



# Pilot implementation of the performance assessment tool for quality improvement in hospitals (PATH)

WHO Workshop  
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**Edited by:**  
**Oliver Groene**  
**Technical Officer, Hospitals Programme**

## **ABSTRACT**

WHO Europe, Division of Country Support, Country Policies, Systems and Services, Barcelona Office organized a workshop on Evaluating the Pilot Implementation of the Performance Assessment Tool for Quality Improvement in Hospitals (PATH), 14-16 November 2005 at the Office premises in Barcelona. Participants in the workshop were members of the technical advisory group, country coordinators and representatives from hospitals that participated in the pilot-implementation.

Objectives of the workshop were to review the experience from pilot implementing PATH in six countries, including issues on data collection, reporting and interpretation; present and discuss dashboards constructed by the University of Montreal to compare hospitals' performance; discuss and agree on the modifications of the final model; and discuss further development of the project and possible expansion into a larger network (with the support of two WHO Collaborating Centres).

As an outcome of the presentations and discussions during the workshop, recommendations were made regarding the final revision of indicators, methodology for construction of dashboards and plan for developing the PATH network with the support of two newly established WHO CCs in the coming biennium.

### **Keywords**

HOSPITALS  
PERFORMANCE  
QUALITY  
EVALUATION  
COUNTRY SUPPORT

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## Background

WHO Europe, Division of Country Support, Country Policies, Systems and Services, Barcelona Office initiated a project on hospital performance assessment in order to provide Member States with a practical tool to monitor and improve the quality of hospitals.

Steps that led to the development of PATH were:

- identification of the key dimensions of hospital performance assessment and building general architecture of the model,
- reviewing the literature on performance indicators and building framework for selection of indicators,
- carrying out a survey on the importance, usefulness, impact on quality and general availability of potential indicators by hospital managers in different European countries and
- selecting set of indicators for pilot implementation of the PATH model.

Preceding work is summarized in the following reports:

- Measuring hospital performance to improve quality of care in Europe <http://www.euro.who.int/document/e78873.pdf>
- Selection of indicators <http://www.euro.who.int/document/E84679.pdf>
- First workshop on Pilot Implementation <http://www.euro.who.int/document/E84680.pdf>

The PATH framework was pilot implemented between February 2004 and August 2005. A preliminary manual for PATH implementation was prepared for this purpose. Data collection and analysis was coordinated by Professor Francois Champagne from the University of Montreal.

During 2005, two WHO Collaborating Centres were established to take forward the work of the PATH project, including establishing a network to compare hospital performance, setting up an Internet platform for data collection and analysis and a training centre to support countries in their implementation and development supporting guidelines and manuals.

## Scope and purpose of the workshop

The purpose of the workshop was to review the results from the pilot implementation and plan the future development of the PATH project. Specific objectives were:

- to review the experience from piloting PATH framework implementation in six countries, including difficulties in data collection, reporting and interpretation;
- present and discuss dashboards constructed by the University of Montreal to compare hospitals' performance;
- discuss and agree on the modifications (number and definition of indicators, implementation manual) that need to be incorporated into the final model;

- and discuss further development of the project and possible expansion into a larger network (with the support of two WHO Collaborating Centres).

Participants in the workshop were members of the technical advisory group, country coordinators and representatives from hospitals that participated in the pilot-implementation.

The first two days addressed experiences in data collection, reporting and interpretation and methodology to report on comparative performance among peer groups. By the end of day two, modifications to the indicators and the methodology were discussed and a plan for finalization was identified. The last day of the workshop addressed the continuation of the project and identified organizational strategies to expand the PATH framework and build an open network for hospitals interested in performance assessment. The workshop combined introductory presentations, working group sessions, and plenary debates.

## **Overall experience with the pilot implementation**

The pilot implementation of PATH was carried out between February 2004 and August 2005, with data collection taking place between May 2004 and February 2005. Of the 66 hospitals from 8 countries initially interested in participating in the pilot, 51 hospitals from 6 countries eventually contributed data. Countries participating were: Belgium, Canada (Ontario Region), Denmark, France, Slovakia and South Africa (Natal Region). Data analysis was coordinated by Professor Francois Champagne from the University of Montreal.

Objectives of the pilot implementation were to:

- assess the burden of data collection on (hospitals and the coordination team, assess training requirements and support material required), potential benefits (use of data at hospital level, impact of PATH on information systems and shared understanding of performance)
- revise the PATH model (include/exclude indicators, refine definitions, consider the need for case-mix data, address the assessment of patients' experience/perceptions, and reporting)
- discuss strategies for implementation of PATH at wider scale.

Countries that participated in the pilot implementation were selected on a convenience basis (all had contributed to the PATH development and were able to comply with the requirements). Country coordinators were responsible for the selection of piloting hospitals; however, criteria were specified to facilitate his process, such as considering geographical and institutional diversity (University and Community hospitals). A data collection grid was prepared by the University of Montreal to ensure homogeneous data collection.

A major achievement of the pilot was that it was possible to collection data using the PATH framework in a group of very diverse hospitals and countries. While some indicators required efforts in data collection many were available from routine sources. However, not all hospitals were able to provide the data within the initial timeframe and some hospitals (and countries) dropped out of the pilot due to organizational reasons. In addition, the fact that not all hospitals used the data collection grid caused problems for data cleaning. Certain indicators resulted in

difficulties in data collection and the lack of a standardized patient satisfaction/experience measure made it impossible to compare between countries on indicators based on such measures. Finally, not all hospitals were able to provide data to standardize indicators for age and sex.

