Physicians’ Work Environment and Health

A Prospective Controlled Intervention Study of Management Development Programs Targeting Female Physicians

BY

PIA JANSSON VON VULTÉE

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Abstract

During the last decade, there has been a renewed interest in physicians’ working conditions at a time when health care is undergoing major structural and financial changes. Physicians report decreasing work satisfaction and at the same time increasingly contemplate on leaving their profession. Despite an increasing proportion of female physicians, they are underrepresented in management positions. Very often, female physicians also report worse personal health and less organisational influence than their male colleagues. Management programs have been viewed as an important vehicle to improve working conditions and career development for female physicians.

The aim of the present thesis was to evaluate the effects on individual health, professional development, perception of organisational structure and career development. Fifty-two female physicians participated in structured 1-year management programs. The control group consisted of 52 physicians not participating in any formal management education during the study period. The female physicians were compared with 157 male physicians in order to evaluate possible gender and manager-reported differences on individual and organisational well-being. The study also assessed occupational predictors of individual well-being, health and professional development for managers.

Participants in management programs reported a clearer organisational structure and improved professional development and influence. However, there were no significant effects with regard to health, sickness absenteeism, nor career development. Male and female physicians differed in several areas when assessed as a group, but stratifying for management level, most of the gender-related differences disappeared. When managers rated clearer organisational structure, this was associated with higher ratings on individual well-being and professional development.

Management programs for female physicians might have some beneficial effects but these programs need to be better defined and targeted to the most important issues at hand to recruit future managers. Furthermore, these programs must be better integrated with other processes to create efficient and able managers.

Keywords: management programs, female physicians, well being, individ, organisation, health, career development

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Till Bengt, Jesper, Viktor, Jakob och Nora. Ett stort tack för allt ert tålamod, stöd och kärlek.
List of Papers

This thesis is based on the following papers, which are referred to in the text by their Roman numerals:

I. The impact of management programs on physician’ work environment and health. A prospective controlled study comparing different interventions.
   Pia Jansson von Vultée and Bengt Arnetz
   Journal of Health Organisation and Management. Accepted.

II. Individual and organisational well-being of female physicians. Assessment of three different management programs. Results one year after the termination of the formal intervention program.
   Pia Jansson von Vultée, Runo Axelsson and Bengt Arnetz
   Published in Medscape General Medicine, January, 2004.

III. Differences between male and female physicians, with and without management positions, according to organisational influence, skills development, well-being and health
   Pia Jansson von Vultée and Bengt Arnetz
   In Progress.

IV. Work environment and well-being among physician managers. The importance of organisational influence and support
   Pia Jansson von Vultée, Runo Axelsson and Bengt Arnetz
   In Progress.

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Summary

During the last decade, there has been a renewed interest in the physicians’ working conditions at a time when health care is undergoing major structural and financial changes. Physicians report decreasing work satisfaction at the same time as more physicians report that they contemplate leaving their profession. Despite an increasing proportion of female physicians, they are severely underrepresented in management positions. Female physicians report worse personal health and less organisational influence than do their male colleagues. Female physicians also have lower salaries than their male colleagues, even comparing similar jobs. Management programs have been viewed as an important vehicle to improve the working conditions for physicians and to improve their career development.

The overall aim of the present thesis was to evaluate the possible effects on individual health, professional development, perception of organisational structure and career development on female physicians participating in structured management programs as compared to a control group.

The evaluation as to the efficacy of the management development programs revealed beneficial effects on professional development and perception of organisational structure and influence. However, there were no significant effects with regard to individual health, sickness absenteeism, or career development.

It is suggested that management programs might have some beneficial effects but these programs need to be better defined and targeted to the most important issues at hand. Furthermore, these programs must be better integrated with other processes to recruit future managers. There is also a need to include measures that have a positive impact on the participants’ health, another important area to develop in order to create efficient and able managers.
Introduction

Work organisation in health care

In the early nineties, physicians were happy in their work, with high work satisfaction and a high degree of work autonomy. The turnover rate among physicians and sickness absenteeism were low. However, the work settings and work environment for physicians have rapidly changed during the last decade. These changes are partly related to substantial health care reorganisations, and even if physicians still classified their work satisfaction to be high in the late nineties, there was clear evidence of decreasing satisfaction towards the end of the decade. Physicians’ autonomy at work has previously been high, but a number of recent studies suggest this might no longer be true. The workload is increasing and administrative tasks are swelling, and physicians report increasing productivity demands. Technological advances and medical development result in an ever increasing need for continuous skills development. Not only within the traditional skills areas, such as treatment options, but also in such areas as technological skills. These demands occur during a period when physicians are already under time constraint. All this leads to increasing stress at work.

By marginalizing physicians in the decision making processes there is also evidence that health care efficiency has suffered. All these changes have contributed to deterioration of physicians’ work environments and might also have detrimental effects on physicians’ health.

Furthermore, the reorganisations that were made during the nineties within health care were not uniformly accepted nor driven by physicians. Rather, physicians tended to be on the sideline, not actively participating in the concrete reorganisation efforts. The reason for this lack of involvement could be that changes were made too fast, and physicians did not necessarily see the benefits to themselves, their medical practice or the patients.

The changing role of physicians has resulted in role conflicts at the same time as there have been significant cut-backs in financial resources. The end result has been increased strain for physicians. The physicians’ traditional managerial role has also been challenged by other professionals, including nurses as well as administrative staff, such as economists and lawyers.

The changes discussed above might have contributed to the increasing turnover rate among physicians. In some studies up to 40 % of the physi-
cians say they would not choose the medical profession if they were to select a career again, up to 25 percent of physicians have thought about leaving their profession and one study has identified 55% of the physicians had changed workplace between 1987 and 1991.  

There might well be benefits in changing careers in one’s lifetime. However, if large numbers of physicians are so unhappy that they would like to leave the medical profession altogether, it will have numerous repercussions. Skilled professionals are lost resulting in financial losses. Moreover, the traditional mode of learning the medical profession is heavily based on the idea of apprenticeship. If older and more experienced doctors are leaving, or lack motivation, this established form of learning the medical profession might be hampered.

Work environment settings in health care

Work situation

The work situation for physicians is rapidly changing. The medical knowledge and the use of technology in medicine are accelerating, at the same time as physicians report insufficient opportunity to improve in medical competencies. The traditional role of physicians is also being challenged in a number of ways. Patients are increasingly co-players in decisions regarding medical diagnoses and treatment. The patients have access to huge amount of medical information resulting in a changed skills balance between the physician and the patient. The physicians report increasing demands to increase productivity. The patients are more demanding to see their doctor immediately and expect that their doctor keeps up with the medical knowledge. However, studies indicate that physicians have less time to spend on patients, partly due to organisational inefficiencies.

