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Research & Best Practice for patients, staff and community

In this issue

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News from the HPH Network

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WHO-CC, Clinical Health Promotion Centre
Bispebjerg University Hospital,
Denmark

The Official Journal of the
International Network of
Health Promoting Hospitals
and Health Services

CLINICAL HEALTH PROMOTION

Aim

The overall aim of the journal is to support the work towards better health gain by an integration of Health Promotion into the organisational structure and culture of the hospitals and health services. This is done by significant improvement of a worldwide publication of clinical health promotion based on best evidence-based practice for patient, staff and community.

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Editorial

The global financial crisis increases the need for clinical health promotion

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During the global financial crisis, the healthcare system are faced with rising demands for delivering more health services within the same budgets – or often at even lower budgets. In a situation like this it is clearly necessary to examine the healthcare as a whole and the hospitals and health services individually for possibilities to improve the productivity. Many working procedures and activities are replaced by more streamlined patient pathways and leaned administrations. Thereby, time has also come to focus on the necessity of health promotion in hospitals and health services. First of all, the question could be asked; if clinical health promotion is indeed necessary, could it at least be taken care of outside the hospitals and health services or maybe just ignored until better times arrive?

The answer is that health promotion without doubt has a natural place in families, schools, institutions, workplaces, social services and other settings. Nevertheless, the large majority of patients entering hospitals and health services suffer from a wide range of unhealthy lifestyles, so until further, health promotion is still required for patients at hospitals and health services.

It is well known that the majority of chronic diseases are potentially preventable, and that investment in healthy lifestyles is an inexpensive and effective way to reduce the development of illness (1). In addition, evidence has been gathered that health promotion among patients can reduce aggravation and complication as well as to improve the treatment outcome on short term, and reducing the relapse time and co-morbidity on long-term. Thus, there is a large potential in evidence-based clinical health promotion that is still untapped.

The patient pathways

Most, if not all, patient groups will benefit from being offered clinical health promotion along with other evidence-based interventions. Just to mention a few examples; the potential for surgical patients has been shown when adding enteral nutrition, intensive physical activity programmes as well as intensive smoking or alcohol cessation programmes to the surgical pathway. The improved treatment outcomes included fewer complications (2;3) or shorter recovery (4). Patients with chronic diseases, such as heart (5) and lung (6) diseases, stroke (7) and diabetes (8) benefit from comprehensive rehabilitation programmes by shorter recovery, reduced aggravation or prolonged relapse time. Patients with psychiatric illness die about 15-20 years before the background population, mainly because of unhealthy lifestyle, so here is also a huge potential for better health gain by adding health promotion to the treatment (9). More evidence is coming from ongoing research on new patient groups, areas, settings and methods for health promotion.

The hospitals and health services

Today, most hospitals and health services are reimbursed according to the number of patient visits and/or treatment activities. Therefore a question could be; how the hospitals and health services should 'survive' if effective and low cost health promotion leads to fewer patients requiring treatment for complication and relapse? However, the same question could be raised in relation to other improvements in treatment already taking place, such as more outpatient intervention, endoscopic procedures, fast track programmes, effective treatment of infectious diseases and cancer therapy – all of which have been implemented in spite of a major require-

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ment for flexibility in healthcare. Clinical health promotion can probably be implemented quit easy, on account of the low costs. When it comes to economy, some countries and regions have also included health promotion directly in their reimbursement systems, either based on the usual economical activity-based-cost analyses or as an incitement to support implementation. In addition, the reality today is that supplemental reimbursement for development of complications after surgical procedures like hip and knee replacement therapy is no longer an option in several countries. Moreover, hospitals and health services experience that evidence-based health promotion is demanded from the patients, and in the future, complaints could be expected if this is ignored.

The hospitals and health services are key employers in any country, and integrating health promotion also aims at the large number of staff members; thereby improving the health gain among staff, which is often followed by better well-being and lower sick leaves.

Ongoing research includes a randomised trial on implementation methods (10) and a qualitative evaluation among members from the International Network of Health Promoting Hospitals and Health Services (11).

The society

The society would get a main benefit of integrating health promotion into the patient pathways. On short term, the improved treatment outcome would produce improved quality for the same amount of money. On long term, the effect would be reduced disease aggravation and co-morbidity, thereby ensuring higher value for money.

However, to obtain the benefits of clinical health promotion a few obligations need to be fulfilled. The main obligation for politicians and other stakeholders is to bring in common sense when faced with the needs for priorities in healthcare. During a financial crisis, this is more crucial than ever. Thereby the temptation of just doing something is replaced by the careful consideration of the very low cost, high effectiveness and improved treatment outcome of integrating evidence-based health promotion into the clinical practice. If the healthcare cannot afford clinical health promotion, how will it find the resources for all the extra treatments an omission of clinical health promotion will result in?

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Handling Clinical Health Promotion in the HPH DATA Model:

Basic Documentation of Health Determinants in Medical Records of tobacco, malnutrition, overweight, physical inactivity & alcohol

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Abstract

Background Clinical Health Promotion activities contribute to the reduction of disease and treatment, and improve outcomes and prognosis. Accordingly, major health determinants such as smoking, physical inactivity, risk of malnutrition, overweight and hazardous drinking should be easily identified in the medical records. To that end, this study evaluates a simple 9 question health documentation model (HPH DATA Model) to be used in the medical records of patients in need of health promotion.

Methods The multi-national study took place in 78 pilot centres from 12 nations / regions. First, the HPH DATA Model was pilot tested by clinical specialists in a standardised manner for control under international conditions (A). Then it was tested under local conditions (B). After gaining familiarity with the model, the clinical specialists evaluated whether the model was understandable, applicable and sufficient (C). They were also invited to give comments.

Results The response rate was 87-100%; the missing data among responders were 0 - 2.6%. The inter-rater agreement in documenting the 5 risk factors using the HPH DATA Model was substantial to nearly perfect across the pilot centres at International Conditions (A); Kappa value 0.85 (0.65 - 0.99). The clinical specialists categorized 66% (29 - 94%) of the patients from their own clinical practice regarding the need for health promotion (B). Except for waist measurements, the clinical specialists found the model understandable, applicable and sufficient. It was also determined that the clinical specialists were in need of a more comprehensive definition of the term "severe illness" (C).

Conclusions The simple HPH DATA Model for systematic registration of 5 significant health determinants was found to be understandable, applicable and sufficient in different clinical settings.

Introduction

It is well established that the burden of the clinical pathway is closely related to individual health, diagnosis, treatment, and organization of the health service (1). Of these, focus has historically been on improving the latter three. Recently, however, more evidence has been gathered on the effect of improving individual health through health promotion (HP) as an integrated part of the clinical pathway. Good examples can be found in for instance the area of surgery (2). Better health gain influences treatment, outcome and prognosis on both short and long-term. In the systematic implementation of health promotion in clinical pathways, there is also an additional benefit of

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reducing inequity in lifestyle related health.

Clinical HP includes patient-centered HP, prevention and rehabilitation; all characterized by empowered and active patients playing a leading role. Clinical HP covers programmes for chronic care patients (3), rehabilitation for patients with mental disorders, and other HP activities. In surgery, for example, four to eight weeks perioperative smoking and alcohol cessation programmes have been shown to halve the postoperative complication rates, and likewise, intensive prehabilitation training programmes prior to surgery significantly reduces reconvalescence, reduces hospital stay and increases patient satisfaction (2;4;5).

In order to implement HP in daily practice, however, it is crucial that HP needs and HP activities are visible in the medical records. To that end, HP needs of and HP activities for patients with major health determinants such as physical inactivity, malnutrition, overweight, smoking and harmful drinking, must be systematically and easily documented in the medical records.

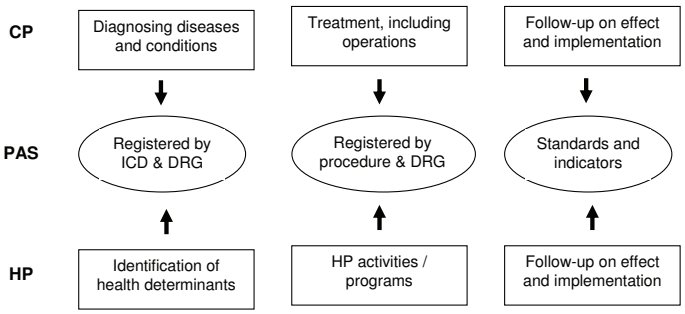
On the side of improving visibility and documentation of the HP activities, the International Network of Health Promoting Hospitals and Health Services (HPH) has previously developed and successfully evaluated a simple HPH model for systematic documentation of hospital-based HP activities (HPH Doc-Act) (6). Today, these activities can thus be quantified and related to relevant parameters such as diagnose at individual patient level, hospital or national level - in line with operations, number of beds, hospital stay and discharges. Furthermore, there are no technical barriers for integration of HP in the different reimbursement systems used in Europe, United States and Canada (7). During this evaluation of the HPH Doc-Act Model, we became aware that there was also a clinical need for a corresponding model on the side of HP needs. A model which could handle the basic documentation of major health determinants, such as malnutrition, overweight, physical inactivity, tobacco and alcohol, in the medical records (6) (Figure 1).

The ideal basic documentation model should be understandable, applicable and sufficient for ensuing the clinical decision process on recommendation and referral - or no recommendation and referral - to clinical HP activities. It should be relatively independent of the identification procedures and follow international recommendations and guidelines for intervention.

On this background, the aim of the present multi-national study on a simple documentation model for HP needs was:

A. to compare the inter-rater agreement in a standardised international setting and
B. to assess the model in local clinical practices
C. to evaluate the understanding, applicability and sufficiency experienced by clinical specialists

Figure 1 The HPH DATA Model, HPH Doc-Act (7) and the WHO Standards for HP in hospitals (36) are integrated parts of the existing patient administrative systems (PAS) related to the traditional clinical pathways (CP)



Methods

The study was performed in steps. First the HPH Model was pilot tested by clinical specialists under international conditions and secondly under local conditions. After they had become familiar with the Model, they were asked to evaluate if it was understandable, applicable and sufficient. They were also invited to give comments throughout the study.

Participants

The multi-centre project involved 78 clinical specialists represented by 78 pilot centres from 12 regions / countries (17 from Trentino and Tuscany in Italy; 10 Czech Republic, 10 Estonia, 8 Spain, 8 Norway, 8 Switzerland, 6 Taiwan RoC, 5 Canada (Ontario), 3 Germany, 2 Finland and 1 Austria). A centre could consist of a major department or a hospital. In all but one centre, the clinical specialists were the local senior physicians responsible for and familiar with the documentation, registration and coding in their department or hospital. In the last centre, the responsibility was placed in a specific documentation group referring to the chief nurse. The pilot centres represented minor and major hospitals as well as university hospitals, involving in-patients and out-patients from internal medicine, cardiology, nephrology, oncology, geriatrics, family care, surgery, orthopaedics, urology, obstetrics, gynaecology, emergency settings and intensive care units.

Material

The material consisted of two parts. Part A included ten anonymous standardized medical records from ten adult patients coded by the 78 clinical specialists. These international medical records were translated into Eng-

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lish and used by all pilots. The total number of tests was 7,020 (10 medical records x 9 questions in the HPH Data Model x 78 specialists). Part B included 20 local consecutive medical records (electronic or hard copy) from adult patients. Thereby 68 clinical specialists from 68 of the 78 pilot centres in 11 of the 12 nations/regions also tested the HPH Data Model in their local setting; (12,240 tests = 20 X 68 X 9).

HPH DATA Model

The HPH Data Model consisted of 9 documentation questions, which categorized risk of malnutrition (8-11), overweight (12-14), physical inactivity (15;16), smoking (17-19) and hazardous alcohol intake (20-24). The questions could be answered with "Yes / No" or "Unknown" (Table 1). "Unknown" was used, when the clinical specialists could not answer the question based on information in the medical record due to insufficient, incomplete or lack of information. "Yes" and "No" meant that the question could be used for categorising whether the risk factor was present ("Yes") or not present ("No").

Common test for International Conditions

The Part A material was delivered by mail to the national/regional coordinators, who further distributed it to the pilot centres. The clinical specialists then tested the HPH Data Model in the standardized medical records. A short instruction video showed how to use the HPH DATA Model on the standardized medical records. Subsequently, the material was returned, through the national/regional coordinator or directly, to the WHO Collaborating Centre.

Individual test for local conditions

Upon receipt of the material from Part A, Part B material was dispatched to the national/regional coordinators. The pilot-implementation test was then repeated with Part B, but this time using local medical records. The local records were collected consecutive. They could be chosen during the hospital stay, in the outpatient clinic or when the patient left the hospital according to the local routines for documentation – as long as they were consecutive.

Specialist evaluation

Finally, the specialists evaluated whether the model was understandable (defined as an experienced immediate understanding of the wording and content of the questions), applicable (defined as the practical usability of the tool) and sufficient (defined as each health determinant being covered to an adequate level). During the whole test period, the specialists were invited to give their comments.

Analysis

The data were analysed as Part A and Part B, and the results were presented per patient. Kappa statistics were used to calculate the agreement of registration among

Table 1 HPH Data Model: The 9-Question Documentation Model and the results on categories from local medical records; Part B

	Cat (%)		Not Cat (%)	Total (%)
	High risk patients	Low risk patients		
A: MALNUTRITION				
A1) Is the patient's BMI below 20,5?	12	56	32	100
A2) Has the patient lost weight in the past three months?	15	44	41	100
A3) Has the patient had reduced appetite in the past week?	16	43	41	100
A4) Is the patient severely ill? (i.e. stress-metabolic)	31	63	6	100
B: OVERWEIGHT				
B1) Is the patient's BMI above 25?	31	35	34	100
B2) Has the patient's waist exceeded 80 cm (W) or 94 cm (M)	12	17	71	100
C: PHYSICAL INACTIVITY				
C1) Is the patient active less than 30 min/day? (Moderate intensity with pulse increase, e.g. walking, cycling, training)	17	37	46	100
D: DAILY TOBACCO USE				
D1) Does the patient smoke daily?	22	64	14	100
E: HARZARDOUS ALCOHOL INTAKE				
E1) Does the patient's drinking exceed the recommended limits? (W = 14 per week, M = 21 per week)	9	62	29	100

Cat = Categorizable

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the specialists, the inter-rater reliability (25), in the Part A material. A moderate agreement corresponded to a Kappa value of 0.41 - 0.60, a substantial agreement to 0.61 - 0.80 and a near perfect agreement to 0.81 - 1.0 (26). The data from part C were presented in percentage of all participants. A phenomenological analysis was planned for the qualitative data from part C.

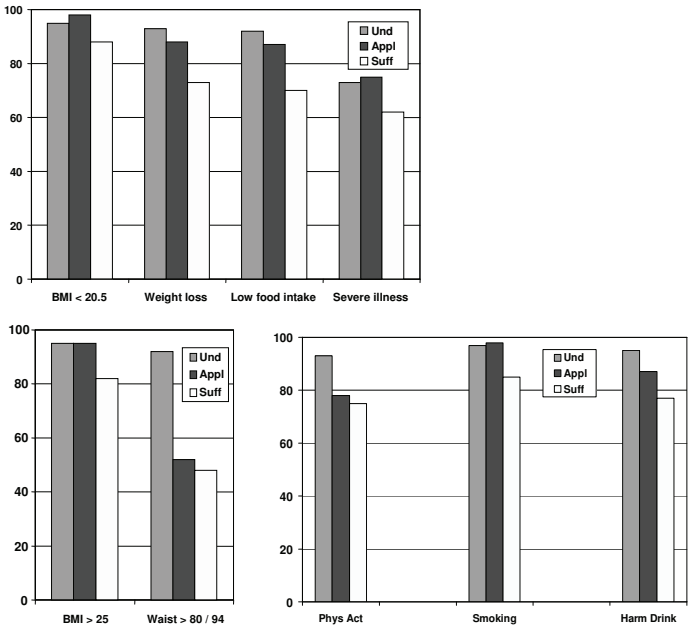
Ethical Considerations

No patients have been involved or contacted. Neither would it be possible to recognise any individual patient, as all data was collected and reported in a completely anonymous fashion. In the anonymous collection of the data, there was no relationship between original data and data in the documentation model form, and it was not possible to go back to the medical records in case of missing data. In accordance with the Danish Research Policy, registration only concerning doctors and organisations did not require patient consent. The Ethical Committee for Bispebjerg Hospital, Copenhagen approved the project.

