	interface management of medicines	QL	n.a.

a) QT = quantitative / QL = qualitative, n.a. = not applicable

Objective 5: In-patient survey

Evaluation indicator 18: Case studies (price survey)

In total, case studies were undertaken in 25 hospitals in five countries: Austria, Norway, Netherlands, Portugal and Slovakia.

Country	Number of participating hospitals in PHIS case studies
Austria	5
Netherlands	3
Portugal	4
Norway	2
Slovakia	11*
In total	*25*

*Price data of eight hospitals were considered (four hospitals are under one management and have the same price data); organizational information was only available for ten hospitals.

Twelve active ingredients were selected to be surveyed: trastuzumab, docetaxel, rituximab, etanercept, imatinib, immunoglobulin, infliximab, interferon β-1A, amlodipin, simvastatin, atorvastatin and clopidogrel. Price data of all products were collected which were available at the hospital level.

Availability of actual hospital prices per unit for selected medicines in five European countries (2009)						
	Austria (n=5)	**Netherlands (n=3)**	**Norway (n=2)**	**Portugal (n=4)**	**Slovakia (n=8)**	***Total (n=22)***
Oncologic medicines						
A	5	3	2	4	1	*15*
B	5	3	2	4	6	*20*
C	5	3	2	4	1	*15*
D	4	1	2	4	n.a.	*11*
Cardiovascular medicines						
E	1	3	2	3	8	*17*
F	5	3	2	3	5	*18*
G	5	3	2	1	7	*18*
H	5	3	2	4	3	*17*
Other indications						
I (RA)	1	n.a.	2	4	n.a.	*7*
J (IM)	5	1	2	1	6	*15*
K (AI)	3	3	2	4	1	*13*
L (MS)	1	n.a.	2	4	(a)	*7*
Total	*45*	*26*	*24*	*40*	*38*	*173*
Percentage	*75%*	*72%*	*100%*	*83%*	*40%*	*66%*

n.a. = not available, (a) price in the general health insurance company, RA =Rheumatoid arthritis, IM = Immunomodulation, AI = Anti-inflammatory, MS = Multiple Sclerosis

Objective 6: Communication, information-exchange and dissemination

Evaluation indicator 19: Dissemination of results

Number of presentations at congresses to the knowledge of the PHIS team**

Date	Place	Topic	Organising institution	National vs international	Business /health/science*
01-12-2008	Austria	Novartis International Pricing and Reimbursement Network Meeting, Austria	Novartis	N	B
4/5-12-2008	Austria	Oncological Pricing Conference	Next Level Pharma	N	B
10/11-12-2008	Belgium	EU Open Health Conference	DG Sanco	I	H
11/12-12-2008	France	P+R Networking Initiative	French EU presidency	I	H
8/9-01-2009	The Netherlands	Conference	Utrecht University and WHO	I	S
27/28-01-2009	Italy	Piperska-Gruppe	Piperska	I	S
16/17-02-2009	Germany	PPRI Network meeting	PPRI	I	H
21/22-04-2009	Hungary	CEE Regulatory Affairs Conference, INFORMA	IIR	I	B
05-05-2009	Austria	IPC Meeting	UNIDO	N	H
11/12-05-2009	Albania	Albanian Pharmaceutical Days		I	H
19/21-05-2009	Russia	Russian Pharmaceutical Forum and Meeting on P&R for socially significant diseases	Adam Smith Conferences	I	B
8/9-06-2009	Luxembourg	PHIS Meeting + Meeting with MoH LU and Social health insurance	PHIS	I	H
29-06-10 and 07-2009	The Netherlands	Summer Course - Pharmacoepidemiology/Pharmaceutical policy analysis	WHO and Utrecht University	I	S
07-09-2009	Austria	MEDEV Meeting	HVB, MEDEV, ESIP	N	H
09-09-2009	Austria	Meeting Vancouver Group	Vancouver Group	N	H
05-09-2009	Austria	Pharma Plattform	GÖG/ÖBIG	N	H
17/18-09-2009	Austria	P+R Conference in Russia & CIS	Marcus Evans	N	B
24/25-09-2009	The Netherlands	WHO/HAI Global Pricing Group Meeting	HAI, WHO	I	H
30-09 and 1-10-2009	Romania	4th Forum Invest International Health Conference (Commercial Conf.)	Forum Invest	I	B

