Health Promotion International, Vol. 30 No. 2
doi:10.1093/heapro/dat048
Advance Access published 19 July, 2013

Organizational capacities for health promotion implementation: results from an international hospital study

FLORIAN RÖTHLIN*, HERMANN SCHMIED and CHRISTINA DIETSCHER

Ludwig Boltzmann Institut Health Promotion Research, Untere Donaustraße 47, Vienna 1020, Austria
**Corresponding author. E-mail: florian.roethlin@lbihpr.lbg.ac.at*

SUMMARY

In this article, organizational structures in hospitals are discussed as possible capacities for hospital health promotion (HP) implementation, based on data from the PRICES-HPH study. PRICES-HPH is a cross-sectional evaluation study of the International Network of Health Promoting Hospitals & Health Services (HPH-Network) and was conducted in 2008–2012. Data from 159 acute care hospitals were used in the analysis. Twelve organizational structures, which were denoted as possible organizational health promotion capacities in previous literature, were tested for their association with certain strategic HP implementation approaches. Four organizational structures were significantly ($p = 0.05$) associated with one or more elaborate and comprehensive strategic HP implementation approaches: (1) a health promotion specific quality assessment routine; (2) an official hospital health promotion team; (3) a fulltime hospital health promotion coordinator; and (4) officially documented health promotion policies, strategies or standards. The results add further evidence to the importance of organizational capacity structures for hospital health promotion and identify four tangible structures as likely candidates for organizational HP capacities in hospitals.

Key words: capacity building; health promoting hospitals; implementation; organization development

INTRODUCTION

Based on WHO's Ottawa Charter, the settings approach has become a major health promotion strategy in as diverse settings as regions, districts, cities, islands, schools, hospitals, workplaces, prisons, universities and marketplaces (Dooris, 2006). Like other settings for health promotion, hospitals provide a unique set of conditions that can facilitate or hinder the successful implementation of health promotion (Whitelaw *et al*., 2001; Poland *et al*., 2009). Effective, efficient and sustainable health promotion in and by hospital organizations depends on numerous organizational and managerial preconditions; aside from adequate project management, investment in the hospital's health promotion structures and resources is needed (Pelikan, 2007a).

The International Network of Health Promoting Hospitals & Health Services (HPH-Network), initiated by the WHO in 1990 as a multi city action plan of the Healthy Cities Project, aims at supporting hospital organizations in the process. Based on the Vienna model project Health and Hospital (Nowak *et al*., 1998), the European Pilot Hospital Project (EPHP) (Pelikan *et al*., 1998) was the first comparative, hospital-specific health promotion implementation

project of the network in the early 1990s (Pelikan *et al*., 2011a). The EPHP had clear expectations with regard to organizational requirements in the participating hospitals, as formulated in the Budapest Declaration on Health Promoting Hospitals from 1991. The experiences from these early HPH projects, as well as the conceptual input of the health promoting settings approach (St Leger, 1997) confirmed that the systematic and large-scale implementation of health promotion in hospitals is a question of organizational change, innovation and learning and requires the building of adequate organizational health promotion capacities (Röthlin, 2013). The acquired knowledge and experience on health promotion implementation was later condensed to the Vienna Recommendations (WHO-Regional Office for Europe, 1997), a major policy document of the HPH-Network, which recommends high organizational standards for the implementation of hospital health promotion, including professional project management and specifically trained personnel. Since these earlier stages in HPH development, the nomination of a health promotion focal point (the HPH-coordinator) is one of the minimum structural requirements for a hospital to become a HPH-Network member. Later, through the development of a network-specific HP quality self-assessment tool (Groene *et al*., 2004; Groene *et al*., 2005a), the international HPH-Network adopted a more standardized approach toward the building of organizational health promotion capacities in member hospitals, aiming at integrating health promotion targets into strategic development and organizational learning (Pelikan *et al*., 2005).

These developments in the HPH-Network as well as experiences from other health promotion implementation projects (Hawe *et al*., 1997; Yeatman and Nove, 2002; Riley *et al*., 2003) emphasize the importance of specific organizational health promotion capacities; thus there seems to be consensus in the hospital health promotion community that supportive organizational structures are necessary prerequisites to pursue a comprehensive hospital health promotion approach. But while there are a number of resulting recommendations, empirical data on the subject are scarce. Analyses of data from the PRICES-HPH evaluation study (Pelikan *et al*., 2011b; Dietscher, 2012) are used in this article to answer the research question: Which specific organizational structures are potential organizational capacities for health promotion implementation in hospitals? The question will be addressed by testing if specific organizational structures are related to the more elaborate and comprehensive HP implementation approaches of the surveyed hospitals.

