

Slide 1

CHANGING THE PSYCHOSOCIAL
WORK ENVIRONMENT TO IMPROVE
MENTAL HEALTH

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Title of the project:

Evaluation of participatory intervention to reduce workplace constraints and prevent mental health problems

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Groupe de recherche sur les impacts psychologiques organisationnels et sociaux du travail (RIPOST) (<http://www.csssvc.qc.ca/activites/ripost.php>)

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WHY act?

MENTAL HEALTH PROBLEMS are among the most **COMMON, COSTLY and DISABLING** health challenges facing the working age population

Rank 1st or 2nd among the causes of absence due to long-term illness

The slide features a blue background with a dark blue header box containing the title 'WHY act?'. Below the title, there is a paragraph of text in bold and regular font. To the left of the illustration is a text box with a striped background containing the text 'Rank 1st or 2nd among the causes of absence due to long-term illness'. To the right is an illustration of a person in a dark suit, slumped over with their head down, carrying a briefcase, standing on a blue cloud-like shape.

Mental health problems are among the most common, costly and disabling health challenges facing the working age population.

In a recent publication, we noted the importance of job-related mental health problems (Vinet, Bourbonnais, & Brisson, 2003): An International Labour Office (ILO) study covering five industrialized countries - United States, Great Britain, Germany, Finland and Poland – estimates that, at any given time, about 20% of the adult population suffers from a mental health problem (Gabriel & Liimatainen, 2000). In these different countries, surveys point to job stress as a major risk factor for mental health; for example, 40% of American workers say that their job is very or extremely stressful. The World Health Organization (WHO) agrees with the ILO, pointing out that mental health problems are among the most important and the most overlooked risks to date ((WHO), 2001 #4318). In industrialized societies such as Canada and Quebec, successive surveys indicate that between one in five and one in four people experiences a high level of psychological distress (Institut de la statistique du Québec, 2000).

In many industrialized countries, including Canada, short- and long-term disabilities caused by mental health problems have been rising steadily since the early 1990s (Gabriel & Liimatainen, 2000; International Labour Organization, 2000, 2002; Schaufeli & Kompier, 2001; Vézina, 1998).


Mental health problems are often ranked first or second among the causes of absence due to long-term illness, surpassed only by musculoskeletal disorders (Bourbonnais & Mondor, 2001).

In a study of 1,454 nurses in the Quebec City area conducted during the restructuring of the Quebec health system from 1993 to 1999, out of 1,402 episodes of certified sick leave reported, 64% were potentially related to the psychosocial work environment (n=901). Mental health problems ranked first among the most common diagnoses with 25% of the episodes which lasted 70 days on average, followed by musculoskeletal disorders (18%) which lasted 41 days on average (Bourbonnais, Brisson, Vézina, & Mâsse, 2005).

ON WHAT TO act?

PSYCHOSOCIAL PROBLEMS are one of the **MAIN CAUSES** of work-related accidents, diseases, absences and mortality worldwide

~~1/3 of these absences are potentially associated with work and working conditions~~



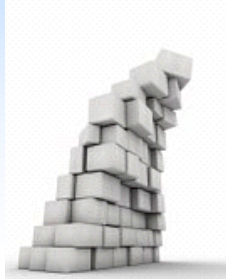
The International Labour Office considers that psychosocial problems are one of the main causes of work-related accidents, diseases, absences and mortality worldwide (International Labour Organization, 2002).

In Canada, the economic burden of mental health problems was estimated at \$14.4 billion in 1998, including \$7.7 billion in absences (Stephens & Joubert, 2001). Private income insurance companies estimated that, in Quebec, between 30% and 50% of long-term absences are attributable to mental health problems, compared with 18% in 1990 (Direction de la santé publique de Montréal-Centre, 2001; Ranno, 2000). In Quebec, CSST compensation data show that the total number of work-related injuries associated with occupational mental health rose by more than 100% between 1989 and 2001 (CSST, 2002). Among health-care personnel, 40 % of the costs of income insurance are related to mental health problems. These costs have risen primarily because of an increase in work-related mental health problems, such as burnout and depression (Health and Social Services Task Force, 2000).