30-09 and 3-10-2009	Austria	European Health Forum Gastein	Internationales Forum Gastein (IFG)	I	H
15/16-10-2009	Portugal	Hospital case study in Lisbon	GÖG and PHIS partner	I	H
4-./5-11-2009	The Netherlands	Hospital case study in Rotterdam und Leiden	GÖG and PHIS partner	I	H
11-11-2009	Austria	Hospital case study BHS Linz	GÖG	N	H
16-11-2009	Austria	Hospital case study LKH Villach	GÖG	N	H
18-11-2009	Austria	Hospital case study St. Pölten	GÖG	N	H
30-11-2009	Austria	Hospital case study LKH Oberwart	GÖG	N	H
7/8-01-2010	The Netherlands	WHO CC Mini Conference	Utrecht University and WHO	I	S
20/21-01-2010	Spain	Jacob Flemming - 5th Annual Pricing, Reimbursement & Market Access in Pharma & Medical Devices	Jacob Flemming	I	B
18/19-2-2010	Germany	PIPERSKA Treffen 2010	Piperska	I	S
25/26-02-2010	Slovakia	3rd PHIS Meeting - PHIS Hospital Pharma Seminar	GÖG/ÖBIG-PHIS Team, SUKL	I	H
17/19-03-2010	Switzerland	Expert Meeting on Pharmaceutical Country Profiles	WHO CC	I	H
14-04-2010	Austria	2. Pharma Plattform	GÖG/ÖBIG	N	H
19/21-04-2010	Switzerland	Geneva Health Forum (did not participate due to closed airports)	Division of International and Humanitarian Medicine, University Hospitals of Geneva	I	S
14/15-06-2010	Hungary	Regulatory Affairs in Central and Eastern Europe	Informa Life Sciences	I	B
25-06-2010	Austria	Fortbildung - Klinische Pharmazie	ARGE österreichischer KH-Apotheker; Österreichische Gesellschaft für KH-Pharmazie	N	S
26-06-2010	Bulgaria	Days of the Pharmacy	Bulgarian Pharmaceutical Union	I	H
30-06-2010	Austria	Strategy meeting of Austrian sickness funds	HVB	N	H
5/9-07-2010	The Netherlands	Pharmaceutical policy course	Utrecht University/WHO CC	I	S
16-09-2010	Luxembourg	Meeting with project partner SOGETI	SOGETI	I	H

20-09-2010	Austria	Launch Event WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies	WHO CC	N	H
23/24-09-2010	The Netherlands	WHO Global Pricing Group	WHO / HAI	I	H
11-10-2010	Austria	3. Pharma Plattform	GÖG/ÖBIG	N	H
22/23-11-2010	Luxembourg	EAHC Indicator Workshop	EAHC	I	S
24-11-2010	Luxembourg	Meeting with project partner SOGETI	SOGETI	I	S
23-11-2010	Poland	WHO country policy consultancy	WHO Europe	I	H
15/16-12-2010	Belgium	CAPR Meeting - presentation of PHIS results	DG Enterprise	I	H
17-01-2011	Austria	CMI Workshp: Remuneration und HTA	BMG (Austrian Ministry of Health)	N	H
1-03-2011	Russia	5th congress on "Development of pharmacoeconomics and pharmacoepidemiology in the Russian Federation"	WHO Europe	I	H
30-03 and 1-04-2011	Austria	EAHP Congress	EAHP	N	S
28/29-04-2011	Bulgaria	5th PHIS Meeting	GÖG, IHHII	I	H

