



PATH

Division of Country Health Systems

Performance Assessment Tool
for Quality Improvement in Hospitals





Performance Assessment Tool for Quality Improvement in Hospitals

Abstract

This brochure provides an overview on the WHO Performance Assessment Tool for Quality Improvement in Hospitals (PATH).

It includes a description of the conceptual model, a presentation of the indicators selected to fit the model and data collection procedures and reporting of performance. This brochure also provides information on how to join the project. Hospitals in Europe are very welcome to contact WHO for participation in the project.

Keywords

Quality indicators, Health Care - standards
Hospitals - standards
Quality of health care
Information systems
Data collection - methods
Europe

Address requests about publications of the WHO Regional Office for Europe to:

Publications
WHO Regional Office for Europe
Scherfigsvej 8
DK-2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office web site (<http://www.euro.who.int/pubrequest>).

Design: Dolores Martín
Photographs: iStockphoto and Age fotostock
Printed in Spain

© World Health Organization 2007

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Where the designation "country or area" appears in the headings of tables, it covers countries, territories, cities, or areas. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The World Health Organization does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use. The views expressed by authors or editors do not necessarily represent the decisions or the stated policy of the World Health Organization.

contents

- 4 Features of the project
- 6 The conceptual model
- 8 The indicator set
- 10 Data collection procedures
- 11 Reporting on performance
- 12 Understanding performance and sharing best practices
- 13 How to join the project
- 14 The coordination team
- 16 References

Features of the project

The Performance Assessment Tool for Quality Improvement in Hospitals (PATH) was developed by the WHO Regional Office for Europe to support hospitals in collecting data on their performance, identifying how they are doing in comparison to their peer group and initiating quality improvement activities. PATH is designed for internal use and on voluntary basis only - it is not meant to be used for external reporting, accreditation or restructuring purposes [1].

The PATH framework includes 4 steps:

1 Motivate

Hospital participation is voluntary. PATH is designed around and for hospitals as the main users. It presumes their active involvement at all steps.

2 Measure

The PATH framework relies on 17 indicators in a core set but countries can select additional indicators proposed in a tailored set.

3 Make sense

Data are the prerequisite for improvement; however, they are not an end in themselves but a starting point for action. Evaluation of indicators always needs to be done locally, comparing the institutions' performance to reference points and relating performance to local contexts.

4 Move

The aim of PATH is to provide support to quality improvement strategies. It should ultimately impact on actions for quality improvement.

How does it work?

For example, before data collection starts, a working group is set up in the hospital that assesses the feasibility to collect the indicators, disseminates values such as adaptability and change, team work or accountability towards patients. As a by-product of data collection, documentation procedures will be reviewed and possibly improved and, after indicators are computed, areas for further scrutiny can be identified, strengths and weaknesses and a plan for quality improvement can be developed, including actions and targets [2].

Participating hospitals may compare results to their own historical data or against the performance of their peers. PATH also has an international component and hospitals may compare their results to international reference points.

Such comparisons should be seen as a starting point for further questions and explanations but not as a definite standard as national contexts vary and impact greatly on different indicators.

By joining PATH, hospitals become part of an international network to share best practices and strategies for quality improvement. International networking will be fostered using different tools such as newsletters, conferences and news groups. Hospitals will be invited to share information on operational definitions, data collection issues and selection of tailored indicators and to present their experiences through case studies and during workshops.



What PATH has to offer:

- a multidimensional approach to hospital performance assessment;
- a tool to disseminate values within a hospital, and initiate or support quality improvement strategies;
- a tool to make the most of the large amount of data that is currently collected but very little used;
- technical support for implementation of performance measurement within hospitals;
- an opportunity to question current information systems and learn from experiences in other countries;
- educational material, including general presentation of quality improvement principles and detailed description of indicators;
- template for reporting results to individual hospitals;
- voluntary participation in an (inter)-national benchmarking network to compare results and interpret them and to share success stories; and
- be part of an international "community" of hospitals with innovative managerial practices.