Results

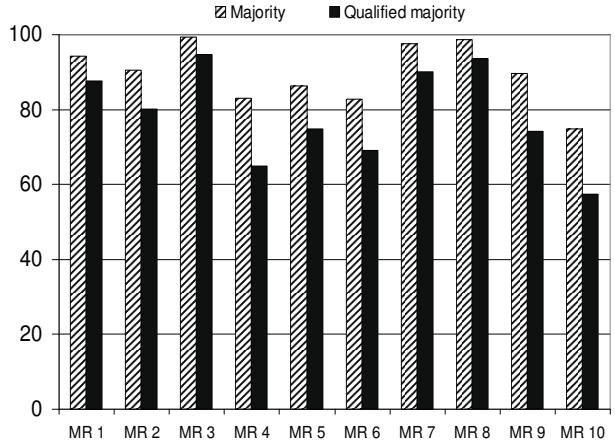
The response rate was high, 100% in Part A and 87% (68/78) in Part B. The amount of missing data among the responders was low; ranging from 0 - 2.6% (35/1360). Except for the waist measurement, the evaluation of usefulness showed a high degree of understanding, applicability and sufficiency for the health determinants (Figure 2).

Figure 2 Evaluation of the HPH DATA Model by clinical specialists (The results are given in %; understanding in light grey bars, applicability in dark grey and sufficiency in white bars) Part C



The clinical specialists in Part A reported a relatively high agreement, when using the HPH DATA Model for documentation in the ten standardised medical records (Figure 3). The Kappa value was 0.85 in median (ranging 0.65 - 0.99), which corresponded to a substantial to nearly perfect agreement.

Figure 3 Agreement (in %) amongst the clinical specialists on documentation of health determinants by using the HPH Data Model in a standardized set of 10 medical records (MR). Majority: >50% agreement on all 9 questions; Qualified majority: >67%. Part A



When the clinical specialists evaluated the model in their own clinical practice (Part B), they were able to categorise 66% (29 - 94%) of the patients regarding need for health promotion; 31% of the patients were overweight and 22% daily smokers (Table 1).

The general comments were sparse and short. Therefore it was not meaningful to perform the planned phenomenological analysis. The specific comments were grouped into three areas; the documentation details, the waist measurement and the term 'severe illness'. Several of the clinical specialists indicated the need for more detailed patient health promotion documentation for their records. One pilot centre found the model too complicated for daily practice. Some wanted the given alcohol limits replaced by their lower national/regional guidelines and some asked for a shorter and a more specific definition of severe illness or stress-metabolism, in relation to the risk of malnutrition. Nearly all commented on the waist measurement. They did not find it relevant for identification of overweight amongst their specific patients, and therefore not relevant in the documentation model. Furthermore, they questioned the additional benefit compared to BMI alone.

Several participants reflected on poor access to evidence-based health promotion activities for patients in their local hospital and community.

Discussion

This study defined a model for documentation of five important health determinants in a clinical setting. The model is independent of how the health determinants are identified or diagnosed, and it was evaluated in the clinical settings independent of the usual large variety in clinical routines across and within countries, regions, hospitals, specialities, wards and clinicians. The consistent and widespread use of the model would allow for the systematic documentation of health indicators. The International agreement on how to use the HPH DATA Model for documentation was high across regions and nations. With the exception of waist measurement, the clinical specialists found it understandable, applicable and sufficient for their own groups of medical and surgical patients.

The clinical specialists did, however, ask for clarification of the term 'severe illness' or 'stress-metabolism' as an element in identifying potential risk for malnutrition. The risk of malnutrition is significantly increased for patients with severe endocrine stress-metabolic response to major trauma, such as severe burns, open scalp fracture, sepsis, or similar conditions. These patients often need intensive care management, requiring hyper-alimentary nutrition, and therefore "severe illness" is included in the international guidelines for clinical nutrition (8-11).

Also, the clinical specialists had questions regarding overweight (14). Overweight is usually defined by BMI. About half of the clinicians did not find measurement of the waist circumference relevant for their patients, and they requested more evidence and further clarification on this data point. The literature published hitherto cannot give a clear answer to the question raised by the clinicians, thereby the inclusion of waist measurement in the HPH DATA Model should be considered until more evidence has been gathered.

The overall high levels of agreement and usefulness of this study are similar to the results of a minor pilot study from Denmark on a draft model (27), and is in line with the previously piloted documentation model for HP activities in hospitals (HPH Doc-Act) (6). The results of this study (and the one in Denmark) stand in contrast to the often negative reaction by clinicians when presented with the request for new or further documentation. The positive response by clinicians in this study could be related to a general interest in simple documentation models for use in the busy clinical day-to-day life, and the involvement of the clinicians and their influence on the final product of a clinical pathway. It may also be related to the fulfilment of a need for visibility and documentation of clinical HP in accordance with the evidence-based health promotion interventions, which was required in the previous study (HPH Doc-Act) (6). The results could be biased by the participation of pilot centres that also took part in the previous study, however, only a few pilots from three (Italy, Canada, Estonia) of the twelve regions/nations participated in both studies. The strength of the evaluation is that it covered the most common patient groups in hospitals, and that it was tested in a clinical setting including active medical records by those responsible for actual local implementation. The HPH DATA Model was evaluated for adults, exclusively, and extra care should be taken when implementing the model with regards to mentally ill patients, groups not similar to the test group, as well as in other countries and cultures.

Today, the participating hospitals and departments report information on health determinants in about 2/3 of the local medical records, though not necessarily in a coordinated, easy manner. They identify daily smoking or non-daily smoking for more than four out of five patients, they identify about two of three patients regarding risk of malnutrition, overweight and alcohol, and they identify about half of the patients regarding physical activity. Thus, the strategy for quality improvement should include identifying other health determinants in addition to the most frequent one; smoking. Implementation of this model should be monitored and evaluated through the existing quality management in hospitals. This systematic approach to health determinant documentation would positively impact patients who previously were not exposed to such documentation, thus allowing for a reduction of inequity in health. However, documentation of health determinants alone is not necessarily followed by more HP activities or by improved health gain. Thus, there is still a large untapped potential waiting to be utilised, and such utilization would improve patient pathways, outcomes and prognosis. Therefore, implementation should be followed by strategic action-taking adapted to the local needs and conditions.

As shown in Figure 1 and demonstrated in this study, the HPH DATA Model and the previously piloted documentation model for HP activities (HPH Doc-Act) (6), improves the clinical pathway of the patient. Both models can be applied to the five WHO Standards for HP in hospitals. The models are especially tailored for Standard II regarding systematic assessment of needs for HP activities and Standard III regarding information and health promotion intervention in the clinical pathway. The models also support the fulfilment of Standard V concerning continuity and collaboration across institutions and sectors (28). The WHO Standards have been

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developed in accordance with The International Society for Quality in Health Care (ISQUA) criteria, and evaluated and followed-up in health promoting hospitals as well as in other hospitals (29;30).

Furthermore, the HPH DATA Model can also be used to generate systematically collected data for health planning and research. A few pilot sites commented on this; however, the model is meant for basic documentation in clinical practice. It can easily be expanded with more details, as some hospitals may require.

New studies should evaluate the HPH DATA Model for use among patients outside the hospital setting, mentally ill patients and parents of hospitalised children and adolescents with the possibility of developing similar models for these groups. Further, more studies are needed on the HPH DATA Model regarding the applicability and usefulness of re-categorising the high risk patients according to the effect of HP activities.

Conclusions

In conclusion, the HPH DATA Model for systematic registration of 5 significant health determinants of major importance for the clinical outcome was found to be understandable, applicable and sufficient in different clinical settings.

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Competing Interests

All authors have completed the Unified Competing Interest form at www.icmje.org/col_disclosure.pdf (available on request from the corresponding author), all declared not having received support for the submitted work; HT has consultancy relationships with the Danish National Board of Health and LS has employment relationships with Tallinn Children's Hospital that both might have an interest in the submitted work during the previous 3 years; their spouses, partners, or children have no financial relationships that may be relevant to the submitted work; and authors have no non-financial interests that may be relevant to the submitted work.

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Research and Best Practice

Smoke free hospital campus:

Strong positive shift in attitudes post implementation but paradox in nursing and medical attitudes

Patricia Fitzpatrick[1,2], Irene Gilroy[2], Kirsten Doherty[2], Anna Clarke[1,2], Denise Comerford[2], Leslie Daly[1,2], Cecily Kelleher[1,2]

Abstract

Background This paper is a report of a study of acceptance by patients and staff of a hospital campus-wide smoking ban one year post-introduction, in order to determine if there was a shift in attitude, and staff perception of their individual roles in implementation. The survey also investigates the smoking rates of patients and staff.

Method Survey of both patients and staff in a tertiary referral university hospital in Ireland. Interviewer-delivered questionnaire survey of all inpatients on single day and sample of staff (10% in each occupational group); comparison with 2006 pre-implementation survey.

Results There was a significant fall in smoking rates between 2006 and 2010 in staff (17.8% v 10.7%;p=0.02) but not in patients (22.7% v 18%; p>0.05). Positive attitude of patients (58.6% v 84.2%, p<0.001) and staff (52.4% v 83.3%, p<0.001) to the campus-wide ban increased significantly between 2006 and 2010; the greatest increase was seen in doctors. When perception of own role in implementation was examined, younger staff were less likely to agree they had a role, while ex-smokers were more likely. Among the occupational groups, nurses were significantly more likely to agree than all other groups, including medical doctors.

Conclusion Documented significant positive change in attitudes to a campus-wide smoking ban; opposite attitudes of doctors and nurses to ban and to role in implementation. Despite documented challenges internationally, for long-term success a commitment from all staff to implementation is critically important.

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Introduction

In March 2004 the Republic of Ireland became the first country in the world to legislate for an outright ban on indoors smoking in workplaces (1-4) and many countries have since followed suit. Yet at the time of the workplace ban in Ireland, no health-care facility opted to go with a site-wide ban including outdoors. St Vincent's University Hospital is a tertiary referral teaching hospital with a full range of acute and elective medical and surgical services in addition to a major psychiatric service. In 2009, following extensive and well-documented consultation (5) and prior assessment of acceptance, the hospital introduced a campus-wide smoke free policy. The goal was to achieve a health-care facility that is both health promoting in its ethos and as supportive and compassionate as possible to the clinical needs of smokers.

Patients were made aware of the policy by several means, including the patient information handbook given to all patients on admission, a patient information leaflet sent out prior to elective admissions and clinic appointments, a message on all letters sent to patients, posters, signage, website and voice over announcements at entrances to the hospital. A smoking cessation service was available for patients, with support for those patients wishing to quit smoking and management of smoking through nicotine replacement therapy for continuing smokers while in hospital. An exemption clause was introduced to cover the circumstances where ethically some patients could need to be given a choice to smoke, including detention under the Mental Health Act, being acutely psychotic or traumatised or terminal illness (6).

Staff were made aware of the policy through briefing sessions and policy

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documents. Staff training using clinical vignettes was offered in small groups to all staff. A smoking cessation service and free nicotine replacement therapy for staff were all in place prior to the introduction of the policy (7).

St Vincent's University Hospital has had a Department of Preventive Medicine and Health Promotion for over 30 years and has a comprehensive smoking cessation service. Since 1997 regular surveillance of smoking prevalence was introduced, with surveillance data collected in 1997, 1998 and 2004, using similar methodology throughout. The final survey in 2004 took place before introduction of the indoor national workplace smoking ban in the Republic of Ireland later that year (5). Prior to the introduction of the campus wide ban the most recent survey was conducted in 2006, when there was strong support for the 2004 workplace ban, backed by 87.6% of staff and 81.3% of patients (5). At that time a majority, 58.6%, of patients said they would support an outright campus wide ban; support was strongest in the oldest group, with no difference in support according to General Medical Card eligibility. This is a commonly used indicator of social class in Ireland, with those on the lowest incomes eligible for a means-tested General Medical Card (GMS) entitling the holder to free GP and hospital care and prescription medications. A narrower majority of staff, 52.4%, said they would support the introduction of a total campus-wide smoking ban. This pattern was related to both age (greatest support in younger staff) and occupational groups (higher in medical, nursing, allied health professionals and administration/management than in cleaning contractors and allied services). Of those who did not support it, some were themselves non-smokers and factors such as compassion for patients and civil liberties of staff figured in their responses. A larger majority 74.7% would have been prepared to support the implementation of a campus-wide ban if were introduced, with a similar pattern in relation to age and occupational grouping.

We undertook a survey of both patients and staff in St Vincent's University Hospital in 2010, to determine the level of agreement with the ban one year post-introduction, in order to determine if there was a shift in attitude, and the perception of staff of their individual roles in implementation. The survey also investigates the smoking rates among patients and staff.

Methods

Patient survey 2010

St Vincent's University Hospital is a tertiary referral university hospital with 478 in-patient beds at the time of survey. In-patients were interviewed in a census performed across a single day. All in-patients in the relevant specialties on the days of the study were eligible for inclusion, other than those in day-care beds and those too ill to participate, as determined by the nurse in charge on each ward. A single-page questionnaire was developed and piloted. A member of hospital staff gave each patient an information leaflet, explaining the survey, the day prior to the survey being carried out. Patients had the right to refuse or give consent. Written consent was sought prior to interview. If a bed was vacant the interviewer returned, with a maximum of two attempts to see each patient.

Face-to-face interviews were conducted by the staff of the Department of Preventive Medicine and Health Promotion in the hospital, with the assistance of health promotion students and researchers.

The questionnaire sought information on smoking status, awareness of policy, acceptance of the campus wide smoking ban, beliefs about effect of passive smoking, if a patient was living with a smoker and whether there was a smoke free area in house.

Carbon monoxide (CO) testing was used to verify smoking status, by means of a breath test conducted at the time of interview.

Staff survey 2010

300 staff were surveyed face to face or by telephone interview. A quota sample of staff randomly selected, with 10% of staff in each occupational group selected (medical, nursing, allied health care, administration, cleaning, allied services). Due to small numbers, non-consultant hospital doctors were merged with consultants to form the medical group.

For the purposes of analysis allied services staff were merged with cleaning staff.

Data was inputted by health promotion staff. Patients were informed their data was anonymous for research purposes. Staff were verbally informed that the questionnaire was anonymous. No names were recorded. Data was entered on a password protected research database, which could only be accessed by health promotion staff.

Data analysis

Smoking rates were compared with 2006 data, by gender and by age group for both patients and staff. In 2006 the same methodology was used for patients as in 2010, with

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sample size of 365 patients. However for staff a quota sample of 40 in each occupational group was taken in 2006, whereas a 10% sample of all occupational groups was taken in 2010. We present both the unweighted and weighted overall prevalence rates for smoking and attitudes for staff from 2006. The weighted prevalence was calculated by applying the percentage smokers found in each occupational group sample to the actual numbers of staff in that occupational group; the resulting numbers were summed and divided by the total staff count to give a weighted prevalence. Chi square test was used for comparison of proportions and students t test for comparison of means. Logistic regression was used to determine independent factors associated with agreement with the campus smoke free policy in both patients and staff and with staff perception of their role in implementation of policy. SAS version 9 (SAS Institute Inc, Cary, NC, USA) was used for statistical analysis.

Ethical considerations

Ethical approval was obtained from the St Vincent's Healthcare Group Ethics Committee for patient and staff studies.

Power considerations

The achieved sample size in patients has power of 80% to detect 10.3% increase in agreement; the sample size in staff has power of 80% to detect 12.2% increase in agreement.

Results

Patient survey

Of 478 beds available in the hospital, 51 were unoccupied; Interviews were conducted on 183 patients (42.7% of occupied beds). 156 patients (36.5% of occupied beds) were deemed too ill to partake in the study. Fifty-seven patients (13.3%) refused to partake, two could not speak English and 29 (6.8%) were not found after two attempts. These 88 patients were similar to the 183 patients who were included in terms of GMS status (68.2% vs 65.9%) and gender (males 56% vs 49.1%).

There was a small but non-significant overall fall in smoking rates between 2006 and 2010, with the downwards trend observed in most age groups and in both males and females (Table 1).