* Business = all organizations designed to provide goods, services, or both to consumers, e.g. commercial conference organisers. Health = all governmental and non governmental organizations (non commercial) related to health care, e.g. policy makers and stakeholders. Science = all academic related organizations

** Actual number may be higher because presentations by PHIS network members may not always be reported to the PHIS secretariate

Number of articles/reports based on PHIS results						
Authors	**Title**	**Name Journal**	**Publication date**	**Type (article/ abstract/ opinion/ notification)**	**National versus international**	**Peer reviewed versus non peer reviewed**
Vogler, S., Habl, C. (indicated as "GÖG")	Europäische Initiativen im Krankenhaus-Pharmabereich	Das österreichische Gesundheitswesen - ÖKZ	2009	Notification	National	Non peer
Dolinar, E.	Krankenhausapotheker als Interessenspartner im PHIS-Projekt	Pharmazie Sozial - Die Zeitschrift der angestellte Apothekerinnen und Apotheker	2/2009	Article	National	Non peer
Vogler, S.	PHIS Hospital Pharma - Improving access to medicines through learning about in-patient purchasing and financing strategies and price survey in hospitals in EU Member States	Geneva Health Forum	March 2010	Abstract, accepted as poster	International	Peer
Vogler, S.	PHIS Hospital Pharma: A European survey on medicines' management in hospitals	European Journal of Hospital Pharmacy	EJHP, Issue 2/2010, Vol, 15	Opinion	International	Non peer
Wagner, W.	Spitalsmedikamente: ÖBIG - Experten analysieren "Pharma-Szene" 1 / Spitalsmedikamente - Betriebswirtschaft und Volkswirtschaft	APA Austrian Press Agency Notification	2010-03-02	Notification	National	Non peer
Wagner, W.	Spitalsmedikamente 2- Betriebswirtschaft und Volkswirtschaft	APA Austrian Press Agency Notification	2010-03-02	Notification	National	Non peer

n.a.	Medikamentenabgabe in Spitälern unter der Lupe	APA Austrian Press Agency; www.springermedizin.at	March 2010	Article	National	Non peer
n.a.	Spitalsökonomie: Einkauf am Prüfstand	Clinicum (www.clinicum.at)	March 2010	Article	National	Non peer
Zimmermann, N.	Joint efforts – joint language	First Global Symposium on Health Systems Research	March 2010	Workshop/abstract (submitted but not accepted)	International	Peer
Vogler, S., Zimmermann, N., Mazag, J.	Procuring medicines in hospitals – results of the European PHIS survey	European Journal of Hospital Pharmacy	EJHP 2011, Volume 17, issue 2	Article	International	Peer
Vogler, S., Habl, C., Bogut, M., Vončina L.	Comparing Pharmaceutical Pricing and Reimbursement Policies in Croatia to the EU Member States	Croatian Medical Journal	In press	Article	International	Peer
Vogler, S., Habl, C., Leopold, C., Mazag, J., Zimmermann, N.	Prices Of Medicines, Including High-Cost Cancer Medicines, In Hospital Setting Compared To Out-Patient Use	International Conferences on Improving Use of Medicines (ICIUM2011)	2011	Abstract	International	Peer
Vogler, S.,Habl, C., Leopold, C., Zimmermann, N.	Role of tendering of medicines in European countries	International Conferences on Improving Use of Medicines (ICIUM2011)	2011	Abstract	International	Peer
Centre fédéral d'expertise des soins de santé (KCE)	Les systèmes de remboursement des médicaments: comparaison internationale et recommandations aux décideurs	-	2011	Report	International	-

n.a. = No information available

Evaluation indicator 20: Five information meetings.