There were major differences in the way country coordinators were able to provide support and a mix of leadership issues and health system context (issues of stewardship, availability of routine data) can be considered to be explanatory of different successes. Some country experiences in the following in alphabetical order:

- Belgium participated with 22 hospitals. The PATH project has been a real success. Data collection has been possible as the Ministry of Health already has data of hospitals based on the discharge abstract in a joint database. The Ministry of Health obtained permission from hospitals to use this data for the PATH project, which was subsequently extracted and validated. It is planned to develop this work further into a national project, using financial and clinical data from administrative databases.
- Canada (Ontario Region) participated with 4 hospitals. There are already advanced systems in place to collect and report on hospital performance data. Of the PATH indicators, 15 of 18 were modified and collected and in addition 14 indicators from the tailored set were collected; however, this was hindered by the lack of technical specification for these group of indicators.
- Denmark participated with 1 hospital. Data was collected based only on administrative databases and difficulties existed to link these databases in hospitals. However, although only one hospital from Denmark could participate in the pilot implementation due to the restructuring of the hospital system the pilot demonstrated that hospitals were able to identify almost all indicators from the different databases available in the hospital.
- France participated with 13 hospitals. It was not possible to national databases as discharge data is anonymous and hospital indicators for readmission requires linkage based on patient characteristics. France recommended a second wave of measurement as hospitals are still motivated and want to see changes in performance.
- Slovakia participated with 8 hospitals. During 2006 data collection at hospital level will become obligatory. The Slovak Association of hospitals support the PATH pilot, which was also linked to a bilateral collaboration project (MATRA). 15 of 18 indicators were selected. The indicators that resulted to be more difficult to gather were day surgery, phyrophylactic antibiotic use and excessive working hours.
- South Africa (Natal region) participated with 3 hospitals. Major infrastructures and support services were established to facilitate data collection. 17 of all indicators were collected and in addition 11 of the tailored indicators and 12 of pharmacotherapy indicators were collected. It is considered to develop this project further and expand at national level.

## Review of PATH indicators

Participants discussed each indicator independently in order to identify whether it should be kept, updated, moved to another performance dimension or taken out of the framework. After the discussion it was agreed to retain most of the indicators in the PATH project. It was felt that a range of indicators need refinement in the operational definitions and some indicators were moved to another performance dimension. Two indicators were dropped. Detailed discussions are summarized in Table 1.

Table 1: Review of core indicators

	Indicator	Discussion	Action
Clinical effectiveness	Caesarean section	Not too much variation in the pilot, but can be explained by small sample, in new EU and Eastern European member states useful as there are differences in public/private institution.	Keep. Review AHRQ definition. Do not focus on primary C-section, but repeated C-section (review tailored indicator set).
	Phrophylactic antibiotic over and underuse	Major variation in overuse for between countries for selected tracer conditions. Not routinely available, but not too difficult to obtain.	Keep. Reflects major quality/safety concerns, evidence-based guidelines available for QI. Guidelines should be specified.
	Mortality (all tracer)	All tracers considered useful, except all-cause mortality. Should be retained, but concern: is in-patient mortality relevant? What about severity adjustment? Indicators included: AMI, CABG, Stroke, congestive heart failure, hip replacement, perinatal mortality. Very little variation for hip replacement. There is no paediatric condition in the whole PATH. Suggestion: use of post-operative mortality	Review and harmonize ICD definitions, exclusion and inclusion. Hip replacement taken out and moved to sentinel events. Review ICD codes for stroke.
	Readmission (all tracers)	For AMI, CAP, Asthma, diabetes, hysterectomy, total hip replacement. Suggestion: take only crude readmission rate, all readmissions, but vague definitions may not be useful.	Keep, but drop admitted through emergency room. Select only two readmissions with higher frequency (based on pilot data). Indicators for chronic and surgical conditions need to be kept, i.e. all indicators are kept.
	Admission after day surgery	Cataract surgery, knee arthroscopy, inguinal hernia, curettage of the uterus, tonsillectomy and/or adenoidectomy, cholecystectomy, tube ligation, varicose veins – stripping and ligation. Little data from pilot. Can be measured in DK, compound measure of quality, safety and appropriateness,	Should possibly be kept as a case-based indicator, not rate-based indicator, due to low number of events. Should be moved to sentinel events dimension.
	Return to ICU	Very high burden of data collection. Major variation from data from pilot test,	Moved to sentinel event section.
Efficiency	Day surgery for eight tracers (appropriateness)	Huge differences in international data on this indicator. Should be kept but needs to be interpreted in relation to caseload of hospital. Important: activity may be efficient but not appropriate.	Keep.
	Length of stay (efficiency)	Collected by all hospitals. Easy to measure.	Keep.
	Inventory stock	Difficult indicator to interpret, very difficult to collect as data sources are different, little variation over time, static, therefore little benefit for QI	Drop.
	Surgical theatre use (optimal use of capacity)	Will be retained but needs more specification of definition.	Keep.
Staff orientation	Training expenditure	Very difficult to make any international comparisons, also difficult to interpret at local level, many questions around in and exclusion criteria. Everybody submitted data, but data is not clear.	Revise. Need to clarify definition. Is not specific enough, needs to be refined. Might be easier to say what it is not, rather than what it is.
	Health promotion budget	Very difficult to assess and interpret.	Drop.

	Absenteeism	Burden of data collection can be high, but sampling may facilitate data collection. Sex and age does not explain variation, but rather professional group.	Keep. Data by professional group, age and sex.
	Excessive working hours	It is a critical safety indicator, but may need refinement in definition.	Keep, but refine definition.
	Needle injuries	Signal indicator, to alert management.	Keep
		How to address depression/smoking/low back pain/suicide? "work-related injuries by type" should be moved to core set.	
Res pon sive	Breastfeeding at discharge	Hospitals did provide data. Problem that Baby friendly hospital has different indicator!	Same definition should be used as in BFHI.
	And patient centeredness not collected in pilot.		

