PHIS

Pharmaceutical Health Information System
Grant Agreement Number: 2007 333

A project funded by
Executive Agency for Health and Consumers and the
Austrian Federal Ministry of Health

FINAL TECHNICAL REPORT

Vienna, June 2011

PHIS

Pharmaceutical Health Information System

FINAL TECHNICAL REPORT

submitted by the main beneficiary GÖG/ÖBIG / Austrian Health Institute:
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in coordination with the PHIS project management
International Healthcare and Health Insurance Institute (IHHII), Bulgaria: Gergana Andre
State Institute for Drug Control (SUKL), Slovakia: Jan Mazag, Barbara Bilancikova
SOGETI Luxembourg SA., Luxembourg: Laurent Jacquet, Pascal Loosveldt; Sophie Lopes (CNAM-TS, France)
Italian Medicines Agency (AIFA): Pietro Folino-Gallo, Luisa Muscolo

GÖG Project No. II/4586

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We express our appreciation for the continuous motivation and guidance by the members of the PHIS Advisory Board:

- European Commission, Directorate General Health and Consumer Protection (DG SANCO): Mr. Jérôme Boehm, Mr. Artur Furtado and Mr. Anders Lamark Tysse
- European Commission, Directorate General Enterprise and Industry (DG Enterprise): Ms. Guilia del Brenna, Mr. Christophe Roeland and Mr. Stefaan van der Spiegel (till summer 2009)
- Executive Agency for Health and Consumers (EAHC): Ms. Ann Thuvander (till spring 2009) and Ms. Jurgita Kaminskaite
- Statistical Office of the European Communities (EUROSTAT): Ms. Dorota Kawiorska
- Organisation for Economic Co-operation and Development (OECD): Ms. Elizabeth Docteur (till spring 2009) and Ms. Valerie Paris
- World Health Organisation (WHO) Regional Office for Europe: Mr. Kees de Joncheere
- World Health Organisation (WHO) Headquarter: Mr. Richard Laing and Mr. Dele Abegunde

The success of the PHIS project is attributable to the several voluntary contributions of the PHIS network members. They wrote country reports about the pharmaceutical systems, provided information, validated data, provided feed-back, prepared presentations and actively participated in the PHIS network meeting. More than 100 people are involved in the PHIS network consisting of 70 institutions. We are most grateful for their contributions.

Sincere thanks also go to the evaluation institute WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis at the Utrecht University in the Netherlands, in particular to Ms. Aukje Mantel-Teeuwisse and Ms. Joëlle Hoebert for compiling the evaluation report.

Finally, we would like to thank our colleagues in the five institutions of the project management consortium Gesundheit Österreich GmbH, Geschäftsbereich Österreichisches Bundesinstitut für Gesundheitswesen / Austrian Health Institute (GÖG/ÖBIG); International Healthcare and Health Insurance Institute (IHHII) in Bulgaria; State Institute for Drug Control (SUKL) in Slovakia; SOGETI Luxembourg SA.; and the Italian Medicines Agency (AIFA).

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Abbreviations

AIFA	Agenzia Italiana del Farmaco / Italian Medicines Agency
BDA	Bulgarian Drug Agency
BMG	Österreichisches Bundesministerium für Gesundheit / Austrian Federal Ministry of Health
CAPR	Competent Authority for Pricing and Reimbursement of Pharmaceuticals
CEE	Central and Eastern Europe
CIS	Commonwealth of Independent States
D	Deliverable
DG ENTR	Directorate-General Enterprise and Industry of the European Commission
DG SANCO	Directorate-General Health and Consumer Protection of the European Commission
EAHC	Executive Agency for Health and Consumers
EAHP	European Association of Hospital Pharmacists
EC	European Commission
EMINet	
EU	European Union
EUnetHTA	
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 / High Authority of Health
HI	Health information
HiT	Health systems in Transition
HOPE	European Hospital and Healthcare Federation
IHHII	International Healthcare and Health Insurance Institute (Bulgaria)
M	Month
MS	Member States
NHIF	National Health Insurance Fund (Bulgaria)
NICE	National Institute for Health and Clinical Excellence
OECD	Organisation for Economic Co-operation and Development
P & R	Pricing and reimbursement
PHIS	Pharmaceutical Health Information System
PPRI	Pharmaceutical Pricing and Reimbursement Information
SHA	System of Health Accounts
SUKL	State Institute for Drug Control (Slovakia)
WHO	World Health Organisation
WP	Work Package

Technical fact sheet

Contract number	Grant Agreement Number – 2007 333
Proposal title	Pharmaceutical Health Information System Under the Call for Proposals 2007 of DG SANCO Priority area: 1. Health information (HI 2007) Action: 1.1. Developing and coordinating the health information and knowledge system
Acronym	PHIS
Starting date	1 September 2008
Duration of the project	32 months
Reporting period	1 September 2008 – 30 April 2011
Objectives	The PHIS project aims at increasing knowledge and exchange of information on pharmaceutical policies, in particular on pharmaceutical pricing and reimbursement, in the EU Member States, covering both the out-patient and the in-patient sectors.
Commissioners	Executive Agency for Health and Consumers (EAHC) Austrian Federal Ministry of Health (BMG)
EAHC Representative	Ms. Jurgita Kaminskaite, successor of Ms. Ann Thuvander
Austrian BMG Representative	Mr. Gernot Spanninger
Main partner	Gesundheit Österreich GmbH / Österreichisches Bundesinstitut für Gesundheitswesen / Austrian Health Institute (GÖG/ÖBIG) – core team: Ms. Sabine Vogler, Ms. Claudia Habl, Ms. Christine Leopold, Ms. Simone Morak, Ms. Nina Zimmermann, Ms. Romana Landauer
Associated partners	- International Healthcare and Health Insurance Institute (IHHII); Sofia, Bulgaria: Ms. Gergana Andre - State Institute for Drug Control (SUKL), Bratislava, Slovakia: Mr. Jan Mazag, Ms. Barbara Bilancikova - SOGETI Luxembourg SA., Bertrange, Luxembourg : Mr. Laurent Jacquet, Mr. Pascal Loosveldt; Ms. Sophie Lopes (CNAM-TS, France) - Italian Medicines Agency (AIFA), Rome, Italy: Mr. Pietro Follino-Gallo, Ms. Luisa Muscolo
Advisory Board (current members)	- EAHC: Ms. Jurgita Kaminskaite - EUROSTAT: Ms. Dorota Kawiorska - EC DG SANCO: Mr. Jérome Boehm, Mr. Anders-Lamark Tysse - EC DG ENTR: Ms. Giulia del Brenna, Mr. Christophe Roeland - OECD: Ms. Valerie Paris - WHO HQ: Mr. Richard Laing - WHO Europe: Mr. Kees de Joncheere
Evaluation institute	Utrecht University, WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis, Utrecht, the Netherlands: Ms. Aukje Mantel-Teeuwisse, Ms. Joëlle Hoebert
Total amount	€ 617,369.-
EC Co-funding	60%
1st pre-financing	October 2008
2nd pre-financing	June 2010

Work packages	Objectives & tasks	Key deliverables
WP 1 - Coordination	Accomplishment of the project and reporting on it.	PHIS Technical and Financial Interim Report, PHIS Technical and Financial Final Report
WP 2 - Dissemination	Sharing the results of the PHIS project with the public and interested experts.	PHIS Website PHIS Leaflet PHIS Corporate Design PHIS Logo PHIS Banner Presentations Publications: Articles and abstracts
WP 3 - Evaluation	Guaranteeing an external evaluation of the project process and the results.	Establishment of and cooperation with PHIS Advisory Board PHIS Evaluation Report
WP 4 - Terminology	Developing and promoting a common understanding, based on a shared language and terminology.	PHIS Glossary (printable version) PHIS online Glossary Translation of glossaries in local languages
WP 5 - Monitoring	Collecting up-to-date information about pharmaceutical pricing and reimbursement in the in-patient and out-patient sectors in the EU Member States and further countries.	PHIS Library with country information in different formats (posters, reports) Templates (for comprehensive PHIS Pharma Profile Template; for information at a glance)
WP 6 - Indicators	Developing pharmaceutical indicators from a public health perspective and providing them in a database.	PHIS Taxonomy: Set of pharmaceutical indicators PHIS Database
WP 7 - Hospital Pharma	Gathering data on medicines in the hospital sector including a price survey.	PHIS Hospital Pharma Report National PHIS Hospital Pharma Reports (Country reports) PHIS Case studies PHIS Hospital Pharma Seminar
WP 8 - Networking	Maintaining an active network of relevant institutions (competent authorities and hospital pharmacists) in the EU Member States and further interested countries	Five PHIS Network Meetings

1 Introduction

This is the Final Technical Report on Implementation of the Pharmaceutical Health Information Project (PHIS), submitted by the main beneficiary GÖG/ÖBIG (Gesundheit Österreich GmbH / Geschäftsbereich Österreichisches Bundesinstitut für Gesundheitswesen (Austrian Health Institute) to the commissioner Executive Agency for Health and Consumers (EAHC) in June 2011.

The project is co-funded by the Austrian Federal Ministry of Health (Österreichisches Bundesministerium für Gesundheit, BMG).

In addition to the Final Technical Implementation Report the main beneficiary submits a final financial report, as stipulated in the Reporting Requirements (Annex III) in the Grant Agreement.

As agreed with the commissioning party, the main beneficiary used the outline for the Technical Interim Report as a model and developed it further to meet the reporting need for the final report.

Copies of the deliverables according to the Grant Agreement and further outcomes of the project are annexed and made electronically available on a CD Rom attached to this report.

The PHIS Final Technical Report builds on the PHIS Interim Technical Report (*Annex 1*). Additionally, lessons learned from the PHIS project are summarized in the document “PHIS Lessons learned and Conclusions” (*Annex 2*) which was discussed with the PHIS Advisory Board and the PHIS network and revised afterwards.

2 Specification of the project

2.1 General objective of the project

The strategic objective of the PHIS project was to monitor and assess up-to-date pharmaceutical information in a comprehensive health system approach which covers the out-patient and in-patient sectors in the whole European Union, and to evaluate these Pharmaceutical Health Information System (PHIS) indicators from a public health perspective. These information and data allow EU Member States to compare their performance to other countries and to learn from the experience of the others, and thus to optimize their pharmaceutical policies for ensuring best possible provision with safe, effective and high quality medicines in spite of tight budgets.

2.2 Specific objectives of the project

Objective title	Objectives	Approach	WP	Name of Work Package (WP)
Common language	To develop and promote a common understanding, based on a shared language and terminology	Development of a glossary of pharmaceutical terms and its promotion.	WP 4	Terminology
Methodology	To develop a methodology as basis for pharmaceutical health indicators	Development of a taxonomy and a set of pharmaceutical health information indicators from a public health perspective with break-down for the in-patient and out-patient sectors.	WP 6	Indicators
Updated country-specific information	To provide up-to-date information and data on pharmaceutical pricing and reimbursement in the EU	Development of a library with up-dated country-specific pharmaceutical system information in the EU Member States and further countries in different formats (concise information at a glance, comprehensive reports).	WP 5	Monitoring
European pharmaceutical health indicators	To provide pharmaceutical indicators from a public health perspective	Development of a database providing the information and data for the selected PHIS indicators.	WP 6	Indicators

Objective title	Objectives	Approach	WP	Name of Work Package (WP)
In-patient survey	To gather information and data on medicines in the hospital sector	Survey about medicines management in the hospital sector in the EU Member States and further countries, accompanied by an investigation in case study countries incl. a price survey.	WP 7	Hospital Pharma
Communication, information-exchange and dissemination	To guarantee internal and external communication	Activities facilitating the exchange of information and the sharing of experience among PHIS-network, including PHIS network meetings. Dissemination activities to policy-makers, the scientific community and interested parties.	WP 8	Networking

Source: Based on PHIS Grant Agreement sections 2.2 and 5.4.-5.8.

2.3 Tasks and Deliverables

The PHIS project is subdivided into 8 work packages (WP), which are linked to the specific objectives of the study. WP1 – WP3 are horizontal work packages. All deliverables agreed in the Grant Agreement (D 1 – D 10) were submitted to the EAHC. Table 2.1 provides a brief overview of the tasks and the key deliverables according to the Grant Agreement; a more detailed description incl. listing of further outcomes beyond the scope of the Grant Agreement and a discussion of the achievements will be provided in Chapter 3.