Attendance of PHIS network members to PHIS information meetings					
Invitation Members	**Attendance Members**	**Invitation Countries**	**Attendance Countries**	**Invitation Institutions**	**Attendance Institutions**
First PHIS Information Meeting 20/21 November 2008, Vienna					
88	45 (51%)	32	22 (69%)	55	33 (60%)
Second PHIS Information Meeting 8/9 June 2009, Luxembourg					
123	43 (35%)	33	22 (67%)	70	34 (49%)
Third PHIS Information Meeting 25 February 2010, Bratislava					
127	38 (30%)	35	21 (60%)	72	31 (43%)
Fourth PHIS Information Meeting 27/28 September 2010, Rome					
134	48 (36%)	35	24 (69%)	74	35 (47%)

Extra

Evaluation indicator 22: Time bound deliverables

Deliverables				
Deliverable N°	**What**	**Date foreseen**	**Date of achievement**	**Dissemination**
D1	PHIS Website	M3	M3	By e-mail and online
D2	PHIS Taxonomy	M11	M11	By e-mail
D3	PHIS Library	M26	M26*	Online
D4	PHIS Database	M29	M29**	By e-mail and online
D5	PHIS Glossary	M10	M10	By e-mail
D6	PHIS Hospital Pharma Report	M18	M18	By e-mail
D7	Series of five information meetings	M3,10,18,24,30	M3,10,18,25,32***	By email and online
D8	PHIS Technical and Financial Interim Report	M18	M18	By e-mail and online****
D9	PHIS Evaluation report	M31	M31	By email
D10	PHIS Technical and Financial Final Report	M34	-	-

* The PHIS library contains three different types of documents. Although the finished documents were delivered on time, the library is not complete as not all EU member states have been able to produce a PHIS Hospital Pharma Report or an integrated poster.

** The PHIS Database was only technically established at time of submission

******* Due to the holiday season the Fourth PHIS meeting was postponed in agreement with the EC. The fifth meeting is planned for M32.

**** The PHIS Technical and Financial Interim Report is only available via the PHIS member site. This report is not uploaded on the PHIS website although it is mentioned there as being due (and available) in February 2010.

Evaluation indicator 24: Cost effectiveness of the PHIS project

Conservative estimation of contributions to PHIS project besides EC contribution:

- Consortium's financial contribution as indicated in the Description of Work: EUR 246,972 (of which EUR 160,230 is borne by the Austrian Ministry of Health, the owner of the main partner GÖG in the form of co-funding)
- Contribution of PHIS network members to PHIS network meetings: on average 20 country members attended the 5 PHIS network meetings. Estimated costs per person per network meeting is 16 hours * EUR 100 per hour + EUR 900 travel expenses (flight + accommodation) = EUR 2500 per person per meeting. Total costs for attending the five meetings will sum up to 20 participants * 5 meetings * EUR 2500 = EUR 250000. In addition, approximately 15 hours (3 hours per meeting) were spent by individual network members on preparatory work (15 * EUR 100 per hour = EUR 1500). Total contribution of the PHIS network members to the meetings has then been EUR 251,500.
- Person-time for writing the integrated profiles: gathering of information and writing a PHIS Pharma system profile is estimated to have taken at least 18 working-days including revision (= 144 working-hours) per country. If a total of 12 countries would deliver an integrated profile, in-kind contribution would mount up to 12 countries * 144 working-hours * EUR 100 per hour = EUR 172,800.
- Person-time for preparing the PHIS Hospital Pharma reports: gathering of information and writing a PHIS Hospital Pharma report is estimated to have taken at least 18 working-days including revision (= 144 working-hours) per country. A total of 20 countries have delivered a (draft) PHIS Hospital Pharma report; in-kind contribution have mounted up to 20 countries * 144 working-hours * EUR 100 per hour = EUR 288,000. In addition, 20 integrated posters were prepared (20 * 2 hours per poster * EUR 100 per hour = EUR 4000).
- Additional contributions in-kind by PHIS network members: (i) person-time for validation work (55 hours in total for PHIS Hospital Pharma report / data) and (ii) person-time for feedback on several deliverables (40 hours), leading to an additional EUR 9500 (= 95 * EUR 100).