## Tailored indicators

Tailored indicators were not operationalized in the PATH background package, i.e. there were no descriptive sheets available, and data collection on these indicators was not expected during the pilot implementation. However, some countries embarked on collection data on tailored indicators. Canada (Ontario) collected some indicators based on their patient satisfaction and continuity of care surveys. In addition, the following indicators were collected: CT/MRI 3 hours after stroke, work-related injuries, door to needle time and staff satisfaction (which is assessed every two years). France included two indicators on staff satisfaction and on chronic care issues. South Africa extended data collection sheet and gather data on advanced indicators, including staff satisfaction, patient satisfaction and pharmacy indicators. It was expressed that no indicators were included to assess laboratories.

After the discussions it was agreed that the indicators CT scan after stroke and AMI discharge on aspirin will stay in the tailored set. It was also discussed whether indicators could be linked, such as nursing attention to prevent pneumonia or early rehabilitation, which could be added to conformity of stroke management in the future. Discussion also centred on indicators on access and it was agreed that the main purpose of PATH was to consider indicators for internal quality improvement; however, waiting time reflects rather an accountability issue and is very much dependent on the organization of the health care system.

## Standardized measures for patient and staff satisfaction/ experience

For the assessment of patient and staff satisfaction/ experience no particular instrument was suggested in the PATH project, as WHO can not endorse a specific instrument. However, recommendations were included regarding the issues that need to be addressed in the instrument and its psychometric properties (only a validated instrument should be used). It was also emphasised that the different sub-dimensions should be evaluated rather than comparing the overall score.

Some countries provided data on patients views (Belgium, Canada and South Africa), but this data was not included in the analysis. In any case, this data will not be used for national or international comparisons but would be a useful tool for hospitals to be assessed longitudinally.

The experience of countries in collecting data on patient satisfaction are summarized in the following table (Table 2).

Table 2: Country experience with patient satisfaction measurement

Country	Experience
Belgium	Patient satisfaction reflects an important performance dimension. The Flemish part does not use a uniform tool while the French part does. The PATH framework help to open the view on patient satisfaction assessment - currently not all dimensions of patient satisfaction emphasised in the PATH framework are covered in Belgium.
Canada (Ontario)	Monthly patient satisfaction surveys are carried out, measure all PATH dimensions of performance. Various initiatives support these tools that are already being used for 4 to 5 years. The most important issues address the assessment of privacy.
Denmark	In the one hospital two tools were used, a national tool has been in existence for six years, and a regional tool in existence for eight years, both of which are standardized and validated and publish data. It was difficult to translate existing questionnaire into PATH concept and introducing an additional measure is not possible.
France	A survey was carried out 15 days after discharge and hospitals considered the results as interesting. Usually all hospitals use a different tool, but for PATH pilot they used for a certain period the same tool for data collection and analysis. Sustainability of this is unclear.
Slovakia	Every hospital uses their own questionnaire, which allows them to compare with their own performance in the past. A recommendation for a standard platform seems appropriate.
South Africa (Natal)	Coordinators administered a patient satisfaction tool to all hospitals; however, the tool did not prove to be very useful for managerial decision-making. It is planned to replace the simple patient satisfaction by a more comprehensive measure on patient experience.

Discussions addressed the need to assess whether there are any copyrights on questionnaires in the countries. A general recommendation of the participants would be to use a validated questionnaire and use it throughout the country. Specific items to be included were suggested: “How are you now?”, “Do you know why you are here?”, “Would you recommend the hospital to your friend and family?”.

Some participants mentioned that hospital comparisons on patient satisfaction remain very controversial. For example, it was mentioned that despite the different case-mix and hospital characteristics in Denmark patient satisfaction rates differ more at departmental than at hospital level. It was also mentioned that is was considered more useful to confront medical staff with actual patients rather than data on patient satisfaction. In France patient satisfaction measurement is usually done but the results are not yet shared widely and are instead used more for the information of the medical director.

With regard to the assessment of **staff satisfaction** it was recommended to use validated surveys that may include the following items in the questionnaire: “Do you think the intensive care unit is safe?” and “Would you send your mother to this hospital?”. It was also recommended to include staff smoking habits in regular surveys.

Discussions addressed whether such issues could also be included in the core basket but it was felt that this would broaden the scope too much. In addition it was mentioned that in some countries such questionnaires need to be developed jointly with the trade unions, as they would be interested in seeing and using the results.

## Methodology for construction of Dashboards

### Construction of peer groups

All comparisons in the Dashboards are based on comparisons of participating hospitals with its peer group. Peer groups were constructed based on a questionnaire on hospital quality management issues that was distributed to the PATH hospitals. As the questionnaire addresses factual issues it was not considered to be relevant who fills it in. A cluster analysis was carried out to identify hospitals that group together. Two separate analyses were carried out to assess robustness of the clustering and three clusters were identified. Variables included in the limited analysis were:

- Number of beds
- Type of hospital
- Catchment area
- Specialities
- Number of medical specialists (FTE)
- Number of physicians
- Patient admissions /year
- Teaching activities
- Research activities

A three group clustering solution was retained with the following groups:

1. Group 1 includes 9 hospitals (4 in France, 4 in Slovakia and 1 in Belgium) and represents smaller community mostly general hospitals, mostly in rural or mixed areas.
2. Group 2 includes some community but mostly large multi-specialty hospitals, all teaching. However, they are smaller than hospitals in group 3 in terms of number of beds, number of sites, total number of physicians, number of specialists and are less involved in research.
3. Group 3 is the largest, multisite teaching hospitals located in urban areas (13 hospitals: 7 in France, 1 in Canada, 1 in Slovakia, 4 in Belgium).