Table 2.1: Overview of activities and deliverables for the period from 1 September 2008 to 30 April 2011

Work packages	Task	Outcome/Deliverables	Date of achieve-ment
WP 1 Co-ordina-tion	To accomplish the project and to report on it.	PHIS Technical and Financial Interim Report (D 8) http://phis.goeg.at/downloads/about/PHIS_Technical%20Interim%20Report_Final.pdf PHIS Technical and Financial Final Report (D 10)	M16/submitted in M18 -

Work packages	Task	Outcome/Deliverables	Date of achieve-ment
WP 2 Disseminat-ion	To sharing the results of the PHIS project with the public and interested experts	PHIS Website (D1) http://phis.goeg.at PHIS Leaflet http://phis.goeg.at/downloads/dissemination/Sep'10_PHIS%20leaflet_website.pdf PHIS Corporate Design PHIS Logo PHIS Banner Presentations Publications / Articles	M3 M2 M2 M2 M31 M31 M31
WP 3 Evaluation	Guaranteeing an external evaluation of the project process and the results.	PHIS Evaluation Report (D9)	M31
WP 4 Termino-logy	Developing and promoting a common understanding, based on a shared language and terminology.	PHIS Glossary printable version (D5) http://phis.goeg.at/downloads/glossary/PHIS%20Glossary_UpdatedApril2011.pdf PHIS online Glossary http://phis.goeg.at/index.aspx?_nav0020	M10 M12
WP 5 Monitoring	Collecting and analyzing up-to-date information on pharma-ceutical pricing and reimburse-ment in the EU Member States, based on country reports.	PHIS Library (D3) PHIS Pharma Profile Template http://phis.goeg.at/downloads/library/PHIS%20Pharma%20Profile%20Template%20July2010.pdf PHIS Pharma Reports	M26 M13
WP 6 Indicators	Developing pharmaceutical indicators from a public health perspective and providing them in a database.	PHIS Taxonomy (D2) http://phis.goeg.at/downloads/database/PHIS_Taxonomy_WP6_IndicatorsReport_final.pdf PHIS Database (D4)	M11 M29
WP 7 Hospital Pharma	Gathering data on medicines management in the hospital sector including a price survey.	PHIS Hospital Report (D6) http://phis.goeg.at/downloads/hospitalPharma/PHIS_Hospital%20Pharma_Report.pdf PHIS Hospital Pharma Reports (Country reports) PHIS Case studies PHIS Hospital Pharma Seminar	M18 From M10 on M16 M18

Work packages	Task	Outcome/Deliverables	Date of achieve-ment
WP 8 Networking	Running an active network of relevant institutions in the EU Member States.	A series of PHIS Network Meetings (D7) 1st PHIS Network Meeting 2nd PHIS Network Meeting 3rd PHIS Network Meeting 4th PHIS Network Meeting 5th PHIS Network Meeting	 M3 M10 M18 M24 M30

2.4 Indicators

The outcomes of the PHIS project have been constantly assessed by a multi-institutional steering body, the PHIS Advisory Board. Additionally, the activities and tasks undertaken in the PHIS project were subject to an external evaluation by an independent evaluation institute. Table 2.2 provides an overview of the indicators for the assessment of the PHIS project. The outcomes of the project evaluation are made available in the PHIS Evaluation Report (cf. *Annex 3*).

Table 2.2: Indicators for evaluation of the PHIS project

Objective 1: Common Language		
Work package 4: Terminology		
No.	**Indicator title**	**What to measure?**
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
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
3.	Applicability and appropriateness of common terminology in practice	- Opinions on applicability and appropriateness of common terminology according to users
Work package 8: Networking		
No.	**Indicator title**	**What to measure?**
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)

Objective 2: Methodology		
Work package 6: Indicators		
No.	**Indicator title**	**What to measure?**
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
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?
7.	Applicability and appropriateness of taxonomy in practice	- Opinions on applicability and appropriateness of taxonomy according to users
Objective 3: Updated country-specific information		
Work package 5: Monitoring		
No.	**Indicator title**	**What to measure?**
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
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
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)
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
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
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)
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

Objective 4: European pharmaceutical health indicators (EPHI)		
Work package 6: Indicators		
No.	**Indicator title**	**What to measure?**
15.	List of developed indicators	- Number of core indicators developed - Number of supplementary indicators developed
16.	Coverage and quality of all developed and core indicators	- % of coverage of key / core indicators - Quality of data (estimated data, experts opinions) - Average % of key/core indicators filled with country data - How many countries have at least filled 80% of the (core) indicators with data? - Reasons for low coverage
Objective 5: In-patient Survey		
Work package 7: Hospital Pharma		
No.	**Indicator title**	**What to measure?**
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
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 - 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		
Work package 2: Dissemination		
No.	**Indicator title**	**What to measure?**
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 per reviewed, national/international) - Number of hits website by type of organization and per country (if feasible) - How has dissemination been planned?

Work package 8: Networking		
20.	Five information meetings.	Invitations - Distribution of institutions among invitations - Count how many countries were invited - % countries / involved countries Attendance - 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 Feedback - How was feedback given, especially to people unable to attend the meeting
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
Extra		
Time bound deliveries		
No.	**Indicator title**	**What to measure?**
22.	Time bound deliveries	- % of documents and milestones achieved - % of documents and milestones achieved on time - Reasons for delays
Public Health Indicator		
No.	**Indicator title**	**What to measure?**
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)
24.	Cost effectiveness of the PHIS project	- Estimate of EC contribution per PHIS country profile
Sustainability		
No.	**Title Indicator**	**What to measure?**
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
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

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

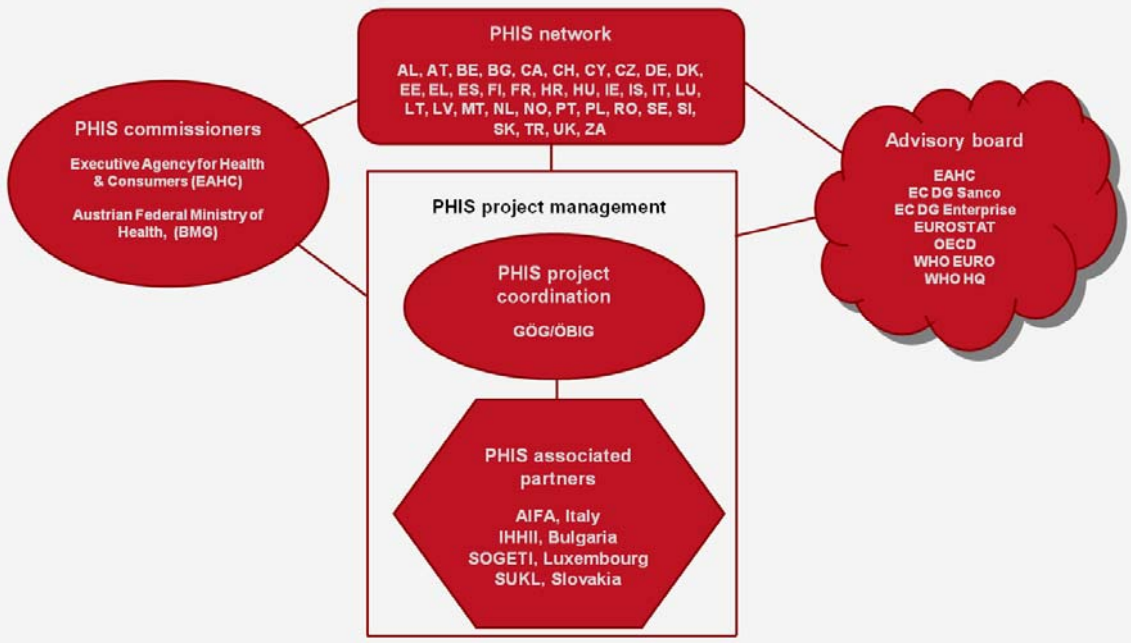
Source: PHIS Evaluation Report (*Annex 3*)

3 Technical implementation of the project

3.1 Activities related to horizontal work packages

3.1.1 Work package 1 – Coordination

Work package 1 – Coordination of the project	
Lead Partner	GÖG/ÖBIG (main beneficiary)
Partners involved	IHHII, SOGETI, AIFA, SUKL
Project organisation	



Project organisation

Commissioning parties

- Executive Agency for Health and Consumers (EAHC)
  represented by Ms. Jurgita Kaminskaite, successor of Ms. Ann Thuvander

- Austrian Ministry of Health (BMG)
  Represented by Mr. Gernot Spanninger, Head of the Pharmaceutical Department

Project management

Main partner:

- **Gesundheit Österreich GmbH / Geschäftsbereich ÖBIG (GÖG/ÖBIG)**; Vienna, Austria

  Team: Sabine Vogler (PHIS Project Leader), Claudia Habl (PHIS Deputy Project Leader), Christine Leopold (PHIS Communication Officer), Simone Morak (maternity leave), Nina Zimmermann (editor-in-chief, data management), Romana Landauer (PHIS project assistant), René Heindl (IT), Brigitte Juraszovich (project controlling), Ferenc Schmauder (graphics), Karin Kopp (media-relation expert, lecturer)

Associated partners:

- **International Healthcare and Health Insurance Institute (IHHII)**; Sofia, Bulgaria: Andre Gergana, Elena Tchobanova, Ilko Semerdjiev, Svetla Stefanova
- **State Institute for Drug Control (SUKL)**; Bratislava, Slovakia: Jan Mazag, Barbara Bilancikova, Barbora Kucerova, Janka Rajnohova, Monika Pastuchova
- **SOGETI Luxembourg SA.**; Bertrange; Luxembourg: Laurent Jaquet, Sophie Lopes (CNAM-TS), Gaetan Chateaugrion, Pierre Balboni
- **Italian Medicines Agency (AIFA)**; Rome, Italy: Pietro Folino-Gallo, Luisa Muscolo, Alessia Polinari

Advisory Board

The PHIS Advisory Board comprises EU Commission services (DG SANCO and DG ENTR) and EU agencies (EAHC, EUROSTAT) and international organisations (OECD, WHO).

PHIS network

The PHIS network consists of competent authorities (pricing and reimbursement), third party payers, and ministries of health as well as hospital pharmacists in the EU Member States and beyond. The PHIS network includes 36 countries (all 27 EU Member States plus Albania, Canada, Croatia, Iceland, Norway, South Africa, South Korea, Switzerland and Turkey). The European associations EAHC (European Association of Hospital Pharmacists) and HOPE (European Hospital and Healthcare Federation) are also part of the PHIS network.

Taking account of the European and international institutions represented in the PHIS Advisory Board and the institutions of the PHIS project management team, the PHIS network covers around 70 institutions.

All participating institutions are listed in *Annex 4*.

Tasks performed	
Partnership	At the beginning of the project, an internal partnership agreement (IPA) was set up between the main partner and each associate partner. The IPA defines tasks and responsibilities of the partners.
Management structure	The project management is in the hands of the project leader GÖG/ÖBIG being responsible not only for an active communication with the network but also to liaise the associate partners (WP leaders) as well as the advisory board. This was done by nominating a contact person for each work package and being in regular e-mail, telephone or skpye contact. In addition, written updates on the progress of different WP were provided by the WP leaders.