The PATH conceptual model

The general framework for the project and indicator selection is built on strong theoretical background and empirical material [3]. It was elaborated by a group of international experts, based on extensive reviews of the literature and surveys on data availability and assessments of indicators [4]. The framework for performance assessment encompasses six dimensions: four domains (clinical effectiveness, efficiency, staff orientation and responsive governance) and two transversal perspectives (safety, patient centeredness) [5].

D i m e n

■ **Clinical effectiveness**

Refers to the success of a hospital to produce clinical outcomes in accordance with the current state of medical knowledge and to achieve these results for all patients that may potentially benefit from it. This includes conformity with and results of care processes and appropriateness of care.

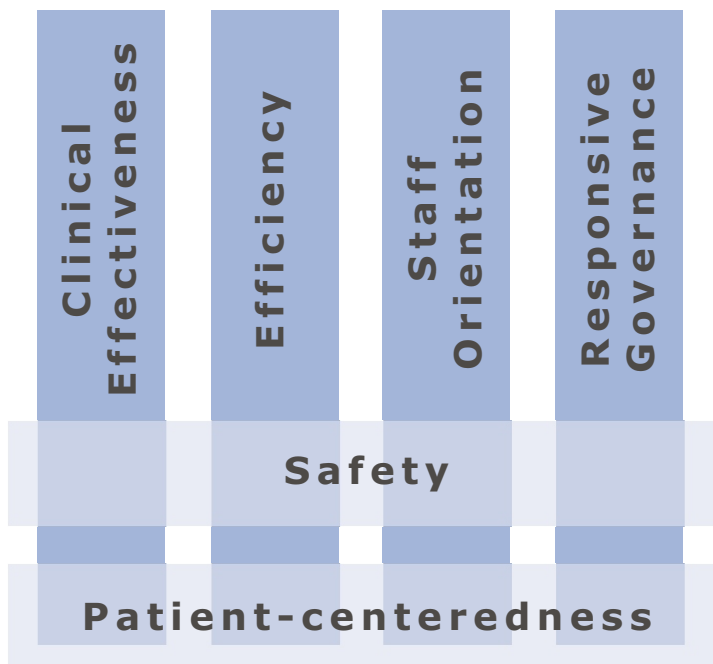
■ **Efficiency**

Addresses the optimal use of resources to achieve maximum output and includes productivity, the use of health technologies to achieve best possible care and the appropriateness of interventions.

■ **Staff orientation**

Refers to the extent to which staff is appropriately qualified to carry out their tasks, have possibilities for continuous learning, work in a supportive environment and are satisfied with their work. This dimension includes indicators on the working environment, prospects and identification of individual needs, health promotion and safety initiatives and staff health-related behaviour and health status.

Fig. 1: The PATH conceptual model



s i o n s

■ **Responsive governance**

Embraces the extent to which the hospital relates to community health needs, ensuring continuity of care and the provision of health services irrespective of ethnic group, physical, cultural, social, demographic or economic characteristics. Sub-dimensions are the hospital-community integration and the hospital's public-health orientation.

■ **Safety**

Relates to the application and promotion of structures and processes in the hospital, for which evidence demonstrates prevention or reduction of risks. Safety is not restricted to patient safety, but also relates to staff and environmental safety.

■ **Patient centeredness**

Finally, patient centeredness puts the patient in the centre of service provision and evaluates the services provided against the needs and expectations of patients, family and caregiver. This includes client orientation (prompt attention, access to supportive networks, communication processes) and respect (patient autonomy, confidentiality, dignity).

The PATH

indicator set

Acknowledging the differences in the availability of data from hospital information and documentation systems throughout Europe [6], we developed two sets of indicators [7]:

A core set including indicators that are relevant to all contexts and represent a low burden of data collection. This set includes 17 core indicators (after considering all tracers this amounts to 48 indicators).

A tailored set including indicators that either are relevant to a limited number of contexts, or, because of their higher burden of data collection, are suggested if congruent with the organization or country's priorities. This set includes 24 indicators (after considering all tracers this amounts to 47 indicators).

Hospitals participating in PATH are expected to gather the indicators of the core set. It is up to the hospital to decide which of the tailored indicators are collected additionally.