THEORETICAL BACKGROUND

HP implementation approaches

The health promotion implementation experiences, practices and recommendations of the HPH-Network (Pelikan *et al*., 1998; Groene *et al*., 2005a), together with the empirical implementation types Johnson and Baum identified in their qualitative study (Johnson and Baum, 2001), were used as a basis for surveying the four strategic health promotion implementation approaches that were the PRICES-HPH study.

The first and most basic strategic HP implementation approach is the 'occasional specific health promotion project'. It corresponds to 'doing a health promotion project' from Johnson and Baum's typology (Johnson and Baum, 2001). They regard occasional health promotion projects as a possible starting point for getting involved in health promotion when, for example, support from senior management is lacking. The risks of implementing HPH through occasional projects are limited reach and lack of sustainability (Johnson and Baum, 2001). To comprehensively implement health promotion into the complex hospital structures and everyday routines, investment in more general health promotion structures is needed (Pelikan, 2007a; Röthlin, 2013).

The second strategic HP implementation approach emphasizes 'regular health promotion projects and organization-wide programs'. This implementation approach is more continuous and comprehensive than the first and summarizes two implementation types from Johnson and Baum, namely 'being a health promotion setting' and 'being a health promotion setting and improving the health of the community' (Johnson and Baum, 2001). This strategic HP implementation approach is characterized by organization-wide health promotion projects and activities and requires a stronger commitment to health promotion on the part of the senior management. Since hospitals in the HPH-Network are expected to implement health promotion projects and programs with systematic and documented

project management (WHO-Regional Office for Europe, 1997; Pelikan, 2007a), the PRICES-HPH study was bound to identify health promotion implementation via systematically managed projects and programs (that reach the whole organization) as a health promotion implementation strategy in its own right. While such projects and routines may reach target populations throughout the organization, sustainability remains a major issue.

The third strategic HP implementation approach, the 'establishment of a specific health promotion management system', again corresponds to Johnson and Baum's typology and aims at sustainably influencing the organizational decisions and decision-making, through explicit health promotion structures and responsibilities. The development of health promotion management structures can be regarded as an important step on the way to becoming a health promoting hospital (Pelikan, 2007a). Johnson and Baum identified the trend in hospital organizations to delegate health promotion exclusively to these specialized roles and therefore to prevent other parts of the organization from taking over their own responsibility for a comprehensive and organization-wide health promotion approach, as one of the major risks of this implementation strategy (Johnson and Baum, 2001).

The fourth strategic HP implementation approach surveyed is the 'systematic integration of health promotion in existing quality management systems'. Quality management is, in most hospitals, a key factor in organizational learning and the development of new routines, which is indispensible for the integration of health promotion in hospitals (Pelikan, 2007b). This implementation strategy is of specific importance for the HPH-Network. Even the HPH Network's own quality self-assessment tool (Groene *et al.*, 2005a) assesses in its first standard 'Management Policy' the degree to which health promotion is part of the overall organization's quality-improvement system.

To summarize all four strategic approaches, strategy (1) corresponds exactly to Johnson and Baum's hospital health promotion implementation typology. Strategy (2) differs from Johnson and Baum's typology in the sense that it does not differentiate, like Johnson and Baum's typology does, between 'normal' and 'community related' organization-wide HP projects since both project types are regarded as being part of the same implementation strategy, which is delineated in HPH-Network documents and literature. Strategy (3) again corresponds to one of Johnson and Baum's implementation types and is, as well, in line with implementation recommendations in HPH-Network literature. Strategy (4) cannot be derived from one of the Johnson and Baum types. This category is, nonetheless, required of an HPH-Network evaluation study since implementation research and tradition in the HPH-Network rely heavily on quality management.

Organizational HP capacities

A wide range of organizational structures and processes have been recommended as possible organizational capacities for hospital health promotion (Röthlin, 2013). Important examples that were integrated into PRICES-HPH are: (1) HP-related personnel and roles (Yeatman and Nove, 2002; Groene *et al.*, 2005b; Pelikan, 2007a); (2) the HPH-Network-specific role of the hospital HPH coordinator, in addition to general HP roles in hospitals; A HPH coordinator is a formal requirement for hospitals to become HPH-Network members and can best be described as a change agent or purveyor (Fixsen *et al.*, 2005); (3) building staff knowledge and competencies through health promotion training as stated by Groene *et al.* (Groene *et al.*, 2005a); (4) anchoring health promotion in the hospital's written and official documents (Pelikan *et al.*, 1998; Groene *et al.*, 2005b; Heward *et al.*, 2007); (5) dedicated funding (Greenhalgh *et al.*, 2004) and (6) quality managment, which is central to the HP implementation discourse of the international HPH Network (Groene and Garcia-Barbero, 2005) and the wider hospital development and hospital implementation literature (Heward *et al.*, 2007).