One third of these absences are potentially associated with work and working conditions (Vézina, Cousineau, Mergler, Vinet, & Laurendeau, 1992).

WHY and ON WHAT TO act?

PSYCHOSOCIAL CONSTRAINTS at work have an impact on the emergence of **MENTAL HEALTH PROBLEMS**

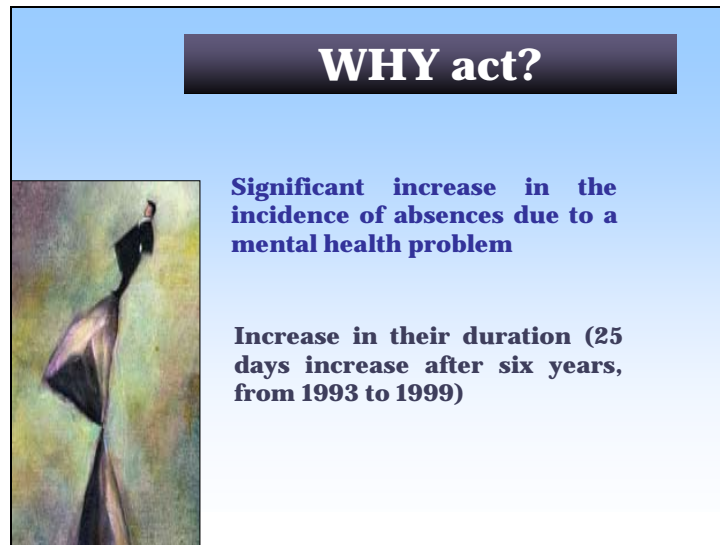


Among nurses in the Quebec City area, significant increases in psychosocial constraints at work and psychological distress were recorded during the recent restructuring of the health system


Several studies have documented the [effect of psychosocial constraints on the emergence of mental health problems](#) (Bourbonnais, Brisson, Malenfant, & Vézina, 2005; Bourbonnais, Brisson, Vézina et al., 2005; Bourbonnais, Malenfant, Vézina, Jauvin, & Brisson, 2005; Bourbonnais et al., 2000; Niedhammer, Bugel, Goldberg, Leclerc, & Guéguen, 2002; Peter, 2002; Sauter, Murphy, & Hurrell, 1990; van der Doef & Maes, 1999; van der Doef, Stan, & Diekstra, 2000; Vézina, 2002; Vézina & Bourbonnais, 2004).

In a previous study of nurses, we found a [considerable increase in constraints in the psychosocial work environment and psychological distress during the recent restructuring of the Quebec health system](#).

Indeed, while 53% of nurses surveyed in 1994 reported a significant increase in workload, that percentage rose to 66% of nurses surveyed in 1998. They also reported a much greater frequency of psychological demands, low decision latitude, psychological distress, consumption of psychotropic medications and average or poor health when compared with a representative sample of Quebec workers in 1998 (Bourbonnais, Brisson, Malenfant et al., 2005).



WHY act?



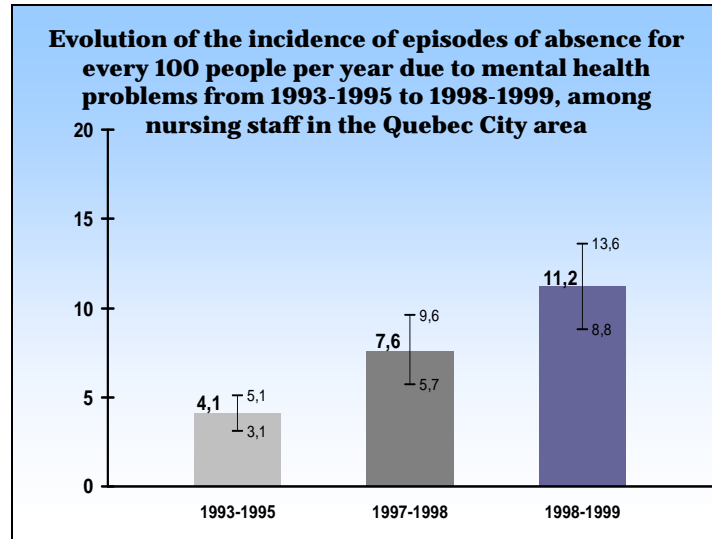
Significant increase in the incidence of absences due to a mental health problem

Increase in their duration (25 days increase after six years, from 1993 to 1999)

During this same research, we studied sickness absences among 1,454 nurses who agreed in writing for their absence records to be examined (Bourbonnais, Brisson, Malenfant et al., 2005).