■ Clinical effectiveness & safety

- C1. Caesarean Section.
- C2. Prophylactic Antibiotic use (*planned surgery for colorectal cancer, coronary artery bypass graft, hip replacement, hysterectomy*).
- C3. Mortality (*acute myocardial infarction, stroke, community acquired pneumonia, hip fracture, coronary artery bypass graft*).
- C4. Readmission (*acute myocardial infarction, stroke, community acquired pneumonia, hip fracture, coronary artery bypass graft, asthma, diabetes mellitus*).
- C5. Day surgery for eight tracers (*cataract surgery, knee arthroscopy, inguinal hernia, curettage of the uterus, tonsillectomy and/or adenoidectomy, cholecystectomy, tube ligation, varicose veins stripping and ligation*).
- C6. Admission after day surgery (*same tracers as day surgery*).
- C7 Return to ICU.

■ Efficiency

- C8. Length of stay (*acute myocardial infarction, stroke, community acquired pneumonia, hip fracture, coronary artery bypass graft*).
- C9. Surgical Theatre use.

■ Clinical effectiveness & safety

- T1. Door to needle time.
- T2. Computer tomography scan after stroke.
- T3. Acute myocardial infarction patients discharged on aspirin.
- T4. Mortality indicators (C3) with more advanced risk-adjustment.
- T5. Readmission indicators (C4) with more advanced risk-adjustment.
- T6. Pressure ulcers for stroke and fracture patients.
- T7. Rate of hospital-acquired infections.

■ Efficiency

- T8. Score on Appropriateness Evaluation Protocol.
- T9. Costs antibiotics/patients.
- T10. Length of stay indicators (C8) case-mix adjusted.
- T11. Cash-Flow/Debt.
- T12. Cost of corporate services/patient day.

Core indicators

■ Staff orientation & safety

- C10. Training expenditure.
- C11. Absenteeism.
- C12. Excessive working hours.
- C13. Needle injuries.
- C14. Staff smoking prevalence.

■ Responsive governance

- C15. Breastfeeding at discharge.
- C16. Health care transitions.

■ Patient centeredness

- C17. Patient expectations.

Tailored indicators

■ Staff orientation & safety

- T13. % wages paid on time.
- T14. Survey on staff burnout.
- T15. % job descriptions with risk assessment.
- T16. Staff turnover.
- T17. Work-related injuries by type.

■ Responsive governance

- T18. Audit of discharge preparation.
- T19. % discharge letters sent.
- T20. Score on Appropriateness Evaluation Protocol for geriatric patients.
- T21. Waiting time for day surgery tracers.
- T22. Acute myocardial infarction and coronary heart failure with lifestyle counselling.

■ Patient centeredness

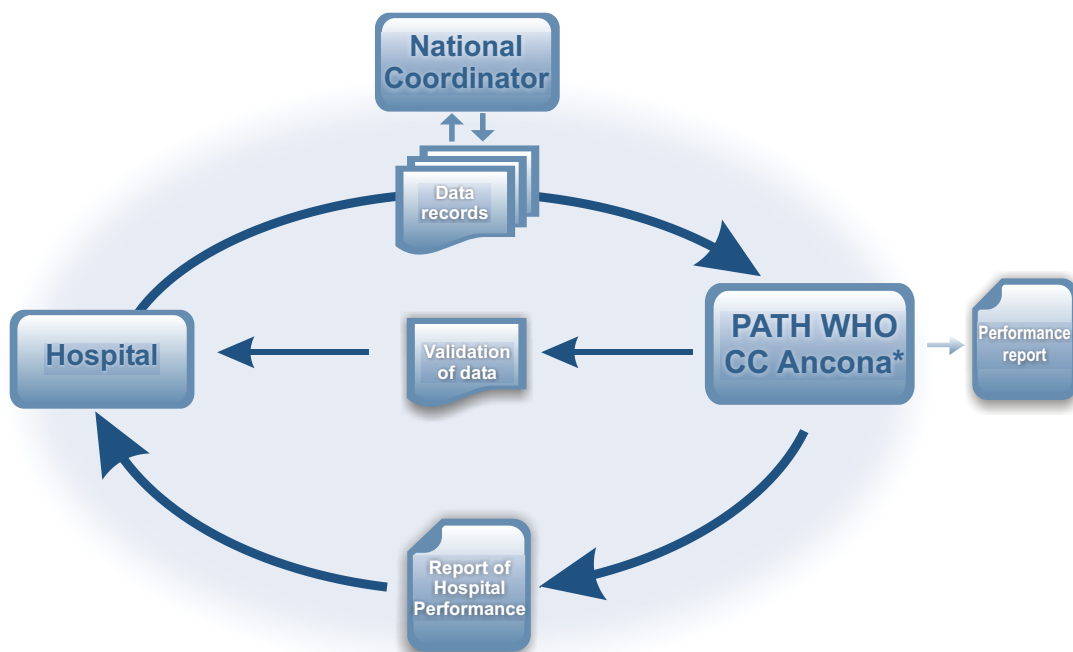
- T23. Patient survey score on access to care.
- T24. Patient survey score on amenities of care.