The carbon monoxide test verified the smokers as follows: 11 of 16 current smokers who reported smoking while in hospital were positive at cut off of 10 parts per million (69%) while 127 of 132 who reported not smoking while in hospital were negative (96%).

There was a significant positive shift in attitudes of patients to a campus-wide ban between 2006 and 2010. This was seen in both males and females, in non- and ex-smokers and in older patients particularly (Table 2).

Looking at factors associated with agreement with the campus wide smoking ban in the current study, on univariate analysis, current smokers were less likely to agree, while those who considered passive smoking to be bad for health and those aged 60 or over were more likely (Table 3). After adjustment, being aged 60 or over and current smoking remained significant. The oldest group of patients had odds seven times greater than the youngest.

We examined the same factors in relation to awareness of the ban but found no significant associations, with high levels of awareness in all groups (current smoker 90.9%, ex-smoker 78.7%, non-smoker 73.8%).

Staff survey

The smoking rate overall among staff was 10.7% which represents a significant fall from 2006 when it was 17.8% (weighted; 18.0%). There was a trend downwards in all subcategories, but the only significant were among females and those aged 30-39 (Table 1).

There was a large significant increase in positive support among staff since the pre-implementation study in 2006; 52.4% (weighted; 51.2%), reaching 83.3% in 2010. Of the 234 staff who said they had agreed with the plan to introduce the campus ban prior to implementation 229 (97%) said they now still supported the ban; 21 (31.8%) of the 66 who said they were previously opposed now supported the ban. The greatest shift in support between 2006 and 2010 was seen in males and in medical staff (Table 2).

On univariate analysis, current smokers were less likely to accept the campus-wide smoking ban, while male staff were more likely (Table 4); significance persisted after adjustment. Medical staff (97.5%) were non-significantly more likely to support ban than nursing colleagues (82.5%).

When perception of own role in implementation was examined, younger staff were significantly less likely to agree they had a role, while ex smokers were significantly more likely to agree. Among the occupational groups, nurses were significantly more likely to agree than all other groups, including medical doctors (nurses 80.8%, doctors 32.5%; OR 13.01, 95%CI 4.1-41.9).

We asked about awareness of document detailing pro-

Table 1 Smoking rates 2006 and 2010; 295 and 183 patients and 225 and 300 staff of St Vincent's University Hospital, Dublin, by gender and age group

	Patients: Current Smokers					Staff: Current Smokers				
	2006		2010			2006		2010		
	n/N	%	n/N	%	p	n/N	%	n/N	%	p
Male	30/141	21.3	17/90	18.9	0.66	13/72	18.1	11/80	13.8	0.47
Female	37/154	24.0	16/93	17.2	0.21	27/153	17.6	21/220	9.5	0.02
Age (years)										
<30	10/30	33.3	6/18	33.3	1.00	12/72	16.7	8/82	9.8	0.20
30-39	7/22	31.8	3/7	42.9	0.59	14/68	20.6	8/94	8.5	0.03
40-49	10/29	34.5	7/20	35.0	0.97	3/43	7.0	7/66	10.6	0.52
50-59	12/34	35.3	6/20	30.0	0.69	9/32	28.1	8/49	16.3	0.20
≥60	28/180	15.6	11/118	9.3	0.07	2/10	20.0	1/9	11.1	0.60
Total	67/295	22.7	33/183	18.0	0.22	40/225	17.8	32/300	10.7	0.02

Table 2 Attitudes towards total campus smoking ban 2006 and 2010; in 295 and 183 patients and 225 and 300 staff of St Vincent's University Hospital, Dublin, by gender, age group and smoking status

	Patients: agree with the smoking ban					Staff: agree with the smoking ban				
	2006		2010			2006		2010		
	n/N	%	n/N	%	p	n/N	%	n/N	%	p
Male	89/141	63.1	75/90	83.3	0.001	37/72	51.4	72/80	90.0	0.000
Female	84/154	54.5	79/93	84.9	0.000	81/153	52.9	178/220	80.9	0.000
Age (years)										
<30	14/30	46.7	13/18	72.2	0.08	41/72	56.9	69/82	84.1	0.000
30-39	9/22	40.9	5/7	71.4	0.16	33/68	48.5	80/94	85.1	0.000
40-49	14/29	48.3	12/20	60.0	0.42	25/43	58.1	54/66	81.8	0.007
50-59	20/34	58.8	17/20	85.0	0.04	16/32	50.0	40/49	81.6	0.003
≥60	116/180	64.4	107/118	90.7	0.000	3/10	30.0	7/9	77.8	0.04
Smoking status										
Non	75/116	64.7	58/61	95.1	0.000	84/129	65.1	177/201	88.1	0.000
Ex	73/112	65.2	80/89	89.9	0.000	27/56	48.2	58/67	86.6	0.000
Current	25/67	37.3	16/33	48.5	0.286	7/40	17.5	15/32	46.9	0.007
Total	173/295	58.6	154/183	84.2	0.000	118/225	52.4	250/300	83.3	0.000

cedures, held on all wards; there was no difference in awareness by occupational group, age or smoking status.

Discussion

Study limitations

The samples of patients and staff from 2006 and 2010 were independent. Each study represents a cross-sectional study at a point in time. Over one third of inpatients were ineligible, with illness preventing participation, as determined by the nurse in charge on the ward.

We did not validate staff smoking, as the main focus of this study was to determine changing attitudes following introduction of campus wide smoking ban. However staff reporting of smoking is unlikely to be biased, in that there was no sanction associated with responses given, the study was entirely confidential with no link to the human resources department, which should improve truthfulness of response. In our previous study (5), we confirmed smoking rates vary by occupational group, reflecting the national picture of variation with socioeconomic class.

Table 3. Agreement with smoke-free campus policy – 183 patients of St Vincent's University Hospital, Dublin 2010

Variable	Agree n/N (%)	Univariate OR (95% CI)	Multivariate OR (95% CI) ∞
Age (Years)			
<30	13/18 (72.2)	1.0	1.0
30-39	5/7 (63.0)	1.92 (0.18-2.82)	3.22 (0.19-54.92)
40-49	12/20 (60.0)	0.66 (0.16-2.65)	0.88 (0.14-5.69)
50-59	17/20 (85.0)	3.27 (0.55-19.62)	7.99 (0.93-68.70)
≥60	106/117(90.6)	3.71 (1.11-12.35)*	7.21 (1.13-46.18)*
Female	79/93 (84.9)	1.4 (0.62-3.33)	1.11 (0.37-5.87)
Male	75/90 (83.3)	1.0	1.0
Smoke free area at home			
Yes	139/160 (86.9)	2.55 (0.82-7.87)	1.47 (0.19-6.21)
No	13/20 (65.0)	1.0	1.0
Living with a smoker			
Yes	39/49 (79.6)	0.64 (0.26-1.55)	0.91 (0.27-3.05)
No	115/134 (85.8)	1.0	1.0
Agree that passive smoking is bad for health			
Yes	141/161 (87.6)	5.94 (1.47-24.06)**	5.48 (0.92-32.57)
No	5/9 (55.6)	1.0	1.0
Non smoker	3/61 (95.1)	1.0	1.0
Ex smoker	80/89 (89.9)	0.52 (0.13-2.03)	0.23 (0.04-1.45)
Current smoker	16/33 (48.5)	0.06 (0.01-0.21)**	0.03 (0.01-0.20)**
GMS card ≠			
Yes	103/120 (85.8)	1.54 (0.50-4.68)	1.10 (0.19-6.21)
No	50/62 (80.7)	1.0	1.0
Among smokers only - Smoking while in hospital			
Yes	7/17 (41.2)	0.68 (0.17-2.80)	Not included in model
No	9/16 (56.3)	1.0	

* p<0.05, ** p<0.01, ∞ Multivariate model, including all variables listed (except smoking while in hospital),
≠ General Medical Services card, means-tested, entitling the holder to free GP and hospital care and prescription medications

Discussion of results

International reports of hospital smoking bans are mixed, but this is among the few articles reporting introduction in a major tertiary referral teaching hospital. This is the first report of a campus wide smoking ban in a hospital in the Republic of Ireland, the country which was the first worldwide to implement a workplace smoking ban indoors. The introduction of the campus-wide ban followed a national shift in attitudes to smoking, prompted by the workplace smoking ban.

The International Health Promoting Hospitals and Health services was initiated in 1993 by the World Health Organisation (8). The Irish Health Promoting Hospital (HPH) network was launched in 1997 and is the coordinating body for Health Promoting Hospitals in Ireland. The network produces evidence to help hospitals and health services achieve their mission in relation to Health Promotion. It supports cooperation and exchange of experience between participating hospitals. St Vincent's University Hospital has been a member of the Network from the start and the hospital has been actively involved at national and international level. Membership of HPH facilitates development of a corporate identity that embraces the aims of health promotion.

The ENSH (European Network for Smoke-Free Healthcare Services) Global Network for Tobacco Free Health Care Services is an independent, international association whose mission "is to promote and support smoke-free health care centres all over the world" (9). The ENSH Network has developed a 10-point code and standards,

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Table 4 Agreement with smoke-free campus policy – 300 staff of St Vincent's University Hospital, Dublin 2010

Variable	Agree n/N (%)	Univariate OR (95% CI)	Multivariate OR (95% CI) ∞
Age (Years)			
<30	69/82 (84.1)	1.0	1.0
30-39	80/94 (85.1)	1.08 (0.47-2.48)	1.02 (0.42-2.48)
40-49	54/66 (81.8)	0.85 (0.36-2.01)	0.86 (0.33-2.23)
50-59	40/49 (81.6)	0.84 (0.33-2.13)	0.91 (0.32-2.63)
≥60	7/9 (77.8)	0.66 (0.12-3.53)	0.76 (0.11-5.48)
Male	72/80 (90.0)	2.12 (0.95-4.75)	3.28 (1.22-8.78)
Female	178/220 (80.9)	1.0	1.0
Non smoker	177/201 (88.1)	1.0	1.0
Ex smoker	58/67 (86.6)	1.38 (0.63-2.99)	0.75 (0.32-1.78)
Current smoker	15/32 (46.8)	0.12 (0.06-0.27)**	0.12 (0.06-0.27)**
Occupation			
Administration	34/40 (85.0)	1.0	1.0
Allied health care	34/40 (85.0)	1.0 (0.29-3.41)	0.86 (0.24-3.12)
Allied services & cleaning	44/60 (73.3)	0.48 (0.17-1.37)	0.41 (0.13-1.31)
Medical	39/40 (97.5)	6.88 (0.79-60.06)	3.35 (0.36-30.85)
Nursing	99/120 (82.5)	0.83 (0.31-2.23)	0.90 (0.31-2.64)

* p<0.05, ** p<0.01, ∞ Multivariate model, including all variables listed

which provide all healthcare organisations, wanting to achieve a tobacco free campus, with a framework of best practice and standards to implement; the ENSH Code and Standards were used to guide the implementation of the smoke free campus policy in St Vincent's University Hospital.

All specialist cancer hospitals in the country will follow suit over the coming months, comprising seven more of the largest hospitals in the state. We report a significant increase in approval of the ban one year post implementation in almost all groups except current smokers. St Vincent's University Hospital encompasses a sizeable acute and long stay inpatient psychiatric department; studies in the UK show that psychiatric staff express significantly less favourable attitudes than general staff to smoke free health care settings (10). Yet we found high acceptance rates in all occupational groups, representing staff from across the entire hospital.

In the United States the focus of evaluation of campus smoking bans is mainly on retention of patient numbers in private hospitals. Reported pre-implementation acceptance of hospital campus bans is higher (up to 83%) (11) than found in our study. A Cochrane systematic review of legislative bans on smoking highlights the important potential health gain for acute hospital admission rates of smoking-related details so the banning of smoking outright in such settings sends a consistent public health message (12).

Current smoking was the only significant factor associated with a negative perception of the ban among patients; however the important finding is the decreasing percentage of patients who smoke, meaning that dissenters represent a small minority. There was a similar finding among staff with a small dissenting proportion of a small number of smokers.

We found a paradox in that almost all doctors were in agreement with the introduction of the campus ban, but very few saw any role for themselves in implementation; this was in direct contrast to their nursing colleagues, who although they had a lower agreement rate perceived a major role in implementation. Implementation and enforcement represents the major challenge reported in the National Health Service (NHS), where risk of abuse is a deterrent to staff to engage in active policy enforcement (13). Most medical and nursing staff in the NHS report that they do not enforce smoke-free regulations (14); however a progressive trend is also reported towards medical staff being more likely to challenge patients, visitors and staff smoking when compared to nursing staff (14). This suggests the barriers to successful implementation are more attitudinal than infra structural. Clinical hospital staff must conceptualise this as a clinical issue in which they have a responsible role for bans to be enforced effectively.

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We had found that small numbers of medical and nursing staff attended training sessions prior to introduction of the campus ban; attendance at such sessions did not feature as significant predictors of perceived role in implementation. The small numbers that did attend training sessions using clinical vignettes anecdotally found these very supportive, but a serious commitment to training prior to implementation was lacking. Lack of clarity regarding implementation of smoking regulation is seen as a reason why staff may not play a role in enforcement of policy (14). Medical staff play a key role in implementation, through prescription of nicotine replacement therapy for management of smoking while in hospital (15;16) and through advice to patients pre elective admission or during admission which may serve as cue to action (17).

We have documented significant positive change in attitudes to a campus-wide smoking ban. For such a ban to be successful in the long term a commitment from all staff to implementation is both important and necessary to document.

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Impact of co-morbidity and adverse life-style on complications in elective total knee arthroplasty

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Abstract

Background Complications related to total joint arthroplasty (TJA) have an impact on health care expenditures worldwide. The objective was to examine the influence of preoperative adverse lifestyle and co-morbidity on postoperative complications in an optimised total knee arthroplasty (TKA) programme.

Methods This study was a retrospective study conducted at the orthopaedic department of a university hospital. Information was recorded regarding adverse lifestyles, co-morbidity, adverse postoperative events and complications.

Results A total of 304 complications were recorded, of which 54 were considered to be major, and 250 were considered to be of minor significance. Of the patients included in this study, 66 were women, and 43 were men. Pain-related complications were the most frequent type of complication (n=152). A univariate analysis revealed an impact of alcohol on pain-related complications (OR 4.0, CI 1.1-14.6). Cardiovascular disease (OR 2.5, CI 1.1-23.7, OR 8.6 CI 1.0-73.8 and 12.0, CI 1.4-99.7) and diabetes (OR 3.7, CI 1.2-11.5 and OR 11.5, CI 1.7-75.9) were associated with various surgical and non-surgical complications. Male gender had an impact on infectious risk (OR 10.5, CI 1.2-91.0), while obesity increased the length of stay in the hospital (OR 3.2, CI 1.0-10.0). Diabetes (OR 3.2, CI 1.0-9.6), hypertension (OR 5.2, CI 1.1-23.7) and cardiovascular disease (OR 2.6, CI 1.1-6.1) were associated with major complications.

Conclusion Even in an optimised TKA programme, preoperative lifestyle and co-morbidity contribute significantly to the risk of postoperative complications. The data from this study indicate a new set of risk factors related to co-morbidity and lifestyle; however, larger epidemiological studies are needed.

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Introduction

The frequency of total knee-arthroplasties has doubled and the frequency of hip arthroplasties has tripled over the last two decades in the US (1). Total joint arthroplasties (TJA) are the most frequently performed surgeries worldwide. The Danish National Knee-Arthroplasty Register recorded 5228 procedures in 2005 and 7396 procedures in 2007 (2).

This surgical population is generally over 50 years of age and is characterised by preoperative co-morbidity and risk factors. Risk factors for perioperative complications include age, male gender, race, obesity and crude co-morbidity (3-5). An increased body mass index (BMI) is in itself a risk factor for osteoarthrosis of the knee, which is associated with impaired quality of life, an earlier and increased need for total knee arthroplasty (TKA), lower quality of life, wound complications and venous thromboembolism (6-9). Smoking is a risk factor for perioperative complications in this population, and smoking cessation is known to reduce the risk of these complications (10). Diabetes is a known risk factor for TJA surgery and is associated with both surgical and medical complications as well as a prolonged length of hospital stay (LOS) and higher mortality (11). Optimal perioperative treatment can suppress the endocrine stress response (12).