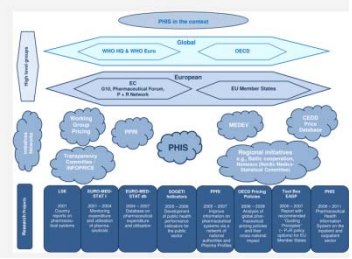
Internal communication	Internal communication was a key tool to keep all network members informed but also to have separate updates with the WP leaders as well as the advisory board. One of the major internal communication tools was the PHIS intranet to which all network members have access. All relevant preparatory materials prior to the meetings as well as contact details to other network members are accessible there. Another way of communicating were internal meetings & telephone / skype conferences: Project management meetings/individual WP meetings: - 14 February 2011, Vienna, internal workshop on the development of the PHIS database (Mr. Balboni, Ms. Vogler, Ms. Leopold, Ms. Zimmermann, Mr. Heindl)24/25 January 2011, Vienna, internal meeting with evaluation institution to discuss outline and methodology of evaluation report - 24 November 2010, Luxembourg, internal workshop on the development of the PHIS database (Mr. Jacquet, Mr. Balboni, Ms. Zimmermann) - 16 September 2010, Luxembourg, internal workshop on the development of the PHIS database (Mr. Jacquet, Mr. Balboni, Ms. Zimmermann) - Summer 2010, Vienna, internal meeting PHIS Hospital Pharma, Mr. Mazag, Ms. Vogler, Ms. Leopold, Ms. Zimmermann - 5-9 July 2010, Utrecht, internal meeting with evaluation institution; Ms. Vogler, Ms. Leopold - 15 February 2010, Vienna, internal workshop on the development of the PHIS database (Ms. Lopes, Mr. Chateaugiron, Ms. Vogler, Ms. Leopold, Ms. Zimmermann) - 20 November 2009, Vienna, discussion on WP 7 general survey, case studies and 3rd network meeting (Mr. Mazag, Ms. Bilancikova, Ms. Vogler, Ms. Morak, Ms. Zimmermann, Ms. Leopold, Ms. Habl) - 25 September 2009, Vienna, preparation meeting for the 3rd PHIS Network Meeting and the case studies / PHIS Hospital Pharma (Mr. Mazag, Ms. Bilancikova, Ms. Vogler, Ms. Leopold) - 1 July 2009, Vienna, development of PHIS Pharma Profile template (Ms. Andre, Ms. Vogler, Ms. Leopold, Ms. Zimmermann) - 2 June 2009, Vienna, discussion on WP 7 general survey and case studies (Mr. Mazag, Ms. Bilancikova, Ms. Vogler, Ms. Morak, Ms. Zimmermann, Ms. Leopold) - 16 February 2009, Berlin, discussion on WP 6 Indicators (Ms. Lopes, Ms. Vogler, Ms. Leopold) and discussion on PHIS Hospital Pharma (Ms. Habl, Mr. Mazag, Ms. Andre) - 19 December 2008, Vienna, development of the PHIS Hospital Pharma Template for the General Survey (Mr. Mazag, Ms. Vogler, Ms. Leopold, Ms. Morak, Ms. Habl) - 20 November 2008 prior to the 1st PHIS Network Meeting in Vienna - 24 September 2008 PHIS project kick-off meeting in Vienna

	In addition, the PHIS network meetings were used to exchange with the project management partners. Skype conferences project management: - 15 March 2011 with all WP leaders on the progress of the WP and to exchange on possible overlaps - 9 September 2010, discussion with all WP leaders on the progress of the WP, preparation of the PHIS Rome meeting and short explanation of the PHIS evaluation - 5 July 2010, discussion on WP 6 PHIS database (Mr. Jacquet, Ms. Vogler, Ms. Zimmermann, Ms. Leopold) - 16 June 2009, discussion on WP 6 Indicator development (Ms. Lopes, Ms. Vogler, Ms. Zimmermann) - 17 November 2009 with all WP leaders on the progress of the WP and to exchange possible overlaps - 24 April 2009 with all WP leaders on the progress of the WP and to exchange on possible overlaps Individual skype conferences were hold with each WP leader regarding any questions on their WP or with respect to administrative questions.
Communication strategy	The PHIS project co-ordination has been committed to a good communication strategy on the one hand side to the commissioning parties as well as to the public. Communication to the commissioning parties: representatives from both the EAHC and the Austrian Ministry of Health were present at most PHIS network meetings. Furthermore updates and important developments on the project were regularly communicated via e-mail or via phone. Communication to the PHIS network / Advisory Board was assured via e-mail, the PHIS network meetings and the PHIS intranet. Communication to the public: the PHIS website is a freely accessible platform with all the results (e.g. reports, posters, glossary, database) of the PHIS project. The project results were presented at various meetings and published in different journals (cf. dissemination).
Outcomes and deliverables achieved	
- Interim technical and financial report to EAHC (D8) – submitted to EAHC in February 2010 (*cf. Annex 1)* - Final technical and financial report to EAHC (D10) – submitted to EAHC in June 2011	

Discussion of challenges, achievements and sustainability
PHIS can be described as a project of a rather broad scope, addressing several issues and producing a range of deliverables (some beyond the scope of the Grant Agreement). At the end of the project, we discussed if, provided that the framework had allowed, PHIS should have been organized in a different set-up (e.g. split into different projects instead of one). However, several members of the project management team and the PHIS Advisory Board welcomed the current organisation in *one* project, offering the advantage of an "umbrella" and ensuring the inter-linkage between the different work packages (see "PHIS Lessons learned and Conclusions", *Annex 2*). All partners were actively involved in the whole project and not just focused on the work package for which they were responsible. Other indications for the good cooperation among the partners were the fact that each of the five partner institutions of the project consortium hosted a network meeting, and the consistent use of the PHIS corporate design by the partners. Another example is the current drafting of an article (about the PHIS indicators), to which even some members of the consortium who were not responsible for this WP are committed to contribute. As for the network itself (see section 3.2.5), we could observe how trust and a joint commitment among the consortium has been established. We are aware that regular contacts (by e-mail, phone, Skype conferences) and in particular face-to-face meetings were supportive to this development. In particular regarding the new area of Hospital Pharma and the PHIS database, we had some bilateral meetings which certainly helped to discuss critical issues in depth. From a cost perspective, the fact that the project leader (GÖG/ÖBIG, Vienna, Austria) and the WP leader of Hospital Pharma (SUKL, Bratislava, Slovakia) were located in the distance of less than 100 kilometres was certainly favourable. We did not have to cope with fluctuations – neither at the level of the partner institutions nor any change in the core teams. We believe that also contributed positively to the project progress. The members of the project management team expressed their commitment to be available for further work resulting from the PHIS project (e.g. reviewing further PHIS Profiles which network members plan to submit after the end of project, technical advice for the PHIS database). This was also highly appreciated by the network, and is certainly an indication for the sustainability of PHIS (for reflection on the sustainability on PHIS network, see the discussion in section 3.2.5).

3.1.2 Work package 2 – Dissemination

Work Package 2 - Dissemination	
Lead Partner	GÖG/ÖBIG (main beneficiary)
Partners involved	IHHII, SOGETI, AIFA, SUKL
Dissemination strategy available	Yes: *cf. Annex 5*

Tasks performed		
Stakeholder analysis / target group analysis identification	At the beginning of the project, an environment analysis was carried out, investigating the role of the PHIS project in the context of other/similar projects, initiatives and activities. A draft was first discussed with the project management at the kick-off meeting on 24 September 2008. A revised version was presented to the PHIS Advisory Board on 20 November 2008 and to the PHIS network on 21 November 2008. Taking into consideration the feed-back, the chart "PHIS in the context" was adopted and is accessible at the PHIS website (see "About PHIS").	
Dissemination content	The main aim of the dissemination activities was to get the results of the PHIS project known not only among professionals but also among relevant stakeholders in the pharmaceutical sector in the European Union. Awareness raising with respect to the problems encountered due to the interface between the in-patient and the out-patient sector were the key messages. The PHIS project targeted at bringing stakeholders of those two sector (in- and out-patient) on one table and giving them room to understand each other's perspectives with respect to financing medicines.	
Dissemination means		
PHIS corporate design incl. PHIS logo, PHIS banner, PHIS leaflet	For good marketing and recognition of PHIS a recognisable layout was developed. Especially the logo was included in all PHIS reports and presentations and other dissemination activities (also used by network members).	
	A PHIS banner which links to PHIS website has been created. During the project duration the banner was available at the IHHII web-portal.	
	PHIS leaflet (cf. *Annex 6*), which incl. key information on the project and its network. We are regularly updated (following the joining of new countries). The print version was broadly distributed at several meetings, events and congresses. The electronic version is available for download from the PHIS website at: http://phis.goeg.at/downloads/dissemination/Sep'10_PHIS%20leaflet_website.pdf	

PHIS website: http://phis.goeg.at	A key dissemination tool is the PHIS website which was set up in November 2008 and has constantly been updated as soon as new results and information were available: The website outline is as follows: 1. About PHIS: displays a short description of the project and analyzes "PHIS in the context of other initiatives", offers technical reports, a sitemap and a disclaimer. 2. PHIS organisation: provides an organisational chart (also for download) and information about the project commissioners (EAHC, BMG), the PHIS project management team, the PHIS Advisory Board as well as the PHIS network. 3. Meetings: informs about date and venue of the PHIS network meetings. 4. Glossary: describes the WP Terminology including the methodological approach to develop a glossary. The PHIS Glossary and revised versions were uploaded on the PHIS Website. A search function ensured practical use of the Glossary. 5. PHIS Library: summarizes the work of WP Monitoring, provides several templates for different reports and country-specific pharmaceutical health information results (in a different formats e.g. posters and reports) 6. PHIS Database: explains the work of the the WP Indicators and provides the PHIS Taxonomy and the PHIS Indicators short list for download. This is also the section where the PHIS database after the validation by the countries will be online. 7. Hospital Pharma: described the objectives and tasks WP Hospital Pharma and offers a range of results (country specific 16 PHIS Hospital Pharma reports, PHIS hospital case studies, PHIS Pharma Report, Hospital Seminar. 8. Dissemination: offers for download the PHIS leaflet and the banners, lists presentations with references to PHIS and articles about PHIS 9. Contact: provides contact details of the PHIS project leader 10. Members: a password protected member-site accessible only for PHIS network members (e.g. contact details of the members, agenda and meetings of the PHIS network meetings) At several points of the PHIS website, users are explicitly invited for feed-back (both on results as well as on the methodology chosen).
Further websites:	Information is / was also available at the website of members of the project consortium (GÖG/ÖBIG - http://www.goeg.at/index.php?pid=arbeitsbereichedetail&ab=214&smark=PHIS&noreplace=yes , information about the glossary http://www.agenziafarmaco.gov.it/en/glossary/ and a hosted meeting http://www.agenziafarmaco.gov.it/it/content/aifa-protagonista-del-iv-phis-meeting at the website of AIFA, a banner at the IHHII during the project period, SUKL
Presentations:	The PHIS project was disseminated at various national and international meetings, seminars and conferences. While some presentations briefly introduced objectives, tasks and deliverables of PHIS, others were devoted to broadly disseminating the results of

	PHIS. The following list provides an overview: - June 2011: WHO workshop “Dialogue on Policies in Pharmaceutical Section in Bosnia and Herzegovina”, Sarajevo (after the project end) - May 2011: Meeting of Austrian pharmaceutical experts at Gesundheit Österreich GmbH, Austria - May 2011 P&R Network meeting of competent authorities during the Hungarian Presidency, Budapest, Hungary - May 2011: WHO Financing course, Barcelona, Spain - March 2011: Congress of European Association of Hospital Pharmacists (EAHP), Vienna - March 2011: Piperska meeting, Vienna, Austrian - March 2011: Conference on amendment to the refund act - risk-sharing schemes in Europe, Warsaw, Poland - March 2011: 5th congress on "Development of pharmacoeconomics and pharmacoepidemiology in the Russian Federation", Samara, Russia - December 2010: P&R Network meeting of competent authorities during the Belgian Presidency, Bruges, Belgium - November 2010: WHO country support, Warsaw, Poland - November 2010: EAHC Indicator Workshop, Brussels, Belgium - October 2010: Meeting of Austrian pharmaceutical experts at Gesundheit Österreich GmbH, Vienna, Austria - September 2010: WHO Global Pricing Group, Amsterdam, the Netherlands - September 2010: Launch event of WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policy, Vienna, Austria - July 2010: Utrecht University / WHO Collaborating Centre, Pharmaceutical Policy Summer Course, Utrecht, the Netherlands - June 2010: Meeting of experts of the Austrian sickness funds, Eisenstadt, Austria - June 2010: Discussion organised by the Austrian Society for clinical pharmacology, Vienna, Austria - June 2010: Informa Life Science – Regulatory Affairs in Central and Eastern Europe, Budapest, Hungary - June 2010: Annual Days of the Pharmacy, organized by the Bulgarian pharmaceutical union - June 2010: PPRI Network Meeting, Oslo, Norway - April 2010: Geneva Health Forum, Geneva, Switzerland (presentation could not be personally delivered to the ash cloud’s flights cancellation) - April 2010: P&R Network meeting of competent authorities during the French Presidency, Spain - April 2010: Meeting of Austrian pharmaceutical experts at Gesundheit Österreich GmbH, Vienna, Austria - March 2010: WHO Expert Meeting, Geneva, Switzerland - February 2010: Meeting of the Piperska Group, Berlin, Germany - February 2010: Jacob Fleming Conference, Barcelona, Spain