Data collection procedures

The WHO Collaborating Centre for the Institutionalization of Quality in Health Care (Regional Healthcare Agency - Marche Regional Government), in Ancona, in collaboration with the Italian National Research Council is designing an electronic platform to collect, process and report on data collected by the hospitals participating in the PATH project. This platform will be integrated into the existing PATH web pages.

Hospitals will collect data for the PATH indicators as described in the descriptive sheets and using the data collection sheets provided by the project. Once data collection has been finalized, hospitals will be able to log on the PATH webpage and transfer the information to the WHO Collaborating Centre for the Institutionalization of Quality in Health Care. In some countries, the national coordinator will be granted access to validate the data subject to individual written agreements. After preliminary validation, the data will be reported back to each hospital for verification. Only after passing this process, it will be included in the PATH database for further analysis. It is important to point out that, given the focus of the project on internal quality improvement and not on external reporting, the responsibility for data quality is with each participating hospital.

Fig. 2: PATH data management



*WHO Collaborating Centre for the Institutionalization of Quality in Health Care (Regional Healthcare Agency - Marche Regional Government).

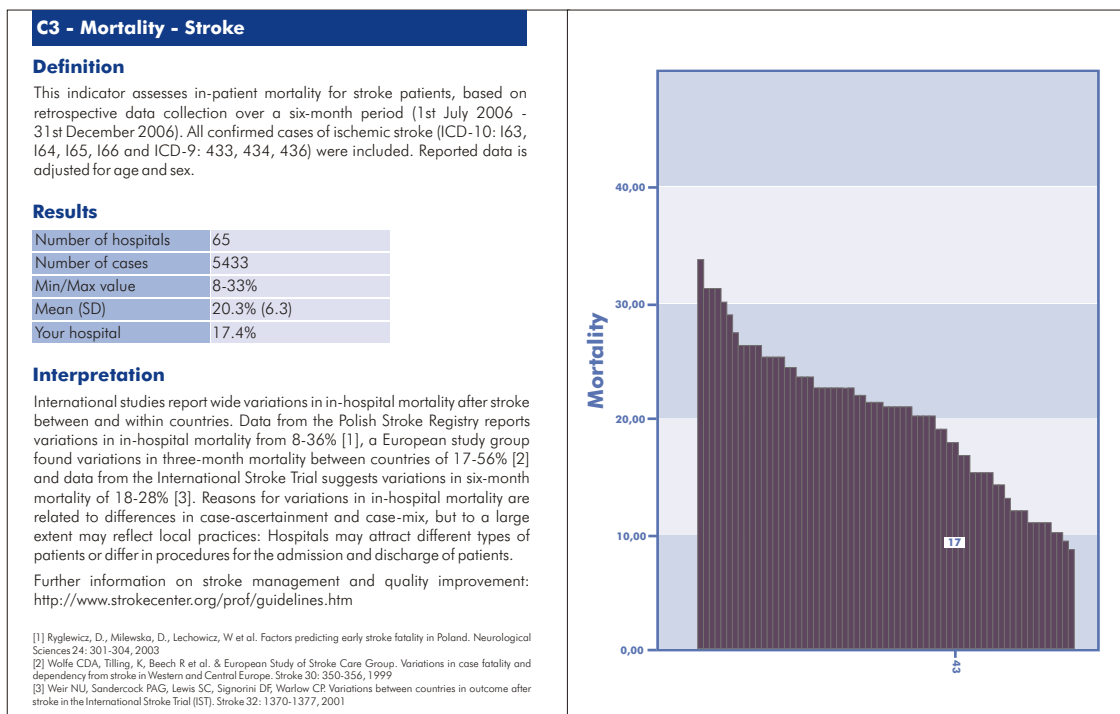
Reporting of performance

The performance reports are the core output of the PATH project. They support hospital managers in comparing the performance of their hospitals with the performance of a peer group of hospitals and also allow managers to identify where their hospitals over or underperform.

The performance reports will provide, for each of the indicators, an overview on the distribution of hospital performance. Each hospital will know how it performs relative to other hospitals; however, it will not be possible to identify those hospitals.

Statistical information will be provided on the number of hospitals contributing and the frequency of cases, measures of tendency and dispersion. Contextual information will describe the indicators and data sources, guidance on interpretation and references values as well as links to clinical guidelines and other quality improvement tools, where applicable. Figure 3 provides an example for one indicator.

Fig. 3: Example. Presentation of Hospital performance

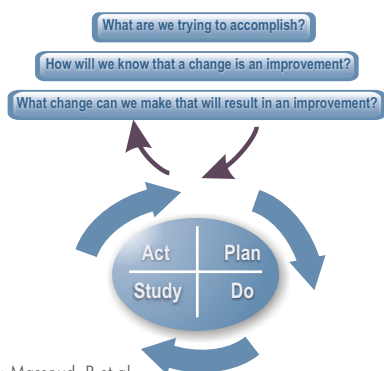


Understanding

the performance and sharing best practices

