A model and selected results from an evaluation study on the International HPH Network (PRICES-HPH)

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Abstract

Background There is agreement in the literature that the work of national / regional networks and member hospitals of the International Network of Health Promoting Hospitals and Health Services (HPH) is under-documented and lacking systematic description and evaluation. A reaction to this deficit was PRICES-HPH (Project on a Retrospective, Internationally Comparative Evaluation Study).

Methods This paper presents the PRICES-HPH evaluation model which was developed for theoretical guidance of the study. It includes capacity building efforts of networks and hospitals in form of specific infrastructures, resources and strategies. 35 national/ regional networks were invited to fill in a comprehensive online questionnaire for networks, and 529 member hospitals to fill in a hospital questionnaire. The network and hospital coordinators reported the data retrospectively. The outcomes were the degree of implementation of HPH strategies and to which degree participation in HPH had strengthened this implementation.

Results The response rate was 80% for networks and 34% for hospital members. There was a pronounced variety in both the degree of implementation and the degree of perceived strengthening – both for specific HPH strategies and for member hospitals belonging to different networks. Most of the responding hospitals had implemented at least some of the HPH standards and strategies. About half had perceived that the implementation was strengthened by participation in HPH.

Conclusion Overall, the national / regional HPH networks and their member hospitals have implemented HPH strategies to a substantial degree and they see participation in HPH networks as a relevant influence for that purpose. The extents varied by type of HPH strategy and by affiliation to networks.
evaluations of health promotion implementation in member hospitals within national / regional HPH-networks and to find out which role networks play in supporting this implementation. This model applies and integrates concepts from various discourses: quality in health care, evaluation and capacity building in health promotion and specific HPH documents. The model distinguishes between two kinds of actors, firstly the member hospitals of national / regional HPH networks, and secondly, the networks themselves.

This model allows observation and evaluation of their structures, processes and outcomes (following Avedis Donabedian’s quality paradigm) (9) regarding their health promotion qualities. Donabedian’s paradigm and Nutbeam’s hierarchy of outcomes (10) were included to evaluate impacts of health promotion structures and processes of HPH hospitals and networks. The model relates to the capacity building debate in health promotion (e.g. 11;12) by acknowledging that effective health promotion interventions need adequate infrastructure and resources to be successful in the first place. It also relates to the Vienna organizational health impact model (VOHIM) of LBIHPR (1;13).

The outcomes were the self-reported degree of implementation of 18 previously described core strategies for putting health promotion into action (14) and the perceived strengthening by participation in HPH.

In line with the main goal of HPH, the ultimate outcome of the model is defined as improved health gain (15) of patients and their relatives or carers, staff and their relatives and members of the community whose health interests are served by hospitals. The health promotion processes needed to achieve this goal have been described as 18 HPH core strategies, which stem from six general hospital strategies for each of the three target groups patients, staff and community (3;16;17). The first three strategies

Figure 1 The comprehensiveness and framework of the PRICES HPH Evaluation Model for national / regional networks and member hospitals

(HOS: Hospital, NW: Networks, STRAT: Strategy)
relate to improving the health promotion quality of core structures and processes within hospitals. The other three strategies define additional health promotion services that should be offered by HPH hospitals, two targeting illness management / patient education and lifestyle development / health education and one for the community setting. The 18 core strategies related to selected parts of the standards for HP in hospitals (18).

Participants and Data Collection
At the network level, a self-administered, model-based and theory-informed questionnaire in English was developed for data collection. It comprised 132 questions, most of which combined closed and open answer possibilities. Data was collected from coordinators of HPH networks between February 2009 and July 2009. Coordinators of all 35 networks that nominally existed at that time were sent an invitation to participate. Four of these networks did not respond and were regarded as inactive at this time. Three of the coordinators of the remaining active 31 networks did not want to participate. Finally 28 completed questionnaires were received, which equals a return rate of 80% of all networks.