The different role conflicts among physicians correlate to increasing risk of developing burnout. Burnout seems to be one important factor contributing to the desire to leave the medical profession. Burnout is also related to the risk of poor mental well-being, suicide and other health consequences. Therefore, it is important to understand more about risk factors for burnout and implement efficient programs to counteract the development of burnout among physicians.

The autonomy of physicians is increasingly questioned at the same time as physicians are asked to keep cost down. The introduction of information systems within health care has for the most part not resulted in increased efficiency and physician time to see patients. Rather, these systems have added administrative tasks and have much less been geared to support the
medical profession in their clinical decision making. The end result of the above changes has been increased role conflicts and role stress.

Besides the human costs, the increasing dissatisfaction among physicians results in lower productivity and efficiency losses in organisations. Even though still not apparent, increased dissatisfaction might also lead to decreased interest in entering medical schools.

Health among physicians

Physicians have traditionally been seen as a group with low sickness absenteeism and a high threshold for taking sick leave. Actually, the discussions have been more focused on whether physicians have a problem with presenteeism. Presenteeism concerns employees at work who do not function at an optimal level due to poor health. However, more recent studies indicate that absenteeism and poor health are becoming an increasing concern also among physicians. Thus, the health and well-being among physicians have been reported to decrease during latter years.

Low perceived control and high demands have been shown to be a risk for a number of health outcomes, including cardiovascular diseases and poor mental health. On the other hand, professional support from work colleagues, high levels of decision latitude and a supportive social climate have been shown to be important factors in creating a healthy workplace. In addition, well-functioning teams have been reported to be beneficial to physicians’ health. Organisational changes in health care have to a certain degree counteracted the creation and retention of coherent teams.

Leadership and management development

Within health care organisations, the influence and decision power of physicians have diminished as compared to other professional groups. Professions not traditionally recognized as leaders and managers within health care have strengthened their positions within the rank of management. There are also findings suggesting that health care organisations have created an inverted power structure, where people at the bottom have greater influence over daily decisions than those who are nominally in control at the top. Some researchers suggest that it is important to have physicians in leading and management positions in healthcare in order to streamline processes, tackle bottlenecks and increase the standard of care. It has been argued that physicians in management positions will lead to maximum efficacy within the health care process. Having physicians as managers would thus be beneficial to quality and facilitate cost-effective patient care. However, there is other evidence that issues other than merely the profession of the
medical leader are of importance in order to achieve effective and high quality care.4

**Gender-associated differences within the medical profession**

**Competence disparities**

In several studies of male and female physicians, a range of differences have been reported. These differences are on several levels. At the organisational level it has been shown that female physicians report more patient-based work than male physicians 42,44, and female physicians perceive less participation in work processes and decision making as well as scored lower on management feedback at work 4. Furthermore, female physicians have reported higher work load and stress than male physicians 9,38,43,45,46.

At the individual level, female physicians report less opportunities to develop new skills and also less time allocated for this in their medical practice 47.

Female physicians are to a less degree actively working as researchers, and fewer achieve a doctoral degree 44,48. Even though women make up at least half of the medical students, female physicians are underrepresented in management positions 49,50. Female physicians also have lower salaries than their male counterparts, even when comparing similar work tasks and job positions 43,51. There is a little of “catch-22” in the above facts. One important qualifier for higher management positions in medicine is that the candidate has received a doctorate, in addition to the medical degree. If female physicians, for whatever reason, are underrepresented as researchers, this will hamper their medical management career. However, since female physicians are more often found in direct patient care, there is less time for them to carry out research and complete their doctoral degree.

**Health disparities**

Both male and female physicians’ health is deteriorating, but female physicians have more health complaints than their male colleagues 21. For example, female physicians have been reported to have a 60 percent increased risk of developing burnout than male physicians 41. Sickness absenteeism among Scandinavian female physicians is increasing more rapidly than among male physicians 21,32,52,53. This could be a result of increasing occupational stress and role conflicts in heath care organisations, predominantly affecting female physicians 16,30,39. There are also reports that female physicians cope less well with losing control at work as compared to their male counterparts with regard to mental well-being 38.

With regard to mental health, studies indicate that at least female physicians are at an increased risk, in comparison with other female professionals,
to commit suicide \(^3,^{54-56}\). However, there are researchers who challenge the notion that female physicians are at increased risk for mental disorders \(^57\). Male physicians have also been reported to have an increased suicide risk as compared to other males, but these studies are less consistent and studies suggesting an increased suicide rate among male physicians are mostly of an older age \(^34,^{55}\).

### Management programs

**Health and organisational effects from management programs**

Management developing and training programs are commonly offered in all areas of the professional life. These programs have different structures and the terminology might include terms such as management development, coaching, leadership training and similar vocabulary. There is a number of follow-up studies of the possible effects of such programs on the career development and management skills of the participants. However, to our knowledge, there are few, if any, prospective controlled studies in the field of health care. Therefore, there is a need to compare a group of management participants exposed to management training program with that of a passive control group. Some of the previous follow-up studies concern health care professionals, but most are from the non-medical fields and some articles are more descriptive on how management programs could be performed \(^58,^{59}\), and one study describes a mentor program with the aim of improving women in management positions. Thirteen women with previous management positions were studied \(^60\).

In the following there is a brief review of three specific forms of management development programs focusing on the health care and social welfare sectors predominantly: mentoring, management network, and traditional lectures.

**Mentor program**

Connor et al. have evaluated mentor programs and suggested that they were important for learning in the medical profession and to increase the medical knowledge. The programs were highly valued by the participants and the participants reported beneficial effects in their personal and professional development \(^61\). There was, however, no formal follow-up as to the efficacy of the program to achieve specific end-points, such as improved management skills or career development nor was there a comparison group included.

Kovner et al. utilized senior managers as mentors in order to improve management skills, management experience and professional guidance to middle managers. Even though participants reported beneficial effects on
time management, inter-departmental interactions and morale, little supportive objective data was provided 62.

Peluchette and Jeanquart recommended different types of mentor programs during different career stages. They reported beneficial effects from a mentor program on self-reported and objective career success as compared to a non-mentor group 63. However, this was a cross-sectional assessment and not a prospective follow-up study.

Franzén and Giesecke studied female managers over time with regard to career success. They could not find any systematic benefits but suggested that the relationship between mentor and adept/apprentice was important 64.

Nilsson evaluated the effects on the career development of female physicians from their participation in mentor programs. The participants reported that they improved in their personal development 65. However, more objective measures of career success in this group did not support the participants’ own assessments.

Management network

Martin evaluated management networks from three different perspectives: educational, workplace, and personal development respectively. No specific effects were seen in any of these three areas among a group of managers in the health care and social care areas 66.

Reynolds evaluated changes at an individual and organisational level after participating in management training, offering coaching, counselling and skills development. The participants represented a wide array of managers in a city council department and the participants were compared to a control group. The evaluation was on the physiological and psychological well-being as well as job characteristics. The participants reported increased control over work and enhanced organisational participation, but no impact was found on psychological well-being 67.