Performance assessment is just the starting point for quality improvement, it is not an end in itself and it should lead to learning, rather than punishment. Performance assessment should inspire raising questions, improving data collection procedures, understanding results and identifying actions for improvement [8]. It should be embedded in a comprehensive quality improvement strategy, as the one endorsed by the Institute for Health Care Improvement (Fig. 4) [9].

Fig. 4: Model for improvement



Source: Massoud, R et al.

In order to foster learning among hospitals different tools will be applied. The main tool will be the performance report which, in its new structure, will provide more clinical and contextual information for each indicator, including links to reference studies or gold standard guidelines. In addition, teleconferences, workshops, Internet discussion fora and conferences will be organized. The WHO Collaborating Centre for Developing Quality and Safety in Health Systems (National Centre for Quality Assessment in Health Care) in Cracow will provide support through training materials and a hot line to answer questions on data collection and interpretation.

Based on the PATH data base, top-performers will be identified for internal purposes and invited to share their experience with the PATH project. Hospitals willing to exchange information can contribute to the PATH newsletter, participate in discussion fora or present their experience at national and international meetings. For each of the core indicators, practices in one or two well-performing institutions could be presented at international level.

Under no circumstance will the PATH project management release any information on individual hospitals without prior written consent of the hospital manager.

How to join the project

What is expected from participating countries and hospitals?

All partners (Ministry of Health, coordination team, hospitals, etc.) must commit to the philosophy of the project and may not disclose results identifying the performance of a range of hospitals to the public. Internal and external commitments will be formalized with all the partners.

Coordination at country level

- ▶ Coordination can be done by just one person or a small team. Members of the coordination team could come from different institutions or backgrounds, including hospital associations, universities, Ministry of Health, accreditation agencies, etc.
- ▶ The role of the coordination team will be to harmonize the different hospital projects at country level and to provide a link between WHO and the hospitals. The team will also provide feedback from the field to WHO and contribute to refining operational definition of indicators and clarify data collection procedures.
- ▶ The team will also identify hospitals willing to participate in the project. Participation must be on a voluntary basis.