Discussions addressed that cluster analysis, if statistically sound, was a good way to identify peer-groups, however, it was unclear how to address changes in the allocation of individual

hospitals to certain peer groups over time. It was also mentioned that the face validity of the statistically identified peer-groups may be low in some countries. The construction of peer groups is based on a range of assumptions and to comparisons with peers to some extent may be misleading if the rationale is not expressed clearly. For example, for evidence-based indicators the peer group should not be the guiding factor as the target as set by evidence-based medicine and not by the peer who may or may not practice EBM. It was also discussed whether in the future hospitals should be able to identify themselves the peer-group they would like the comparisons to be based on. Another possibility to display comparative performance would be the graphical representation of the distribution of all hospitals for a given indicator. Such comparison, while still keeping individual hospitals' results anonymous, could help to identify the variation in performance, identification of over and underperformers. A final issue to be considered in the future development of PATH is how match-making can be facilitated between hospitals while ensuring confidentiality of results.

## Graphical and statistical presentation of results

The Dashboards are the core output of the PATH projects. They facilitate hospital managers to compare the performance of their hospitals with the performance in a peer group of hospitals and allow managers to identify where their hospitals over-, or underperforms.

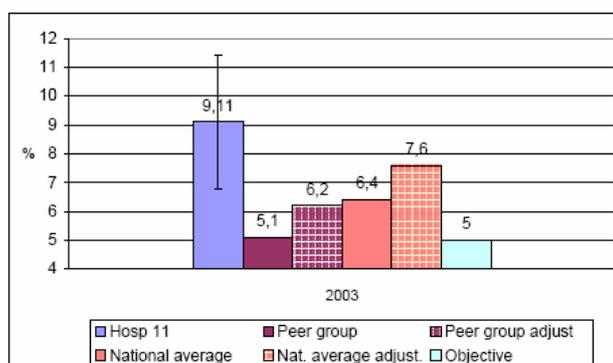
Three types of dashboards were presented: 1. Dashboard for individual performance indicators, 3. Relative Performance Index and 3. Overall Performance Index.. The indicator-specific dashboard is prepared for each hospital and each indicator and tracer and illustrates for any given indicator how the performance of a hospital compares to its peer group (Figure 1). It also includes data grouped by age and sex in order to allow for more in-depth comparisons. If available, the dashboard may include data on national averages or objectives, set at hospital, regional or national level.

Figure 1: Example of dashboard for individual performance indicator

CORE Indicator : Readmission within 30 days ; Risk-adjustment : age and sex  
Stratification / tracer : Acute Myocardial Infarction (AMI)

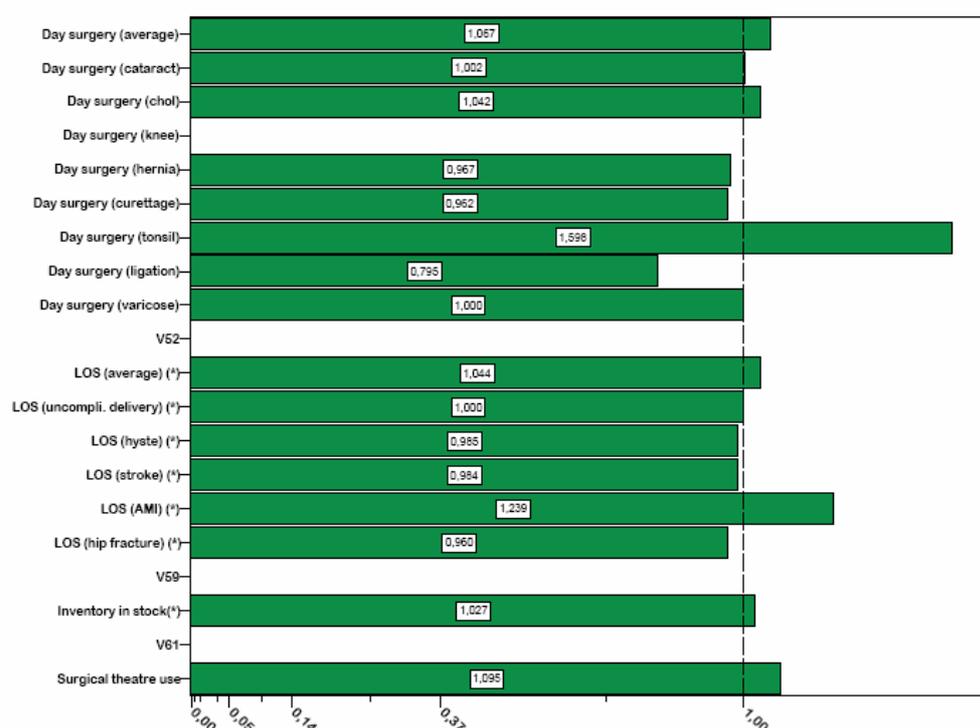
Global rate : 9,11 %  
CI : 2,32 %  
N : 593

Stratify by sex and age		n	N	%
Male	age 0-14			
	age 15-24			
	age 25-44	2	41	4,88
	age 45-64	12	147	8,16
	age 65-79	16	126	12,70
	age 80-89	5	61	8,20
	age over 89	1	19	5,26
	total	36	394	9,14
Female	age 0-14			
	age 15-24			
	age 25-44	3	12	25,00
	age 45-64	4	18	22,22
	age 65-79	6	79	7,59
	age 80-89	4	56	7,14
	age over 89	1	34	2,94
	total	18	199	9,05



The relative performance index (RPI) aims to display the performance for each hospital by performance dimensions, in order to allow managers to obtain a quick overview on how their hospital is doing e.g. in terms of efficiency (Figure 2). The relative performance index is prepared for each hospital in each performance dimension and obtained by dividing the hospital's score by the peer groups' average<sup>1</sup>. Indicators can be positively or negatively associated with performance. An asterisk (\*) indicates a negative association meaning that a higher score indicates lower performance.

Figure 2: Example of relative performance index



The overall performance index provides on one-page overview over the hospital's performance. It shows for each of the performance dimensions the number and the percentage of indicators that are below, at the same level or above the peer group's performance (Figure 3). The dashboards are designed for strategic management of hospital.