The use of perioperative optimisation ("fast-track surgery", "rapid recovery protocols", "care map" or "accelerated/critical/clinical pathways") to address these risk factors and thereby avoid associated complications and adverse events have achieved positive results both internationally and in Denmark (13). Although the net evidence remains inconclusive, several beneficial effects have

been documented, including shortened LOS and convalescence due to more rapid postoperative mobilisation, better pain treatment, improved contact between the doctor and patient, more detailed patient information, and improved cost-benefit analyses (14;15).

The benefit of optimising co-morbidity by hospitalist care ("co-care" and "co-management") in the treatment of lower-extremity fractures has been demonstrated in some contexts, but it still remains controversial (16). One study has demonstrated that optimising hospitalist care benefits elective TJA patients, while studies in a mixed surgical population remain inconclusive (17). In contrast, there are many evidence-based rehabilitation programmes for chronic diseases, such as diabetes, ischemic heart disease and chronic obstructive pulmonary Disease (COPD), as well as interventions for lifestyle conditions, such as inactivity and alcohol overconsumption (18-22).

Considering the steady progress made in perioperative optimisation and the management/rehabilitation of chronic disease, older epidemiological studies may not identify current risk factors and co-morbidity within a state of the art elective TKA programme. Recent studies on preoperative optimisation of diabetes or lifestyle conditions, such as alcohol consumption and smoking, have been limited to mixed TJA populations and other surgical patient populations (23-25).

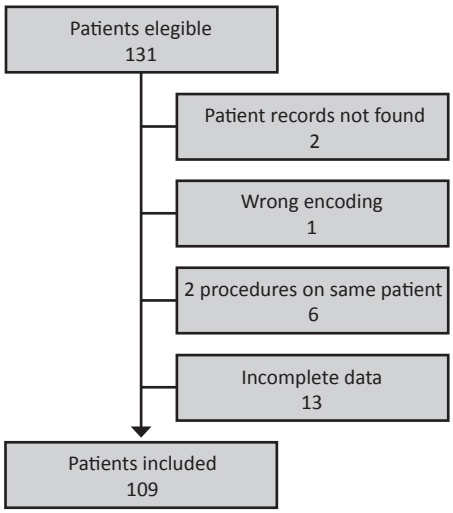
The purpose of this study was to identify a possible relationship between complications, co-morbidity and risk factors in elective TKA patients in a state of the art optimised perioperative programme.

Materials and Methods

Study population

We included 109 consecutive patients; missing information on weight and BMI was the most frequent cause of exclusion (13 out of 22) (Figure 1). All the patients underwent elective TKA at the Department of Orthopaedic Surgery at Bispebjerg Hospital in 2006 to ensure that any treatment and follow-up had been completed. All the patients were enrolled in the department's TKA programme. An initial ambulatory consultation by a specialist in orthopaedic surgery was scheduled for a short clinical assessment to determine the need for surgery. During a second consultation by an ambulatory nurse practitioner, the patient was screened for urinary infection and vital parameters (blood pressure, weight and height). The patients received oral and written information concerning the department's TKA programme with emphasis on the perioperative goals of pain-treatment, mobilisation and release on the 4th-5th postoperative day. The patients completed a questionnaire covering use of medication, general health, co-morbidities and risk factors on the day of admittance, and the patients were then clinically evaluated by a resident. Postoperative pain management consisted of epidural analgesia during the first 3 days and monitoring by a certified anaesthetic nurse. This approach was supplemented with a standard per-oral morphine analgesia regimen. Thrombosis prophylaxis with Tinzaparine 3,500 IU was started preoperatively and continued until patient discharge. Early postoperative mobilisation commenced the first day after surgery, at which point the patients were expected to leave the bed and eat their meals in a dining room and to attend scheduled physiotherapy sessions.

Figure 1 Study population



Design

This was a retrospective observational study of patient records from 2006. Permission to collect personal sensitive data was obtained by the Danish Data Protection Agency, according to the national Data Protection Act. (26) Acute and infected revision arthroplasties, as well as arthroplasties performed on children (age < 18 years), were excluded. All the patients who underwent surgery between 1st January and 31st December 2006 were included. The patient records were systematically reviewed by the main author according to predetermined criteria for any information on co-morbidity, risk factors, interventions related to co-morbidity and risk factors, or postoperative complications in 2007-2008. These criteria were defined in a catalogue that was approved by the study group prior to data collection. Co-morbidities were identified by the WHO-ICD code or during assessment, admission, bedside consultations and/or drug

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combinations. Cardiac disease and hypertension were assumed whenever common drugs combinations could be documented, and a prescription of inhalation medicine indicated pulmonary disease. To avoid underestimation of alcohol-related disease, certain drug combinations and off-label prescriptions without obvious reason (e.g., vitamins, antacids, propranolol, antidepressants and sedatives), in combination with admitted daily higher alcohol consumption, were considered to be positive for alcohol-related disease. Patient data without information on BMI and weight were excluded as this information was considered to be crucial for the analysis. Alcohol consumption was recorded according the recommendations from the National Board of Health (14 equivalents per week for men and 7 for women (1 equivalent contains 12 grams of pure alcohol)). All the postoperative complications were recorded and addressed urgently as emergencies by the department's ambulatory care unit throughout the postoperative period and prior to the first regularly scheduled ambulatory visit after 6 months. They were graded as fatal (death during admission), major (potentially lethal without immediate intervention) and minor (not life threatening). A bedside consultation was defined as whenever a consultant from another department provided non-orthopaedic specialist advice. A recorded episode of pain was defined as a complication whenever interventions and adjustments to the standard analgesia regime had to be made (Table 1).

Table 1 Postoperative major and minor complications

Major	Postoperative complications
A possible life-threatening condition, need for immediate medical attention (The same complications were considered fatal if they where cause of death.)	- Sepsis, septicaemia - Pneumonia - Wound infection – (deep, under fascia) - Bleeding (transfusion) - Thromboembolism or deep venous thrombosis - Ketoacidosis - Delirium - Apoplexy - neurological deficit with remission > 24 hours - TCI - neurological deficit with remission < 24 hours - Acute coronary syndrome - Cardiac arrhythmia - Cardiac arrest - Respiratory insufficiency pulmonary oedema - Gastroparesis, obstruction >3 days - Prosthetic luxation - Wound rupture with fascia rupture
Minor Not life-threatening, medical attention required	- Urinary infection - Wound infection – (superficial/abscess, over fascia) - Superficial venous thrombosis - Pain despite standard analgesia regime - Hypo/hyperglycaemia - Abstinences related to alcohol, tobacco or benzodiazepine - Paresis - ischiadic, femoral, peroneal nerve - Deterioration in COPD - Nausea, vomiting - Urinary retention - Prosthetic loosening - Wound rupture without fascia rupture

Data processing

Due to the observational character and the unknown outcome parameters, the sample size was not calculated. The data were collected, coded and stored in a database. Differences in continuous variables between men and women were tested using unpaired t-tests, while differences in the frequencies of categorical variables between the two groups were tested using chi-square statistics or Fisher's exact test where appropriate using Excel (Microsoft Office 2007). Odds ratios (OR) with confidence intervals (95%) > 1.0 and $p < 0.05$ for the chi square test were considered significant.

The influence of co-morbidity and risk factors on postoperative complications (all, minor and major) and many other complications were tested using univariate statistics (Table 2). In the model, one or more complications versus no complications and one or more episodes of pain requiring medical intervention versus no pain episodes constituted the outcome variables, while sex, age, BMI, smoking status, alcohol use, diabetes, hypertension, cardiovascular disease, respiratory disease and increased risk of thrombosis were evaluated as co-variates. Figure 2 depicts all the odds ratios of the model for all, major and minor complications, whereas Figure 3 only depicts the odds ratios with positive outcomes (although all the ratios were calculated) for individual risk factors.

An additional analysis was performed in which hypertension, cardiovascular disease and an increased risk of thrombosis were pooled to evaluate the total risk for vascular complications during TKA, but this analysis added nothing to the individual analyses. A multivariate analysis was also performed, but it was rejected due to the limited number of data points and the large number of covariates.

Results

In total, 66 (60.5%) patients were women. There were no significant gender differences in terms of age, BMI, length of stay or number of prescriptions (Table 3).

The co-morbidities of the study populations and the risk factors are shown in Table 4. These co-morbidities and risk factors were predominantly observed in men (smok-

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Table 2 Complications

	Women	(%)	Men	(%)	P
Number of complications (N)	181		123		NA
Fatal	0	-	0*	-	NA
Major	32	(17.7)	22	(17.9)	1.0
Minor	149	(82.3)	100	(81.3)	0.8
N per patient	2.8	-	2.9	-	NA
0 per patient	12	(18.2)	9	(20.9)	0.7
1-2 per patient	28	(42.4)	17	(39.5)	0,8
3-5 per patient	16	(24.2)	10	(23.3)	0.9
>5 per patient	10	(15.2)	5	(11.6)	0.6
>10 per patient	0	-	2	(4.7)	0.1
Medical complications (hypoglycaemia, bedside medical consultation)	3		9		0.01
Cerebral complications (confusion, neurological and psychiatric bedside consultation)	1		6		0.01
Pulmonary complications (pneumonia, respirator treatment)	1		4		0.1
Infection (sepsis, increased inflammatory parameters, urinary tract infection)	5		4		0.8
Complications related to anaesthesia (nausea, dural perforation, urinary retention)	8		4		0.6
Pain (epidural catheter failure, complaints, bedside consultation by a pain specialist)	100		52		0.03
Bleeding (hematoma, blood transfusion)	10		9		0.5
Wound complications (superficial infection, deep/superficial wound, secretion, rupture, pressure sore)	13		12		0.4
Oedema	5		0		0.1
Thromboembolic complications (Apoplexy, DVT)	0		4		0.01
Fall	1		2		0.4
Prosthesis complications (fracture, luxation, loosening, paresis)	1		2		0.4
Second surgery	6		2		0.4
Acute ambulatory consultation	1		1		0.8
Re-admittance	10		8		0.7
Re-admittance for rehabilitation	11		3		0.1

* renal failure (1 patient), NA: Not evaluable

ing; excessive alcohol consumption; and pulmonary, cardiac, thromboembolic and alcohol-related disease), but more women than men had diseases that demanded closer medical attention (diabetes and hypertension).

Figure 2 ORs for Postoperative Complications

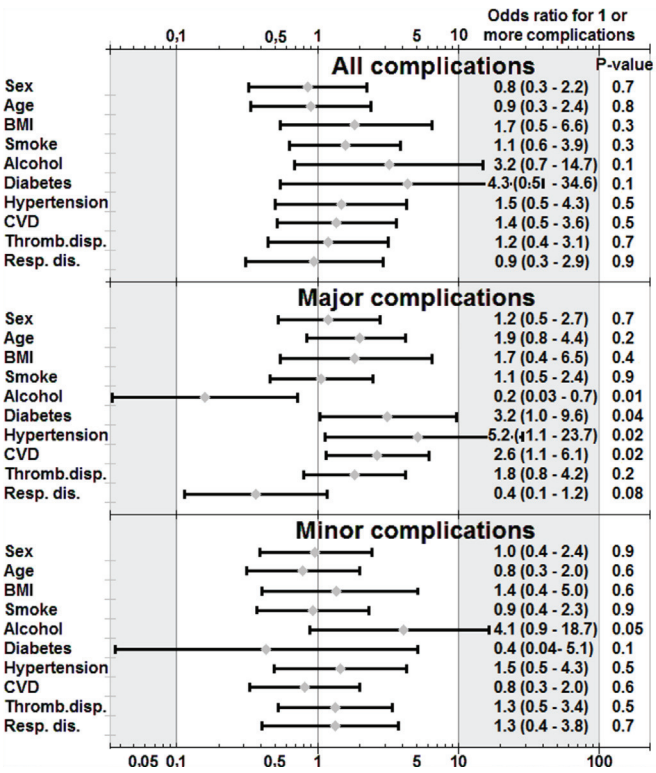
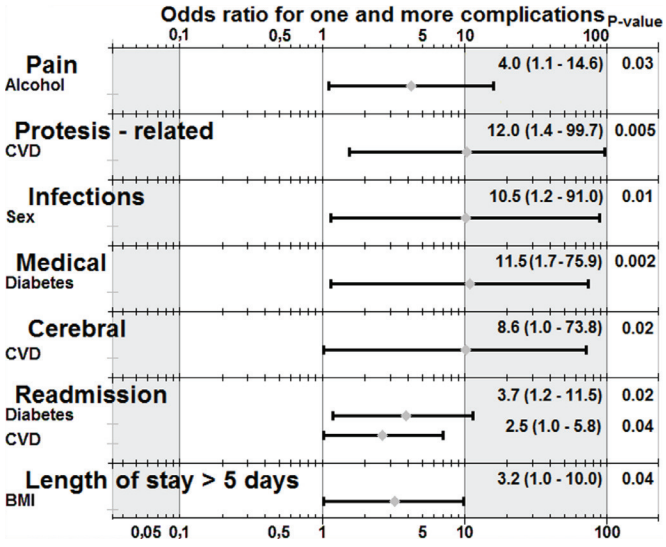


Figure 3 ORs for various complications and risk factors



We identified 304 complications, 249 (81.9 %) of which were considered minor, and 54 (17.8 %) of which were major. No fatal complications were recorded; only one male patient developed renal failure and was transferred to the intensive care unit. Overall, there were more complications among males; more females experienced pain-related complications (1.5 per female versus 1.2 per male), were re-admitted for rehabilitation (16 % versus 6 %) and reported oedema (7.6 % versus 0 %) (Table 2).

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Table 3 Patient Demographics

	Women	(SD)	Men	(SD)	P
Number of patients (N)	66		43		NA
Age at time of surgery	69.1	(11.2)	67.0	(8.8)	0.3
Height	1.64	(0.07)	1.77	(0.08)	0.0001
Weight	84.4	(19.9)	96.6	(15.8)	0.002
BMI	31.2	(6.7)	30.1	(7.29)	0.4
Number of Medications (N)	4.8	(3.2)	4.0	(2.7)	0.2
0	4	-	3	-	-
1-2	14	-	11	-	-
3-5	21	-	19	-	-
>5	27	-	10	-	-
Length of stay	9.7	(7.0)	8.5	(4.6)	0.3

NA: Not evaluable

Table 4 Co-morbidity and risk-factors

	Women	(%)	Men	(%)
Smoking	19	(28.8)	23	(53.5)
Daily	15	(22.7)	11	(25.6)
Occasionally	2	(3)	0	
Ex-smoker	2	(3)	12	(27.9)
Alcohol (no data)	3	(4,5)	0	
No recorded consumption	45	(68.2)	15	(34.9)
Recommended maximum consumption (≤ 7 units/w female, ≤ 14 units/w male)	8	(12.1)	14	(32.6)
Over recommended maximum consumption	10	(15.2)	14	(32.6)
Weight normal (BMI 20,5-24,9)	8	(12.1)	3	(6.9)
Pre-obesity (BMI 25-29,9)	18	(27.3)	20	(46.5)
Obesity class 1 (BMI 30-34,9)	20	(30.3)	10	(23.3)
Obesity class 2 (BMI 35-39,9)	10	(15.2)	4	(9.3)
Obesity class 3 (BMI >40)	7	(10.6)	5	(11.6)
Underweight (BMI <20,5)	4	(6.1)	1	(2.3)
Diabetes mellitus Type 1	1	(1.5)	0	
Diabetes mellitus Type 2	9	(13.6)	4	(9.3)
Normal blood pressure (< 140/90)	11	(16.7)	8	(18.7)
Hypertension grade 1 (140-159/90-99)	11	(16.7)	7	(16.3)
Hypertension grade 2 (160-179/100-109)	11	(16.7)	12	(27.9)
Hypertension grade 3 (>180/>110)	15	(22.7)	9	(20.9)
Systolic hypertension (>140/<90)	18	(27.3)	7	(16.3)
Cardiac disease	18	(27.3)	18	(41.9)
Earlier thromboembolic complications	23	(34.8)	19	(44.2)
Pulmonary disease (COPD, asthma)	11	(16.7)	14	(32.6)
Disease related to alcohol	6	(9.1)	10	(23.3)

BMI: Body Mass Index, COPD: Chronic Obstructive Pulmonary Disease

Figures 2 and 3 show odds ratios (OR) for risk factors in relation to postoperative complications. Odds ratios could only be calculated for all complications, major complications, minor complications and other complications due to the small number of data points. The same variables were calculated for any specific complication in Figure 3, which only shows variables with positive ORs for other complications.