Bihari-Axelsson et al. evaluated individual and organisational changes from participating in management networks. She found that the participants reported increased knowledge and skills with regard to practical management tools. The participants reported positive changes in leadership performance and personal development 68.

Lectures

No previous evaluations were found using merely lectures as a means for management development.

In summary, even though there has been a substantial number of assessments of the effect of management programs on participants, professional development and career enhancement, few have been prospective, longitudinal and controlled, and rarely controlled for health effects 53–60.
Aims of the present thesis

The overall aim of this thesis is to assess whether structured management programs have beneficial effects with regard to career development, organisational influence and health, psychosocial and somatic well-being as well as job satisfaction. In addition, the thesis assesses the importance of “formal” versus “de facto” management style with regard to organisational and individual well-being and career development. Finally, the thesis assesses possible gender-related differences in physicians with and without management positions.

Hypothesis

Female physicians in management programs:

- will exhibit a faster formal career development than physicians in the control group
- achieve a faster professional development, that is, progress faster from staff physician to more senior positions than the control group, regardless of formal management position.
- exhibit a higher job satisfaction than the control group
- improve their ratings of the organisational management style, professional autonomy, and control at work in comparison to the control group
- exhibit a more positive self-rated and objective health development as compared to the control group, and
- exhibit less signs of burn-out than the control group.

Physician managers who report satisfactory organisational support, regardless of gender and intervention program, score higher on scales for organisational and individual well-being than do managers with less organisational support.

The gender-related differences in ratings of organisational and individual well-being disappear once you achieve senior management status.
Materials and methods

Participants
A total of 104 female physicians accepted to participate in the study. Of these, 52 were selected by the human relations department or clinical department heads of the participating health care organisations. These participants made up the intervention group. It is not known to us how many physicians in total were asked to participate. However, according to the participating health care organisations, the acceptance rate to participate was rather high.

Another 60 female physicians, selected at random from the Swedish Medical Registry of Physicians (“Läkarmatrikeln”), between the ages of 35 and 60 and board certified were asked to participate in the control group. Out of these 60, 52 accepted to participate.

The amount of managers among the female physicians in participation group and control group is shown in table 3.

The 180 male physicians were selected in the same fashion from the Swedish Medical Registry of Physicians, 157 of which accepted to participate.

At the first follow-up, that is at the end of the one year management program, nine out of 52 physicians in the intervention group, and 10 out of 52 in the control group declined to respond to the mailed questionnaire.

At the second follow-up, one year after the formal termination of the intervention program, the non-response rate in the intervention group was 21 out of 52 (response rate 60%). In the control group the equivalent percentage was 52% (25/52 declined to participate).

Out of the 104 female physicians, 55 had management positions (53 %). Out of 157 male physicians 114 had management positions (73 %).

Table 3. managers and non-managers in intervention and control group.

<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers</td>
<td>27</td>
<td>14</td>
</tr>
<tr>
<td>Non-managers</td>
<td>13</td>
<td>28</td>
</tr>
</tbody>
</table>
Introduction of the different programs:

In the early 1990’s, health care in Sweden started organised management programmes for physicians and other health care personnel initially in gender-mixed groups. In the late nineties, the groups were predominantly designed for female physicians in order to expedite the career development of female physicians.

During the autumn 1997 and spring 1998 nine different management programs started in the central Sweden. These programs were mostly geared towards the need of female physicians.

This thesis was designed to evaluate three conceptually different management programmes at four different levels; participants’ view of their organisation, individual well-being, formal career development and health.

Participants were selected through contacting the human resources departments at all larger hospitals in Sweden. However, programs were planned to start within the near future only in the central part of the country. Therefore, we selected participants to the intervention group only from this part of the country.

Participants represented health care organisations in five cities. Some of the cities (Stockholm, Uppsala and Örebro) had more than one program during this period. All of the programs that were to start accepted to participate in this study. The programs lasted for approximately one year. The following three programs were evaluated

Mentor program

All mentor programs had the same structure. They were all carried out during one year. The physicians had a personal mentor, who should have an own management position either within or outside the medical profession. The meeting frequency between mentor and apprentice was supposed to be approximately twice a month, and the meeting duration was between two and four hours on each occasion. These meetings were combined with lectures where all participants in the mentor programs participated, at the initiating of the mentor program, half-way thru and at the end of the mentor program. The groups in the cities of Skövde and Örebro plus the Stockholm suburb of Danderyd consisted of female managers only. The mentor program at Karolinska sjukhuset was gender-mixed. The mentor program consisted of a total of 28 physicians.

Management network

During a one year period, the groups had meetings every two or three weeks. One network (Uppsala) started with a two day off-site meeting, homework and project work, totaling some 16 meetings. The meetings were coached by
persons with a high administrative position. The meetings were combined with lectures on management themes. The meetings lasted between two and four hours each, and the groups consisted of 14 persons. This program ended by a three day off-site meeting.

Another program, with participants from Huddinge hospital, Linköping and Danderyds hospitals – called HUR (Huddinge universitetssjukhus, Universitetssjukhuset i Linköping och Regionssjukhuset i Örebro), extended over a twoterm period, with 2-5 day meetings every month. In total 25 days combined with homework of approximately 5 days.

**Lectures**

This group had their program designed as lectures performed by lecturers with high administrative positions. The lectures focused on various management issues. The group met every week for three hours during the two terms. The group consisted of 10 persons.

**Evaluation**

All female participants, regardless of whether they belonged to the intervention or control group, received a structured questionnaire at the beginning of the study period, at the end of the formal management training programs and one year after the termination of the program.

The male physicians received a selection of the questionnaire, including the standardized scales (see below) and sociodemographic items. They received the modified questionnaire at one point in time half-way between questionnaire 1 and 2 for the female physicians.

The evaluation was made by a questionnaire with Lickert-type scales. The questionnaire consisted of about 220 questions, some of them used previously in the QWC, Quality Work and Competence survey tool. These questions were completed with sociodemographic questions as well private life, social situation, family situation, help with care at home, sick leave, and self-rated need for sickness absenteeism, even though one did not take it (sickness presenteeism).

The questions were aggregated into indices by aggregating three - five questions, assessing the same concept/construct. Prior to compiling the final questionnaire, meetings were carried out with focus groups. These meetings contributed to revising part of the questionnaire. The questionnaire was piloted on 15 people, not part of the formal study group.

The final questionnaire consisted of 15 different indices, measuring different items on perception of organisational structure, individual well-being, professional development and health (see table 1). Ten of the QWC indices have previously been used in several studies, including about 400 000 peo-
ple, both in the public and private sector. The eleventh was self esteem by Rosenberg and four new indices were developed to this study, measuring influence, authority, contact with immediate supervisor and work satisfaction. Female as well as male participants responded to these 15 indices.