	- January 2010: Utrecht / WHO Collaborating Centre Winter Meeting, Utrecht, the Netherlands - December 2009: P&R Network meeting of competent authorities during the French Presidency, France - November 2009: 38th European Symposium on Clinical Pharmacy, Geneva, Switzerland - November 2009: PPRI Network Meeting, Vienna, Austria - October 2009: 4th Forum Invest International Health Conference, Bukarest, Romania - September/October 2009: European Health Forum Gastein, Gastein, Austria - September 2009: WHO Global Pricing Group, Amsterdam the Netherlands - September 2009: Pricing and Reimbursement Conference for Russia & CIS, Vienna, Austria - September 2009: Meeting of Austrian pharmaceutical experts at Gesundheit Österreich GmbH, Vienna, Austria - September 2009: Meeting of the Vancouver Group, Vienna, Austria - July 2009: Pharmaceutical Policy Summer Course, Utrecht, the Netherlands - May 2009: Russian Pharmaceutical Forum, St. Petersburg, Russia - May 2009: Meeting on Pricing and Reimbursement for socially significant diseases, Moscow, Russia - May 2009: Albanian Pharmaceutical Days, Tirana Albania - April 2009: P&R Network meeting of competent authorities during the French Presidency, Czech Republic - April 2009: INFORMA CEE Regulatory Affairs Conference, Budapest, Hungary - February 2009: PPRI Network Meeting, Berlin, Germany - January 2009: Piperska Group, Milan, Italy - January 2009: Utrecht / WHO Collaborating Centre Winter Meeting, Utrecht, the Netherlands - December 2008: P&R Network meeting of competent authorities during the French Presidency, France - December 2008: EU Open Health Forum, Belgium - December 2008: Next Level Oncology Conference, Vienna, Austria - December 2008: Novartis International Pricing & Reimbursement Network Meeting, Vienna Austria After the end of the PHIS project the dissemination of the results will continue. One of the strands of the PPRI conference organized by project leader GÖG/ÖBIG in Vienna in September 2011 will be devoted to the results of the PHIS project.
<u>Publications</u> Reports	In the course of the PHIS project, several reports were produced, which were made publicly accessible (see “Deliverables and outcomes achieved” in the sections 3.2.1. to 3.2.5).

Articles	Additionally, we disseminated the results in articles, abstracts and via newsletters. See the list of published articles written by us and from other authors and abstracts: Articles: Vogler, S., Habl, C., Bogut, M., Voncina, L. (2011) Comparing Pharmaceutical Pricing and Reimbursement Policies in Croatia to the EU Member States, Croatian Medical Journal, Volume 52, No 2, online available: http://phis.goeg.at/downloads/dissemination/CMJ_52(2)_vogler.pdf Vogler, S., Zimmermann, N., Mazag, J. (2011) Procuring medicines in hospitals – results of the European PHIS survey, European Journal of Hospital Pharmacy (EJHP 2011), Volume 17, issue 2, online available: http://phis.goeg.at/downloads/dissemination/EJHP%20Practice.pdf n.a. (2010) Spitalsökonomie: Einkauf am Prüfstand Clinicum, online available: http://phis.goeg.at/downloads/dissemination/Clinicum_03_2010.pdf n.a. (2010) Medikamentenabgabe in Spitälern unter der Lupe, APA Austrian Press Agency, online available: http://phis.goeg.at/downloads/dissemination/Medikamentenabgabe%20in%20Spitälern%20unter%20der%20Lupe_März'10.pdf Wagner, W. (2010) Spitalsmedikamente 2-Betriebswirtschaft und Volkswirtschaft APA Austrian Press Agency Notification, online available: http://phis.goeg.at/downloads/dissemination/Betriebswirtschaft%20und%20Volkswirtschaft_Feb'10.pdf Wagner, W. (2010) Spitalsmedikamente: ÖBIG - Experten analysieren "Pharma- Szene" 1 / Spitalsmedikamente - Betriebswirtschaft und Volkswirtschaft, APA Austrian Press Agency Notification, online available: http://phis.goeg.at/downloads/dissemination/Besuch%20WHO%20und%20Pharma%20Netzwerk_Feb'10.pdf Vogler, S. (2010) PHIS Hospital Pharma: A European survey on medicines' management in hospitals European Journal of Hospital Pharmacy EJHP, Issue 2/2010, Volume 15, online available: Dolinar, E. (2009) Krankenhausapotheker als Interessenspartner im PHIS Projekt, Pharmazie Sozial – Die Zeitschrift der angestellte Apothekerinnen und Apotheker, online available: http://phis.goeg.at/downloads/dissemination/PharmazieSozial_2_09.pdf GÖG (2009) Europäische Initiativen im Krankenhaus-Pharmabereich, Das österreichische Gesundheitswesen, Österreichische Krankenhauszeitung, ÖKZ, online available: http://phis.goeg.at/downloads/dissemination/OeKZ_Arzneimittelmanagement_im_Spital.pdf

Abstracts	Abstracts: Vogler, S., Habl, C. Leopold, C., Zimmermann, N. (2011) Role of tendering of medicines in European countries, International Conferences on Improving Use of Medicines (ICIUM), Antalaya, Turkey, November 2011 (accepted) Vogler, S., Habl, C., Leopold, C., Mazag, J., Zimmermann, N. (2011) Prices Of Medicines, Including High-Cost Cancer Medicines, In Hospital Setting Compared To Out-Patient Use, International Conferences on Improving Use of Medicines (ICIUM), Antalaya, Turkey, November 2011 (accepted) Vogler, S. (2010) 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, Geneva, April 2011 (published)
Newsletters	Newsletters: Newsletters of the Health Economics department of the project leader GÖG/ÖBIG (German version to 3,000 addresses, English version to another 3,000 addresses - May 2010: Information about the publication of Hospital Pharma - December 2011: Information about PHIS Glossary and the German version Dissemination will continue after the end of the project.

Outcomes and deliverables achieved

D1 PHIS website – regularly updated, see: http://phis.goeg.at/

Discussion of challenges, achievements and sustainability

The URL of the previous website was changed from http://phis.oebig.at to http://phis.goeg.at following a change of the company name. This impacted increased dissemination activities to inform network members and the public about the change. To guarantee continuity, the old URL was decided to be functional (referring to the new website) for a transition period which was then extended (still in place at the end of the project).

In general, we observed with the public, but even with network members some confusion due to the change of the name of the project leader (which had already taken place in 2006) and preliminary difficulties to understand the difference between PHIS and the PPRI project, which was also coordinated by GÖG/ÖBIG and involved some of the PHIS network members.

There was a gradual shift in the focus of the dissemination content during the projects period. While in the beginning we could only inform about objectives, task and planned outcome of the PHIS project, the availability of the results from the WP Hospital Pharma in 2010 allowed us to start disseminating them. Other results are only available at the end of the project, and therefore dissemination activities are only possible after the end of the project. The project management team is committed to continue dissemination.

The PHIS network members expressed a strong interest to have access to the results as soon as possible. To meet these expectations, a key element of our dissemination strategy was to provide quick public access to the outcomes (e.g. by putting the reports on the PHIS website, accepting invitations for presentations). We plan to submit (further) articles to scientific journals in order to check quality by the peer reviewers from the scientific community, but it is not considered as a key priority. We see a major problem of scientific articles in the long times between submission and publication.

3.1.3 Work package 3 – Evaluation

Work Package 3	Evaluation
Lead Partner	GÖG/ÖBIG (main beneficiary)
Partners involved	IHHII, SOGETI, AIFA, SUKL
Evaluation institution	Utrecht University, WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis
Evaluation plan/report	Available: *cf. Annex 3*
Tasks performed	
Approach	A two tier approach (internal and external project assessment) was applied for the evaluation of PHIS project. The internal evaluation was guaranteed by the PHIS Advisory Board. In total, five PHIS Advisory Board meetings before/after to the PHIS network meetings were organised. As agreed with the EAHP and the PHIS Advisory Board the WHO Collaborating Centre for Pharmacoepidemiology and Pharmaceutical Policy Analysis at Utrecht University was nominated as independent external evaluator.
Assessment of the Advisory Board	At the beginning of the PHIS project, the Advisory Board was set up. In accordance to the commissioning body, we decided to involve European and international institutions (see the members of the Advisory Board in "project organisation" in section 3.1.1.) in the PHIS Advisory Board. At the first PHIS Advisory Board meeting in November 2011, the role and tasks of the Advisory Board were discussed and agreed. During the whole project the project management team constantly received valuable feedback from the PHIS Advisory Board. Draft versions of all papers (e.g. Glossary, templates for reporting, methodology for case studies) were sent to the Advisory Board for information and comments.
Evaluation plan and indicators	The evaluation institute based on the evaluation on 20 indicators. The evaluation plan consisted in reviewing preliminary evaluation indicators proposed in the Grant Agreement and further developing them. The evaluation indicators and how they were measured are listed in Table 2.2 in the section 2.4. They were basically structured along the work packages.
Collection for data for the evaluation	The evaluation institution based the evaluation on reviewing existing materials such as public reports as well as internal documents like minutes of meetings and other information (e.g. statistics about attendance rates) provided by the PHIS project leader. In addition, the evaluation institution circulated a questionnaire among the PHIS network members, and interviews were conducted. A total of 23 completed questionnaires with respondents from at least 12 different countries were collected and used for the evaluation.

Reporting and discussion	The evaluation institute delivered their report to the project coordination in March 2011 who shared it with the PHIS Advisory Board and network in April 2011. The findings were presented by Ms. Mantel-Teeuwisse at the PHIS network meeting in Sofia in April 2011 and discussed with the network.
Results	The outcomes of the evaluation including a detailed assessment per indicator were presented and discussion in the PHIS Evaluation Report (*Annex 3*).

Outcomes and deliverables achieved

D9 PHIS Evaluation Report – submitted to EAHC in April 2011

Discussion of challenges, achievements and sustainability

A key element of quality assurance was the constant monitoring and support of the PHIS Advisory Board. We succeeded in setting up a multi-institutional Advisory Board with experts from the commissioning party Executive Agency for Health and Consumers (EAHC), Directorates-General SANCO and Enterprise of the European Commission, OECD, Eurostat, WHO Europe and WHO Headquarters. A critical reflection at the end of the project came to the conclusion that academics and policy makers could also have been included. The level of involvement varied among the members of the Advisory Board; some attended all meetings and regularly provided feed-back to papers. The project management team appreciated in particular were the personal talks to members of the Advisory Board and their feed-back provided during the meetings in which strategic issues were raised and discussed. Considerations about the sustainability of the PHIS project could also involve reflections about a changed role of an Advisory Board to future activities.

The second element of evaluation was the evaluation report of an independent institute. We were advised to commission an evaluation institute during the project negotiation phase, which impacted on our budget (less funds available for other work packages). It was a wise suggestion of the EAHC asking for an independent evaluation, and we appreciated the evaluation report which critically reviewed our work. We were pleased that the evaluation came to the conclusion that “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.” Furthermore, we could learn from a critical discussion about possible limitations and suggestions for future activities. The evaluation institute did not only assess the activities and outcomes of the PHIS project according to an agreed list of indicators, but took also the opportunity to extend the evaluation beyond the scope of the Grant Agreement, searching for room for improvement and missed opportunities.

The evaluation period ended two months before the project end. Therefore, not all deliverables of the project could be assessed, and the impact of the evaluation can only be measured some time after the end of the project. This was also highlighted by the evaluation institute in their report, and it was recommended to undertake another evaluation in reasonable time (2-3 year). The project management team agrees to this recommendation which is in line with our experiences from previous research projects.