Several factors were associated with major complications. Hypertension was the most important factor (OR 5.2, confidence interval 1.1 – 23.7, p = 0,02), followed by diabetes (OR 3.2, confidence interval 1.0 – 9.6, p = 0,04) and cardiovascular disease (OR 2.6, confidence interval 1.1 – 6.1, p = 0.08) (Figure 2). Alcohol had a protective effect (OR 0.2, confidence interval 0.03 – 0.7, p = 0.01) (Figure 2).

Cardiovascular disease was the single most important factor and was associated with prosthesis complications (OR 12.0, confidence interval 1.4 – 99.7, p = 0.005), cerebral complications (OR 8.6, confidence interval 1.0 – 73.8, p = 0.02) and risk of readmission (OR 2.5, confidence interval 1.0 – 5.8, p = 0.04) (Figure 3). The second most important factor was diabetes, which was related to medical complications (OR 11.5, confidence interval 1.7 – 75.9, p = 0.002) and risk of readmission (Figure 3). Alcohol consumption was the only factor related to pain-related complications (OR 4.0, confidence interval 1.1 – 14.6, p = 0,03) (Figure 3).

Two known classical risk factor were identified. Gender was associated with infection (OR 10.5, confidence interval 1.2 – 91.0, p = 0.01), while increased BMI was associated with a LOS of greater than 5 days (OR 3.2, confidence interval 1.0 – 10.0, p = 0.04). No impact was found for smoking status, thromboembolic or respiratory disease status (Figure 3).

Discussion

We reveal a novel association between preoperative co-morbidity, lifestyle and postoperative complications. Our patients were all admitted within the span of a single year to a major orthopaedic department and underwent an optimised standard of care programme for elective TKA surgery. Only two records could not be retrieved; certain records were excluded for the reasons outlined above. The near-fatal complications were similar to those documented elsewhere (> 1 %) (27).

We chose a strictly inductive approach with a single assessor to screen journal data over one year according to a predetermined set of criteria for co-morbidity and risk

factors that limit confounding. No amendment of the study protocol was needed during the review, which occurred within a 4-month period. To our surprise, we only identified one known predictors of complications: Male gender. Nonetheless, we anticipated that the study population's increased BMI, diabetes and smoking would lead to more complications. We suspect that our dataset was too limited to allow for the detection of relationships between individual complications.

Hypertension is known to be a nonspecific risk factor for perioperative complications. Anaesthesiologists have traditionally addressed the perioperative optimisation of hypertension. To the best of our knowledge, there are no studies that can confirm the effect of the preoperative optimisation of hypertension on TJA surgery. We were able to establish a more extensive relationship between hypertension and cardiovascular co-morbidity than has been previously reported. According to the American Heart Association/American College of Cardiology (ACC/AHA) guidelines, blood pressure should be optimised when grade 3 hypertension is reported (diastolic pressure > 110 mmHg and systolic pressure > 180 mmHg). Such characteristics were observed in only 1/3 of the women and men in our study. Isolated systolic hypertension is also perceived as a risk factor (28). This characteristic was observed in 27 % of the men and 16 % of the women. However, the most recent ACC/AHA guidelines state, "hypertension is common, and treatment has been shown to be associated with decreased death rates from stroke and CHD (cardiac hypertensive disease) in the nonsurgical setting. Unfortunately, all too few patients with hypertension are treated, and fewer yet have their hypertension controlled. Accordingly, the perioperative evaluation is a unique opportunity to identify patients with hypertension and initiate appropriate therapy" (28).

In our population, co-morbidity, such as cardiovascular disease and diabetes, led to several mainly non-surgical complications as suspected but was also associated with prosthesis-related complications and readmission for further treatment and rehabilitation. The lack of perioperative optimisation of both conditions may have led to a delayed healing and hampered postoperative rehabilitation during and after the hospital stay. We suspect that the increased risk for infection was associated with male gender as a result of the many contributing factors found in the male population, which could not be identified due to limited data. Obesity is known to contribute to a prolonged clinical course, which is a known complication.

Alcohol appeared to have a protective effect against major complications, which may be due to the lack of data points or the fact that this procedure is not uncommon for patients with serious alcohol issues. However, alcohol was the only important risk factor for pain-related complications. We recorded many pain-related complications in the trial, which attracted the attention of our quality management team. The pain control regimen was already considered to be inadequate. We demonstrated the association between alcohol consumption and postoperative pain by alcohol withdrawal, which in turn led to an increased perioperative stress response and a risk of delirium (29). Alcohol-associated coagulopathy can contribute to excessive bleeding and pain (30). However, we could not demonstrate associations between alcohol consumption and bleeding and complications related to the central nervous system.

Although the data were limited, our findings were consistent throughout the data sample, and our approach proved feasible and practical for the evaluation and review of the surgical activity of one year in a single field at a major orthopaedic centre in the capital of Denmark.

Conclusion

To our knowledge, this is the first study to analyse risk factors associated with lifestyle and co-morbidities in an optimised perioperative programme for elective TKA surgery.

We believe that our data identify known complications and associated risk factors, such as age, gender and obesity, but also identify a new set of risk factors in the context of surgery: diabetes, hypertension, cardiovascular co-morbidity and alcohol. The lack of well-known risk factors, such as age and smoking, in our cohort allowed us to establish a link between other less-studied complications and classical co-morbidities in the middle-aged and older surgical populations. We believe that the absence of associations between complications related to the classical risk factors proves the effectiveness of optimised surgical programmes in TKA surgery.

This new set of risk factors challenges our understanding of perioperative care in the 21st century, which has relied on making surgery more tolerable by minimising perioperative stress to improve patient outcome. The effects of anaesthesia often exacerbate this perioperative stress. We provide evidence suggesting that there is an impact of known risk factors, such as diabetes and hypertension, below the threshold currently documented and practiced according to current international guidelines. TKA patients might benefit both in the short and long term by tightly regulating their blood pressure and blood sugar levels before surgery. Smoking and drinking

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habits could be addressed by asking the patient to reflect on changing their habits at least for the preoperative period. We acknowledge that perioperative optimisation of classical co-morbidity and risk factors represents a paradigm shift in modern elective surgical care from the optimisation of the impact of surgical care to a patient-centred care model.

Although our study only presents limited data points, it provides the first evidence that known risk factors may have a far greater impact on perioperative morbidity. Thus far, no existing research or current guideline supports our findings. Our study design proved to be applicable and effective in highlighting the importance of continuous epidemiological surveillance of ever-changing demographics and health characteristics in well-defined surgical populations. An effort should be made in the future to clarify the importance of the preoperative rehabilitation of these co-morbidities and risk factors in the context of optimised elective surgical care.

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Smoking cessation intervention activities and outcomes before, during and after the national Healthcare Reform in Denmark

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Abstract

Background Many countries and regions undergo structural changes that intent to improve the effectiveness and quality of care. Until 2007, the municipalities, counties, hospitals and pharmacies shared the smoking cessation activities almost equally in Denmark. Among others, the Danish Healthcare Reform 2007 intended to add responsibility for smoking cessation intervention at county level to the municipality level. New regions should run the hospital services; exclusively.

Aim To evaluate the influence of the Danish Healthcare Reform 2007 on national smoking cessation interventions.

Methods From 2006 to 2010 35,087 smokers were registered in the Danish Smoking Cessation Database. The large majority underwent the 6-weeks gold standard programme for smoking cessation; a manual based patient education, motivational counseling and nicotine replacement therapy. The data collection included the setting and compliance, self-reported quitting and overall satisfaction.

Results The total number of interventions reduced from 7,320 in 2006 to 6,119 in 2010 (16.4%). The municipalities doubled their smoking cessation interventions from 2007, when the counties closed down. The pharmacies stayed relatively stable, but the hospitals significantly reduced to almost no intervention. Accordingly, patients and pregnant women contributed to 85.5% (1,027 persons) of the overall reduction. A replacement from employees as a target group to general citizens took place. The follow-up rate increased after the implementation of the Healthcare Reform, but completing the programme, quit rates and satisfaction were relatively stable throughout the study period.

Conclusion One sixth of the smoking cessation interventions were lost after the Danish Healthcare Reform 2007, especially those reaching hospital patients and pregnant women. A major shift from employees to general citizens took place in the other settings.

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Introduction

World-wide, the increasing burden from chronic illness and the recent economical challenges have forced many countries and regions to undergo structural changes that intent to improve the effectiveness and quality of care of their health services. Health promotion, disease prevention and rehabilitation activities have proven to be cost-effective and necessary parts of prevention and control of chronic illness development as well as of reduction of complications and other harm experienced by the patients already suffering from these diseases (1).

Tobacco control is a natural step in this work. Worldwide tobacco is estimated to kill nearly 6 million people each year (2) and in Denmark alone 14,000 people die from a tobacco related disease every year; which amounts to 24% of all deaths (3). This makes smoking one of the largest preventable problems to health. Many countries have already introduced much more restrictive laws and strategies on tobacco including Denmark (4).

As part of the structural changes in the Danish Health Services in 2007, the municipalities took over the general responsibility of providing health prevention services aimed at citizens (5). Furthermore, 271 municipalities were merged into 98, and 14 counties closed down and 5 new regions were established, which would still be responsible for the public hospital services constituting about 95% of all hospital services in Denmark. Prior to the Danish Healthcare Reform in 2007

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the municipalities, counties, hospitals and pharmacies shared the smoking cessation activities almost equally, according to the data from the Danish Smoking Cessation Database. It was established in 2001 for systematic documentation and evaluation of smoking cessation interventions taking place in any setting. Until now, more than 70,000 smokers have been registered from over 400 different smoking cessation services. It monitors 80-90% of all face-to-face smoking cessation activities in Denmark and is supported by the Danish National Board of Health and the Ministry of Health (6).

The purpose of this study is to evaluate the influence of the Danish Healthcare Reform in numbers and outcomes of smoking cessation intervention in Denmark.

Material and Method

In the period between January 1st, 2006, and December 31st, 2010, data from 35,087 smokers was reported to the Danish Smoking Cessation Database. The large majority of the participants undergoing a smoking cessation intervention programme followed a 6-weeks gold standard programme that involves 5 meetings, nicotine replacement therapy, qualified counselling and a manual based patient education programme (7-9). Only 1.2-3.1% of smokers followed short programmes including brief interventions with 1-2 meetings. All information was collected according to pre-designed questionnaires and manuals.

Outcome measurements

The main outcome was the number of participants in the smoking cessation intervention programmes in the different settings over time. Other outcomes were the national indicators: percentage of participants completing the programme (=completers), percentage of completers quitting at the end of the programme, percentage of completers followed up after 6 months and those staying smoke-free until follow-up after 6 months, as well the percentage of completers satisfied with the programme (Table 1).

In addition, we assessed whether the indicators changed significantly in 2007-2010 compared to 2006, the year before implementation of the Healthcare Reform.

Data collection

Characteristics of the smokers, such as age, sex, educational level (≥ 3 years of education after finishing school or < 3 years), employment (employed or not employed; the last including persons retired and under education), Fagerström score for nicotine dependency on a scale from 0-10 points (low 0-4 points or high 5-10 points) and tobacco consumption were self-reported on the first day of the programme (10).

Table 1 The five national indicators of the smoking cessation database

Completing the smoking cessation programme Proportion of participants that have completed the smoking cessation programme. A participant has completed a programme when he/she has participated in a minimum of 75% of the programme.
Quit rate at the end of the programme Proportion of participants, who are ex-smokers at the end of the smoking cessation programme. Only participants who completed the programme are included.
Follow-up rate Proportion of participants with follow-up on time after 6 months. Only participants who completed the programme and agree to be contacted are included.
Quit rate after 6 months Proportion of participants that remain ex-smokers at 6 months follow-up. Only participants who completed the programme, agree to be contacted, and responded to the follow-up are included.
Satisfaction with the programme Proportion of participants that are satisfied with the smoking cessation programme. A participant who answered 4-5 (on a scale from 1-5) is considered satisfied with the programme. Only participants who completed the programme, agree to be contacted, and responded to the follow-up are included.

The instructor registered programme characteristics. This included information about the setting (municipality, hospital, general practitioner, dentist, pharmacy, etceteras), group size or one-to-one format, duration and participants (patients, pregnant women, participants in work-place programmes, general population), as well as user payment and distribution of free nicotine replacement products. After finalising the programme, the instructor reported on completion and quit rates among participants.

Six months after the quit date follow-up was performed within +/- 30 days. Thereby, the participants that registered at the end of December 2010 were followed up until medio September 2011; at least four attempts in all were made by phone calls during both daytime and in the evening. Information was gathered on self-reported continued non-smoking and user satisfaction with the programme. The overall follow-up rate was 84% in the study period. Only 842 (2.4%) of the participants had on forehand refused to be contacted for follow-up and some of the clinics had also on forehand decided not to follow-up on their participants at all. In total 5,634 participants were not followed up (3,112 from the public clinics, 1,726 from the pharmacies, and 790 from the private units).

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Ethics
Data was included continuously in the web-based database from the local clinics. The method and the database are approved by the Danish Data Protection Agency (2000-54-0013) according to Danish policy on research and development. The smokers gave informed consent permitting registration of personal data.

Statistics
Data is presented as total number of observations or percentages. Changes in number of participants in different settings were evaluated using data from 2006 and 2010 (chi-square: $p < 0.05$ was considered significant). In evaluating quit rates and user satisfaction, a distinction was made between completers and non-completers. According to the national guidelines, the results on quit rates and user satisfaction with the programme only includes participants that responded to a follow-up on time after six months.

Multiple logistic regression analysis was used to analyse whether the national indicators changed in 2007-2010 compared to 2006, after controlling for the participant and programme characteristics presented in Table 2. The results are presented as Odds Ratios with 95% confidence interval. It was considered significant if the confidence interval did not include the value 1.

The results are presented according to the STROBE criteria (11) and the analyses were performed using SPSS 19®.

Results
From January 1st, 2006, to December 31st, 2010, 35,087 smokers had undergone a smoking cessation intervention programme and been registered in the Danish Smoking Cessation Database (Table 2). The changes over time are shown in Figure 1. All over, comparing 2006 to 2010, the number of participants fell from 7,320 to 6,119, corresponding to 16.4%. A minor increase of 379 participants was seen in 2007, but already the following year the level was lower than in the beginning of the study period.

After the Healthcare Reform, the hospitals significantly reduced both their smoking cessation intervention programmes from 1,757 (24%) in 2006 to 361 (6%) in 2010 ($p<0.0001$) and their advice to smokers to quit from 2,314 (32%) in 2006 to 1,717 (28%) in 2010 ($p=0.007$). In contrast, the pharmacies increased their activities with 27% from 1,567 in 2006 to 2,147 in 2009, but then reduced to 1,526 in 2010, which corresponds to the start level in 2006 (Figure 1 and Table 2).

The profile of the participants changed over time. The reduction of participants was seen in almost all categories, but was most pronounced among the participants under 55 years of age, women, the employed, those with long educations, low nicotine dependency, however, also the heavy smokers. In contrast, an increased number of elderly participants without a job underwent a smoking cessation intervention programme from 2006-2010 (Table 2).

Concerning target groups of the interventions the reduction in employees receiving workplace programmes was almost similar to the increase in number of citizens. The number of patients and pregnant women undergoing a smoking cessation intervention programme was reduced with 1,027 corresponding to 85.5% of the overall reduction of 1,201 participants from 2006 to 2010.

There was a reduction in the use of free nicotine replacement therapy during the period. In contrast, the type and duration of the smoking cessation programmes did not change over time (Table 2).

The outcomes regarding the national indicators stayed relatively high and stable over time (Figure 1). Completers succeeded better on all outcomes than non-completers, except on follow-up rate.

After adjusting for participant and programme characteristics, the follow-up rate was significantly higher in 2007, 2008 and 2010 compared to 2006. Only minor changes were seen in regard to the other indicators (Table 3).