The different indices were based on the questions shown in table 1.
Table 1. Listings of individual questions/items in the various scales used in the study.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Questions</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social climate</td>
<td>It is a pleasant atmosphere at work&lt;br&gt;I contribute to make good work climate&lt;br&gt;My colleagues are supportive&lt;br&gt;We work well as a team&lt;br&gt;I like my work mates</td>
<td>QWC 0.829</td>
</tr>
<tr>
<td>Work satisfaction</td>
<td>Is your workplace harmonious&lt;br&gt;Is your workplace stimulating&lt;br&gt;Are you proud of your work</td>
<td>new 0.576</td>
</tr>
<tr>
<td>Mental energy</td>
<td>Have you experienced restlessness in the last month&lt;br&gt;Have you experienced irritation in the last month&lt;br&gt;Have you experienced anxiety in the last month&lt;br&gt;Have you experienced moodiness in the last month&lt;br&gt;Have you experienced worry in the last month&lt;br&gt;Have you experienced difficulties concentrating in the last month</td>
<td>QWC 0.840</td>
</tr>
<tr>
<td>Work related exhaustion</td>
<td>Are managers mentally exhausted after work&lt;br&gt;Are managers worn out after work&lt;br&gt;Are managers satisfied with their work&lt;br&gt;Are managers stimulated by their work</td>
<td>QWC 0.721</td>
</tr>
<tr>
<td>Self esteem</td>
<td>I am satisfied with myself&lt;br&gt;I have a positive approach to myself&lt;br&gt;I have a number of good qualities&lt;br&gt;I have lot to be proud of&lt;br&gt;I have a positive attitude toward myself</td>
<td>Rosenberg 0.864</td>
</tr>
<tr>
<td><strong>Organisational</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>Do you have influence on your work situation&lt;br&gt;Do you have influence on work hours&lt;br&gt;Do you have time to plan work tasks in advance</td>
<td>QWC 0.690</td>
</tr>
<tr>
<td>Goal clarity</td>
<td>Are the goals well defined&lt;br&gt;Are the goals realistic&lt;br&gt;Are the goals possible to influence&lt;br&gt;Can the goals be developed</td>
<td>QWC 0.696</td>
</tr>
<tr>
<td>Efficiency</td>
<td>The work tasks can be made on time&lt;br&gt;All employees strive towards the same goals&lt;br&gt;The resources are used optimally at work</td>
<td>QWC 0.680</td>
</tr>
<tr>
<td>Feedback</td>
<td>I receive clear work directives from my immediate supervisor</td>
<td>QWC 0.720</td>
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<tr>
<td></td>
<td>I receive feedback on my performance from my supervisor</td>
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<td></td>
<td>My supervisor tells me if I do my tasks well</td>
<td></td>
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<tr>
<td></td>
<td>My supervisor tells me if I do my tasks badly</td>
<td></td>
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<tr>
<td>Workload</td>
<td>Are the demands too hard at your work</td>
<td>QWC 0.751</td>
</tr>
<tr>
<td></td>
<td>Does the job require too much work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Do you have time enough for your work tasks</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>Is your immediate supervisor’s communication clear</td>
<td>QWC 0.783</td>
</tr>
<tr>
<td></td>
<td>I get along well with my immediate supervisor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My immediate supervisor is emotionally supportive to me when I need it</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My immediate supervisor is engaged in my skill development</td>
<td></td>
</tr>
<tr>
<td>Influence</td>
<td>Do you have the amount of influence you need in your work</td>
<td>new 0.654</td>
</tr>
<tr>
<td></td>
<td>I receive the information I need from my immediate supervisor to influence my work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>We plan all work ourselves in my workplace</td>
<td></td>
</tr>
<tr>
<td>Authority</td>
<td>Do you have enough authority in your work</td>
<td>new 0.655</td>
</tr>
<tr>
<td></td>
<td>I know how the hospital goals are connected with the wards goals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am in charge of the development of my own skills and competence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am active and participating in my work</td>
<td></td>
</tr>
<tr>
<td>Skills development</td>
<td>Do you develop in your work</td>
<td>QWC 0.657</td>
</tr>
<tr>
<td></td>
<td>Do you have the opportunity to learn new skills in your work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Working time is enough for developing and education</td>
<td></td>
</tr>
<tr>
<td>Contact with immediate supervisor</td>
<td>Is your immediate supervisor supportive when you have problems</td>
<td>new 0.803</td>
</tr>
<tr>
<td></td>
<td>I get praise from my immediate supervisor when I have performed a task well</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My immediate supervisor is an excellent manager from the organisation’s point of view</td>
<td></td>
</tr>
</tbody>
</table>

The scoring on all indices is such that higher scores represent a more favourable outcome, except in the case of work-related exhaustion, where values should be lower than 30 percent, and work load (recommended level ranges between 50-60 percent).
Statistics

All statistics were calculated using the statistical software SPSS, using versions 9.0 to 11.5. The validity of the indices was assessed by confirmatory factor analyses and by Cronbach’s alpha, which were all above 0.65. All items created a single factor for each of the respective indices. Group comparisons were evaluated using 1-way ANOVA, and GLM (General Linear Model) for repeated measures, with or without covariates. Stepwise linear regression was used to test changes in specific outcome variables over time as a function of intervention/control groups as well as other relevant predictors of interest. Chi square and Spearman statistics were used to evaluate differences between groups in ordinal scales. Statistical significance was set as p<0.05 in all calculations. Detailed statistics are also provided in the respective paper.

Ethics approval

The study was approved by the Ethics Committee of the Karolinska Institute.
Results

Summary of the individual papers

Study I

The impact of management programs on physicians’ work environment and health. A prospective controlled study comparing different interventions.
Pia Jansson von Vultée and Bengt Arnetz
Journal of Health Organisation and Management. 2004;18 (1)

Female physicians participating in management intervention programs were compared with a reference group of matched physicians. Sickness absenteeism was significantly lower in the intervention group as compared to the control group following the one-year intervention. No significant differences were found between the groups with regard to career advancement, individual, organisational and professional well-being.

Health care organisations spend a substantial amount of resources on management programmes in order to improve leadership, autonomy and the work-environment of physicians in times of increasing discontent among this key group of health care employees. Our study indicates some beneficial health effects from structured management programs but there is a need to further develop and assess the efficacy of these programs.

Study II

Individual and organisational well-being of female physicians. Assessment of three different management programs. Results one year after the termination of the formal intervention program.
Pia Jansson von Vultée, Runo Axelsson and Bengt Arnetz
Medscape General Medicine, January, 2004; 6 (1)

The study assesses the possible long-term effects (one year after the termination of the formal management programs) on individual and organisational well-being among female physicians.

One year after the end of the one year intervention program, the intervention group reported statistically significant improvements in ratings of organ-
isational influence, management feedback, perception of organisational leadership, contact with one’s immediate supervisor, and individual skills development as compared to the reference group. There were no statistically significant differences between the groups with regard to individual health and well-being or career development.