METHODS

Study design

PRICES-HPH was a transnational evaluation study (Pelikan *et al.*, 2011a, b) conducted by the Health Promoting Hospitals research team at the Ludwig Boltzmann Institute Health Promotion Research, aiming to reduce the stated deficit of data on the national and regional HPH-Networks and their member organizations (Whitehead, 2004). An evaluation model was developed to guide the evaluation of health promotion implementation in the HPH-Network

member hospitals (Pelikan *et al.*, 2011b). In accordance with Avedis Donabedian's quality model (Donabedian, 1980), organizational health promotion structures were modeled as prerequisites for the implementation of hospital health promotion processes (interventions).

A data survey, using a pre-tested and self-administered questionnaire, took place between October 2009 and February 2010 among focal points of member organizations in 29 (out of 35) national and regional HPH networks which indicated their willingness to participate in the study. The final version of the questionnaire comprised 110 mainly closed questions and was translated into the 12 different languages (see the different language versions of the questionnaire on this website: http://www.hph-hc.cc/projects/prices-hph.html). An advisory board comprising HP scientists, members of governance bodies of the international HPH-Network, national and regional HPH-Network coordinators and HPH focal points from member organizations was an integral part of the instrument development. Data collection was conducted in a two-step procedure. In the first step, national/regional HPH-Network coordinators were contacted in order to collect addresses of member hospitals and gather social support for the initial contact with member organizations. In the second step, HPH-focal points in member organizations were contacted directly via e-mail.

Participants

According to the lists provided by national and regional HPH-Network coordinators and additional investigation, the sample frame consists of 470 acute care member hospitals (without other health care organizations, such as long-term care facilities, elderly homes, etc.). With 159 returned questionnaires, the return rate was 33.8%. One consequence of the complex structure of the worldwide HPH-Network that produces a number of gatekeepers on diverse levels is that different national/regional HPH-Networks had different response rates. However, analysis of other important sample properties, such as services offered, profit orientation, owner of the hospital, administration, size of town in which the hospital is located, and size of hospital (in hospital beds), showed no significant deviations from the total population (sampling frame) (Table 1).

Instrument

Implementation approaches were surveyed with the question: 'What kind of approach best describes the HPH implementation strategy of your hospital?' with five possible categories of answer. (a) 'Occasional specific health promotion projects'; (b) 'Regular health promotion projects and organization-wide programs'; (c) 'Establishing our own health promotion management system (e.g. special HPH unit or HPH roles)'; (d) 'Systematic integration of health promotion into existing quality management systems'; and (e) an open answer possibility should none of the other answer categories apply. The open answer possibility was chosen only twice or by 1.26% of the total sample and will not be further used or analyzed. The two cases will be treated as missing.

Organizational HP capacities were surveyed with reporting questions, asking for the existences of a certain capacity structure:

(i) HP-related personnel and roles were surveyed with the questions: 'Is there an official HPH unit in your hospital?'; 'Is there an official HPH team in your hospital?'; 'Is there an explicit HPH steering committee in your hospital?' and 'Are there any further explicit roles or groups for health promotion constituted in your hospital? (e.g. permanent working groups)'. The answer categories were 'Yes' and 'No'.

(ii) Since it is mandatory for HPH-network hospitals to have an HPH-coordinator in place, the PRICES-HPH item on HPH coordination did not differentiate between the availability and non-availability of the respective role but between a fulltime position, a part-time position and a position with no dedicated working time at all. The survey question was: 'In your function as HPH focal person/coordinator: How much of your working time is officially allocated to HPH?' For the analysis, the answer categories were dichotomized indicating a fulltime position or not.

(iii) The availability of a health promotion skill training for staff members was assessed by the answer category 'Staff training to increase health promotion skills' to the question: 'What methods does your hospital use for the implementation of HPH in your hospital?'

(iv) The availability of official HPH documents was reported by answering the question:

Table 1: Descriptive data of the HPH hospital sample of the PRICES-HPH study

	Shares (%)	Frequencies	Valid answers (% of total *n*)
Type of hospital services			
General	88.1	140	159 (100)
Specialized	11.9	19	
Profit orientation of hospital			
Non-profit organization	95.5	150	157 (98.7)
For-profit organization	4.5	7	
Owner of the hospital			
Government, federal	36.5	58	157 (98.7)
Government, non-federal	43.3	69	
Privately owned	9.4	15	
Religious order	6.3	10	
Welfare association	2.5	4	
Insurance fund	0.6	1	
Location of the hospital			
Small town (less than 15 000 inhabitants)	10.7	17	159 (100)
Town (15 000–99 999 inhabitants)	36.5	58	
City (100 000–999 999 inhabitants)	37.3	60	
Large City (1 000 000 and more inhabitants)	15.1	24	
Number of hospital beds			
Up to 400	47.2	70	148 (93.1)
Between 401 and 800	30.5	45	
More than 801	22.3	33	
Administrative status of hospital			
Hospital is a stand-alone organization	45.9	73	157 (98.7)
Hospital is part of a trust or alliance	52.8	84	
Years of membership in the HPH Network			
3 years or less	26.6	41	154 (96.9)
Between 4 and 6 years	22.1	34	
Between 7 and 9 years	16.9	26	
Between 10 and 12 years	20.1	31	
13 years or more	14.3	22	

'Are there written policies/strategies/standards for health promotion in your hospital?' The answer categories were 'Yes' and 'No'.