At the hospital level, a questionnaire was developed and pre-tested in due consideration of existing health promotion assessment instruments. The final (English) version of the tool comprised 110 mainly closed questions and was translated into twelve languages (19). The main focus of the questionnaire was on the institutionalized health promotion structures and on the implemented strategies. Based on the provided lists, 529 coordinators of member hospitals were invited to participate in the online survey, and 180 returned a completed questionnaire, which equals a response rate of 34%. Data collection started by the end of October 2009 and was completed by the end of February 2010.

Results
Network structures and processes
The 28 networks had 23 members on average (between 2 and 99 members). The networks were funded from different sources including public funds and membership fees. Those 19 networks with specified HPH budgets had a mean annual budget of € 3,575 (between € 278 and € 7,923) per member. 21 networks reported a mean weekly working time of 36% for coordinators, which varied from 5 to 100%.

While all networks had, as required by the constitution of HPH (15), a coordinator, an explicit coordinating office with dedicated staff and infrastructures, a governance board and a general assembly were reported by 43% of networks each. 39% had a chair, 25% an advisory board and 36% had other administrative structures (e.g. a treasurer).

All 28 networks reported some form of capacity building activity, NW-STRAT 1. Of these 71% used projects, 64% implementation tools and 54% evaluation tools. Concerning NW-STRAT 2 – supporting personnel development in member organizations – 68% offered implementation training, 36% vocational training. In addition, the networks supported capacity building in member organizations by task forces (46%), by defining annual themes (32%) and by organized peer support (18%).

Another source of support for capacity building was enforcement of international and additional national / regional organization-related membership requirements to become a full member of the network; 86% required the identification of a coordinator, 61% an HPH action plan, 54% the implementation of WHO Standards (18) or other adequate means, 43% a written HPH policy. In addition, 36% of networks asked their members to perform a standard self-assessment, 11% to meet specific HPH quality criteria and 7% to set up a HPH management structure.

Furthermore, networks support health promotion capacity building by impacting on the supportiveness of conditions in the relevant environments of national / regional networks and their members (NW-STRAT 3) by regular cooperation or partnerships with different institutions and organizations: 89% cooperate with health policy, 57% with patient organizations, 46% with thematic movements (e.g. baby-friendly hospitals) 36% with media, 32% with accreditation organizations, 25% each with staff unions, health care professionals, and the industry, and finally 11% with insurance companies.

Networks also used a number of media to inform the wider public about their activities (NW STRAT 4); 79% used websites, 64% had presentations, 57% publications, 50% open conferences for a wider audience, 36% e-newsletters, 29% printed newsletters, 21% sent out info packages and 11% had a telephone hotline.
The representativeness of the sample was also tested for the 349 non-responding hospitals (see footnotes table 1).

When asked to describe the HPH implementation strategy of their hospital by ticking the most suitable one from a list of four pre-defined approaches, three of these, i.e. “Occasional specific health promotion projects”, “Regular health promotion projects and organization-wide programs” and “Systematic integration of health promotion in existing quality management systems” were ticked by about 30% of hospital coordinators each, while only about 10% chose “Establishing an own health promotion management system”, and just 2% indicated another approach.

An earmarked budget for health promotion existed in only 35% of HPH hospitals. Overall, 32% of participating HPH hospitals had an official HPH unit, 46% an official HPH team, 57% an explicit HPH steering committee and 59% had developed further explicit roles or groups for health promotion (e.g. permanent working groups). All hospitals had a HPH coordinator, although a full-time position was available in only 11% of hospitals. 62% had a part-time coordinator (with 7.7 working hours per week on average). Only 46% of coordinators had officially allocated working time for health promotion.

A total of 29.0% self-rated their health promotion implementation approach as “systematic integration of health promotion in existing quality management systems”. A linkage between health promotion and quality management became visible for more specific indicators: 63% of the hospitals used quality management systems in the whole organization and 77% on the level of units / departments.

In 47% of hospitals, outcomes of health promotion and prevention activities were routinely captured, and in 64% there was a health promotion quality assessment routine in place, which included the “HPH Self Assessment Tool for Health Promotion in Hospitals” (18) for 46% of the hospitals. A high percentage reported to train staff to increase health promotion skills (69%) or had, as defined in Standard 1, written policies / strategies / standards in place (72%).