These results suggest that management programs, at least the ones assessed in the current study, have some beneficial effects with regard to the interaction between female physicians and the organisation, but there are no measurable effects on personal health and well-being. Neither were there any apparent effects on the participants’ career development. The results indicate a need to further evaluate the real impact of the current management development programs offered to female physicians in order to ensure that there is an impact on their career development as well. Obviously, there is also a need to expand the follow-up period, since the latency from the programs might be longer than one year.

Study III

Differences between male and female physicians, with and without management positions, according to organisational influence, skills development, well-being and health

Pia Jansson von Vultée and Bengt Arnetz
Submitted.

Female physicians with and without formal management position were compared with male physicians with and without formal management position with regard to organisational and personal health. The aim was to assess whether gender and/or management level was the most important factor explaining individual and organisational well-being.

Female and male physicians reported several differences in their daily work. The major differences concerned organisational aspects. Regarding differences between non-managers and managers of the same gender, the differences were smaller, but still found within the organisational domain.

Regarding female and male managers, the differences were even less. Only two indices showed statistically significant differences at this last level of the analysis; influence and work satisfaction. Female managers scored lower as compared to their male colleagues.

Even though female and male physicians score differently in the way they perceive their daily work, most of the differences disappear when the analysis controls for management status. Thus, since female and male physician managers score their individual and organisational well-being similarly, it is important to stimulate female physicians into entering management positions in order to create a more positive work environment.
Study IV

Work environment and well-being among physician managers. The importance of organisational influence and support
Pia Jansson von Vultée, Runo Axelsson and Bengt Arnetz
Submitted.

This study has assessed the relationship between different organisational factors and the work environment of two groups of physician managers; those who perceive a high degree of organisational influence and support – “de facto” managers - and those who perceive less influence and support – “formal” managers. The assessment focused on the individual and professional well-being of these managers.

The results show that “de facto” managers scored their work environment more favorably than “formal” managers. “De facto” managers were also able to cope more effectively with difficulties and showed less signs of personal stress than did “formal” managers.

These results point to the importance of fostering an atmosphere of inclusion in order to improve physicians’ well-being, an important resource to manage the current transformation of health care. The study also points to the importance of further defining “formal” vs. “de facto” managers and its implications for organisational performance and health.
**Additional results**

In addition to the results already presented in the four papers that are part of this thesis, there was an interest to further study the relationship between specific organisational factors and personal health. Such knowledge is of importance in order to design better preventive measures as well as offering ideas to create a healthier workplace for physicians, as well as other health care employees.

We defined three of our indices to reflect a good and healthy workplace; mental energy, work related exhaustion and work satisfaction. These items were aggregated into one single scale and validated. The Cronbach’s alpha was 0.76 and confirmatory factor analysis supported the conclusion that the new scale consisted of one factor. The Health index was created using the formula (mental energy + inversed work related exhaustion + work satisfaction) / 3. In the statistical calculation, all indices were divided into low, medium and high levels, using tertiles as the cut-off points.

Within the sphere of individual well-being: social climate was associated with health (p<0.001). For the organisational parameters participation, influence and authority was positively associated with health (p<0.001). On the professional level, development and contact with one’s immediate supervisor associated with health (p<0.01). For definition, please see table 1 above. That is, the higher the tertile on the organisational scale, the higher the score on the health scale.

With regard to work load, we found an inverse relationship to health, that is, with increasing work load (tertile), scores on the health scale decreased (p<0.01)
Table 2. Associations between organisational and individual well-being and scores on the health scale, reported as low, medio, and high.

<table>
<thead>
<tr>
<th>Index</th>
<th>Score of health</th>
<th>N</th>
<th>Mean value of health</th>
<th>S.E.M.</th>
<th>df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social climate</td>
<td>low</td>
<td>60</td>
<td>60,06</td>
<td>1,31</td>
<td>2</td>
<td>22,0</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>medio</td>
<td>35</td>
<td>67,53</td>
<td>1,39</td>
<td>2</td>
<td>144</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>52</td>
<td>72,32</td>
<td>1,46</td>
<td>2</td>
<td>144</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>low</td>
<td>98</td>
<td>62,77</td>
<td>1,18</td>
<td>2</td>
<td>196</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>medio</td>
<td>38</td>
<td>69,69</td>
<td>1,36</td>
<td>2</td>
<td>196</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>63</td>
<td>70,71</td>
<td>1,28</td>
<td>2</td>
<td>196</td>
<td>.000</td>
</tr>
<tr>
<td>Development</td>
<td>low</td>
<td>84</td>
<td>61,55</td>
<td>1,18</td>
<td>2</td>
<td>183</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>medio</td>
<td>45</td>
<td>65,14</td>
<td>1,52</td>
<td>2</td>
<td>183</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>57</td>
<td>73,37</td>
<td>1,17</td>
<td>2</td>
<td>183</td>
<td>.000</td>
</tr>
<tr>
<td>Workload</td>
<td>low</td>
<td>67</td>
<td>69,56</td>
<td>1,23</td>
<td>2</td>
<td>193</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>medio</td>
<td>86</td>
<td>64,62</td>
<td>1,12</td>
<td>2</td>
<td>193</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>43</td>
<td>63,77</td>
<td>1,97</td>
<td>2</td>
<td>193</td>
<td>.007</td>
</tr>
<tr>
<td>Influence</td>
<td>low</td>
<td>51</td>
<td>59,76</td>
<td>1,47</td>
<td>2</td>
<td>158</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>medio</td>
<td>73</td>
<td>66,09</td>
<td>1,25</td>
<td>2</td>
<td>158</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>37</td>
<td>71,30</td>
<td>1,64</td>
<td>2</td>
<td>158</td>
<td>.000</td>
</tr>
<tr>
<td>Authority</td>
<td>low</td>
<td>78</td>
<td>63,06</td>
<td>1,13</td>
<td>2</td>
<td>192</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>medio</td>
<td>48</td>
<td>65,27</td>
<td>1,68</td>
<td>2</td>
<td>192</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>69</td>
<td>72,43</td>
<td>1,15</td>
<td>2</td>
<td>192</td>
<td>.000</td>
</tr>
<tr>
<td>Contact immediate supervisor</td>
<td>low</td>
<td>111</td>
<td>64,72</td>
<td>1,04</td>
<td>2</td>
<td>229</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>medio</td>
<td>34</td>
<td>64,00</td>
<td>2,32</td>
<td>2</td>
<td>229</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>high</td>
<td>87</td>
<td>70,09</td>
<td>1,01</td>
<td>2</td>
<td>229</td>
<td>.001</td>
</tr>
</tbody>
</table>
Discussion

The overall aim of this thesis was to evaluate possible benefits to female physicians’ individual as well as organisational well-being, health and career development from three different management programs.

The major reason behind the thesis was the reports indicating a worsening of female physician’s work environment. Female physicians that make up almost 50% of the graduates from medical schools in Sweden, as well as many other countries, are underrepresented in management positions. It is well recognized that management positions are related to better personal health and well-being as well as organisational influence.