<sup>1</sup> An index of 1 means that the hospital score is identical to the peer groups' average. A RPI of 1.5 indicates that the hospital score is 1.5 times (or 50 %) higher than the peer groups' average. A RPI of .5 indicates a hospital score 2 times lower (1/0.5) than the peer groups' average. Dashboards presented at the PATH workshop in November 2005 were based on comparing performance with national averages. Analysis was repeated in December 2005 based on comparisons with peer-groups.

Figure 3: Overall performance index

dimension	Low Performance (*1)	Average Performance	High Performance (*2)	TOTAL
Clinical effectiveness and safety	0	0	2	2
Efficiency	0	4	0	4
Staff orientation and safety	0	2	1	3
Responsive governance	0	1	0	1
Patient centredness	0	0	1	1
Safety	0	1	0	1
<b>total</b>	0	8	4	12

dimension	Low Performance (*1)	Average Performance	High Performance (*2)	TOTAL
Clinical effectiveness and safety	0%	0%	100%	100%
Efficiency	0%	100%	0%	100%
Staff orientation and safety	0%	67%	33%	100%
Responsive governance	0%	100%	0%	100%
Patient centredness	0%	0%	100%	100%
Safety	0%	100%	0%	100%
<b>total</b>	0%	67%	33%	100%

## Future development of PATH

It was the aim to develop PATH after the pilot implementation into a larger and more sustainable project. However, before PATH can be expanded a range of R&D and service tasks need to be developed further. These tasks are summarized in Table 3 (following page).

Two WHO Collaborating Centres were established to support these processes. It is expected that both centres work very closely with WHO, the PATH steering group and country coordinators, and contribute to each others tasks. A proposal was presented for both centres to support the PATH; the WHO CC in Ancona focusing on the development of an Internet platform for information, data collection and presentation and the WHO CC in Krakow focusing on the development of education and training materials and supporting the project management of the PATH project. Proposed tasks of the WHO CCs to support the development of PATH are summarized in Table 4 (following pages).

Table 3: Plan for PATH development: Research and Development and Service Tasks

Research and Development Tasks		Service Tasks	
Tasks	Description	Tasks/Issues	Description
Review of descriptive sheets (operational definitions of indicators)	Based on workshop results and systematic assessment by country coordinators. Drafting group to incorporate modifications, suggestions.	Setting up a web site for public information.	Only one web page will exist to provide PATH information (with public and restricted access).  PATH meeting reports and the manual can already be put on the web (pending WHO clearance)
Data reporting procedures	Develop procedures standardized procedures for data reporting (based on existing reporting grid), review further possibilities for standardization and stratification.	Expression of interests	Too early to make contracts with hospitals, but list of interested parties should be kept to open PATH network in the future
Validation of the model (dashboards)	Future research on the model: is it simple, valid, useful for management and leading to quality improvement?	Questions on PATH addressed to WHO, country coordinators and WHO CCs.	A log should be kept on questions to establish a FAQ later on, to be put in the public domain.
Evaluation of implementation experiences	A questionnaire will be drafted and distributed to the steering for the telephone conference. After clearance it will be issued to country coordinators who distribute it to hospitals that return it directly to WHO.  Questionnaire addresses gap analysis (expectations, results) and address usefulness of performance report.	Education and training	At the moment generic information on indicators and the PATH project can be provided. Training modules will be developed later, linked to other quality tools.
		Information dissemination plan	A list of conferences/meetings where PATH could be presented should be prepared.  A publication plan needs to be developed for the preparation of documents, scientific articles and newsletter articles.

Table 4: Working plan for the WHO Collaborating Centres

<b>WHO CC Krakow: Supporting education and training for PATH</b>		<b>WHO CC Ancona: Supporting information, data collection and reporting</b>	
<b>Task</b>	<b>Description</b>	<b>Task</b>	<b>Description</b>
Consulting interested parties and training before starting	The WHO CC will handle requests regarding the scope and purpose of the project and its potential to improve quality in hospitals. Administration and hotline, preparation of newsletter.	Setting up a web page for the PATH project	The web page will introduce the project, contain all background documents, descriptive sheets for indicators, criteria for participating and contacts details.
Training of hospital coordinators	To be discussed. Before work is initiated, hospital coordinators should fill in a template about resources and capacity, intentions and commitment. WHO CC, supported by users already participating, might offer additional training blocks periodically.	Setting up an Internet platform for data collection	The Internet platform is expected to allow users to upload indicators directly into the indicator database. The system needs to include a number of check-up steps to ensure common definition of numerator and denominator, time-reference and stratification.
Support for technical and methodological problems	In collaboration with WHO CC Ancona, support needs to be provided on dealing with technical and methodological questions on indicators collection, interpretation and quality improvement.	Support data collection and cleaning	Although the platform will support data handling, hospital coordinators still need to be reminded of deadlines and support to methodological and technical questions needs to be provided. In addition, after data has been uploaded, data cleaning exercises need to be carried out periodically. Hospital coordinator will upload numerators, denominators and stratification separately.
Support for interpretation of results	The WHO CC will organize workshops, predominantly in Eastern Member States on the use of performance measures.	Data analysis	Indicators will be computed centrally. A number of statistical analysis need to be carried out identifying range, min-max values, mean/median, standard deviations.
Benchmarking workshops.	Data analysis will identify current practices and outliers (best and worst performers) to be summarized as case studies for training.	Data reports	Simple statistics or interactive dashboards.