3.2 Activities related to project objectives (core work packages)

3.2.1 Objective 1 – Common language / WP 4 Terminology

Work packages	WP 4 Terminology
Objective 1	Common language
Lead Partner	AIFA

Involvement of partners and target groups

The **development of the PHIS Glossary** was accompanied by a strong involvement of experts (see below methodology), including the members of the PHIS project management team, the PHIS Advisory Board and the PHIS network (feed-back on first, second and final drafts in spring 2009 (see Interim Technical Report). Some terms were commissioned to external experts (e.g. in NICE, HAS).

Internal communication and training: A training session on the PHIS Glossary was organised for the PHIS network at the 2nd PHIS Network Meeting in June 2009. We constantly used the PHIS terminology in internal and external documents. Authors of the PHIS Hospital Pharma reports, PHIS Pharma Profiles and other documents were asked to apply the PHIS Terminology (see "Guidelines for Authors" in the templates).

External dissemination: References to the glossary were always included in presentations about PHIS. In a newsletter of the project leader targeting a wide audience we promoted the PHIS glossary and a German version. One peer-reviewed article written by members of the PHIS project management team (Vogler, S., Habl, C., Bogut, M., Voncina, L. 2011: http://phis.goeg.at/downloads/dissemination/CMJ_52(2)_vogler.pdf) was explicitly based on the terminology of the PHIS Glossary. For details see section 3.1.2 Dissemination

Methodology

Development and regular revisions of the PHIS Glossary:

- WP leader AIFA developed in the methodology to work in the glossary and revised after discussion with the project consortium.
- WP leader AIFA undertook a survey of existing glossaries (October to December 2008), see description of methodology and results of this survey exercise in "Survey of Existing Glossaries in the Pharmaceutical Sector. Background document to the PHIS Glossary", Annex 7.
- A draft version of the PHIS glossary was developed and revised following some rounds of feed-back within the project management team, with the PHIS Advisory Board and the PHIS network (see above "Involvement of partners and target groups).
- According to a recommendation of the Advisory Board in June 2011, the Glossary was revised to harmonize with the PPRI glossary.
- Some terms were commissioned to external experts for definition and/or review.
- The PHIS Glossary was developed inter-coordinated with the PHIS indicators and

templates (PHIS Hospital Pharma report, PHIS Pharma Profiles) and has sought consistency with the terms used in the other documents and deliverables of the PHIS project.

- Piloting the PHIS Glossary during a training session held at the second PHIS Network Meeting in Luxembourg on 8/9 June 2009.
- In July 2009 the official version of the PHIS glossary was delivered to the EAHC, and it was published on the website. A web-version offering a search function was made available.
- The glossary was regularly reviewed. In May 2010 as well as April 2011 a revised version of the glossary was published on the website.

Coordination with other projects or activities

Due to the strong involvement during the feedback rounds of **representatives of international institutions e.g. WHO, OECD, HOPE and EAHP**, it was guaranteed that the different projects on the developments on glossaries was harmonised.

A particularly illustrating example of the recognition is the **WHO glossary** which was developed the WHO Pharmaceutical country profiles. In addition, other EU projects such as the EMINet project or EUnetHTA use PHIS terms.

Outcomes and deliverables achieved

Deliverables according to the Grant Agreement

D5 PHIS Glossary, containing 345 terms – first versions as of June 2009

Updated versions of the PHIS Glossary: May 2010 and April 2011 (all versions available on the Intranet) (cf. Annex 8)

Latest updated version at the PHIS website, accessible at http://phis.goeg.at: pdf document and search function.

Further outcomes

PHIS glossary also available at AIFA's website (English version): http://www.agenziafarmaco.gov.it/en/glossary/20/letterm (information and link to PHIS Glossary also in the Glossary part)

Short versions of the PHIS glossary were translated into German (http://www.goeg.at/cxdata/media/download/berichte/Pharma_Glossar.pdf, cf. *Annex 9*), in Dutch (under review) and Spanish (under review)

Inclusion of terms from the PHIS glossary in the WHO glossary of WHO Pharmaceutical country profiles (20 of the total of 118 terms are based on the WHO definition)

Discussion of challenges, achievements and sustainability

According to the evaluation institute the PHIS Glossary "clearly served its purpose as a tool for common language among PHIS network members". "No other comparative source of information for the EU" was identified. Like our evaluators, we see the PHIS Glossary, in combination with our activities to promote their use, as a key tool to develop a joint understanding among the network members.

The need for a mutual terminology became evident during the PPRI (Pharmaceutical Pricing and Reimbursement Information) project proceeding to PHIS when discussions among experts were distorted due to misunderstandings as a result of a non-consistent use of terminology, often connected to local concepts of policies. While in the PPRI project a comparably smaller glossary was developed as an additional deliverable, PHIS, having

learned from this experience, endorsed the importance for a tool for common language by defining "Terminology" as an explicit work package.

The PHIS glossary is not a "PPRI plus" glossary, even if some terms are according to a PHIS Advisory Board recommendation based on the PPRI Glossary. However, both the scope of the glossary (345 terms) and the methodology definitively outweighed the PPRI Glossary.

The deliverable PHIS Glossary was – after the establishment of a project website – the second deliverable which was finished (summer 2009). The first PHIS Glossary provided a good basis to build on further work, in particular the indicators and the templates for the PHIS Pharma Profiles. In spring 2010 based on our experiences in "Hospital Pharma", the glossary was considerably extended and further developed, and at the end of the project another revised version was launched.

Furthermore, the PHIS glossary proved as a key tool for capacity building. This was connected to training activities (e.g. a training session organized during a network meeting), but the major training exercise was its "real life use" by the network members in writing their PHIS Hospital Pharma reports and PHIS Pharma Profiles, producing posters and preparing presentations. In discussions and talks of PHIS network members (also at events and meetings not connected to PHIS) we observed a consistent use of PHIS terminology. We therefore expect a sustainable use of the agreed terminology by the PHIS network members (this commitment was also confirmed by 95% of the respondents in the evaluation survey, see PHIS evaluation report, page 18).

WP leader AIFA and project leader GÖG/ÖBIG have been investing a lot of resources in additional activities, beyond the scope of the Grant Agreement, to disseminate the terminology work, e.g. producing glossaries in local languages, offering terminology workshops, etc. The commitment by project leader GÖG/ÖBIG as WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies to maintain the glossary adequately ensures sustainability.

3.2.2 Objective 2 & 4 – Methodology and European pharmaceutical health indicators / WP 6 Indicators

Work packages	WP 6 Indicators
Objective 2 & 4	Methodology and European pharmaceutical health indicators
Lead Partner	SOGETI

Involvement of partners and target groups

The PHIS Taxonomy was developed in close cooperation within the PHIS project management team and in coordination with the PHIS Advisory Board and PHIS network. A proposal of indicators to be included in the taxonomy was discussed in a group work at the 2nd PHIS Network Meeting in Luxembourg in June 2009. The indicators report, which was produced based on the feed-back of the network member expressed at the meeting, was circulated to PHIS Advisory Board and PHIS network at the beginning of July 2009. We received very valuable feed-back which was considered in the final version of the PHIS taxonomy.

Similarly, updates about the PHIS database were on the agenda of the 3rd, 4th and 5th network meetings. At the 4th and 5th PHIS network meetings a group work was organised to receive feed-back on the current outline and structure of the database from the network.

During the programming of the PHIS database, close contacts, including a few bi-lateral meetings were held between WP leader SOGETI and the project leader GÖG/ÖBIG. The technical transfer of the database from SOGETI to GÖG/ÖBIG was accompanied by a training workshop of SOGETI staff to GÖG/ÖBIG (for the list of the meetings see section 3.1.1./section on tasks performed).

Methodology

The development of the taxonomy of the PHIS indicators and the selection of indicators consisted of the following steps (for a more detailed description see PHIS Technical Interim Report, *Annex 1*):

- Development of a taxonomy for indicators
- Review of relevant sources dealing with pharmaceutical indicators from a public health perspective
- Development of a set of PHIS indicators and drafting the taxonomy report
- Several rounds of feed-backs among the project management, but also with the PHIS Advisory Board and PHIS network (see above “Involvement of partners and target groups”)
- Submission of the PHIS Taxonomy Indicators report to the EAHC and publication on the website

Having developed the set of indicators, the PHIS database was programmed and filled. These involved the following steps (partially overlapping):

- Development of the PHIS database outline
- Programming of the PHIS database incl. decisions about methodological issues (e.g. calculations of the EU average or indexes)
- Training of GÖG/ÖBIG staff on the use of the PHIS database (Access database) for filling the database and running tailor-made queries
- Programming html-files as graphical interface for the presentation of the results (in form of graphs and tables) on the PHIS website
- Feeding data into the PHIS database
- Piloting the PHIS database
- Submission of the PHIS database to the EAHC and uploading html-files to the PHIS intranet
- Validation of the data entered in the PHIS database (currently ongoing)
- Publication of the PHIS database on the PHIS website, accessible to the public (July 2011, after validation and approval of the EU Member States and further PHIS network representatives)

Coordination with other projects or activities

Before the start of the PHIS project, only a few projects were devoted pharmaceutical indicators. We merged the three important ones: Pharmaceutical indicators, which were developed in projects like **SOGETI indicators, EUROMEDSTAT and PPRI** were reviewed and considered when the set of indicators was developed.

Since OECD, WHO and EUROSTAT indicators are among the leading ones in the field of health care, we involved these three institutions in the PHIS Advisory Board. The

EUROSTAT-OECD_WHO Joint SHA collection was chosen as preferred source for the indicators of health and pharmaceutical expenditure.

Since summer 2010, we have been in contact with representatives of the Joint Action for **ECHIM** (European Community Health Indicators Monitoring project) who addressed us for advise on the development of specific indicators of the ECHIM short and long list of indicators (e.g. no. 74 medicine use).

A member of the PHIS project management team was invited to the **EAHC Indicators Workshop** in November 2010 (see section 3.1.2). The meeting provided a good opportunity to exchange with representatives of other projects.

Outcomes and deliverables achieved

Deliverables according to the Grant Agreement

D2 PHIS Taxonomy – June 2009 (cf. *Annex 10* PHIS Taxonomy Indicators Report and *Annex 11* PHIS Taxonomy Indicators Short List): in total 23 indicators, thereof 3 core indicators and 20 supplementary indicators

D4 PHIS Database – January 2011, available online in the PHIS Intranet. The Access database was submitted to EAHC. After validation of the data by the PHIS network members the PHIS database will go online.

Further outcomes

Report by Christel Zuidberg "The pharmaceutical system of the Netherlands A comparative analysis between the Dutch out-patient pharmaceutical system, in particular the pricing and reimbursement characteristics, and those of the other European Union Member States, with a special focus on tendering-like systems", accessible at http://ppri.goeg.at/Downloads/Publications/The%20pharmaceutical%20system%20of%20the%20Netherlands_FINAL.pdf, based on PHIS indicators

Article "Vogler, S., Habl, C., Bogut, M., Voncina, L. (2011) Comparing Pharmaceutical Pricing and Reimbursement Policies in Croatia to the EU Member States" in the Croatian Medical Journal, Volume 52, No 2, online available: http://phis.goeg.at/downloads/dissemination/CMJ_52(2)_vogler.pdf (*Annex 12*), with explicit reference to the PHIS indicators on which the analysis is based on

Discussion of challenges, achievements and sustainability

We consider the PHIS database as an important instrument to support policy decisions because it allows both quick queries to scan a situation as well as, for members of the network with adequate training on the Access database, tailor-made queries to explore further on research questions. As of today, we cannot estimate the future uptake of the database, but the interest expressed by the Advisory Board and network members is an indication for its sustainable use.

The development of the indicators and the database was definitively a challenge. For the definition of the PHIS indicators, we had to resolve, with the support of the Advisory Board, several methodological problems (e.g. decisions on the preferred source, comparability problems; for a detailed discussion see the PHIS Technical Interim report, *Annex 1*). These methodological challenges resulted from the fact that the set of PHIS indicators, like the other deliverables of PHIS, aimed to cover both the out-patient and the in-patient pharmaceutical sectors. While there were few initiatives of pharmaceutical health indicators in general (see above "Coordination with other projects and activities"), the consideration of the hospital aspect was totally new. In several cases, we had to develop different break-downs for the out-patient and in-patient sectors of an indicator, since each of the sectors had different characteristics (see also the discussion about the PHIS

Pharma Profiles in section 3.2.3). Even if for some indicators / break-downs gaps in data availability were already known in advance, the Advisory Board and the PHIS network members were in favour of including these indicators, since data availability problems could motivate Member States to improve their national reporting systems.