The deterioration of the physicians’ work environment has been suggested to be an effect of several changes within health care. As for the different organisational aspects investigated in the current thesis; authority, influence and control were previously known as important for creating a healthy and stimulating work environment. Studies suggest that the physicians’ influences at work have decreased during the last decade.

Professional autonomy, freedom and work satisfaction are important ingredients for the physicians’ well-being in times of rapid changes within the health care sector. Stress and burnout are significant occupational issues among physicians, contributing to increasing sickness.

As stated earlier, female physician have for a long time been underrepresented in management positions as compared to the proportion of all doctors.

Based on these previous reports, we were interested in further studying the possible impact of management training on the following four main areas; individual well-being, organisational structure, professional development and health.

One of the theories behind the intervention and the assessment was that by improving organisational well-being, such as, influence, authority and participation, there would be secondary effects on physicians’ individual health and well-being, in addition to an accelerated career development.

In this study these management programmes were found to have measurable effects in two of the four areas, organisational structure and professional development.

At the organisational structure level, the participants in the management programs improved in influence and feedback. At the professional level,
participants did improve in all the measures; contact with immediate supervisor, ratings of organisational leadership, and skills development.

Another area we were interested in assessing with regard to the possible effects from management development programs was individual well-being and health. With regard to self-assessments, there were no effects on individual health, neither during the active program phase, nor one year after the termination of the program.

However, sickness absenteeism increased in the control group during the program period, when participants did not show the same development. However, one year following the end of the formal management programs, the intervention group had caught up with the control group. These data suggest that active participation in these kinds of management development programs are protective with regard to sickness absenteeism in times of otherwise worsening health within the organisation. One argument could be that presenteeism increased in the intervention group during this time. Physicians have previously reported a high degree of sickness presenteeism \(^3\), and participating in management programs could by itself have made the participants less likely to take time off due to sickness. This could be one explanation, since there were no significant differences between the intervention and control groups in ratings on mental energy, nor work-related exhaustion during this time period.

It is possible that the management intervention program was viewed as a positive ingredient in the physicians’ daily work, also giving them “breathing space” in an otherwise busy working day. Once the program was over, real effects on career development did not materialize, frustrations grew resulting in increased sickness behaviour. Since this is a prospective controlled intervention study showing that increased sick leave is not necessary related to changes in autonomy an influence, there is a need to further assess the cause-effect relationship between organisational factors, such as influence and autonomy, and health and sickness behaviour, even though the cause-effect seems to be established both within and outside health care organisations \(^{11,12,21,38,39,43}\).

Using the entire data set, regardless of gender or intervention/control group status, we found a dose-response relationship between the organisational structure and personal health, using a revised scale for assessing health. Even though this data is based on associations and not necessarily cause-and-effects relationships, it point to the importance of improving organisational structure in order to improve physicians’ health.

However, since we did not find any direct associations between sick leave and organisational structure, we need to develop better models of the possible relationships between organisational characteristics and individual health and sickness absenteeism behaviour. There might actually be different risk factors for individual health in organisations and sickness absenteeism behaviour as well.
These increased values on influence and feedback among physicians participating in management programs at the longer-term follow-up period, were expected to be associated with increased individual well-being and health 4, but this was not found. Nor did the physicians reach a higher hierarchical position or management level after participating in the programs as compared to the control group. It may be that the follow-up period, even though two years altogether from the initial start of the management programs, was too short. This remains to be determined in possible future follow-ups. However, it may well be that the recruitment of participants for these programs is not coordinated with the head of the departments and their plans for the recruitment of future leaders.

Considering the volume of management development programs, not least within the health care sector, there is a surprising lack of prospective controlled follow-ups. A number of areas listed to be influenced by these programs, such as organisational influence, were found in our study as well. However, other areas such as career developments, suggested to be facilitated by management development programs, did not materialize in the current study 63-65.

In summary, there is clearly a need for further studies of the organisational and individual effects of management development programs. There is also a need to include health as an additional outcome measure in future assessments.

Another area of interest for this thesis was the possible role of “formal” vs. “de facto” management for organisational and individual well-being. A number of work-related factors previously found more commonly among managers than non-managers have been shown to be promoters of health 8,22,71,72. We were interested in assessing whether there were differences in the rating of organisational structure and well-being among managers whom we defined “formal” vs., “de facto” managers. The operational definition of these two categories was based on previous research suggesting that decision latitude, knowledge of organisational structure, and contact with top management are important for effective management. Contact with top management and organisational support were included among the four criteria, since these items have been reported to relate to job satisfaction 22,71,72. Decision-making ability was chosen since it is relevant in assessing autonomy 6,37,70. To have a clear organisational structure is important in many senses. To have good working teams, to have clear goals and organisational support have been suggested to be protecting factors to individual well-being 4,13,20,69,73. Viewing oneself as a manager was included since the current development seems to be shifting power from physicians to other health care professions 18,23,72. The physician’s sense of being part of management decision-making processes is important both to the organisation and the individual person 18,72,74,75.
During latter years, turnover rates within the organisations have increased among physicians. The cost of turnover is high and commonly results in lower organisational efficiency, productivity as well as lost knowledge. The risk of leaving the medical profession is high in the current thesis study as well. Seventy-four percent of the “formal” managers had thought about leaving their employment at the County Council (“Landsting”), and 47% of the “de facto” managers had thought likewise. These are high figures, but the “de facto” managers are more likely to stay in their current job. Overall, creating more “de facto” managers might contribute to creating a more positive work environment for physicians, possibly also resulting in increase efficiency within the health care sector.

“De facto” managers report more positive values on individual well-being and professional development. Assessment of organisational well-being was not included, since the inclusion criteria could cause a bias to the outcome at this level of study. “De facto” managers were more satisfied, had more influence, better social climate, higher feed-back from their closest leader and lower scores on work-related exhaustion. These results are in line with previous studies suggesting the importance of organisational support in general for health and well-being. Based on differences in organisational support among “formal” and “de facto” managers, and outcome measures such as organisational and individual well-being, these findings seem to hold true even among managers.

Regarding gender-related differences, there were differences between male and female physicians in general with regard to ratings of organisational and individual health and well-being, including organisational structure. Male physicians reported statistically significant higher influence, more participation and higher authority. Male physicians also reported higher work satisfaction and better social climate than their female colleagues. In our model of work satisfaction (presented in article four of this thesis), social climate was positively associated to work satisfaction. This has been reported in previous studies as well. There were, however, no differences between male and female physicians in their intention to leave work. Once again, this suggests that the possible associations between organisational characteristics and intention to quit one’s current job have more complex explanations.