## Conclusion

1. Workshop participants confirmed the **main orientation of PATH** as a tool for internal performance assessment. Its main products are the descriptive sheets and data reports; in the future an integrated product including education & training and Internet platform for data collection and analysis will be developed.
2. A lot of discussions focused on the **data quality** and whether PATH is a thinking platform or a data-driven platform. While it was confirmed that the main purpose of PATH as an internal tool is to initiate reflective thinking it was emphasised that data quality needs to be improved in the future to keep hospitals using the tool. In order to **improve validity and reliability**, uniform definitions and compliance with specified data collection procedures need to be ensured. Future data collection for the PATH project need to be supported by stricter control of the use of same definitions, data collection, process of data reporting. The Internet platform, data reporting grids and possibly modules for uploading of data will be important in this process.
3. **Data collected during the pilot implementation will be re-analysed** using the performance of peer groups as reference points for comparisons.
4. **PATH indicators will be updated** according to the suggestions made during the workshop (technical revision, move to other performance dimensions, dropped out). The set of **indicators further needs to be harmonized** with other WHO and UN activities, such as the Baby-friendly hospital initiative, the Patient Safety Alliance and the Smoke-free and Health Promoting Hospitals Networks.
5. Participants agreed that a **systematic assessment of the pilot implementation** is necessary. The assessment will not address improvements in patient outcomes, but address the process of PATH implementation (resources available and data collection). It should address the following three questions: does it improve data quality? Does it improve internal communication? Does it improve interpretation and implementation? France has already carried out a systematic evaluation and this experience should be used for developing the evaluation at international level.
6. **Research topics for the future** are the integration of relationships between indicators that are expressed in the PATH model, into the dashboards; however, currently neither reflective nor formative indicators may be quantified. Current indicators do not address the special need of paediatric or mental health institutions. These may be addressed in the future by special working groups. Another research topic for the future would be the overall validation of the PATH model. It should be considered to develop a research agenda to validate the model in a couple of years.
7. The period of reporting for the **next wave of data collection** needs to be defined, issues to be taken into consideration in this context are number of cases for each indicators, timeliness and completeness of indicators. The number of time-points to compute run-diagrams and control charts was also discussed. In order to establish time trends up to 8 time points may be required (based on statistical assumptions) and the indicators need to be reviewed in

terms of possibilities to compute control-charts and run diagrams. Starting dates, reference timeframe and modalities of the next wave of data collection should be decided after reviewing the R&D plan. Timely feedback need to be ensured in reporting. For the next wave of data collection hospitals may be required to collect a minimum set of indicators. It needs to be decided whether hospital coordinators need to sign that a minimum number of indicators are being collected.

8. **A long-term strategy** need to be developed for the PATH project, taking into consideration incentives to participate in the long run. The strategy need to consider the three steps data collection, indicator construction and analysis, and interpretation and quality improvement. With the development of PATH as an open network **responsibilities** need to be clarified at level of WHO, country coordinators and hospital counterparts. At hospital level the agreement for collaboration should be signed with senior management, but clinical staff and middle-management need to be involved to improve commitment. The **two newly established WHO Collaborating Centres** in Krakow and Ancona will play an important role in developing PATH further, through supporting education and training and developing an Internet platform for communication, data collection and reporting.
9. The **constitution of the PATH steering group** was discussed in terms of membership and responsibilities. Expressions of interested were made (in alphabetical order) by: Paul Bartels, Francois Champagne, Vahe Kazandjian, Niek Klazinga, Pierre Lombrail, Pascal Meuus, Irakli Sasania, Henner Schellschmidt (although participation of German hospitals need to be discussed with German hospital representative), Viera Rusnakova, Dr Sirkar, Emily Siu (if the project allows international comparisons) and representative of the WHO CCs in Krakow and Ancona. Niek Klazinga and Vahe Kazandjian were appointed as **expert members to support the Research and Development Tasks**.
10. Country participating in PATH may organize **national workshops** to provide feedback with hospitals. This feedback should be reported back to WHO and linked to the Research & Development plan. A **Users conference** may be organized in June 2006 in Brussels. The purpose would be to share among country and hospital coordinators information and experience, report on a few selected indicators where data quality is appropriate, present ideas and plans for the further development of PATH. It should be considered to organize a meeting on PATH in conjunction with the **ISQUA conference** in London, 24-28 October 2006.
11. A **discussion paper** will be prepared on service tasks, coordinated by WHO between the experts and the two WHO CC in Ancona and Krakow, including an operational plan for 2006. A discussion paper on the R&D tasks will be prepared with Francois Champagne. Both papers will be used as background papers for the teleconference with country coordinators. Moreover, a discussion paper on the PATH steering group will be prepared. All papers will be discussed during a teleconference chaired by Niek, Wednesday 15th March 2006, 16.00 GMT+1.

## Annex

### List of working papers

Provisional list of working papers	5051752/1
Scope and purpose	5051752/2
Provisional list of participants	5051752/3
Provisional programme	5051752/4
PATH Implementation manual	5051752/5
A comparative analysis of the operationalization of PATH indicators in countries participating in the pilot implementation	5051752/6
Country report Belgium	5051752/7
Country report Canada	5051752/8
Country report Denmark	5051752/9
Country report France	5051752/10
Country report Slovakia	5051752/11
Country report South Africa	5051752/12
PATH Dashboards	5051752/13

## Agenda

### Monday, 14 November 2005

- 09.00 – 09.15 Opening and introduction. Review of main orientations of the project and objectives of pilot implementation: Oliver Groene
- 09.15 – 09.30 Introduction on research tasks and brief description of dashboards: Francois Champagne
- 09.30 – 10.45 Country-by-country presentation on experience with pilot implementation: Belgium, Canada, Denmark, France, Slovakia, South Africa
- 10.45 – 11.15 COFFEE BREAK**
- 11.15 – 11.45 Discussion
- 11.45 – 12.15 A comparative analysis of the operationalization of PATH indicators in countries participating in the pilot implementation: Francois Champagne
- 12.15 – 13.00 General discussion: operationalization of PATH indicators.
- 13.00 – 14.00 LUNCH**
- 14.00 – 16.00 Review of indicators: experience from pilot implementation and data requirements. Chair: Paul Bartels
- 16.00 – 16.30 COFFEE BREAK**
- 16.30 – 17.30 Review of indicators (continued)
- 17.30 – 18.00 Review of the day
- 21.00 Dinner**