(v) Dedicated HP funding was surveyed with the question: 'Does the hospital have an earmarked budget for health promotion?' This single item admittedly oversimplifies the financing issue, since hospital organizations actually have to develop a number of different structures for accounting, reporting and allocation to reliably provide financial resources, but presented as a question, it provided an opportunity for the respondents—even non-accountants—to report (and not just assess) at least one central financing issue. The answer categories were 'Yes' and 'No'.

(vi) Four PRICES-HPH items to survey hospital (health promotion) quality management structures are used in this article. The availability of whole organization quality management systems was reported by answering the item: 'Does your hospital use quality management systems on the level of the whole organization?' The Item: 'Does your hospital use quality management systems on the level of units/departments?' did the same on the level of departments or units. The availability of health promotion-specific quality assessments was surveyed with the question: 'Is there a health promotion quality assessment routine in place?' For all three items dichotomous 'Yes' or 'No' answer categories were provided. The answer category: 'Outcomes of health promotion and prevention activities (e.g. percentage of people who stopped smoking)' of the item 'Which data does your hospital routinely capture to monitor the quality of health promotion activities for patients?' was used to gather information on the existence of routines for monitoring health promotion outcomes in a hospital.

Statistical analysis

This article explores the hypothesis that specific organizational structures can be understood as capacities for organizational HP. This was tested by assessing if the availability of organizational structures would be associated with an increased likelihood to apply more elaborate health promotion implementation approaches, or looking at it the other way round, with a reduced likelihood that health promotion would be implemented just via 'occasional specific HP projects' (the most basic of the four implementation strategies) instead of using one of the three more elaborate implementation approach.

Organizational structures that are associated with an increased chance for an elaborate (instead of basic) health promotion implementation strategy were identified through (multivariate) multinominal logistic regression analysis.

In an initial step, the frequency distributions of the four strategic HP implementation approaches in association with different organizational structures were analyzed using a Chi-square test. In the second step, variables were entered into a multinominal logistic regression model with the organizational structures as independent and the four different HP implementation approaches as dependent variables. Of the four implementation approaches, the 'occasional specific health promotion projects' strategy was used as the reference category.

For multivariate analysis, HP capacity structures were entered into a (multivariate) multinominal logistic regression model with a forward entering algorithm. The resulting model was extensively compared with alternative models but still showed the best fit and overall explanation values. The model fits the data significantly ($\alpha = 0.01$ level) better than the baseline model. A non-significant Chi-square goodness of fit test indicated that the estimated cell counts of the model appropriately fit with the observed empirical values. The highest bivariate correlations between independent variables were 0.30 ($\alpha = 0.01$ level) for 'HP quality assessment routine' and 'written HP policies/strategies/standards' and 0.29 ($\alpha = 0.01$ level) for 'HP quality assessment routine' and 'official HPH team'. Neither variance inflation factors (between 1.021 and 1.115) nor condition indices of eigenvalues (between 1 and 4.9) indicated severe problems with multi-collinearity. The lack of significant interaction effects backs the linearity assumption. The software packages used for bi- and multivariate analysis were SPSS 15 and EXCEL 2010.

RESULTS

The distribution of the strategic HP implementation approaches shows very similar frequencies for three ('Occasional specific HP projects', 'Regular HP projects and organization wide programs' and 'Integrating HP into quality management') of the four analyzed strategies in the total sample (see Table 2, first row). Only the 'HP management system of its own' strategy is, with less than 10%, remarkably less common.

The most common organizational HP structures are quality management systems on the unit or department level and staff training to increase health promotion skills. One hundred fourteen (74%) respectively 112 (73%) hospitals reported the availability of at least one of these organizational structures. This is about three quarters of the total sample. Fulltime HPH coordinators, on the other hand, were available in only 20 (13%) of the hospitals in the total sample and are, therefore, by far the least common organizational structure in the analysis (see Table 2 second to last column).

Associations between organizational HP structures and strategic HP implementation approaches were identified through a (multivariate) multinominal logistic regression model, since the bivariate changes in frequency distributions can contain spurious effects, while other effects may be invisible. Hence, the multivariate model identifies other significant associations than the bivariate one. In the bivariate case, the frequencies of implementation strategies varied significantly (when compared with the total sample) if an 'official HPH unit', an 'official HPH team' or a 'HP quality assessment routine' were in place, or if 'HP outcomes are routinely captured'. In the multivariate case, aside from the 'HP quality assessment routine' and the 'official HPH team' (which still produced significant effects), two other structures gained importance: the 'fulltime HPH coordinator' and 'written HP policies/strategies/standards'. Three of the four independents contributed significantly to the model ($\alpha = 0.05$ level) according to the −log likelihood test. Only 'written HP policies/strategies/standards' failed with $\alpha = 0.053$ the −log likelihood significance level, but still produced a significant effect according to the Wald test.