Coordination at hospital level

- ▶ Acute care hospitals representing a large spectrum (e.g. secondary/tertiary, public/private, small/large) can participate in the project.
- ▶ Participation in the project requires a strong commitment from hospitals' top management and for each hospital a coordinator needs to be identified.
- ▶ Hospitals are expected to collect data for the indicators in the PATH core set. While this may not always be feasible, efforts should be made to represent the different dimensions of the PATH conceptual framework.
- ▶ Each hospital will be responsible for its own data collection, for setting up mechanisms to ensure data quality and for reporting on it. They will send the results online to the WHO Collaborating Centre for the Institutionalization of Quality in Health Care, in Ancona, that will carry out automated validity checks on the data, which need to be verified by each hospital before the data go into the database.
- ▶ All deadlines (published on the PATH web pages) and responsibilities agreed by the PATH coordinators need to be strictly followed [10].

Who are we?

■ Coordination at the WHO Regional Office for Europe

Oliver Groene

Technical Officer Quality of Health Systems and Services
WHO Regional Office for Europe. Division of Country Health Systems
WHO Barcelona Office
Marc Aureli 22-36
E - 08006 Barcelona (Spain)
Tel. +34 93 241 8270
Fax +34 93 241 8271
E-mail: ogr@es.euro.who.int

■ Coordination at the WHO Collaborating Centres

Andrea Gardini

Regional Healthcare Agency - Marche Regional Government. WHO Collaborating Centre for Institutionalization and Development of Quality of Health Systems, Ancona (Italy)

Basia Kutryba

National Centre for Quality Assessment in Health Care. WHO Collaborating Centre for Developing Quality and Safety in Health Systems, Cracow (Poland)

■ Scientific Advisory Group

Niek Klazinga

Professor of Social Medicine, Academic Medical Centre - University of Amsterdam (The Netherlands). Head of the OECD Quality Indicator Project

Paul Bartels

Medical Director, Unit for Clinical Quality and Patient Safety, Central Jutland Region, Danish National Indicator Project. Aarhus (Denmark)

Angelo Rossi Mori

e-Health Unit, Institute for Biomedical Technology, National Council of Research, Rome (Italy)

Vahe Kazandjian

Professor at the Johns' Hopkins University, Baltimore, Maryland (USA). President of the Center for Performance Sciences, Elkeridge, Maryland (USA)

Pierre Lombrail

Professor of Public Health, University of Nantes. Director of the Medical Information, Evaluation and Public Health Unit, Teaching Hospital of Nantes (France)

François Champagne

Professor at the University of Montreal (Canada). Researcher, Interdisciplinary Health Research Group (GRIS)

■ Country Coordinators

Belgium: Margareta Haelterman, FPS Health, Food Chain Safety and Environment

Denmark: Paul Bartels, Medical Director, Unit for Clinical Quality and Patient Safety, Central Jutland Region, Danish National Indicator Project

Estonia: Jane Alop, Estonian Health Insurance Fund

France: Pierre Lombrail, Nantes' University Hospital Centre

Germany: Volker Mohr and Burkhard Fischer, German National Agency for Performance Measurement in Health Care (BQS)

Hungary: Eva Belicza and Erika Takacs, Semmelweis University Health Services Management Training Centre

Italy: Andrea Gardini, Regional Healthcare Agency - Marche Regional Government

Poland: Basia Kutryba, Ewa Dudzik-Urbaniak and Ewa Wojtowicz, National Centre for Quality Assessment in Health Care