### Tuesday, 15 November 2005

- 09.00 – 10.30 Review of indicators (continued): experience from pilot implementation and data requirements.
- 10.30 – 11.00 COFFEE BREAK**
- 11.00 – 12.00 Discussion on indicators for PATH project: future issues.
- 12.00 – 13.30 The need for standardized measures to assess patient experience/satisfaction: Chair: Ann-Lise Guisset
- 13.30 – 14.30 LUNCH BREAK**
- 14.30 – 15.00 Graphical and statistical presentation of dashboards: Results from the Pilot implementation: Francois Champagne
- 15.00 – 16.00 Discussion: Graphical and statistical presentation of dashboards (overall performance assessment report card, relative performance index scorecard on individual indicators. Chair: Vahe Kazandjian
- 16.00 – 16.30 COFFEE BREAK**
- 16.30 – 17.30 Discussion (continued)
- 17.30 Review of the day and closure
- 21.00 Dinner**

*Wednesday 16 November 2005*

- 09.00 – 9.30 Proposal for further developing the PATH project: The role of WHO and experiences from the HPH network: Oliver Groene
- 09.30 – 10.00 A proposal for setting up an Internet platform for information, data collection and presentation: Andrea Gardini
- 10.00 – 10.30 Discussion. Chair: Henner Schellschmidt
- 10.30 – 11.00 COFFEE BREAK**
- 11.00 – 11.30 Proposal for developing a training plan for hospitals interested in PATH: requirements and necessary information packages: Ewa Dudzik-Urbaniak
- 11.30 – 12.00 Discussion. Chair: Johann Kjaergaard
- 12.00 – 12.15 Redefining orientations of the PATH project
- 12.15 – 13.00 Discussion. Chair: Niek Klazinga
- 13.00 – 14.30 LUNCH BREAK**
- 14.30 – 15.00 Organization a larger project conference: audience, main streams, financing.
- 15.00 – 15.30 Setting up the steering group for PATH development (membership, roles and responsibilities).
- 15.30 – 16.00 COFFEE BREAK**
- 16.00 – 17.00 Final review of experiences and plan for further development. Oliver Groene
- 17.00 CLOSURE**

## List of participants

### Temporary Advisers

Dr Paul D. Bartels -  
Leder af Sundhedsfagligt Sekretariat og NIP  
Arhus Amt  
Lyseng Allé 1  
8270 Hojbjerg  
Denmark

Telephone: +45 89 44 69 71  
Fax: +45 89 44 69 73  
E-mail: pba@ag.aaa.dk

Professor Mohammed H. Cassimjee –  
Head  
Department of Family Medicine  
Pietermaritzburg Metropolitan Hospital Complex  
and Midlands Region  
Northdale Hospital. Old Greytown Road. Private  
Bag X9006  
Pietermaritzburg 3200  
South Africa

Telephone: +27 33 3879000  
Fax: +27 33 3979768  
E-mail: professorcassimjee@mail.com

Dr François Champagne –  
Professeur titulaire  
GRIS et Département d'administration de la santé  
Université de Montreal  
B.P. 6128, succursale Centre-ville  
H3C 3J7 Montreal, Quebec  
Canada

Telephone: +15143432226  
Fax: +15143432207  
E-mail: francois.champagne@umontreal.ca

Dr Alberto Deales  
Agenzia Regionale Sanitaria  
Regione Marche  
Via Gentile da Fabiano 3  
60125 Ancona  
Italy

Telephone: +39 071 806 4070  
Telephone: +39 335 63 09 190  
Fax: +39 071 806 4056  
E-mail: alberto.deales@regione.marche.it

Dr Ewa Dudzik-Urbaniak  
Specialist  
National Centre for Quality Assessment in  
Health Care  
Ul. Syrokomli 10  
30 102 Krakow  
Poland

Telephone: +48 12 427 82 51  
Fax: +48 12 427 82 51  
E-mail: ewadudzik@cmj.org.pl

Ms Ann Lise Guisset  
SPF Santé Publique  
DG Organisation des Établissements de Soins  
Cellule Qualité  
Place Victor Horta 40  
1060 Bruxelles  
Belgium

Telephone: +32 2 524 85 84 (65)  
Fax: +32 2 524 85 99  
E-mail: annlise.guisset@health.fgov.be

Ms Margareta Haelterman  
Acute, chronic and elderly Care Policy Unit  
Organization of Healthcare Establishments  
FPS Health, Food Chain Safety and Environment  
Eurostation, Bloc 2, room 1D10  
Place Victor Horta 40, box 10  
1060 Brussels  
Belgium

Telephone: +32 2 524 85 68  
Fax: +32 2 524 85 99  
E-mail: margarita.haelterman@health.fgov.be

Ms Katherine Henning  
Manager, Performance Measurement  
University Health Network  
Toronto General Hospital  
585 University Avenue  
Toronto, ON M5G 2C4  
Canada

Telephone: +1 416 340 3824  
Fax: +1 416 595 7005  
E-mail: Katherine.henning@uhn.on.ca

Professor CC Jinabhai  
School of Public Health Medicine  
Nelson Mandela School of Medicine  
Provate Bag 7  
Congella 4013, Durban  
South Africa

Telephone: +27 31 2604383  
Fax: +27 31 2604211  
E-mail: jinabhai@nu.ac.za

Dr Vahé Kazandjian  
President  
Center for Performance Sciences  
Deerpath Road  
6820-Elkridge, Maryland  
USA

Telephone: +1 410 379 95 40  
Fax: +1 410 379 95 58  
E-mail: vkazandjian@cpsciences.com

Dr Johan Kjaergaard  
Head of Unit for Clinical Quality  
Copenhagen Hospital Corporation  
Bispebjerg Bakke 20C  
2400 København NV  
Denmark