The development of the database required expertise knowledge in two areas: 1. for the technical programming and 2. public health indicators knowledge. While the database offers an easy handling to users, the filling of the database asked for in-depth knowledge, allowing sensitive decisions about e.g. the classification of some indicators. Most indicators of the PHIS taxonomy are of qualitative character which also needed appropriate approaches to represent them in the database.

All work packages were inter-linked (see the discussion in section 3.1.1.), therefore the template for the PHIS Pharma Profiles contains references to the indicators (and the glossary). It was clear from the beginning that the filling of the database would be no "copy-and-paste" exercise with automatic extraction from the PHIS Pharma Profiles. However, we had not anticipated the delays in the submission of the Pharma Profiles by the network members (for reasons which we fully understand). Therefore, we had to develop a back-up solution: The WP leader GÖG/ÖBIG filled the database, taking information and data which they, as WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, either had available due to regular monitoring or could easily access with queries to the network members. This "working around" solution was time-intensive and might have contributed to further delays.

We are aware about the value which we have created with the database, but also about its vulnerability in case of missing updates: Within 2-3 years the database could easily be of limited use if not updated accordingly. We are committed to keep the database up-to-date and to further ensure their sustainability by offering the possibility for tailor-made queries to network members and public health researchers. However, funding would be a key prerequisite for the further development of the database.

3.2.3 Objective 3 – Up-dated country-specific information / WP 5 Monitoring

Work packages	WP 5 Monitoring
Objective 3	Updated country-specific information
Lead Partner	IHHI

Involvement of partners and target groups

The PHIS Pharma Profile template was developed in close cooperation with the PHIS Advisory Board as well as the PHIS project management team members. Feedback from the PHIS network was taken into account. Furthermore a linkage to other WP such as WP 4 Monitoring and WP 6 Indicators was ensured.

The success of this work package crucially depended on the voluntary contributions of the PHIS network members who provided information about their countries on top of their daily work load. PHIS network members provided all data input, including the producing of posters and the writing of the national PHIS Pharma Profile (and Hospital Pharma report) without payment. The evaluation institute estimated in a conservative approach the value of the voluntary author's contributions of about € 170,000.- (for 12 Profiles). This estimation was challenged by some network members since the work load (18 working days for the authors per Profile) was considered as considerably under-estimated.

Methodology

In order to collect updated country-specific information different tools were developed:

- A template for the PHIS Pharma Profiles was developed by WP leader IHHII in collaboration with the main partner GÖG/ÖBIG. The first outline of the template was presented at the 2nd PHIS Network Meeting in Luxembourg in June 2009 and after discussion in particular with the PHIS Advisory Board a different approach of outlining the chapters was decided which was realised at a workshop with the WP leader IHHII and GÖG/ÖBIG in Vienna in July 2009. Additionally, the PHIS indicators covered in the template are highlighted. The template of the PHIS Pharma Profiles is provided in *Annex 13*.
- Posters of the in- and out-patient pharmaceutical sector: We developed a template for a concise overview of the pharmaceutical system at a glance. The network members tested this template for their country, and as a results the poster were presented at the 4th PHIS Network Meeting in Rome in September 2010. All posters are now available in the PHIS Library on the PHIS website (http://phis.goeg.at/index.aspx?_nav0027) as well as in *Annex 14 a-r.*
- The PHIS Pharma Profile, which is a report covering country-specific pharmaceutical pricing and reimbursement information targeting the in- and out-patient sector, was filled – as a draft version – by seven countries. To reduce the workload for the countries when filling out the PHIS Pharma profile, the project co-ordination pre-filled for eleven countries the report. To guarantee a good standard of the profiles the WP leader IHHII in cooperation with the project co-ordination is responsible for reviewing and editing the profiles.
- For information on the methodology for collection information about the in-patient medicines sector see section 3.2.4

Both the collection tools and the final reports are made public in the PHIS Library.

Coordination with other projects or activities

Experiences by HiT (Health in Transition) profiles of WHO Observatory and by PPRI (Pharmaceutical pricing and reimbursement information) Pharma profiles of GÖG/ÖBIG were taken into account.

The knowledge/expertise of developing country profiles was incorporated in the development of the WHO country profiles.

Outcomes and deliverables achieved

Deliverables according to the Grant Agreement

D3 PHIS Library – opened online in November 2010

It has been filled with templates, posters / flowcharts and reports as soon for approval for publication is available.

Currently available online:

- 18 flow-charts about the pharmaceutical system in the out- and in-patient sectors (*Annex 14a-r*)
- 16 PHIS Hospital Pharma reports (*Annex 18a1/2-p*), cf. also section 3.2.4
- Templates of the PHIS Pharma Profile (*Annex 13*) and the PHIS Hospital Pharma Report (*Annex 15*)

Currently six PHIS Pharma Profiles (Austria, Belgium, Denmark, the Netherlands, Slovakia, Spain) are under review; the Bulgarian Profile will be published on the website at the beginning of July 2011.

Further outcomes

As an additional deliverable, templates for reports and flowcharts were developed and are also made publicly available.

Discussion of challenges, achievements and sustainability

The work package "Monitoring" aimed to collect up-to-date country specific information, which could be provided in different formats (different tools and templates were offered), but both the public as well as the internal (i.e. from the PHIS network) perception was very much linked to the PHIS Pharma Profiles, even if they were as one option among others. We assume that these expectations were attributable to the preceding PPRI project with the very successful PPRI Pharma Profiles. Further collection tools (e.g. flowcharts about the pharmaceutical system, posters) proved successful in the sense of high delivery rates by the network members, but appeared to be perceived by them as "second-best" solutions compared to the PHIS Pharma Profiles.

The PHIS project management team had to cope with the challenge of developing a reasonable framework for a comprehensive presentation of out-patient and in-patient sectors, finding the right balance between practicality and comprehensiveness, and reacting to delays in the submission of country-specific data. A major issue for the future will be to ensure keeping the PHIS library up-to-date and thus sustainable.

Independently from the format (Profile, flowchart,…) chosen, the reports/posters provide, for the first time in Europe on a large scale, integrated pharmaceutical health information covering the out- and in-patient sectors. However, as also experienced in the development of the set of PHIS indicators, the merging of the both sectors proved very complicated since each sector has its specific characteristics which need to be presented in their own context. As described in the interim technical report (*Annex 1*), a first draft of the PHIS Pharma Profile Template including both out-patient and in-patient elements in all sub-section was produced, but after discussions and, in particular a strong recommendation by the Advisory Board, rejected. The revised templates (for the PHIS Profiles and the flowcharts) take account of the specific characteristics of each sector.

All templates developed in the course of the PHIS project (including the template for the national PHIS Hospital Pharma reports, available online http://phis.goeg.at/downloads/hospitalPharma/PHIS_Hospital%20Pharma_GeneralSurvey_Template.doc) are valuables deliverables. They are also good examples for hightlighting the interlinkage between the different work packages, e.g. with explicit reference to the glossary and all indicators in the appropriate sections in the PHIS Pharma Profile template. With minor adjustments, they allow to be used for future updates, and the project leader GÖG/ÖBIG is committed to further reviewing templates and similar reporting tools in its role as WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, designated in July 2010. We are pleased that PHIS served WHO and Global Fund as a model for their Pharmaceutical Profile templates: "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." (PHIS Evaluation Report, p. 34)

We had to compromise to find the right balance between the need for in-depth information and a reasonable length for the template of PHIS Pharma Profile. Even if it increased their work-load, the PHIS network members tended to ask for rather more information to be

included in the Profile. The reason is that, when finished, the Profile might be, in many cases, acknowledged as the official report about the pharmaceutical system of a country, and it consequently helps reducing work-load since regular requests by consultants, students, etc. could be quickly answered by referring them to the Profile where a majority of the answers can be found (experience from the PPRI project).

Since the Profiles would often be endorsed as official documents of the country, the methodology chosen for their compilation was that the country representatives of the PHIS network (i.e. coming from competent authorities for pricing and/or reimbursement) compiled the reports and the project management team (i.e. WP leader IHHII together with the PHIS project leader GÖG/ÖBIG) reviewed it. This methodology was applied following positive experience with such an approach in the PPRI project, and since several of the PPRI network members were also involved in PHIS we could build on this experience.

No back-up solution (i.e. writing of a Profile by the project team management) in case of non-submission of a country Profile was provided for in the Grant Agreement since this would, in our view, distort the concept of voluntary country delivery. Countries, however, were free to organize the work according to their needs. Interestingly, to our knowledge, no country used the possibility to commission the work to external people, i.e. consultants, but the Profiles were all “home-made” by staff of the competent authorities represented in the PHIS network.

The work was done on a purely voluntary basis by PHIS network members without any payment. As a consequence, the drafting of the PHIS Profile (and all other work provided by the network members, e.g. compilation of the national PHIS Hospital Pharma report, validation of data, etc.) was done on top of the daily work of the PHIS network members.

Since this was totally voluntary work, the project management team was a weak position: If agreed deadlines were not met, we could not hold the authors accountable, and we had no incentive to “accelerate” the progress. There were some delays with regard to the agreed deadlines for submission of the drafts to the project management team. The major reason was that we asked for quite a substantial work (on average 300 hours per PHIS Pharma Profile, 200 hours per PHIS Hospital Pharma report) which the network members needed to organize in addition to their full agenda, in several countries aggravated by the financial crisis (involvement in other work, e.g. implementation of pharmaceutical policies to contain costs, reduction of staff). We learned from network members that another reason for the delays was that the expectations which the authors of the Profiles had on their own work appeared to be very high and to have risen since the time of the writing the Profiles in 2007/2008 in the course of the PPRI project. A lot of working time by the Profiles’ authors was spent on validating previously provided information and data.

While the delays in the submission of the Profiles did neither barrier access to pharmaceutical health information for the public nor did it constitute a breach to the Grant Agreement since several PHIS deliverables on up-dated country information were provided (posters, hospital reports, report and article with comparison of key indicators in the EU, etc.), it posed, in fact, problems for the project management team, in particular the project leaders for WP “Monitoring” IHHII, WP “Indicators” SOGETI and the project leader GÖG/ÖBIG: Firstly, due to the late submission of the PHIS Pharma Profiles their reviews could not be done within the framework of the PHIS project. Nonetheless, both IHHII and GÖG/ÖBIG have expressed their commitment to continue reviewing also draft Profiles submitted after the end of the project, which will be done on own funding of these institutions. Secondly, the methodology for filling the PHIS database was planned to take the indicators from the PHIS Pharma Profiles. Since for most countries these data and information were not available at the time of the establishment of the database, we had to develop a work-around solution (cf. section 3.2.2) which was more time-intensive.

In spite of these challenges we assess the selected methodology of voluntary contributions of the network members as the right approach, and it is also a sign of sustainability to know that network members have been committed to invest a lot of expertise and working hours without payment.

The interest and high level of commitment is visible by activities undertaken by network members from non-EU countries which were not addressed in the Grant Agreement. The project management team was pleased to learn that some non-EU countries (e.g. Norway, Turkey) and non-European countries (e.g. South Korea) has been working on or intend to work a PHIS Pharma Profile.

Publication of comparisons, which the project management team has already started in the course of the last year of the project, could only be undertaken at and after the end of the project with results being available. The same would be true for analytical work which was also recommended by the evaluation institute. “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.” (PHIS Evaluation Report, page 36) We are aware that we have a wealth of information which can be used for analyses. Even if we plan to provide analyses based on PHIS data after the end of the project, we know that the main interest of our key target group, the network members, is primarily the availability of up-dated information with the possibility to discuss further details with country experts.

3.2.4 Objective 5 – In-patient survey / WP 7 Hospital Pharma

Work packages	WP 7 Hospital Pharma
Objective 5	In-patient survey
Lead Partner	SUKL

Involvement of partners and target groups

The development and of the PHIS Hospital Pharma report template for the European survey involved the whole PHIS network. Besides sending draft versions to the network, a session of a meeting of another network in Berlin in February 2009, at which several network members were present, took the opportunity to present and discuss the PHIS Hospital Pharma report template. Valuable contributions were made.