Table 2: Distributions of strategic HP implementation approaches by available organizational HP and quality structures (multiple answers)

Organizational structure in the hospital	Occasional HP project *n* (row %)	Regular HP projects and organization- wide programs *n* (row %)	HP management system of its own *n* (row %)	Integrating HP into quality management *n* (row %)	Total Number of hospitals with structure *n* (row %)	Valid (*N*)
Total sample	46 (29.9)	50 (32.5)	14 (9.1)	44 (28.6)	154 (100)	154
Official HPH unit[a]	11 (20.4)	23 (42.6)	9 (16.7)	11 (20.4)	54 (100)	154
Official HPH team[a]	11 (14.7)	30 (40.0)	10 (13.3)	24 (32.0)	75 (100)	153
Explicit HPH steering committee	19 (21.3)	31 (34.8)	10 (11.2)	29 (32.6)	89 (100)	151
Further explicit roles or groups for HP	20 (22.2)	34 (37.8)	11 (12.2)	25 (27.8)	90 (100)	150
Fulltime HPH coordinator[a]	2 (10.0)	6 (30.0)	7 (35.0)	5 (25.0)	20 (100)	151
Staff training to increase HP skills	29 (25.9)	40 (35.7)	10 (8.9)	33 (29.5)	112 (100)	154
Written HP policies/ strategies/ standards	23 (20.9)	38 (34.5)	11 (10.0)	38 (34.5)	110 (100)	151
Earmarked budget for HP	14 (25.9)	20 (37.0)	7 (13.0)	13 (24.1)	54 (100)	150
Quality management system whole organization	29 (30.2)	30 (31.3)	6 (6.3)	31 (32.3)	96 (100)	149
Quality management system unit/ department level	33 (28.9)	37 (32.5)	9 (7.9)	35 (30.7)	114 (100)	146
Health promotion quality assessment routine[a]	15 (15.2)	35 (35.4)	12 (12.1)	37 (37.4)	99 (100)	152
Routinely captured HP outcomes[a]	11 (15.7)	23 (32.9)	11 (15.7)	25 (35.7)	70 (100)	154

Sample sizes (valid *N*), frequencies (*n*), percentages (row %) and significant deviations to total sample percentages (a).
[a]Category percentages of organizational structure deviate significantly (Chi-square $p \leq 0.05$) from total sample.

Model quality was assessed using Nagelkerkes corrected pseudo R^2 measure ($R^2_{(N)} = 0.39$). 'Health promotion quality assessment routines' was the most important independent variable and accounted for 40.6% of the overall explanation of the model. 'Fulltime HPH coordinator' was second with 23.8%, and 'official HPH team' came third with 19.0%. With a 16.7% share of the total model effect, 'written HP policies/strategies/standards' was the least informative of the four independent variables.

The regression parameters of the mulitnominal model are (logarithmized) odds ratios (see Table 3 column B; odds ratios are specified in Table 3 column Exp(B)). Odds ratios indicate the factor to which the likelihood ratio of an HP implementation strategy is changed compared with the reference strategy ('occasional specific HP project') given the presence of a certain organizational capacity structure. The large number of independents, compared with the relatively small sample size, affects the efficiency of the model and leads to large confidence intervals ($\alpha = 0.05$ level). Large intervals make a reasonable numerical interpretation of individual effect sizes difficult and the upper and lower boundaries should be kept in mind.

Hospitals that have a 'HP quality assessment routine' have positive and significant odds ratios for all three elaborate strategic implementation approaches. The position of a 'fulltime HPH coordinator' is associated with a significant increase (compared with the reference category) of the likelihood for the 'own health promotion management system' implementation strategy. The 'Official HPH team' and the 'fulltime HPH

Table 3: Multinominal logistic regression model

	b	Sig.	Exp(B)	95% confidence interval for Exp(B)	
				Upper bound	Lower bound
Regular organization wide HP project					
Intercept	2.83	0.005			
HP quality assessment routine	1.11	**0.025**	**3.02**	**7.96**	**1.15**
Fulltime HPH coordinator	1.21	0.192	3.36	20.75	0.54
Official HPH team	1.38	**0.006**	**3.98**	**10.65**	**1.49**
Written HP policies/strategies/standards	0.88	0.09	2.4	6.61	0.87
Own HP management system					
Intercept	3.22	0.003			
HP quality assessment routine	2.79	**0.016**	**16.34**	**159.16**	**1.68**
Fulltime HPH coordinator	3.06	**0.004**	**21.4**	**169.38**	**2.7**
Official HPH team	1.56	**0.047**	**4.77**	**22.26**	**1.02**
Written HP policies/strategies/standards	0.8	0.394	2.22	13.96	0.35
Integrating HP into quality management					
Intercept	2.77	0.008			
HP quality assessment routine	2.21	**0**	**9.1**	**29.98**	**2.76**
Fulltime HPH coordinator	1.12	0.258	3.05	21.07	0.44
Official HPH team	0.95	0.079	2.58	7.42	0.9
Written HP policies/strategies/standards	1.69	**0.01**	**5.42**	**19.7**	**1.49**