Telephone: +45 3531 2852  
Fax: +45 3531 6317  
E-mail: jk02@bbh.hosp.dk

Dr Niek Klazinga –  
Department of Social Medicine  
Academic Medical Center  
Meibergdreef 9  
1100 DD Amsterdam  
The Netherlands

Telephone: +31 20 566 48 92  
Fax: +31 20 697 23 16  
E-mail: n.s.klazinga@amc.uva.nl

Dr Lucia Lenartova  
Project Coordinator  
MAT03/SK/9/1  
Ministry of Health  
Limbova 2  
837 52 Bratislava  
Slovakia

Telephone: +421 2 59 37 32 05  
Fax: + 421 2 59 37 32 05  
E-mail: lenartova@igeh.org

Dr Pierre Lombrail  
Director  
Pôle Information Médicale, d'Evaluation & de  
Santé Publique (PIMESP)  
Centre Hospitalier Universitaire de Nantes.  
Hôpital Saint Jacques. 85, rue Saint Jacques  
44 093 Nantes cedex 1  
France

Telephone: +33 2 524 85 99  
Fax: +33 2 40 84 69 21  
E-mail: pierre.lombrail@chu-nantes.fr

Dr Pascal Meeus  
Acute, chronic and elderly care Policy Unit  
Organisation of Healthcare Establishments  
FPS Health, Food Chain Safety and Environment  
Eurostation, Bloc 2, room 1D10  
Place Victor Horta 40, box 10ç1060 Brussels  
Belgium

Telephone: +32 2 524 85 60  
Fax: +32 2 524 85 99  
E-mail: pascal.meeus@health.fgov.be

Mr Claudio Politi  
Agenzia Regionale Sanitaria  
Regione Marche  
Via Gentile da Fabiano 3  
60125 Ancona  
Italy

Telephone: +39 071 806 4057  
Fax: +39 071 806 4056  
E-mail: Claudio.politi@regione.marche.it

Dr PD Ramdas  
Director – Hospital Services  
Provincial Department of Health  
Private Bag X0951  
Pietermaritzburg 3200  
South Africa

Telephone: +27 33 395 2793  
Fax: +27 33 3942151  
E-mail: ramdasp@dphho.kzntl.gov.za

Dr Viera Rusnakova  
Head of Department Medical Informatics  
Slovak Medical University  
Limbova 12  
833 03 Bratislava  
Slovakia

Telephone: +421 2 59 36 92 56  
Fax: + 421 2 54 79 33 62  
E-mail: viera.rusnakova@szu.sk

Dr Irakli Sasania  
General Director  
M. Iashvili Children's Central Hospital  
2/6 Ljubljana Str  
380059 Tbilisi  
Georgia

Telephone: +995 32 377 220  
Fax: +995 32 529 034  
E-mail: isasania@cch.ge

Dr Rosa Maria Saura  
Chief of Indicators  
Foundation Avedis Donabedian  
Provença 293 ppal  
08037 Barcelona  
Spain

Telephone: +34 93 207 66 08  
Fax: +34 93 459 38 64  
E-mail: fad@fadq.org

Dr Henner Schellschmidt  
Wissenschaftliches Institut der AOK  
Kortrijker Str. 1  
53177 Bonn  
Germany

Telephone: +49 228 843 135  
Fax: +49 228 843 144  
E-mail:  
henner.schellschmidt@wido.bv.aok.de

Dr Surendra Sirkar  
Kwa Zulu Natal – Department of Health  
Natalia, Pietermaritzburg  
Private Bag X9051  
Pietermaritzburg 3200  
South Africa

Telephone:  
Fax: +27 33 3979768  
E-mail: ahmedy@dohho.kzntl.gov.za

Ms Emily Siu  
Health Results Team for Information Management  
Ministry of Health and Long Term Care  
101 Bloor St W., 11<sup>th</sup> floor  
Toronto – Ontario M5S 2Z7  
Canada

Telephone: +1 416 314 5021  
Fax: +1 416 326 99 67  
E-mail: Emily.siu@moh.gov.on.ca

Dr Ewa Wojtowicz  
Specialist  
National Centre for Quality Assessment in  
Health Care  
Ul. Syrokomli 10  
30 102 Krakow  
Poland

Telephone: +48 12 427 82 51  
Fax: +48 12 427 82 51  
E-mail: wojtowicz@cmj.org.pl

Dr Yordanov Yassen  
Intern Researcher  
Pôle Information Médicale, d'Evaluation & de  
Santé Publique (PIMESP)  
Centre Hospitalier Universitaire de Nantes.  
Hôpital Saint Jacques. 85, rue Saint Jacques  
44 093 Nantes cedex 1  
France

Telephone: +33 2 524 85 99  
Fax: +33 2 524 85 99  
E-mail: yassen\_yordanov@yahoo.fr

**World Health Organization**  
**Regional Office for Europe**

Mr Oliver Gröne  
Technical Officer, Hospitals Programme  
WHO Barcelona Office  
Division of Country Support

Telephone: +34932418270  
Fax: +34932418271  
E-mail: ogr@es.euro.who.int

Dr Enrico Davoli  
Technical Officer, Emergencies Services  
WHO Barcelona Office  
Division of Country Support

Telephone: +34932418270  
Fax: +34932418271  
E-mail: eda@es.euro.who.int

Dr Mila Garcia-Barbero  
Head of Office  
WHO Barcelona Office  
Division of Country Support

Telephone: +34932418270  
Fax: +34932418271  
E-mail: [mgb@es.euro.who.int](mailto:mgb@es.euro.who.int)

Ms Monica Tineo  
Programme Assistant  
WHO Barcelona Office  
Division of Country Support

Telephone: +34932418270  
Fax: +34932418271  
E-mail: [mti@es.euro.who.int](mailto:mti@es.euro.who.int)