Discussion
We found a decline of one sixth in the number of smokers undergoing a smoking cessation intervention programme, when evaluating the period before and after the Danish Healthcare Reform 2007. Especially the hospital patients and the pregnant women together with their relatives seem to have been lost in this process. In addition, a major shift from employees to general citizens took place in the other settings.

Before the Healthcare Reform, the main settings for smoking cessation intervention were the municipalities, the counties, the hospitals and the pharmacies, which participated with an almost similar number of smokers undergoing cessation intervention. The Healthcare Reform did not include establishment of specific structures, financial support or other positive initiatives that could support or strengthen the smoking cessation intervention activities in the different settings. It appears that

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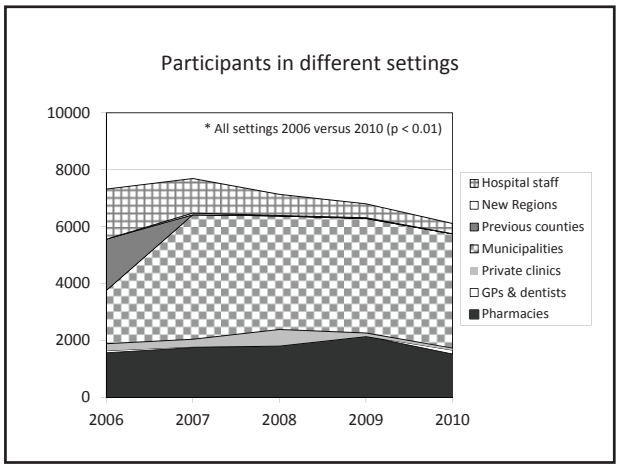
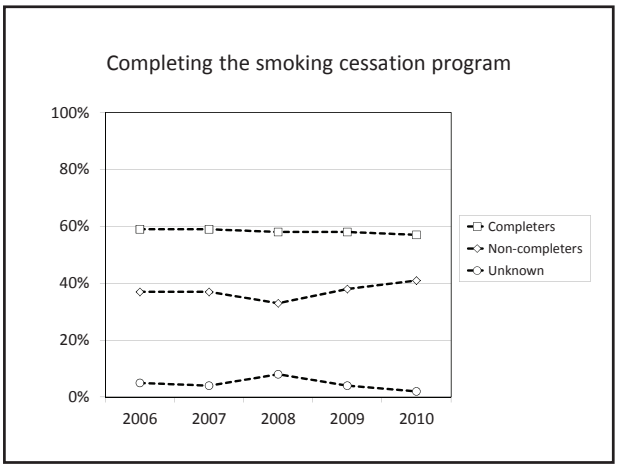
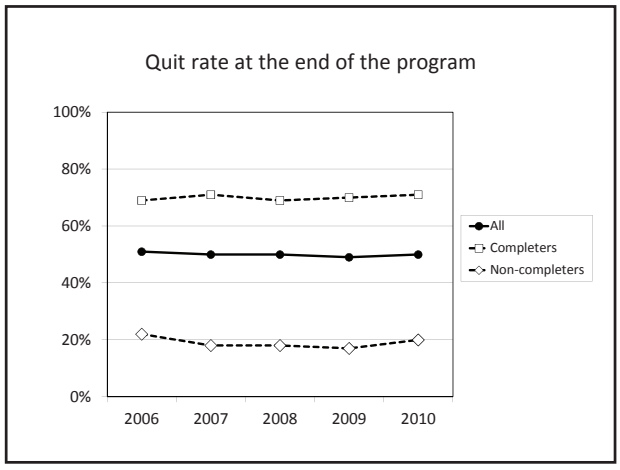
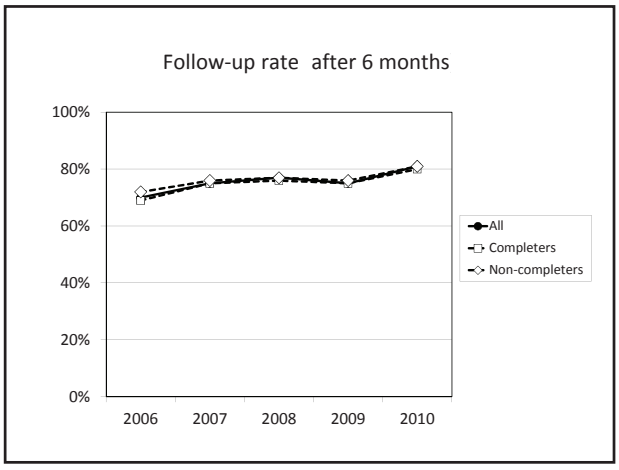
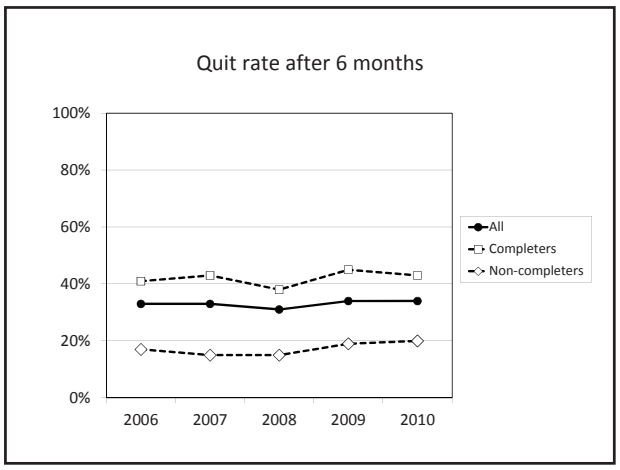
Figure 1 Number of participants in different settings, participants completing the programme, follow-up rates, quit-rates and satisfaction rate for participants in smoking cessation intervention programmes in the period 2006-2010











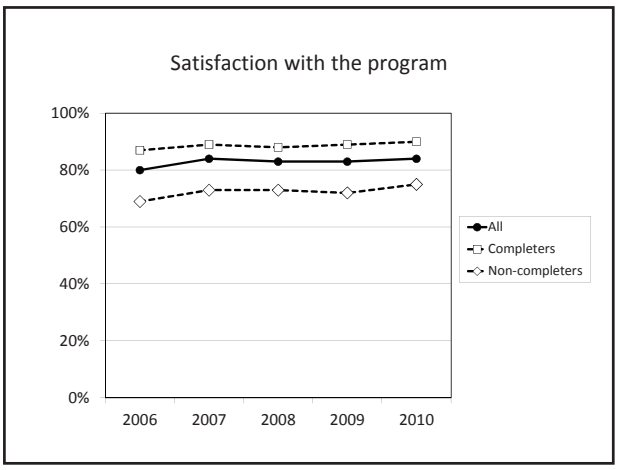


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Table 2 Characteristics of the data registered in the Smoking Cessation Database from 2006-2010 (Activity and Effect) (Part 1 of 3)

ACTIVITY												
		2006		**2007**		**2008**		**2009**		**2010**		**2006-10**
		n	%	n	%	n	%	n	%	n	%	
Participants registered		7,320		7,699		7,136		6,813		6,119		-1,201
Participants agreed to be contacted	Yes	7,140	97.5	7,520	97.7	6,966	97.6	6,668	97.8	5,951	97.3	-1,189
	No	180	2.5	179	2.3	170	2.4	145	2.1	168	2.7	-12
Completing the programme	Yes	4,286	58.6	4,571	59.4	4,143	58.1	3,984	58.5	3,480	56.9	-806
	No	2,676	36.6	2,864	37.2	2,389	33.5	2,561	37.6	2,517	41.1	-159
	Un-known	358	4.9	264	3.9	604	8.5	268	3.9	122	2.0	-236
Follow-up at end of programme	Yes	5,588	76.3	5,841	75.9	5,125	71.8	5,222	76.6	4,651	76.0	-937
	No	1,732	23.7	1,858	24.1	2,011	28.2	1,591	23.4	1,468	24.0	-264
Follow-up after the programme*												
Any follow-up	Yes	6,331	88.7	6,214	82.6	5,367	77.0	5,477	82.1	5,222	87.7	-1,109
	No	809	11.3	1,306	17.4	1,599	23.0	1,191	17.9	729	12.3	-80
Response to any follow-up	Yes	5,140	72.0	4,861	64.6	4,152	59.6	4,258	63.9	3,965	66.6	-1,175
Follow-up on time (6 months +/- 30 days)	Yes	5,118	71.7	5,703	75.8	5,109	73.3	5,058	75.9	4,923	82.7	-195
	No	2,022	28.3	1,817	24.2	1,857	3.7	1,610	24.1	1,028	17.3	-994
Response to follow-up on time :	All	3,927	55.0	4,350	57.8	3,894	55.9	3,839	57.6	3,666	61.6	-261
Completers	Yes	2,359	33.0	2,759	36.3	2,547	36.8	2,421	36.3	2,195	36.9	-164
	No	1,414	19.8	1,524	20.1	1,274	18.3	1,343	20.1	1,409	23.7	-5
	Un-known	154	2.2	67	0.9	73	1.0	75	1.1	62	1.0	-92
EFFECT												
Smokefree at the end of programme		3,546	48.4	3,826	49.7	3,308	46.4	3,346	49.1	2,991	48.9	-555
Completers	Yes	2,942		3,231		2,846		2,794		2,480		-462
	No	576		518		437		433		497		-79
	Un-known	28		77		25		119		14		-14
Smokefree at follow-up 6 months**		1,276	32.7	1,425	32.9	1,184	30.6	1,295	34.0	1,229	33.9	-47
Completers	Yes	966		1,169		972		1,016		935		-31
	No	239		228		192		256		273		34
	Un-known	71		28		20		23		21		-50
Point prevalence		1,490	37.9	1,698	39.0	1,409	36.2	1,619	42.2	1,464	39.9	-26
Satisfaction***		2,996	80.3	3,487	83.5	3,083	82.8	3,076	83.0	2,940	84.2	-56
Completers	Yes	1,998		2,386		2,153		2,106		1,884		-114
	No	904		1,048		875		919		1,010		106
	Un-known	94		53		55		51		46		-48

* % of participants that agreed to be contacted at 6 months follow-up, ** % of all valid follow-up with a response, *** Satisfied or very satisfied (% all valid follow-up with a response)

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Table 2 Characteristics of the data registered in the Smoking Cessation Database from 2006-2010 (Participant characteristics) (Part 2 of 3)

PARTICIPANT CHARACTERISTICS		2006		2007		2008		2009		2010		2006-10
		n	%	n	%	n	%	n	%	n	%	
Participants registered		7,320		7,699		7,136		6,813		6,119		-1,201
Age	<35	1,396	19.1	1,345	17.5	1,268	17.8	1,261	18.5	1,162	19.0	-234
	35-54	3,845	52.5	3,717	48.3	3,188	44.7	2,940	43.2	2,710	44.3	-1,135
	55+	2,078	28.4	2,637	34.3	2,679	36.6	2,612	38.3	2,246	36.7	168
	Unknown	1	0.0	0	0.0	1	0.0	0	0.0	1	0.0	0
Gender	Female	4,538	62.0	4,765	61.9	4,334	60.7	4,087	60.0	3,632	59.4	-906
	Male	2,782	38.0	2,934	38.1	2,802	39.3	2,726	40.0	2,487	40.6	-295
Employed	No (including retired and students)	1,865	25.5	2,454	31.9	2,663	37.3	2,952	43.3	2,703	44.2	838
	Yes	5,289	72.3	5,073	65.9	4,295	60.2	3,652	53.6	3,237	52.9	-2,052
	Unknown	166	2.3	172	2.2	178	2.5	209	3.1	179	2.9	13
Education	Less than 3 years education after school	3,560	48.6	3,693	48.0	3,511	49.2	3,449	50.6	3,108	50.8	-452
	3 years and more	3,548	48.5	3,781	49.1	3,358	47.1	3,032	44.5	2,719	44.4	-829
	Unknown	212	2.9	225	2.9	267	3.7	332	4.9	292	4.8	80
Fagerström dependency	Low (0-4 points)	2,814	37.1	2,855	37.1	2,685	37.6	2,436	35.8	2,182	35.7	-632
	High (5-10 points)	4,468	61.0	4,813	62.5	4,400	61.7	4,329	63.5	3,899	63.7	-569
	Unknown	38	0.5	31	0.4	51	0.7	48	0.7	38	0.6	0
Tobacco consumption	< 15 grams	1,656	22.6	1,736	22.5	1,732	24.3	1,669	24.5	1,476	24.1	-180
	≥ 15 grams	5,664	77.4	5,963	77.5	5,404	75.7	5,144	75.5	4,643	75.9	-1,021
Setting	Pharmacy	1,567	21.4	1,751	22.7	1,809	25.4	2,147	31.5	1,526	24.9	-41
	Hospital clinic incl midwife	1,757	24.0	1,216	15.8	743	10.4	492	7.2	361	5.9	-1,396
	General practitioner and dentist	77	1.1	31	0.4	11	0.2	2	0.0	132	2.2	55
	Private clinic	245	3.3	265	3.4	569	8.0	118	1.7	74	1.2	-171
	Municipality	1,870	25.5	4,373	56.8	3,991	55.9	4,025	59.1	4,018	65.7	2,148
	Region/County	1,804	24.6	58	0.8	12	0.2	23	0.3	0	0.0	-1,804
	Other	0	0.0	5	0.1	1	0.0	6	0.1	8	0.1	8
Advice to quit****	General practitioner	2,636	36.0	3,087	40.1	2,911	40.8	2,810	41.2	2,473	40.4	-163
	Hospital staff	2,314	31.6	2,346	30.5	2,136	29.9	1,947	28.6	1,717	28.1	-597
	Dentist	982	13.4	1,064	13.8	992	13.9	917	13.5	831	13.6	-151
	Pharmacy	209	2.9	229	3.0	292	4.1	317	4.7	204	3.3	-5
	Own initiative	2,949	40.3	3,011	39.1	2,660	37.3	2,598	38.1	2,350	38.4	-599

**** Participants were allowed to tick more than one box

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Table 2 Characteristics of the data registered in the Smoking Cessation Database from 2006-2010 (Programme characteristics) (Part 3 of 3)

PROGRAMME CHARACTERISTICS		2006		2007		2008		2009		2010		2006-2010
		n	%	n	%	n	%	n	%	n	%	
Participants giving consent to registration of data in the database		7,320		7,699		7,136		6,813		6,119		-1,201
Target group	Patients (+ family)	1,029	13.9	683	8.9	488	6.8	350	5.1	284	4.6	-745
	Employees	3,285	44.9	2,635	34.2	1,196	16.8	914	13.4	867	14.2	-2,418
	All citizens	2,119	28.9	3,340	43.4	4,157	58.3	4,800	70.5	4,357	71.2	2,238
	Mixed groups	309	4.2	514	6.7	815	11.4	349	5.1	135	2.2	-174
	Pregnant women (+ partners)	351	4.8	304	3.9	181	2.5	100	1.5	69	1.1	-282
	Other	227	3.1	223	2.9	299	4.2	300	4.4	407	6.7	180
Type of programme	Individual	985	13.5	904	11.7	882	12.4	942	13.8	888	14.5	-97
	Group	6,158	84.1	6,750	87.7	6,223	87.2	5,799	85.1	5,145	84.1	-1,013
	Other	177	2.4	45	0.6	31	0.4	72	1.1	86	1.4	-91
Duration of programme	1-2 times	224	3.1	108	1.4	224	3.1	101	1.5	73	1.2	-151
	3-4 times	179	2.4	240	3.1	555	7.8	190	2.8	142	2.3	-37
	5-6 times	6,771	92.5	7,122	92.5	6,167	86.4	6,325	92.8	5,593	91.4	-1,178
	7 or more	146	2.0	229	3.0	188	2.6	184	2.7	303	5.0	157
	Unknown	0	0.0	0	0.0	2	0.0	13	0.2	8	0.1	8
Free NRT	No	2,582	35.3	3,933	51.1	4,667	65.4	4,607	67.6	4,091	66.9	1,509
	Yes - few samples	3,741	51.1	2,941	38.2	1,895	26.6	1,673	24.6	1,602	26.2	-2,139
	Yes - for weeks	703	9.6	571	7.4	403	5.6	320	4.7	227	3.7	-476
	Yes - other	294	4.0	254	3.3	171	2.4	213	3.1	199	3.3	-95
User payment	Yes	880	12.0	1,061	13.8	1,133	15.9	177	2.6	75	1.2	-805
	No	6,440	88.0	6,638	86.2	5,963	83.6	6,636	97.4	6,036	98.6	-404
	Unknown	0	0.0	0	0.0	40	0.6	0	0	8	0	8

the municipalities successfully managed to take over the intervention from the counties by doubling their capacity. In addition, the pharmacies have the same level of activities as before the Healthcare Reform, however, with some changes during the study period. It is important to clarify that municipalities and most pharmacies in Denmark have a close and contracted collaboration on providing smoking cessation interventions, and that minor differences over time between these two groups can be due to changes in partnerships.