Parameter estimates (b); significance levels of estimates (Sig.); parameter estimates as odds ratios (Exp(B)) and upper and lower bounds of the 95%confidence intervals of estimated odds ratios. Bold when parameter estimates are significant ($\alpha = 0.05$ level).

coordinator' are the only role- and personnel-related structures that were associated with significantly changed odds of at least one of the three elaborate implementation approaches. Official HPH teams are positively associated with the 'regular organization wide projects' implementation approach as well as with the 'own HP management system' strategy. The 'fulltime HPH coordinator' is associated solely with the 'own HP management system'. Finally, there is another single positive association between 'written HP policies/strategies/standards' and the 'integrating HP in quality management' implementation approach. This association indicates that 'softer' structures which have only indirect effects on organizational practices can, nonetheless, be regarded as organizational capacities for health promotion as well.

DISCUSSION

The explanative value of the 'HP quality assessment routine' capacity structure indicates its importance for HP implementation in many hospitals of the sample. Unsurprisingly, it was identified as a necessary tool to deliberately integrate HP into hospital quality management (Brandt *et al.*, 2005). The missing effects of other quality structures on health promotion implementation—such as quality management systems on the department level, as well as organization-wide quality management systems—indicate that health promotion has to be very explicitly linked to the quality routines of the hospital through clearly identifiable, observable and explicitly labeled health promotion quality indicators. In other words, the integration of health promotion into the organization's quality management has to be actively supported through the provision of health promotion quality indicators, instruments and processes. Through the explication and normalization of success criteria (Courpasson, 2000), HP quality assessment routines can, as well, facilitate the feasibility of large HP projects and the emergence of a health promotion management system of its own. The most widely used quality assessment routine for measuring health promotion in the HPH-Network is the '5 Standards for self-assessment tool' (Groene *et al.*, 2004). 47.1% of the general acute care hospitals in the PRICES-HPH total sample used it; that is, 73.3% of the hospitals that reported having a health promotion quality assessment routine in place. The other 26.7% of the hospitals mainly used national HP quality indicators.

The association between a fulltime HPH coordinator and the 'establishment of a specific health promotion management system' implementation strategy indicates that work hours or time of the HPH coordinator (in other words, the organization's health promotion expert) might be another organizational HP capacity. While for all member hospitals of the HPH-Network the role of the HPH coordinator is mandatory, only 12.8% have institutionalized the HPH coordinator as a fulltime position. It is, therefore, quite an exotic capacity even inside the HPH-Network. Surprisingly, additional time resources seem to produce significant effects, while the existence of a dedicated hospital health promotion budget had no significant influence on the hospitals' strategic HP implementation approach, which again highlights the importance of dedicated working time. In their quantitative study on nurses and their perceptions of a nurse's role in health promotion for elderly people in a hospital department, Kelly and others (Kelley and Abraham, 2007) stressed the importance of time resources for health promotion practice. However, the HPH coordinator functions less on an operative and more on an administrative/managerial level. The effect of the HPH coordinator's time resources suggests that working time needs to be dedicated on both the operational and the administrative level in order to pursue certain HP implementation strategies.

The multivariate analysis pointed to 'HPH teams' rather than to 'HPH units' as being directly associated with a higher likelihood of elaborate and comprehensive HP implementation approaches. 'Written policies/strategies/standards' did not seem to be extraordinarily highly associated with implementation strategies in the bivariate analysis. However, this structure, though weaker than other structures in the multivariate model, is still associated with more elaborate health promotion implementation.

Of the tested personnel and role related structures, an 'official HPH team' is the most effective one, when it comes to the facilitation of comprehensive implementation approaches. 'Official HPH units', 'explicit HPH steering committees' and 'further explicit roles or groups for HP' produced only insignificant effects. HPH teams, which can be recruited from different organizational parts and wards, may be especially well suited to facilitate the inter-organizational cooperation of different organizational parts for the same organization-wide health promotion project or else for a hospital's own health promotion management system. Teams are therefore more likely to overcome the monopolization of health promotion responsibilities that Johnson and Baum (Johnson and Baum, 2001) identified as a risk for health promotion structures such as health promotion units. Another strength of team structures as a health promotion implementation capacity is their multidisciplinary nature (Orme *et al*., 2007) that might contribute to the positive effect of HPH teams on health promotion implementation as well.