The degree of implementing HPH core strategies varied from 2.72 to 4.19 on a five-point scale. The mean degree of perceived strengthening the implementation by participation in HPH was 51% across criteria for all strategies, with a range from 32% to 69% for the 18 strategies (see table 2).

According to aggregated means, the three health promotion quality improvement strategies (HOSP-STRAT 1-3) were clearly better fulfilled than the three health promotion service strategies (HOSP-STRAT 4-6) (see table 2).

### Table 1 Basic characteristics of the responding HPH member hospitals (number and per cent)

<table>
<thead>
<tr>
<th>Shares (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of hospital services</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>General hospital (mainly acute)</td>
</tr>
<tr>
<td>Specialised hospital/facility</td>
</tr>
<tr>
<td><strong>Profit orientation of hospital</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Non-profit organisation</td>
</tr>
<tr>
<td>For-profit organisation</td>
</tr>
<tr>
<td><strong>Owner of the hospital</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Government, federal</td>
</tr>
<tr>
<td>Government, non-federal</td>
</tr>
<tr>
<td>Privately owned</td>
</tr>
<tr>
<td>Religious order</td>
</tr>
<tr>
<td>Welfare association</td>
</tr>
<tr>
<td>Insurance fund</td>
</tr>
<tr>
<td><strong>Location of the hospital</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Small town (less than 15.000 inhabitants)</td>
</tr>
<tr>
<td>Town (15.000 to 99.999 inhabitants)</td>
</tr>
<tr>
<td>City (100.000 to 999.999 inhabitants)</td>
</tr>
<tr>
<td>Large City (1.000.000 and more inhabitants)</td>
</tr>
<tr>
<td><strong>Number of hospital bed</strong>&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Up to 400</td>
</tr>
<tr>
<td>Between 401 and 800</td>
</tr>
<tr>
<td>More than 801</td>
</tr>
<tr>
<td><strong>Administrative status of hospital</strong>&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Hospital is a standalone organisation</td>
</tr>
<tr>
<td>Hospital is part of a trust or alliance</td>
</tr>
<tr>
<td><strong>Years of membership in the HPH network</strong>&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>3 years or less</td>
</tr>
<tr>
<td>Between 4 and 6 years</td>
</tr>
<tr>
<td>Between 7 and 9 years</td>
</tr>
<tr>
<td>Between 10 and 12 years</td>
</tr>
<tr>
<td>13 years or more</td>
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</tbody>
</table>

*P*<0.00 (Chi<sup>2</sup>-Test) between responders and non-responders

No significant differences between responders and non-responders

### Hospital structures and processes

The majority of hospitals in the sample were general hospitals (see table 1 for further characteristics). The representativeness of the sample was also tested for the 349 non-responding hospitals (see footnotes table 1).

When asked to describe the HPH implementation strategy of their hospital by ticking the most suitable one from a list of four pre-defined approaches, three of these, i.e. “Occasional specific health promotion projects”, “Regular health promotion projects and organization-wide programs” and “Systematic integration of health promotion in existing quality management systems” were ticked by about 30% of hospital coordinators each, while only about 10% chose “Establishing an own health promotion management system”, and just 2% indicated another approach.

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According to aggregated means, the three health promotion quality improvement strategies (HOSP-STRAT 1-3) were clearly better fulfilled than the three health promotion service strategies (HOSP-STRAT 4-6) (see table 2).
The networks differed considerably concerning their degree of implementation and for the reported strengthening by participation in HPH (see table 3). Interestingly enough, degrees of implementation and degrees of strengthening were correlated negatively (-0.48, N = 18) over all HPH core strategies.

Discussion

The PRICES-HPH study collected data at the organisational level of the HPH networks and the member hospitals. The majority of networks were able to acquire at least basic resources for their work, although to considerably varying extents. Less than half of the networks had dedicated infrastructure to support their function.