During the whole study period, the Danish National Board of Health ran media campaigns on smoking cessation. The campaigns especially intensified in 2007 in relation to the introduction of a national smoking ban. From 2009, an extra budget was decided for massive campaigns based on the Australian model with new initiatives and videos every week including social media (12).You would expect an additional effect on participation in smoking cessation intervention programmes from the campaigns. However, this was not supported by the results of the present study. Neither was it reflected in the quit rates.

The follow-up rate seemed to improve in the years following the Healthcare Reform. This is probably due to an extra effort of involving the national Quit Line in conducting the follow-up after 6 months.

Other countries have experienced changes in uptake and delivery of smoking cessation services. One example is a study from 1996-2002, that showed a fall despite implementation of new policy initiatives in Great Britain (13).

Table 3 Changes in the national indicators; OR and 95% Confidence Interval for the final multivariable model (adjusted for participants and programme characteristics)

	OR (95% CI)	p-value
Completing the smoking cessation programme		
2006	**1**	
2007	1.04 (0.96-1.12)	0.335
2008	**1.12 (1.03-1.21)**	**0.008***
2009	1.07 (0.98-1.16)	0.133
2010	0.97 (0.89-1.06)	0.502
Quit rate at the end of the programme		
2006	1	
2007	1.10 (0.98-1.23)	0.097
2008	1.03 (0.92-1.16)	0.627
2009	1.09 (0.96-1.23)	0.178
2010	1.12 (0.99-1.28)	0.740
Follow-up rate after 6 months		
2006	**1**	
2007	**1.38 (1.18-1.62)**	**<0.001***
2008	**2.02 (1.67-2.25)**	**<0.001***
2009	1.11 (0.92-1.33)	0.274
2010	**1.28 (1.05-1.56)**	**0.019***
Quit rate after 6 months		
2006	**1**	
2007	1.04 (0.92-1.17)	0.554
2008	**0.85 (0.75-0.97)**	**0.013***
2009	1.02 (0.89-1.17)	0.765
2010	1.04 (0.90-1.89)	0.609
Satisfaction with the programme		
2006	1	
2007	1.16 (0.98-1.38)	0.087
2008	1.01 (0.85-1.21)	0.911
2009	1.16 (0.96-1.40)	0.132
2010	1.22 (1.00-1.48)	0.052

* Significance at 0.05

England introduced its public smoking ban in the summer of 2007, which lead to an immidiate increase in quit attempts and more activity in their stop smoking services as a direct result of the law (14). The same tendency has been seen in Scotland and Wales (15). Nevertheless, activity in smoking cessation services in Denmark has kept falling since the introduction of the public smoking ban. An important difference between England and Denmark is, however, the Healthcare Reform taking place in Denmark during the smoking ban implementation. It should be evaluated in the future if and how other undetected factors may have overruled an expected smoking ban effect.

The reduction in hospital patients, pregnant women and their partners undergiong a smoking cessation intervention was not intended by the Healthcare Reform, which clearly says that the municipalities are not responsible for patient-related health promotion during hospital stay (16). Furthermore, it specifies that patient-related health promotion should be done in collaboration with the regions. In addition, the Danish health strategy 'Health throughout Life' recommends that prevention of tobacco related diseases should be highly prioritised in municipalities and regions – including establishment of more smoking cessation intervention services for the general citizens as well as for patients (17).

The benefits of smoking cessation intervention among patients are tremendous on both short and long term. A recent example is the intensive peri-operative smoking cessation intervention programme that significantly reduces the complication rate and is followed by a relatively high quit rate on longer term (18). Unfortunately, the surgical group of smokers has not yet been shown to benefit from general practitioner activities (19). Overlooking the possibility for smoking cessation intervention among pregnant women and their partners is against the general recommendations because of the increased complications of pregnancy and a variety of problematic foetal outcomes (20). It is therefore recommended to re-establish smoking cessation interventions in the hospital settings including midwives, or otherwise actively compensate for the reduction of smoking cessation intervention programmes in hospital settings.

In total, the smoking cessation intervention programmes stayed relatively stable in the municipalities and regions/counties. However, the major shift in target groups from employees to general citizens is interesting and has not been described before. Part of the explanation may be that the municipalities have given higher priority to unemployed and elderly in special projects or offered smoking cessation intervention programmes mainly in the working hours, thereby closing the door to other groups.

The Healthcare Reform seems to have influenced the development of activity in Denmark in a negative direction. To ensure that there are strategies of smoking prevention that include all groups of smokers, it is crucial that the regions and municipalities cooperate and coordinate areas of responsibility.

Compared to other countries that document national smoking cessation intervention, Denmark has a relatively low uptake of smokers in smoking cessation clinics. In

2006, an estimated 28% of the population were smokers (21) and in 2010 about 21% (22), which means that more than 1 million Danes are still smokers. Less than 1% of the smokers participate in the smoking cessation services. In Scotland, activity in national smoking cessation clinics is still increasing every year and covered 6.5% of the smoking population in 2009 (15). International guidelines recommend that 5% of smokers from the population should participate in the smoking cessation intervention programmes every year (23).

Since the 1950's, the number of smokers has reduced in Denmark as in most other European countries. The reduction has been ½-1% per year. This has not increased in relation to the smoking ban (24). Over the study period, the fall in number of smokers was much smaller than the reduction of 16% in smoking cessation activities in the same period.

This study has several strengths and limitations. It is a strength that the database is nation-wide and used in all settings, where smoking cessation intervention programmes take place. The data quality was high with few missing data throughout the study period.

Besides, we have presented results and informed about missing numbers according to the STROBE criteria (11).

It is, however, possible that the different smoking cessation services register information about the target groups, such as pregnant women, in different ways in relation to the setting. Comparison with data from other clinical databases and the national hospital register would secure the quality of registration of for instance pregnancy.

In addition, it is a limitation that the information is self-reported, including the quit rates, which may therefore seem higher than they are in reality. Though, this would be similar in the whole study period and would thereby not influence the changes originating from the Healthcare Reform differently. The specific Danish Healthcare Reform, organisation of health services, culture and other conditions may reduce the generalisation of the results to other countries.

Since it is not mandatory, but only recommended, to report to the Smoking Cessation Database, it does not cover all data on smoking cessation interventions provided in Denmark, but only 4 municipalities out of 98 do not report smoking cessation intervention programmes.

In conclusion, this study shows that the Danish Healthcare Reform was followed by an unexpected high reduction of smoking cessation intervention programs.

Acknowledgements

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Competing interest: None declared.

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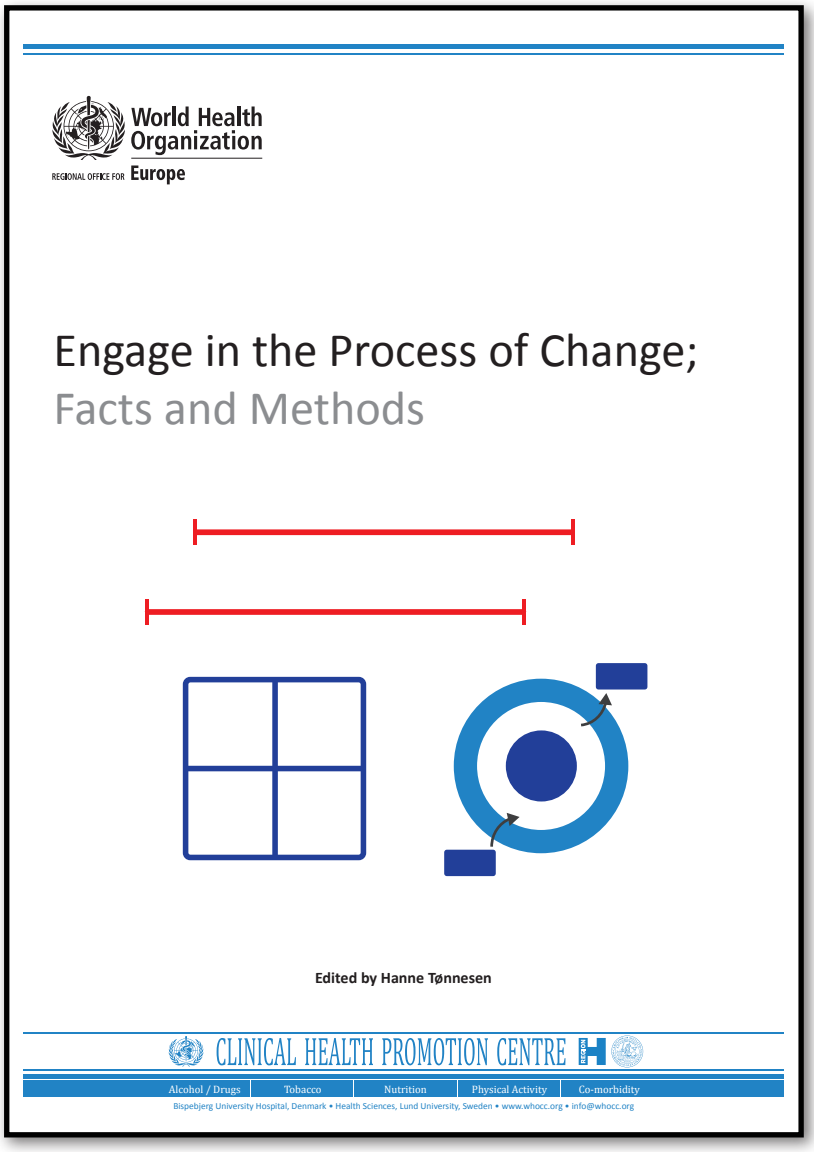
New Textbook: Engage in the Process of Change; *Facts and Methods*



WHO Regional Office for Europe and The WHO-CC, Clinical Health Promotion Centre present the new textbook:

Engage in the Process of Change; Facts and Methods.

By focusing on the interaction between the patient and the health care professionals, the role of unhealthy lifestyle and the benefits of changing them, this textbook creates an overview of what efforts need to be initiated, what methods to be used, and how this can be practically achieved.

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News from the International HPH Network

Legacy Statement: Four productive years on the HPH Governance Board for Louis Côté

Louis Côté originally became part of the Governance Board as an observer for the new Network of Montreal, Canada. Hereafter, Louis Côté served a full four years as elected member and for the past two years also as Chair of the Governance Board.

Aside from his work in the Governance Board, Louis Côté is acting as the coordinator of the Quebec Regional HPH Network where he has successfully grown the membership and activities throughout the period – while also producing an admirable inspiration and collaboration with both international and neighboring networks.

As his second term in the Governance Board now draws to an end, the International HPH Network and all it's members would like to thank the honorable Louis Côté for his great work and four productive years on the Governance Board.

About the Governance Board

The Governance Board of The International HPH Network is composed of 7 members elected biannually by the General Assembly and 2 permanent seats of the WHO Collaborating Centres.

Only persons representing National / Regional HPH Networks are eligible for Governance Board service.

The Governance Board shall prepares and executes the decisions of the HPH General Assembly and it runs its business in the periods between the meetings of the General Assembly.

(Constitution of the International Network of Health Promoting Hospitals & Health Services; 2008)

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Legacy Statement from Louis Côté

I am very happy with the experience and with the work that has been done since 2006 within the International Network of Health Promoting Hospitals and Health Services. It is a team effort with the members of the General Assembly, the Governance Board, the International HPH Secretariat and the two WHO Collaborating Centres in Copenhagen and Vienna.

It was an honor for me to be present at the adoption of our Constitution and to have been a signatory on the Memorandum of Understanding with the WHO. I would like to thank Dr. Mila Garcia Barbero and Dr. Hanne Tønnesen for their support and my predecessors, Ms. Ann O'Riordan and Dr. Yannis Tountas, who inspired me in my work. I am very optimistic for the future of this network, as it continues to grow each year.

In conclusion, I hope that the International HPH Network integrates its actions within a quality development approach and that it invests more in research. We must demonstrate that with preventive measures and health promotion strategies we can maintain and improve the health of our populations more efficiently and economically. Finally, as in baseball, I would like to pass along the ball to the next chair, and I am sure that with him or her we will win the game!

Louis Côté
Chair International HPH Network
April 2010 – April 2012

News from the International HPH Network

The Montreal HPH Network increases member numbers and changes name

QUEBEC NETWORK OF HEALTH PROMOTING INSTITUTIONS
A NETWORK INITIATED BY THE WHO

About the Quebec Network of Health Promoting Institutions

Find more information about the Quebec Network of Health Promoting Institutions (also known as the Quebec HPH Network) on their website:

www.hps.santemontreal.qc.ca/

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As member growth of the International HPH Network is one of the top priorities of the current HPH Global Strategy, it is with great pride that we can announce that the former Montreal Network has experienced a huge increase in members within the last year.

The increase has to be seen in continuation of the change of name and format of the regional HPH Network. This was the result of a general meeting held on January 25, where the members of the Montreal Network of Health Promoting Hospitals and CSSSs approved the migration of their group to the Quebec Network of Health Promoting Institutions (also known as the Quebec HPH Network) as a way to let all regions in the Quebec province become full participants in the movement. Quebec has just over 280 health care and social service facilities for a population of 8 million people.

We have had a chat with the coordinator of the network about the growth and what they have done to advocate the network.

What have you done to successfully promote the network within the last year?

The Montreal Network of Health Promoting Hospitals and Health Services was created in 2005 originally with three members. The network recently migrated to the Quebec Network of Health Promoting Institutions counting 33 members. A great deal of effort has gone into organizing activities and producing tools to help support our establishments in the implementation of the five HPH Standards. We have published three practical guides to facilitate the implementation of Standards 1, 2, 3, and 4. Last year our network was mobilized with regard to the implementation of Standard 4 and the production of the Guide to Promoting Healthy Workplaces in Healthcare Institutions. Our network also organized thematic conferences in order to promote exchanges between members and the sharing of experiences and best practices. We are also developing communication tools (website, newsletter) in order to publicise the achievements of the network and local initiatives with regard to health promotion. These efforts have definitely contributed in making us known throughout Quebec. We are harvesting the fruits of seven years of work. Our network was the first outside of Europe followed by Taiwan and many others in the last years. As such, the international network has become truly global. My participation in the Governance Board from 2006 to 2008 greatly helped our initial development.

Which Recommendations on Network Advocacy would you like to pass on to the other HPH National/Regional Networks?

If I look back on the development of the Montreal Network since 2005, I propose the following ingredients for success:

- Tools adapted to local realities and tools translated into the local language;
- A multidisciplinary coordination team which includes the public health sector, human resources, and strategic development;
- Web tools in order to communicate effectively with members of the network

Where do you anticipate 2012 will bring the Quebec Network?

We are confident that with the migration to the Quebec Network we will receive new membership applications from the different regions of Quebec. Participants

in a recent conference organized by the University of Montreal, which was attended by Mr. Jürgen Pelikan from the WHO-CC in Vienna, indicated an interest in this type of integrative approach. We will be working on offering better support in the evaluation of the HPH standards through producing standardized tools and through the integration of the standards in the assessment of quality and continuous improvement in performance. We are also interested in developing initiatives, which target the reduction of the ecological footprints of healthcare establishments and we are pursuing our support of projects revolving around the development of healthy workplaces for healthcare workers.

From the International HPH Secretariat we would like to welcome the new migrated Quebec HPH Network. For inspiration and to see how the Quebec HPH Network have utilized the five HPH standards, please visit the website of the network: www.hps.santemontreal.qc.ca/

The National HPH Network of Slovenia: from idea to establishment

About the The Slovenian HPH Network

The Slovenian National HPH Network consist of three members; General Hospital Slovenj Gradec, Izola General Hospital and University Clinic of Respiratory and Allergic Diseases Golnik.