Once we had controlled for management status of the physicians and looked at gender-related differences, we discovered that most of the differences between genders were found among non-managers. Once a manager, male and female physician’s score organisational and individual well-being similar, with two exceptions: work satisfaction and influence are scored lower among female managers. There are at least two explanations that managers are more alike than non-managers as a function of gender. Once a manager, gender ceases to be an important factor with regard to organisational support and health. It might also be a strong selection factor of poten-
tial female managers, that they score differently right from the beginning, even as non-managers, as compared to all other female physicians.

Our results point to the importance of stimulating career development into management positions also among female physicians. The challenge, though, how is this best done?

Summary of results from hypothesis testing

Participation in management development programs improves influence, scores of organisational leadership, development and contact with one’s immediate supervisor.

There was no support for the hypothesis that management development programs accelerate the career development of physicians.

We could not find support for the hypothesis that management programs are beneficial to health. The only passing effect was an attenuation of the increase in sick leave during the active intervention phase.

We found no support that participating in management programs were beneficial to work satisfaction, intention to quit or perception of organisational efficiency.

Management position, not gender, was an important determinant of organisational and individual well-being.

Gender-related differences in individual and organisational well-being are more pronounced among physicians in non-management positions than among managers.

“De facto” managers are better off with regard to individual and professional well-being than ”formal” managers.

Organisational characteristics are important determinants of physicians’ health.
Methodological considerations

The lack of measurable effects on individual health from the management intervention program might be due to the fact that these programs do not influence outcome measures included in the current thesis. However, alternative interpretations might be that the assessment instruments used are not sensitive enough to identify real effects, or that organisational factors suggested in previous research to be of relevance to health are of less importance than actually believed. Our program did not influence rating of autonomy even though sick leave was attenuated among participants as compared to the control group, at least during the active phase of the intervention. This is counter to prior belief where one would have expected that increased sick leave would be related to decreased autonomy and that autonomy seems to be a powerful factor in creating well-being. It may also be that during a time of drastic changes within health care, including structural changes and decreased financial resources, autonomy is not sufficient to counteract negative health effects.

Another important issue is what the true “exposure” of interest was in the respective management intervention program. We have previously described the content of each of the respective programs. However, what did the participants actually learn and discuss and in what way might such knowledge lead to the desired results? There is a lack of more detailed descriptions of the detailed contents and outcome of most other reports of management development programs, with the exception of a few. However, even in the cases of better described programs, the underlying theory supporting that the taught skills should actually result in an improved career development among professionals is less strong.

An alternative issue to consider is that the health care organisation is not ready to employ the participants in management positions or that there are no positions available. This might be an even more pressing problem in times of cut-backs.
Conclusion

A number of studies suggest that the overall work environment for female physicians are worse than that for their male colleagues. Female physicians are also underrepresented in management positions as compared to the total population of physicians. During the last decade, the health care sector has also undergone major structural and economic changes. The end results have been increased stress and a decrease in the physicians’ work satisfaction.

Management development programs have been introduced as a tool to develop managers’ skills. Most of the prior studies of the effects of management programs have concerned managers in other sectors than health care. However, management programs have also been introduced as an important mechanism to decrease the gender-related differences in management positions between male and female physicians. There has also been a belief that these programs might result in improved working conditions for female physicians.

In the current study, participants in structural management programs did exhibit a range of positive effects in the areas of organisational and professional well-being and influence. However, there were no effects on self-rated health, or on sickness absenteeism over the long run. Neither could we detect any effects on career development as compared to the control group.

A significant amount of resources are allocated to various forms of management development programs. Considering the scarcity of resources within health care, it is important to further assess the most efficient forms of management development programs. Within traditional medicine, new treatments are supposed to pass the test of evidence-based medicine. It is not unreasonable that management development programs are assessed using similar strategies.

If female physicians are offered these programmes which do not actually enhance their career development, they might in the long run create more frustrations than benefits.

In summary, there are clear benefits from management development programs, but there is a need to look at program efficacy as well as changes needed to have an impact on professional development and health as well as actual career development.
Proposal of future research

It is suggested that future studies look in more detail at the selection process of participants in management development programs. What are the individual and organisational keys to enhance the formal career development of female physicians? Another issue is how the content of management programs should be constructed in order to have a real impact on the target issues. There is also a need to look at possible long-term effects on individual health and development, organisational well-being and career development of this program.
ACKNOWLEDGEMENTS

I wish to express my gratitude to a number of persons, without whom this thesis would not have been accomplished, especially to:

All group leaders who enthusiastically decided to participate with their groups in this study, and who have helped me in securing the follow-up measures from the participants.

All physicians who have given their valuable time to answer the questionnaires. Some of you have responded to three questionnaires about the same issues, with a great enthusiasm despite heavy workload. For this I think you deserve a medal. Without you this thesis could not have been accomplished.

My academic supervisor Professor Bengt Arnetz. You have been inspirational, critical, supportive and constructive. You have guided me through a lot of brainwork and you have supported my ideas and yet brought new valuable aspects into my work.

My honorary co-advisor Professor Runo Axelsson, who have helped me with great enthusiasm in writing and given me a theoretical framework for organisational thinking.

Margit Robeson who have helped me reading and commenting on my work and for being so helpful during these years.

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And least but far from less, my wonderful family. For the patience and love I have gotten from you during this study. The temper has been a little labile during different phases, but the love and support from you has always been so close.
References


Sammanfattning på svenska

KUPA, kvalitet, utveckling och psykosocial arbetsmiljö.

Bakgrund


Läkarna i gemen rapporterar, ökande grad av stress i arbetet, och de kvinnliga läkarna rapporterar ofta sämre psykisk hälsa än sina manliga kollegor. Kvinnliga läkares sjukskrivningar har under senare år ökat mera än manligas. Ökningen beror åtminstone delvis på försämringar i arbetsmiljön. Läkarkåren i gemen rapporterar mindre påverkansmöjlighet och inflytande i arbetet, och kvinnliga läkare rapporterar detta i än högre grad än vad manliga läkare gör. Kvinnliga läkare rapporteras dessutom ha ökade risker för att begå självmord i Norden jämfört med kvinnor överlag.
Hypoteser
I föreliggande forskningsprojektet – KUPA, kvalitet, utveckling och psykosocial arbetsmiljö, som gjordes som en prospektiv, kontrollerad interventionsstudie, studerades om:

Chefsprogram förbättrar kvinnliga läkares karriärutveckling

Dylika program påverkar deltagarna psykiska och somatiska hälsa, psykosociala arbetsmiljö och arbetstillfredsställelse.

Det föreligger genderrelaterade skillnader i psykosocial arbetsmiljö och hälsa mellan läkare på samma hierarkiska nivå

Det finns individuella och eller organisatoriska förklaringsmodeller till en förbättrad arbetsmiljö bland chefer och ledare.

Metod:

Studiegrupp

Initialt bjöds ca 130 kvinnliga läkare att delta i studien, och 104 läkare valde att svara på enkäten, vilket gav en svarsfrekvens på 80 %. Av dessa 104 kvinnliga läkare var 52 adepter, d.v.s. ingick i interventionalgruppen (50 %) och 52 ingick i kontrollgruppen. Cirka 200 manliga läkare fick enkäten och 157 svarade, vilket gav en svarsfrekvens på 78,5 %.