The study showed a considerable variety of the degree of strategy implementation and the perceived strengthening through participation in HPH. Hospital coordinators attributed a strengthening of implementation and for the reported strengthening by participation in HPH (see table 3). Interestingly enough, degrees of implementation and degrees of strengthening were correlated negatively (-0.48, N = 18) over all HPH core strategies.
Table 3 Degree of Implementation of 18 core strategies and the degree of perceived strengthening by participation in HPH - network level (numbers, mean and SD)

<table>
<thead>
<tr>
<th>Implementation (n)</th>
<th>Strengthening (n)</th>
<th>Networks (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low</td>
<td>Low</td>
<td>Middle</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>0</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>0</td>
<td>5</td>
<td>12</td>
</tr>
</tbody>
</table>

Aggregation by type of general strategy

- **Empowerment for HP self-reproduction (HOS-STRAT 1)**
  - Implementation (Very low): 0
  - Implementation (Low): 1
  - Implementation (Middle): 5
  - Implementation (High): 12
  - Implementation (Very high): 1
- **Empowerment for HP coproduction (HOS-STRAT 2)**
  - Implementation (Very low): 0
  - Implementation (Low): 1
  - Implementation (Middle): 7
  - Implementation (High): 9
  - Implementation (Very high): 1
- **Developing a HP hospital setting (HOS-STRAT 3)**
  - Implementation (Very low): 0
  - Implementation (Low): 0
  - Implementation (Middle): 4
  - Implementation (High): 13
  - Implementation (Very high): 1
- **Empowerment by illness management (HOS-STRAT 4)**
  - Implementation (Very low): 0
  - Implementation (Low): 3
  - Implementation (Middle): 11
  - Implementation (High): 3
  - Implementation (Very high): 3
- **Empowerment by lifestyle development (HOS-STRAT 5)**
  - Implementation (Very low): 1
  - Implementation (Low): 4
  - Implementation (Middle): 12
  - Implementation (High): 0
  - Implementation (Very high): 1
- **Participation in HP community development (HOS-STRAT 6)**
  - Implementation (Very low): 0
  - Implementation (Low): 5
  - Implementation (Middle): 12
  - Implementation (High): 0
  - Implementation (Very high): 1

Aggregation by target groups

- **Patient-oriented strategies (PAT-1 – PAT-6)**
  - Implementation (Very low): 0
  - Implementation (Low): 0
  - Implementation (Middle): 4
  - Implementation (High): 13
  - Implementation (Very high): 1
- **Staff-oriented strategies (STA-1 – STA-6)**
  - Implementation (Very low): 0
  - Implementation (Low): 2
  - Implementation (Middle): 10
  - Implementation (High): 6
  - Implementation (Very high): 0
- **Community-oriented strategies (COM-1 – COM-6)**
  - Implementation (Very low): 0
  - Implementation (Low): 1
  - Implementation (Middle): 13
  - Implementation (High): 3
  - Implementation (Very high): 1

Aggregation of all 18 HPH core strategies

- Implementation (Very low): 0
- Implementation (Low): 1
- Implementation (Middle): 10
- Implementation (High): 6
- Implementation (Very high): 0

* Constructed categories of degree of implementation are defined by mean ranges of the five-point Likert scale: Very low = 1-1.8; Low = 1.81-2.6; Middle = 2.61-3.4; High = 3.41-4.2; Very high = 4.21-5

* Constructed categories of degree of strengthening by participation in HPH are defined by ranges for mean percentages of answers “yes, strengthening”: Very low = 0-20%; Low: 21-40%; Middle = 41-60%; High = 61-80%; Very high = 81-100%

* Only networks with more than three valid cases in the sample were included. These are 18 of the 29 networks that participated in the survey.
Conclusion
Overall, the national / regional HPH networks and their member hospitals have implemented HPH strategies to quite a substantial degree and they see participation in HPH networks as a relevant influence for that purpose. The extents varied by type of HPH strategy and by affiliation to networks.

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Analysis and interpretation of data: JMP, CD, HS, FR.
Drafting the article: JMP
Revising the article critically for important intellectual content: CD, HS, FR.
Final approval of the version to be published: JMP, CD, HS, FR

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