The office of the Slovenian HPH Network will be located at the University Clinic of Respiratory and Allergic Diseases Golnik, where Jerneja Farkas-Lainscak, MD PhD has been appointed as National HPH Network Coordinator.

The establishment of the Slovenian National HPH Network was supported and facilitated by the Slovenian Ministry of Health.

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The year 2011 was a turning point in terms of increased awareness and interest in Slovenian hospitals to adopt strategy of the International HPH Network.

The first steps towards the establishment of a Slovenian National HPH Network were taken on March 10th, 2011, when an expert meeting on promoting physical activity in health care institutions was held in Ljubljana. The International HPH Secretariat took part and devoted a special session on discussing potentials for HPH membership of Slovenian Hospitals and Health Services. The benefits of a Slovenian National HPH Network were also discussed. The meeting had representatives of Slovenian member hospitals, the International HPH Secretariat, WHO Country Office, the Slovenian Ministry of Health, and The National Institute of Public Health and Faculty of Medicine.

During the next period the three Slovenian member hospitals worked on the HPH Network agreement, which was signed on October 5th and finally approved by the HPH Governance Board on November 11th.

On November 25, the new Slovenian National HPH Network was then presented to more than 60 representatives from Slovenian hospitals and other health care institutions who met to discuss "Health promotion in Slovenian hospital". The meeting had many interesting presentations and at the closing panel discussion, all participants agreed that the establishment of a National HPH Network is of vital importance for the further development of the concept of health promoting settings in Slovenia.

The membership of the International HPH Network will hopefully commence the efforts to effectively integrate public health and clinical practice in order to achieve the best possible level of health and health-related quality of life for patients, staff and communities.

Signing of agreement on HPH coordinating institution and coordinator.

From the left to the right: Dr. Jani Dernic, Dir. General Hospital Izola, Dr. Janez Lavre, Dir. General Hospital Slovenj Gradec, Dr. Jerneja Farkas-Lainscak, Slovenian HPH Network Coor and Prof. Mitja Kosnik, Dir. University Clinic of Respiratory and Allergic Diseases Golnik.

News from the International HPH Network

Czech Minister of Health seeks inspiration at WHO-CC, Bispebjerg University Hospital

Czech Republic's Minister of Health, Dr. Leoš Heger and WHO-CC Director Hanne Tønnesen.

About the Meeting

The meeting took place on March 1, 2012, and among the topics discussed were health promotion and quality management locally, nationally and internationally.

Present at the meeting were delegations from, Ministry of Health of the Czech Republic, the Danish Ministry of Health, the Capitol Region of Denmark, the management board of Bispebjerg University Hospital, WHO Regional Office for Europe, WHO Country Office Czech Republic, the WHO-CC, Clinical Health Promotion Centre, the Czech National HPH Network, as well as the Embassy of Czech Republic.

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On the 1st of March, 2012, the Czech Republic's Minister of Health, Dr. Leoš Heger, visited WHO-CC at Bispebjerg Hospital to discuss health promotion and quality management locally, nationally and internationally. The meeting was arranged following the Minister's presentation at the WHO HPH Autumn School in the Czech Republic in September 2011.

Present at the venue were also representatives from the Danish Ministry of Health, the Capital Region of Denmark, the hospital management board, WHO Regional Office for Europe, the WHO-CC, the Czech National HPH Network, WHO Country Office Czech Republic, along with the Czech Ambassador in Denmark.

Professor Hanne Tønnesen, Director at the WHO-CC, describes the meeting:

> "It was a mutually beneficial meeting, where we had an open talk and good discussions about how we manage health promotion and quality efforts in the two countries. These discussions can only take place in a face-to-face meeting. That's why we were happy that the Minister wanted to visit us."

The delegation also visited Bispebjergs Univertsity Hospital's Department of Lung Medicine, to obtain an insight in how health promotion and quality management functions in clinical practice. At the visit, Head of Department, Dr. Birgitte Nybo, presented the departments's treatment and comprehensive rehabilitation programme for COPD patients.

The Czech Minister of Health expressed his delight with the visit:

> "I must say that I have met an open atmosphere, engaged staff and a great hospital. What impresses me the most is how doctors and healthcare personnel feel the importance of having a good quality management system as a referral. In the Czech Republic, the hospitals function more individually, and it is hard to introduce national standards of quality management. Therefore, it is good to experience that it can work in reality. So, it has been very useful to visit Bispebjerg University Hospital and WHO-CC."

After an inspiring morning at Bispebjerg University Hospital, Minister Leoš Heger continued his day with meetings at the WHO Europe Office, which is also located in Copenhagen.

Group photo of the participating delegations.

News from the International HPH Network

New International HPH Network Members 2012

During the first months of 2012, 18 new Hospitals and Health Services have joined the International HPH Network*. We wish to welcome all new members to the HPH community.

CSSS Pierre-De Saurel
Canada Montreal HPH Regional Network

CSSS Pierre-Boucher
Canada Montreal HPH Regional Network

CSSS De La Haute-Yamaska
Canada Montreal HPH Regional Network

Hôspital Géneral Juif - Sir Mortimer B. Davis
Canada Montreal HPH Regional Network

CSSS du Haut-Saint-Laurent
Canada Montreal HPH Regional Network

Shu-Shista
Bangladesh Individual Member

Medical Service of Estonian Defence Forces
Estonia National Network

Region General Hospital of Tasikmalaya
Indonesia Individual Member

Shaheed Rajaee Heart Center
Iran Individual Member

Oizumi Health Cooperative Hospital
Japan Individual Member

Misato Kenwa Hospital
Japan Individual Member

Dhaulagiri Zonal Hospital
Nepal Individual Member

Incheon Medical Center
Republic of Korea National Network

County Council of Värmland
HPH Sweden National Network

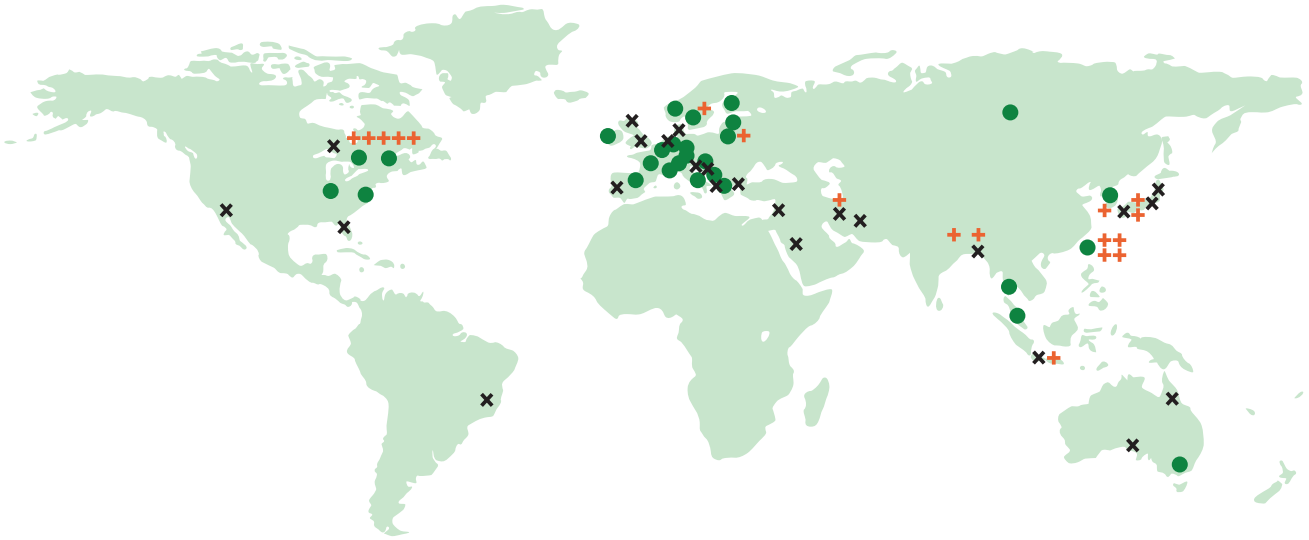
Kaohsiung Municipal Hsiao-Kang Hospital
Taiwan Regional Network

Catholic Hualien Diocese Medical Foundation - Taitung St. Mary's Hospital
Taiwan Regional Network

National Taiwan University Hospital
Taiwan Regional Network

Songshan Armed Forces General Hospital
Taiwan Regional Network

By the end of March 2012, The International HPH Network consists of 850 members worldwide:



● = Country / Region with HPH Network(s)
× = Country / Region with individual hospital or health service HPH Member(s)
\+ = New International HPH Network Members 2012

*More Hospitals and Health Services have initiated the signing up of membership, but the 18 new members above have already successfully signed the Letter of Intent.

News from the International HPH Network

HPH Awards

About Awards

The purpose of the HPH awards is to promote HPH visibility, enhance publication numbers, recognise fulfilment of strategic goals and recognise extraordinary fulfilment of WHO standards.

Winners are selected each year at the International HPH Conference. Along with the award the winners receive a free Conference pass and a special HPH certificate honouring the great achievement.

The HPH Award Entry Form can be found online at www.hphnet.org

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As a new feature, The Governance Board decided in late 2011 to implement three HPH Awards, which any member of the International HPH Network can be nominated for. The three award categories concern outstanding fulfilment of WHO HPH standards, outstanding fulfilment of HPH Strategy and outstanding scientific publication.

International HPH Award 2011
Outstanding Fulfilment of WHO HPH Standards

International HPH Award 2011
Outstanding Fulfilment of HPH Strategy

International HPH Award 2011
Outstanding Scientific Publication

The purpose of giving out HPH Awards is to promote HPH visibility, enhance the numbers of publications, recognise fulfilment of strategic goals and recognise extraordinary fulfilment of WHO standards.

In establishing a framework of HPH Awards to support these purposes, it is hoped that HPH will strengthen its efforts broadly to fulfil the strategic goals outlined in the HPH Strategy 2011 - 2013. All HPH Awards are annually but not necessarily given out every year. The winners will be selected each year at the International HPH Conference, and along with the award, the winners will receive a free Conference pass and a special HPH certificate honouring their great results.

Nominations for the strategy award and the standard award will be examined and judged by a selected committee of HPH Governance Board members. The publication award is judged by the editorial board of this journal.

The nomination deadline will each year be December 15, and nominations for any HPH Award can only be submitted by member HPH hospitals or health services or by National / Regional HPH Networks.

The Awards Framework describing all rules in detail and the HPH Award Entry Form can be found online at hphnet.org

HPH Twinning Strategy

An HPH Twinning Strategy has been developed, in order to establish HPH Twinning activities between member hospitals/health services and between N/R HPH Networks and HPH Task Forces. The aim is to promote HPH growth – both quantitatively and qualitatively – sharing of knowledge and experience as well as broad collaboration.

The concept of Twinning has been applied in many areas already (e.g. the EU twinning of cities). The idea of transferring twinning to an HPH context is to provide a framework under which hospitals/health services, National/Regional Networks or Task Forces can join forces and take action, share knowledge and experiences, promote education and awareness, exchange know-how, form ties of collaboration and so forth – all in order to enhance their overall HPH progress and development.

One benefit of this approach is flexibility, as twinning can of course take place between any constellation of entities imaginable. It could be the collaboration of a Task Force and a particular hospital. It could be the mutual exchange of knowledge and expertise between an HPH Network in a developed country and an upcoming HPH Network in a less developed country. It could be a network supporting a hospital faced by a natural disaster, such as a typhoon or earthquake. It could be general cooperation between a small rural hospital and a large university hospital – anything goes.

We invite all HPH hospitals / health services, HPH N/R Network, HPH TFs and WGs to engage in HPH Twinning.

You can find information on how to get started with twinning on www.hphnet.org.

News from the International HPH Network

New HPH Tools in the hphnet.org Toolbox

WEBEX Meetings

As a new addition to the toolbox at hphnet.org, the International HPH Secretariat has included a strong and versatile web meeting software. With Webex, you can have online meetings (with better sound quality than Skype), use the chat board, draw and write on the whiteboard and share slides, applications and desktops.

Webex of course also supports use of webcams, and it even has freely available apps for most smart phones and tablets, whether they be Apple, Android, Windows or BlackBerry (You can get the apps by simply searching for "Webex" in the appropriate app store or market).

The International HPH Secretariat acts as hub for all HPH web meetings and both National / Regional Networks, Task Forces and Working Groups can freely request meetings via hphnet.org.

To request a meeting or to read more, please visit hphnet.org - Tools.

To access your meeting, please go to whocc.webex.com and click join.

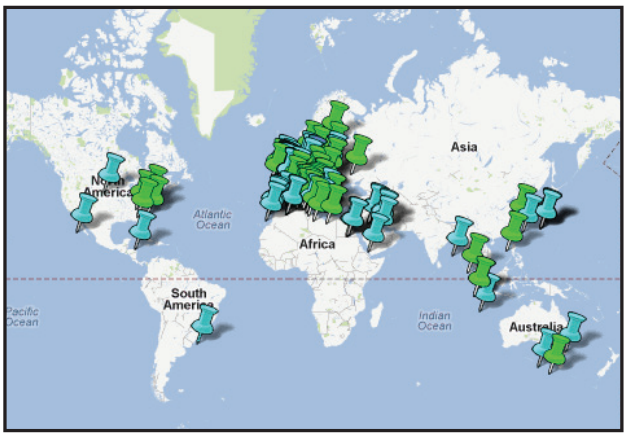
Google Maps

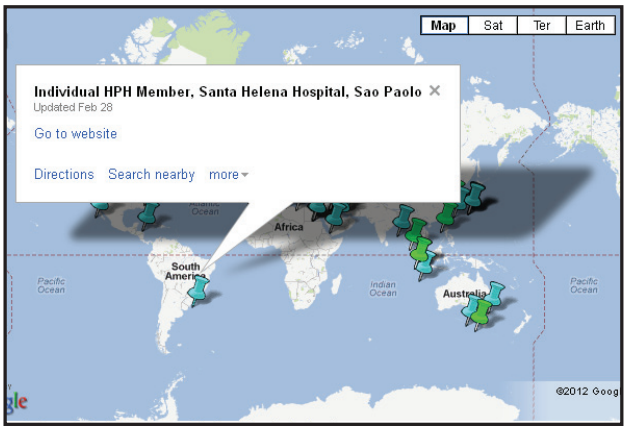
As a new feature, the Secretariat has created a Google map on hphnet.org containing information for all National / Regional Networks.

This way, any interested new member can easily locate the appropriate network to establish contact. Likewise, the Google Map also allows one to easily find and access the N/R Network's sub-sites.

The Secretariat will do its best to keep all the information up to date. But we need the help of all N/R Networks in making sure the data and information listed is correct and up to date.

Please visit The HPH Google Map at hphnet.org - About HPH.





Generic HPH Slides

As a new feature, generic HPH slides have been added to the HPH Toolbox.

The idea is that any HPH member can freely download a few concise and up-to-date slides about HPH – to use wherever they go to present the work of HPH. The HPH Secretariat will ensure that the slides are kept up-to-date. Hopefully, this will help all members save time and also guarantee a more uniform presentation of HPH related issues.

To download the generic slides, please go to hphnet.org - Tools.

CLINICAL HEALTH PROMOTION

Author Instructions for submission of papers to Clinical Health Promotion – Research and Best Practice for patients, staff and community

From the Editorial Group we would like to welcome papers on clinical health promotion from all readers.

We especially encourage all participants at the 19th International HPH Conference to publish their important research and best practice in Clinical Health Promotion.

For submission of papers, please visit our website: www.clinhp.org

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New International Master of Clinical Health Promotion

Several esteemed universities have joined forces with The WHO-CC, Clinical Health Promotion Centre to offer a new International Master of Clinical Health Promotion.

The master programme is aimed at patients, staff and community and has a strong focus on interdisciplinarity. The goal of clinical health promotion is a better health gain by integrating health promotion in the patient programmes, in the hospitals and health services, and in the local community - adapted to local conditions.

Students will engage in

- Clinical Research Methods
- Concepts and Perspectives of Clinical Health Promotion in the Patient Pathway
- Clinical Health Promotion Practice
- Healthy Workplace in Hospitals and Health Services Implementation
- Quality Management and Continuity
- and much more

For more info about the new International Master of Clinical Health Promotion, please sign up for the newsletter by sending an email to **internationalmaster@whocc.org**