Officially documented and written health promotion policies, strategies or standards significantly increase the chance of integrating health promotion into the hospital's quality management system. Written documents seem to provide means that allow generating health promotion friendlier decisions, especially when it comes to the hospital's learning or quality routines (Groene *et al*., 2005a). Although 'written documents' may be regarded as a 'soft' structure with no direct impact on the organization's every day processing, practice or individual behavior, they allow concretizing the open and abstract concepts of hospital health promotion in order to make them processable for the organization. In that way, they provide a number of 'indirect' mechanisms to support health promotion implementation: as a means of the hospital's strategic management, as agenda setting instruments, as orienting frameworks for organizational decision making and practice or through their influence on the hospital's health promotion culture.

CONCLUSION

The importance of organizational structures as capacities for health promotion implementation in hospitals has long been stressed in the HPH-Network literature (Pelikan, 2007a) as well as in the wider hospital health promotion discourse (Heward *et al*., 2007). But empirical data on the issue have been scarce. The results presented in this article provide evidence for an association between organizational health promotion capacity structures and actual strategic HP implementation approaches in hospitals, based on empirical and quantitative data from an international sample of acute care hospitals. The results further affirm the importance of organizational capacity structures for hospital health promotion. Moreover, they add some specificity to

the discourse by highlighting HP quality assessment routines, official HP teams, fulltime HP coordinators and written HP policies, strategies or standards as four tangible organizational structures as potential HP capacities. The results, however, by no means indicate that other organizational structures cannot be regarded as HP capacities as well; but that additional research on their relevance is needed. Two other issues that arise from the results seem to be important for informing future research. First, causality hypotheses between capacity structures and HP implementation need to be strengthened. Since quantitative study designs that are capable to establish a reliable causal structure in HPH implementation and development processes are extremely difficult to realize, case studies seem to be the silver bullet in this regard. Second, possible associations between organizational HP capacities and the effectively realized HP practices and routines in hospitals are not yet established. Here again, analyses of associations on the basis of cross-sectional observations would provide initial evidence on how organizational HP capacities can affect HP practice in hospitals.

LIMITATIONS

The representativeness of data with respect to important organizational properties was analyzed and can be confirmed, but different return rates from different national and regional HPH-Networks suggest a biased sample in this respect.

Concerning the quality of the answers received, the few missing cases in the implementation approach assessment question showed that most respondents were able to attribute their hospital's implementation practices to one of the four predefined implementation strategies. Nonetheless, the strategic HP implementation approach is not based on simple reporting, but rather on the respondent's assessment of organizational implementation practices and realities. Although PRICES-HPH deliberately encouraged teamwork in hospitals to answer the questionnaire, in more than half of the cases it was the HPH hospital coordinator alone who answered the questions. Therefore, the results of the study strongly depend on the observations of the hospital HPH coordinators. Although they can be regarded as dedicated experts for health promotion in their organization, theirs is still only an individual perspective on complex organizational realities and practices.

REFERENCES

Brandt, E., Schmidt, W., Dziewas, R. and Groene, O. (2005) Implementing the Health Promoting Hospitals strategy through a combined application of the EFQM Excellence Model and the Balanced Scorecard. In Groene, O. and Garcia-Barbero, M. (eds), *Health Promotion in Hospitals: Evidence and Quality Management*. WHO-Euro, Copenhagen, pp. 80–99.

Courpasson, D. (2000) Managerial strategies of domination. Power in soft bureaucracies. *Studies*, **21**, 141–161.

Dietscher, C. (2012) Interorganizational networks in the setting approach of health promotion—the case of the International Network of Health Promoting Hospitals and Health Services (HPH). Dissertation. Universität Wien, Wien.

Donabedian, A. (1980) *The Definition of Quality and Approaches to its Assessment. Explorations in Quality Assessment and Monitoring*. Volume I. Health Administration Press, Ann Arbor/Michigan.

Dooris, M. (2006) Health promoting settings: future directions. *Promotion & Education*, **13**, 4–5.

Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M. and Wallace, F. (2005) Implementation research: a synthesis of the literature (Rep. No. 231). University of South Florida, National Implementation Research Network, Tampa, Florida.

Greenhalgh, T., Robert, G., MacFralane, F., Bate, P. and Kyriakidou, O. (2004) Diffusion of innovations in service organizations: systematic review and recommendations. *The Milbank Quarterly*, **82**, 581–629.

Groene, O. and Garcia-Barbero, M. (2005) Health promotion in hospitals: evidence and quality management (Rep. No. E86220). WHO-Euro, Copenhagen.

Groene, O., Jorgensen, S. J. and Garcia-Barbero, M. (2004) Standards for health promotion in hospitals: self-assessment tool for pilot implementation. World Health Organization, Barcelona.