At the 2nd PHIS network meeting in June 2009 in Luxembourg preliminary results of the European survey were presented, and at the 2nd PHIS Advisory Board meeting important methodological issues were discussed with the PHIS Advisory Board. The methodology paper was reviewed and sent for further feed-back to the Advisory Board.

All partners of the PHIS project management team were involved in the development of the methodology for the case studies. The Advisory Board received several versions of the methodology paper for feedback.

The authors of the PHIS Hospital Pharma reports (mainly competent authorities relevant for the out-patient sector) addressed hospital experts for information about the in-patient sector. For instance, in Austria interviews were conducted with more than a dozen of hospital pharmacists.

The national PHIS Hospital Pharma reports were written by the PHIS network members with expert support, e.g. from hospital pharmacists, on a purely voluntary basis (without payment). The evaluation institute estimated in a conservative approach the value of the voluntary author's contributions in PHIS Hospital Pharma of nearly € 300,000.- (PHIS Hospital Pharma reports, PHIS Hospital Pharma posters, estimated for 20 countries).

For the case studies representatives of five participating countries organised study visits either accompanied by WP 7 leader, PHIS coordination team member and/or country representatives themselves.

Methodology

The work on PHIS Hospital Pharma was divided into two major phases:

- European survey on pharmaceutical pricing and reimbursement policies in the in-patient sector which was undertaken for the EU Member States and, on a voluntary basis, for further countries.

  The European survey was primarily performed on the basis of country reports, which were written by the members of the PHIS network. For these reports (PHIS Hospital Pharma reports, cf. *Annex 18*), a specific template (cf. *Annex 15*) was developed by SUKL (WP 7 leader) in collaboration with GÖG/ÖBIG and the other partners of the PHIS project management and reviewed by the PHIS Advisory Board and the PHIS network (see above "Involvement of partners and target groups").

  Major topics covered in the PHIS Hospital Pharma reports are the organisation and funding of the in-patient sector, pricing (price build-up, purchasing strategies), reimbursement (national hospital reimbursement procedure, hospital pharmaceutical formularies), consumption, evaluation, interface management and developments in the in-patient sector. To provide support to the authors of the PHIS Hospital Pharma reports and as quality assurance measure an editorial process was set up consisting of the editor-in-chief and a second person at GÖG/ÖBIG and the WP leader SUKL.

  For the European survey of the PHIS Hospital Pharma Report an overview table including data on pricing and reimbursement strategies in hospitals was prepared and pre-filled based on information provided by the national reports. This benchmark table was sent to the PHIS network for checking and feed-back. The benchmark exercise allowed countries to be included in the European survey, even if they had not written a national PHIS Hospital Pharma report.

- Case studies for some hospitals in selected countries (for methodology paper and tools cf. *Annex 16a*)

  A detailed survey and analysis, including a price survey in hospitals, was conducted in five countries (Austria, Norway, Netherlands, Portugal and Slovakia) with a total of 25 hospitals. The case studies consisted of two parts:

  Part 1: Structure and process survey – General information on the hospital (key parameter of the hospital, statistics, pharmaceutical provision, purchasing policies in hospitals, funding in hospitals, pharmaceutical consumption and expenditure) were gathered based on a questionnaire (cf. *Annex 16b*)

  Part 2: A price survey for 12 active ingredients, with data collection in a template (*Annex 16c).*

The case studies were basically performed by study visits undertaken by staff of WP leader SUKL or the main partner GÖG/ÖBIG, often accompanied by national representatives of the PHIS network who had help to organise the study tour, did some follow-up (e.g. clarifications) and, in a few cases, also performed some of the study visits.

Coordination with other projects or activities

There was regular exchange of information with the Danish Ministry of Health who also commissioned a price survey for the in-patient sector for their specific purpose. Their outcome, a report prepared by consultants, was presented at the 2nd PHIS Network Meeting in Luxembourg, and the choice of product in that survey was considered as when we discuss the selection of the product for the hospital case studies.

At the PPRI Network Meeting in Berlin in February 2009 the PHIS Hospital Pharma report template has been discussed (see above).

At CAPR meetings in Prague, Stockholm and Bruges the PHIS project management was invited to report on the progress of PHIS Hospital Pharma.

Contacts were built and maintained with representatives from the hospital sector, and HOPE (European Hospital and Healthcare Federation) and EAHP (European Association of Hospital Pharmacists) became PHIS network members. Representatives of the WP leader SUKL and of the main partner GÖG/ÖBIG attended the annual meetings of the national associations of hospital pharmacists in Slovakia and Austria, informed about the project and asked for cooperation. In addition, results of the project were presented at the Congress of European Association of Hospital Pharmacists (EAHP) in Vienna in March 2011.

The outcomes of a survey undertaken by EAHP will be available in autumn 2011, and EAHP and the PHIS project management team agreed to discuss these results compared to the PHIS results, since a few questions were addressed in both survey.

Outcomes and deliverables achieved

Deliverables according to the Grant Agreement

D6 PHIS Hospital Report – February 2010 (cf. *Annex 17a*)

Further outcomes

16 national PHIS Hospital Pharma reports can be downloaded from the PHIS website (cf. http://phis.goeg.at/, *Annex 18 a-p);* four further reports (Belgium, Italy, Lithuania, Sweden) are available as drafts.

All case studies are also separately available on the PHIS website.

PHIS Hospital Pharma report template – piloted and revised (cf. *Annex 15*)

PHIS Pharma Hospital Methodology Paper (cf. *Annex 16a*) including a questionnaire (*Annex 16b*) and a Template for the Price Survey (*Annex 16c*)

PHIS Hospital Seminar Report (cf. *Annex 20*)

Translation of the executive summary of the PHIS Hospital report into German (cf. *Annex 17 b*)

Translation of the Austrian PHIS Hospital Pharma Report into German (cf. *Annex 18a2*)

13 national Hospital Pharma posters (cf. *Annex 19 a-m*)

Invitation to several presentations (cf. section 3.1.2); of particular importance: the presentation of PHIS Hospital Pharma results to hospital pharmacists at the EAHP congress 2011, Vienna, Austria (cf. *Annex 22*)

Discussion of challenges, achievements and sustainability

In the perception of the network members and the "outside" world, the work package "Hospital Pharma" appears to be considered as the most important one. Sometimes PHIS is often reduced on the hospital aspect only. Also the evaluation institute assessed Hospital Pharma and the PHIS network as the two important results of PHIS.

This focus on Hospital Pharma is attributable to the fact that it a pioneer area. "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 outpatient sector were caused by the in-patient sector." (Evaluation Report, page 29). In particular, actual prices, at which hospitals purchase medicines, are neither published nor shared in some other way. The project management team was confronted with high expectations, but also a lot of sceptics because several people considered this work package as "mission impossible".

In the European survey we could provide information on the in-patient sector for a large number of countries: i.e. on 27 European countries (thereof 25 EU Member States). Identifying which information is needed to properly describe the in-patient sector as well as collecting and analyzing the information was challenging. It was a new area for both the project management team as well as the PHIS network members who gathered the information and data. PHIS network members were primarily from competent authorities and as such experts of pharmaceutical pricing and reimbursement, but often limited to the out-patient sector. For accessing information about the in-patient pharmaceutical sector they needed the expertise of hospital pharmacists who proved very cooperative. In several countries hospital pharmacists were involved as authors of the national PHIS Hospital Pharma reports, thus playing an important role to ensure quality.

The national PHIS Hospital Pharma reports were voluntary in two respects: As discussed in section 3.2.3, the PHIS network members wrote the reports on top of their daily work load without payment, and they were additional deliverables since the Grant Agreement only asked for country-specific information to be collected and comparatively presented in a "PHIS Hospital Pharma report". We highly appreciate the huge commitment of the PHIS network members who agreed in writing a country report about the pharmaceutical system in the in-patient sector in their country. This also contributed to strengthening links between the out-patient and in-patient sectors since in several cases the network members got, for the first time, into contact with hospital experts when they addressed them for information for PHIS. The local contacts supplement the cooperation with the associations of HOPE (European Hospital and Healthcare Federation) and EAHP (European Association of Hospital Pharmacists) whose representatives joined the PHIS network (see "involvement of partners and target groups").

The sharing of common values and the trust among the PHIS network members from competent authorities was extended to the hospital pharmacists (see section 3.2.5), and it supported our access to the (actual) hospital medicines prices. We share the assessment of the evaluation institute, the network members and external people about the importance of the WP Hospital Pharma. In particular, the case studies including the price surveys produced key results, such as:

- The actual hospital prices are usually less than the maximum list prices although the amount varies by the therapeutic class of medicines.
- Discounts are less likely to be provided where there is only an on-patent product available.

- In some countries, some medicines are provided cost-free or discounts/rebates of up to nearly 100%.
- For some “strategic products” prices in the hospital sector are considerably lower than in the out-patient sector.
- Hospital pharmacists play a key role both with regard to quality assurance as well as in economic terms in hospitals.
- There is an urgent need for interface management. While some good practice examples exist, they are rather few.

We acknowledge that the number of products (12 active ingredients) and hospitals (a total of 25) might be considered a small sample. Nonetheless we trust that it is sufficient to provide evidence about the price structures in hospitals. The methodology, which was carefully developed with the supporting expertise of hospital pharmacists and the PHIS Advisory Board, can serve as a model for further survey extending on more products, hospitals and countries.

We saw an overwhelming interest in the results of the PHIS Hospital Pharma report, in particular in the price survey. Indicators are the high participation rate of the PHIS Hospital Pharma seminar in Bratislava in February 2010 (more than 100 participants) and several requests for presentations from different stakeholders.

PHIS Hospital Pharma clearly shows that some work can only start as soon as the results are available: The work package “Hospital Pharma” officially ended shortly after the mid-term of the project, but key activities (e.g. dissemination, discussion with policy makers) were undertaken in the second half of the project and will continue after the end of the project. During the last months of the project, the improvement of interface management was identified as a key burning public health policy issue which should be addressed. Network members – both from the out-patient and in-patient sectors – expressed a need for an integrated approach since otherwise a shift between the sectors to the detriment of patients will also be observed in future.

The project management team is committed to continue working on these issues. A major dissemination activity which might also impact policy the PPRI conference which the project leader GÖG/ÖBIG organises in September 2011: One of the three strands is devoted to “Hospital Pharma and interface management”.

3.2.5 Objective 6 – Communication, information-exchange and dissemination / WP 8 Networking

Work packages	WP 8 Networking
Objective 3	Communication, information-exchange and dissemination
Lead Partner	GÖG/ÖBIG

Involvement of partners and target groups

All partners of the PHIS project management team were actively involved in the organisation and performance of the PHIS Network Meetings as all WP leaders hosted network meetings. Coordinated by GÖG/ÖBIG all partners prepared presentations and progress reports on their WP for the PHIS Network Meetings. During breakout sessions the partners also act as moderators and/or rapporteurs.

The key objective of the WP "Networking" was to establish and maintain an active network of country representatives and hospital experts. The work package might even be understood by a horizontal work package since he success of our activities in the work package "networking" has been a key requisite for the delivery of the outcomes in the other work packages, in particular for the writing of national reports (WP "Monitoring" and WP "Hospital Pharma") and provision/validation of data (WP "Indicators"). For the participation of around 20 participants (in fact, on average 40 participants per meeting), the evaluation institute estimated the voluntary contribution of the PHIS network of around € 250,000.- (calculation based on participation time at the meeting and travel and accommodation costs which were borne by the PHIS network members).

Methodology

Methodological tools for the WP "networking" were different platforms (e.g. PHIS Intranet, see section 3.1.1) and channels of communication (e-mail correspondence, regular phone calls) which the PHIS project management team applied to reach out to the PHIS network members.

The personal contact which we consider of great importance was guaranteed via the PHIS network meetings. These meetings served for information exchange, discussion and approval of drafts. The participation of all PHIS network members is highly appreciated, while the associated partners have to attend the PHIS Network Meetings and present the results and progress of their work packages.

All PHIS Network Meetings were accompanied by meetings with the PHIS Advisory Board.