I studien av skillnader mellan chefer och icke-chefer fördelade sig cheferna enligt följande: av de 104 kvinnliga läkare hade 52 läkare formellt chefskap, 50 %. Formellt chefskap klassade vi på basis av specialitetsnivå att bestå av överläkare, klinikchef och chefsöverläkare. De manliga läkarna fördelade sig enligt följande: av 157 deltagare hade 88 läkare formellt chefskap, 56 %.

Chi-två analys mellan kvinnliga och manliga deltagargrupper visade inte på någon statistiskt signifikant skillnad mellan grupperna, det vill säga, kvinnliga läkare hade i vår grupp cheferposition i princip i samma utsträckning som manliga läkare. Den höga graden av chefer bland kvinnliga läkare...
beror sannolikt på att häften av de kvinnliga läkarna var selekterade till att delta i chefsatsningar, och detta påverkade chefnivån i denna grupp. Vad beträffar ålder, var de kvinnliga läkare mellan 29 och 63 år, med en medelålder av 46.9 år. Manliga läkare var mellan 30 och 64 år, med en medelålder av 49.6 år. Det var ingen statistiskt säkerställd skillnad i ålder mellan manliga och kvinnliga läkare.

**Intervention**

Vi tog med alla chefsprogram som startade hösten 1997 till våren 1998. De program som var aktuella var:

- Chefsvärk, var en gruppvis genomför utbildning med lektion – föreläsning med påföljande diskussioner varannan vecka, 2-4 timmar. Lektionerna var formaliserade med teman inom chefskap, ledda av chefer och lärare inom chefsutbildning och administration.
- Föreläsningsserien var en heldag varannan vecka med föreläsningar av lärare från högskolan, chefer och administratörer.

I denna studie fördelades programmen på 4 st. mentorprogram, 2 st. chefsvärk, och en föreläsningsserie.

Alla chefssatsningarna var ca 1 år långa.

**Utvärdering**

Interventionsgruppen jämfördes mot kontrollgruppen, och utvärderingarna skedde med en enkät.

Enkäten har tidigare använts i stor utsträckning som QWC – quality work competence, och dels kompletterades enkäten med nya frågor.

Enkäten fylldes i år noll, d.v.s. före interventionen som en basmätning. Här fylldes enkäten i av både manliga och kvinnliga läkare. Därefter fylldes enkäten i år 1, direkt efter interventionens slut, av de kvinnliga läkarna, och år 2, 1 år senare, som en longitudinell evaluering, även nu enbart av kvinnliga läkare. Manliga läkare fylldes således i enkäten enbart vid 1 tillfälle.

Under bas kartläggnningen jämfördes de kvinnliga läkarna med manliga läkare utifrån individuellt, organisatoriskt och professionellt perspektiv, och dessa utvärderingsparametrar kompletterades dels med ett genusperspektiv, och dels med ett chefsperspektiv, för att få förståelse för vad som var orsak till den ojämlika arbetsmiljön mellan manliga läkare och kvinnliga läkare som rapporterades och för att skapa förståelse för vad som skapar en god arbetsmiljö för chefer.
Evalueringsdesign
Fokus i evalueringen låg på ett flertal plan. Dels studerade vi den hierarkiska utvecklingen, dvs. karriärutvecklingen under studieperioden, dels studerade vi organisatoriska parametrar och individuellt välbefinnande och till slut studerade vi organisatoriska faktorer som relaterade till en mera positiv och hälsoarbetsmiljö för läkare i gemen, men framför allt kvinnliga läkare och för läkare i chefspositioner.

Huvudfokus låg på att utvärdera effekter på individuell, professionell och organisatorisk hälsa av interventionsprogrammet i relation till kontrollgruppen.
Resultat med kort diskussion

Vi kunde inte påvisa någon förbättrad karriärutveckling hos de kvinnliga läkare som deltog i chefssatsning jämfört med den kvinnliga kontrollgruppen.

I den första uppföljningsmätningen, d.v.s. direkt efter avslutat intervention, hade de kvinnliga läkare som deltog i chefsatsningar en lägre sjukfrånvaro än kvinnliga läkare i kontrollgruppen. Vi kunde inte identifiera några orsaker till denna skillnad i frånvaro från de studerade personliga- och arbetsmiljöparametrarna.

I andra uppföljningsmätningen, d.v.s. ca 12 månader efter det att den formella interventionen hade avslutats hade sjukfrånvaron i både grupperna ökat, vilket tyder på att programmen i sig var skyddande mot sjuklighet. Denna slutsats baseras på det faktum att vi inte kunde identifiera orsak till den ökade sjukfrånvaron och att sjukfrånvaron ökade i interventionsgruppern efter programmet upphört. Däremot skattade deltagare i interventionsprogrammet signifikant högre värden på återkoppling, grad av inflytande, kontakt med närmaste chef, organisatorisk klarhet, ledarskap och högre grad av utveckling jämfört med kontrollgruppen.

Vi har inte sett några skillnader mellan de olika delprogrammen i effekter på de studerade individuella, organisatoriska och professionella parametrarna.


I den sista kartläggningen identifierades viktiga organisatoriska faktorer som var relaterade till en positiv arbetsmiljö för läkare i chefsposition oberoende av kön.

Viktigast för nyhetsvärde i denna studie var, att vi testade olika typer av chefsprogram för kvinnliga läkare, longitudinellt och kontrollerat, för att utvärdera eventuella effekter på kvinnliga läkares psykosociala arbetsmiljö, välbefinnande och möjlighet att förkovra sig i sin karriär. Vi var både intresserade av självsattade effekter och faktisk karriärutveckling med avseende på chefsposition.

Viktigt var också att se vilka skillnader som förelåg mellan manliga och kvinnliga läkare under den här tidsperioden för att kunna relatera detta till resultaten.
Studien ger fördjupad kunskap om effekter på individuell, professionell och organisatorisk hälsa av tre olika former av ledarskapsutvecklingsprogram. En rad positiva effekter kunde påvisas. Samtidigt kunde vi inte under den aktuella uppföljningsperioden notera någon faktiskt karriäreffekt jämfört med en kontrollgrupp.

Resultaten visar på att chefskap i sig, oavsett gender, är förknippat med en rad fördelar ur ett professionellt och organisatoriskt hälsoperspektiv vilket stödjer vikten av att fortsätta arbetet med att stimulera läkare till chefspositioner.
A doctoral dissertation from the Faculty of Medicine, Uppsala University, is usually a summary of a number of papers. A few copies of the complete dissertation are kept at major Swedish research libraries, while the summary alone is distributed internationally through the series *Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine*. (Prior to October, 1985, the series was published under the title “Abstracts of Uppsala Dissertations from the Faculty of Medicine”.)