Groene, O., Möller, J., Jorgensen, S. J., Fugleholm, A. M., Moeller, L., Schmidt, W. *et al.* (2005a) Standards for health promotion in hospitals—development and pilot test in nine European countries. *Gesundheitsokonomie und Qualitatsmanagement*, **10**, 281–288.

Groene, O., Jorgensen, S. J., Fugleholm, A. M., Moeller, L. and Garcia-Barbero, M. (2005b) Results of a pilot test of standards for health promotion in nine European countries. *International Journal for Quality in Health Care*, **18**, 300–307.

Hawe, P., Noort, M., King, L. and Jordens, C. (1997) Multiplying health gains: the critical role of capacity-building within health promotion programs. *Health Policy*, **39**, 29–42.

Heward, S., Hutchins, C. and Keleher, H. (2007) Organizational change—key to capacity building and effective health promotion. *Health Promotion International*, **22**, 170–178.

Johnson, A. and Baum, F. (2001) Health promoting hospitals: a typology of different organizational approaches to health promotion. *Health Promotion International*, **16**, 281–287.

Kelley, K. and Abraham, C. (2007) Health promotion for people aged over 65 years in hospitals: nurses perceptions about their role. *Journal of Clinical Nursing*, **16**, 569–579.

Nowak, P., Lobnig, H., Krajic, K. and Pelikan, J. M. (1998) Case Study Rudolfstiftung Hospital, Vienna, Austria-WHO-Model Project 'Health and Hospital'. In Pelikan, J. M., Garcia-Barbero, M., Lobnig, H. and Krajic, K. (eds), *Pathways to a Health Promoting Hospital. Experiences from the European Pilot Hospital Project 1993–199*. G. Conrad Health Promotion Publications, Werbach-Gamburg, pp. 47–67.

Orme, J., de Viggiani, N., Naidoo, J. and Knight, T. (2007) Missed opportunities? Locating health promotion within multidisciplinary public health. *Public Health*, **121**, 414–419.

Pelikan, J. M. (2007a) Health promoting hospitals—assessing developments in the network. *Italian Journal of Public Health*, **4**, 261–270.

Pelikan, J. M. (2007b) Gesundheitsförderung durch Organisationsentwicklung. Ein systemtheoretischer Lösungszugang. *Prävention und Gesundheitsförderung*, **2**, 74–81.

Pelikan, J. M., Garcia-Barbero, M., Lobnig, H. and Krajic, K. (1998) *Pathways to a health promoting hospital. Experiences from the European Pilot Hospital Project 1993–1997*. (vols. 2). G. Conrad Health Promotion Publications, Werbach-Gamburg.

Pelikan, J. M., Dietscher, C., Krajic, K. and Nowak, P. (2005) 18 Core Strategies for Health Promoting Hospitals (HPH). In Groene, O. and Garcia-Barbero, M. (eds), *Health Promotion in Hospitals: Evidence and Quality Management*. WHO, pp. 46–63.

Pelikan, J. M., Dietscher, C., Schmied, H. and Röthlin, F. (2011a) A model and selected results from an evaluation study on the International HPH Network (PRICES-HPH). *Clinical Health Promotion*, **1**, 9–15.

Pelikan, J. M., Groene, O. and Svane, J. K. (2011b) The International HPH Network—a short history of two decades of development. *Clinical Health Promotion*, **1**, 32–36.

Poland, B., Krupa, G. and McCall, D. (2009) Settings for health promotion: an analytic framework to guide intervention design and implementation. *Health Promotion Practice*, **10**, 505–516.

Riley, B. L., Taylor, S. M. and Elliot, S. J. (2003) Organizational capacity and implementation change: a comparative case study of heart health promotion in Ontario public agencies. *Health Education Research*, **18**, 754–769.

Röthlin, F. (2013) Managerial Strategies to Reorient Hospitals towards Health Promotion. Lessons from Organisational Theory. *Journal of Health Organization and Management*, **27** (forthcoming).

St Leger, L. (1997) Health promoting settings: from Ottawa to Jakarta. *Health Promotion International*, **12**, 99–101.

Whitehead, D. (2004) The European Health Promoting Hospitals (HPH) project: how far on? *Health Promotion International*, **19**, 259–267.

Whitelaw, S., Baxendale, A., Bryce, C., Machardy, L., Young, I. and Witney, E. (2001) 'Settings' based health promotion: a review. *Health Promotion International*, **16**, 339–353.

WHO-Regional Office for Europe. (1997) The Vienna Recommendations on Health Promoting Hospitals. WHO-Euro, Copenhagen.

Yeatman, H. R. and Nove, T. (2002) Reorienting health services with capacity building: a case study of the Core Skills in Health Promotion Project. *Health Promotion International*, **17**, 341–350.