Slovak Republic: Viera Rusnakova, Slovak Medical University

■ Technical Advisory Group and contributors

Onye Arah (The Netherlands University of Amsterdam), **Adalsteinn D. Brown** (Canada University of Toronto), **Manuela Brusoni** (Italy University of Bocconi), **Mohammed Hoosen Cassimjee** (South Africa Pietermaritzburg Metropolitan Hospital Complex and Midlands Region), **Thomas Custers** (The Netherlands University of Amsterdam), **Ulf Debacher** (Germany Asklepios Clinics), **Johan de Koning** (The Netherlands National Institute for Public Health and Environment), **Mila Garcia-Barbero** (World Health Organization, Regional Office for Europe), **Ronald Gijsen** (The Netherlands National Institute for Public Health and Environment), **Ann-Lise Guisset** (Belgium Federal Public Service, Health, Food Chain Safety and Environment), **CC Jinabhai** (South Africa Nelson Mandela School of Medicine), **Svend Juul Jorgensen** (Denmark National Board of Health), **Johann Kjaergaard** (Denmark Copenhagen Hospital Corporation), **Itziar Larizgoitia** (World Health Organization), **Pascal Meeus** (Belgium FPS Health, Food Chain Safety and Environment), **Priscila Ramdas** (Pietermaritzburg Provincial Department of Health), **Henner Schellschmidt** (Germany Wissenschaftliches Institute der AOK), **Charles Shaw** (United Kingdom Private Consultant), **Surendra Sirkar** (South Africa Kwa Zulu Natal Department of Health), **Emily Siu** (Canada Ministry of Health and Long Term Care), **Rosa Suñol** (Spain Foundation Avedis Donabedian), **Jeremy Veillard** (Canada Ministry of Health and Long Term Care).



References

- [1] *Measuring hospital performance to improve the quality of care in Europe: a need for clarifying the concepts and defining the main dimension. Report on a WHO Workshop Barcelona, Spain, 10-11 January 2003.* Barcelona, WHO Regional Office for Europe, 2003 (<http://www.euro.who.int/document/e78873.pdf>, accessed 27 December 2006).
- [2] *Quality of care : a process for making strategic choices in health systems.* Geneva, World Health Organization, 2006.
- [3] Veillard J et al. A performance assessment framework for hospitals: the WHO Regional Office for Europe PATH Project. *International Journal for Quality in Health Care*, 2005, 17(6): 487-496.
- [4] *Selecting a core set of evidence-based hospital performance indicators for enhancing quality improvement and evidence-based management. Report of the 3rd WHO Workshop on Hospital Performance Assessment. Barcelona, 13-14 June 2003.* Barcelona, WHO Regional Office for Europe, 2003 (<http://www.euro.who.int/document/e84679.pdf>, accessed 27 December 2006).
- [5] Arah OA, Custers T, Klazinga NS. Updating the key dimensions of hospital performance: the move towards a theoretical framework. *Third WHO Workshop on Hospital Performance Measurement, Barcelona, 13-14 June 2003.*
- [6] Groene, O et al. The WHO Performance Assessment Tool for Quality Improvement in Hospitals: results from the pilot test in 51 hospitals in six countries (Publication forthcoming in 2007).
- [7] Indicators for the Performance Assessment Tool for Quality Improvement in Hospitals (PATH) [web site] Ancona, WHO Collaborating Centre for Institutionalization and Development of Quality in Health Systems, 2006 (<http://www.pathqualityproject.org>, accessed 27 December 2006).
- [8] Berwick DM, James B, Coye MJ. Connections between quality measurement and improvement. *Medical Care*, 2003, 41 (1 Suppl): 130-138.
- [9] Massoud, R et al. *A modern paradigm for improving healthcare quality.* Bethesda, (MD), published for the U.S. Agency for International Development (USAID) by the Quality Assurance Project, 2001 (QA Monograph Series, No 1(1); <http://www.qaproject.org/pubs/PDFs/improhq601bk.pdf>, accessed 9 January 2007).
- [10] *The Performance Assessment Tool for Quality Improvement (PATH): preparing for the second wave of data collection. Report on WHO Workshop Barcelona, 13-14 October 2006.* Barcelona, WHO Regional Office for Europe, 2006 (http://www.euro.who.int/InformationSources/Publications/20010827_1, accessed 27 December 2006).

For more information visit our website

www.pathqualityproject.org

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom and Uzbekistan.



World Health Organization Regional Office for Europe

Scherfigsvej 8, DK-2100 Copenhagen Ø, Denmark

Tel.: +45 39 17 17 17. Fax: +45 39 17 18 18

E-mail: postmaster@euro.who.int

Web site: www.euro.who.int