1st PHIS Network Meeting – Vienna, November 2008

The 1st PHIS Network Meeting aims to present the PHIS Project to the PHIS network members (incl. the presentation of the PHIS communication and dissemination strategy, different work packages and next steps).

2nd PHIS Network Meeting – Luxembourg, June 2009

A focus was put on the WP 4 Terminology by means of presenting the PHIS Glossary to the PHIS network and organizing a PHIS Glossary training session. Another important issue on the agenda was WP 7 Hospital Pharma to which preliminary results of the European survey on pharmaceutical pricing and reimbursement in the in-patient sector were presented.

3rd PHIS Network Meeting – Bratislava, February 2010

The 3rd PHIS network meeting a focus on the internal discussion of the work package Hospital Pharma. The network meeting was followed by the public PHIS Hospital Seminar.

4th PHIS Network Meeting – Rome, September 2010

The 4th PHIS network meeting was in the light of the PHIS evaluation. The evaluation institution introduced itself and its work plan and in addition used the time to interview network members. The second day was devoted to learn about medicines management in Italy and at European level.

5th PHIS Network Meeting – April 2011

At the 5th and final PHIS meeting the outcomes of the evaluation report were discussed and the PHIS database was presented. The PHIS Pharma Profiles and approaches how to update them in future were discussed. Sustainability of the PHIS project and network was an important topic at this meeting.

Coordination with other projects or activities

The PHIS Advisory Board served as a major interface to other initiatives and projects (European services, WHO, OECD, etc.) and was actively involved and consulted. Duplications could be prevented by this approach.

The PHIS Network Meetings also gave room to present other projects and initiatives such as the EMINet project (presented at the 2nd PHIS Network Meeting in June 2009) as well as local initiatives. It was a tradition that the officials from the hosting countries presented their pharmaceutical system.

Hospital pharmacists were increasingly targeted in the course of the PHIS project. In addition to the active participation of representatives of the EAHP and national hospital pharmacists, the national associations of hospital pharmacists of Italy and Bulgaria were invited to the 4th network meeting in Rome in September 2010 and the 5th network meeting in Sofia in April 2011 and presented their activities.

There was a linkage to PPRI which is a sustainable initiative following an EU project ended in 2007, as the PHIS network comprised several people who are also member of the PPRI network. We benefit from this fact to put PHIS issues also on the agenda of a PPRI meeting (e.g. discussion of the PHIS Hospital Pharma report template at the PPRI meeting in Berlin in February 2009).

Outcomes and deliverables achieved

Deliverables according to the Grant Agreement

A total of five PHIS Network Meetings (D7):

1st PHIS Network Meeting – Vienna, November 2008

2nd PHIS Network Meeting – Luxembourg, June 2009

3rd PHIS Network Meeting – Bratislava, February 2010 (followed by a public seminar to present the outcomes of the PHIS Hospital Pharma seminar)

4th PHIS Network Meeting – Rome, September 2010

5th PHIS Network Meeting – Sofia, April 2011

Further outcomes

Additional deliverables are the minutes of the PHIS Network and Advisory Board Meetings which were already sent to the EAHC; they can be made available on request.

Discussion of challenges, achievements and sustainability

We are pleased about the positive perception of the evaluation institution on our networking activities: “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.” (PHIS Evaluation Report, p. 32)

We fully agree that the PHIS network is a key deliverable for two key reasons: It was important for the production of the deliverables as explained, but also the opportunity to share experiences and the ad-hoc access to data among the members who have a common understanding built on trust was a value of its own, and it has had an impact on pharmaceutical policies. The evaluation report took credit about these values of the PHIS network: “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 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.’” (PHIS Evaluation Report, p. 30/31)

With regard to the representatives from competent authorities, we could build on a previous network, the PPRI network. The good experience which participants had from the PPRI network certainly helped to motivate them for contributing to PHIS.

We highly appreciate that also EAHP (European Association of Hospital Pharmacists), HOPE (European Hospital and Healthcare Federation) and national hospital pharmacists joined the network and attended meetings. We are aware that the accession to the PHIS network was rather challenging for experts from the hospital sector, since they got into contact with an existing network where cooperation among members had already been established earlier. The network members from competent authorities and the newcomers from the hospitals had a different agenda in the beginning. With pleasure we observed how in spite of different interests the two groups gradually learned from each other, and we could witness an interface management like process within PHIS.

A key issue for the network members was funding. As the network members had to fund their travel and accommodation costs at their own expense, some had difficulties to attend PHIS network meetings, in particular in times of financial global crisis (e.g. with travel bans for public servants in some countries). Time for attending and travelling to meetings was another restricting factor. Nonetheless, network members, especially representatives from smaller countries (with few staff in their pharmaceutical departments), were eager to invest time in attending the network meetings, since they could considerably benefit from the exchange within the network and the outcomes produced.

The project management team needed to invest more resources into communication with those PHIS network representatives who missed a meeting to keep them on board.

The aim of the PHIS network was to cover as many EU Member States as possible. We highly appreciate that all EU Member States are represented in the PHIS network, and eight non-EU Member States (thereof three non-European countries) also joined the network.

Sustainability of PHIS, in particular of the PHIS network, has been an issue which the participants are highly interested in. At the final meeting in Sofia, network members expressed a strong interest and commitment to continue, and they asked the project management team to develop a procedure for the future work, including the consideration of merging with the PPRI network in which several PHIS network members participate. PPRI continued as a sustainable network after the end of the PPRI project in 2007, with regular PPRI meetings. However, while the PHIS network members are willing to continue and the PHIS project leader is also committed to follow up and continue some technical work within its framework as WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, sustainability can only be secured if policy makers take up the results of PHIS and are willing to explore funding solutions providing an appropriate framework for research, dissemination and networking. The evaluation report also called for funding solutions: “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.” PHIS Evaluation Report, p. 30/31)

4 Annexes

For the print version of the PHIS Technical Final Report, the annexes are included in the attached CD.

Annex 1: PHIS Interim Technical Report
http://phis.goeg.at/downloads/about/PHIS_Technical%20Interim%20Report_Final.pdf

Annex 2 PHIS Lessons learned and Conclusions

Annex 3: PHIS Evaluation Report

Annex 4: PHIS Network Members as of 30 April 2011

Annex 5: PHIIS Dissemination Strategy

Annex 6: PHIS leaflet
http://phis.goeg.at/downloads/dissemination/Sep'10_PHIS%20leaflet_website.pdf

Annex 7: Survey of existing Glossaries in the Pharmaceutical Sector. Background document to the PHIS Glossary
http://phis.goeg.at/downloads/glossary/Background%20to%20PHIS%20Glossary%2020090729.pdf

Annex 8: PHIS Glossary, revised version as of April 2011 (English version)
http://phis.goeg.at/downloads/glossary/PHIS%20Glossary_UpdatedApril2011.pdf

Annex 9 German glossary of pharmaceutical terms
http://www.goeg.at/cxdata/media/download/berichte/Pharma_Glossar.pdf

Annex 10: PHIS Indicators. Taxonomy Report
http://phis.goeg.at/downloads/database/PHIS_Taxonomy_WP6_IndicatorsReport_final.pdf

Annex 11: PHIS Indicators. Short List
http://phis.goeg.at/downloads/database/PHIS_Taxonomy_WP6_Indicators_short_list_final.pdf

Annex 12: Comparative analysis of country-specific pharmaceutical health information – Article based on PHIS Glossary, PHIS Indicators and presenting preliminary results
http://phis.goeg.at/downloads/dissemination/CMJ_52(2)_vogler.pdf

Annex 13: PHIS Pharma Profile Template (version July 2010)
http://phis.goeg.at/downloads/library/PHIS%20Pharma%20Profile%20Template%20July2010.pdf

Annex 14: PHIS Library – Country-information about the in-patient and out-patient pharmaceutical sectors (integrated flowcharts, as of 2010)

a Austria http://phis.goeg.at/downloads/library/AT_PHIS_poster_Rome.pdf
b Belgium http://phis.goeg.at/downloads/library/BE_PHIS_poster_Rome.pdf
c Bulgaria http://phis.goeg.at/downloads/library/BG_PHIS_poster_Rome.pdf
d Croatia http://phis.goeg.at/downloads/library/HR_PHIS_poster_Rome.pdf
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p Slovakia http://phis.goeg.at/downloads/library/SK_PHIS_poster_Rome.pdf
q Spain http://phis.goeg.at/downloads/library/ES_PHIS_poster_Rome.pdf
r United Kingdom
http://phis.goeg.at/downloads/library/UK_PHIS_poster_Rome.pdf

Annex 15: PHIS Hospital Pharma. Template for country reports
http://phis.goeg.at/downloads/hospitalPharma/PHIS_Hospital%20Pharma_GeneralSurvey_Template.doc

Annex 16: PHIS Hospital Pharma. Methodology for Case Studies

a Methodology
b Questionnaire
c Template for Price Survey

Annex 17: PHIS Hospital Pharma

a PHIS Hospital Pharma Report 2010 (English version)
http://phis.goeg.at/downloads/hospitalPharma/PHIS_Hospital%20Pharma_Report.pdf
b Executive PHIS Hospital Pharma Report (concise German version)
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Hospital%20Pharma%20-%20Kurzbericht.pdf

Annex 18: PHIS Hospital Pharma. National reports 2009/2010

a1 Austria (English version)
http://phis.goeg.at/downloads/hospitalPharma/PHIS_Hospital_Pharma_AT_Report_Final_version_090630.pdf

a2 Austria (German version)
http://phis.goeg.at/downloads/hospitalPharma/PHIS_Hospital_Pharma_AT_Report_deutsch.pdf

b Bulgaria
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Bulgaria%20Hospital%20Pharma%20Report%202009.pdf

c Cyprus
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Hospital%20Pharma%20Report%202009%20Cyprus.pdf

d Czech Republic
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Hospital%20Pharma%20Czech%20Republic%202009.pdf

e Denmark
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Denmark%20Hospital%20Pharma%20Report%202009.pdf

f Finland
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Finland_Hospital%20Pharma_Report%202009.pdf

g France
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Hospital%20Pharma%20France%202009.pdf

h Latvia
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Latvia%20Hospital%20Pharma%20Report%202009.pdf

i Malta
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Malta%20Hospital%20Pharma%20Report%202009.pdf

j the Netherlands
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20NL%20Hospital%20Pharma%20Report%202009.pdf

k Norway
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Norway%20Hospital%20Pharma%20Report%202009.pdf

l Poland
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Hospital%20Pharma%20Poland%202009.pdf

m Portugal
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Hospital%20Pharma%20Portugal%202010.pdf

n Slovakia
http://phis.goeg.at/downloads/hospitalPharma/7%20Slovakia%20Hospital%20Pharma.pdf

o Turkey
http://phis.goeg.at/downloads/hospitalPharma/PHIS%20Hospital%20Pharma%20Report%20Final%202010_Turkey.pdf
p United Kingdom
http://phis.goeg.at/downloads/hospitalPharma/UK%20Hospital%20Pharma%20Report%202009.pdf

Annex 19: PHIS Hospital Pharma. Country posters 2010
a Austria
http://phis.goeg.at/downloads/hospitalPharma/AT_Poster_Bratislava'10.pdf
b Belgium
http://phis.goeg.at/downloads/hospitalPharma/BE_Poster_Bratislava'10.pdf
c Bulgaria
http://phis.goeg.at/downloads/hospitalPharma/BG_Poster_Bratislava'10.pdf
d Canada
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e Cyprus
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l Slovakia
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m United Kingdom
http://phis.goeg.at/downloads/hospitalPharma/UK_Poster_Bratislava'10.pdf

Annex 20: PHIS Hospital Pharma Seminar Report
http://phis.goeg.at/downloads/hospitalPharma/Final_PHIS_Hospital_Seminar_Report.pdf

Annex 21: Article about PHIS Hospital Pharma results in EJHP-P
http://www.eahp.eu/EJHP/EJHP-Practice/Issue-2-2011/Cover-Story/Procuring-medicines-in-hospitals-results-of-the-European-PHIS-survey

Annex 22 Presentation about PHIS Hospital Pharma results at the EAHP Congress 2011
http://www.farmaactueel.nl/webcasts/extern/EAHP2011/Sem12.htm