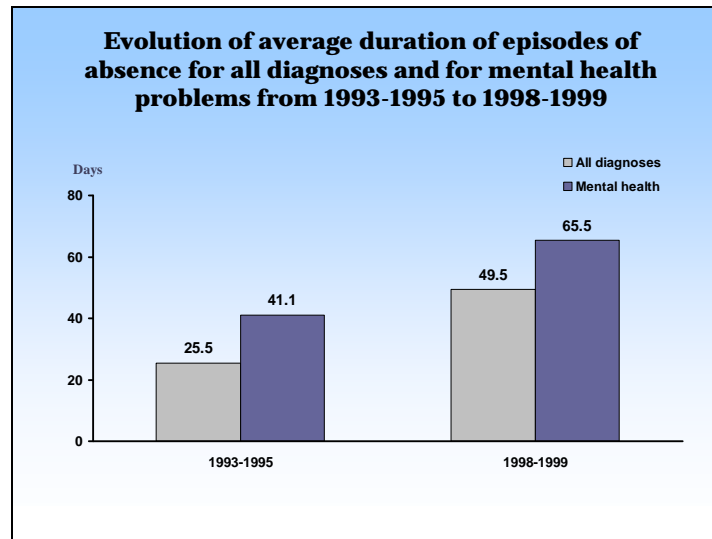
The deterioration found in working conditions was accompanied by a considerable increase in absences due to a mental health problem and their duration (25 days increase after six years, from 1993 to 1999).

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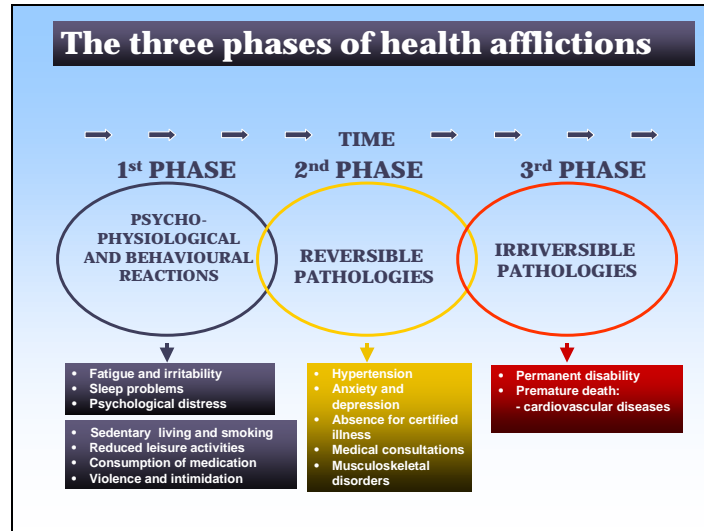
The evolution of the incidence or emergence of episodes of absence due to mental health problems shows that, during the 1993-1995 period, prior to the restructuring of the Quebec health system, there were 4.1 episodes of absence for every 100 people per year due to mental health problems and that the number of episodes rose successively to 7.6 for every 100 people per year in 1997-1998 and to 11.2 for every 100 people per year in 1998-1999 (Bourbonnais, Brisson, Vézina et al., 2005).

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The second equally significant result concerns the average duration of episodes of absence. It shows the relative weighting of mental health problems. During the 1993-1995 period, the average duration of episodes of absence for all diagnoses was 26 days, compared with an average duration of 41 days (figures rounded off) for episodes of absence for mental health problems. By 1998-1999, the average duration of episodes of absence for all diagnoses had risen to 50 days, an increase of 92%, while the average duration of episodes of absence for mental health problems rose by 61% to 66 days (Bourbonnais, Brisson, Vézina et al., 2005).

In short, both the number and the duration of absences for mental health problems increased during the period of restructuring of the health system.



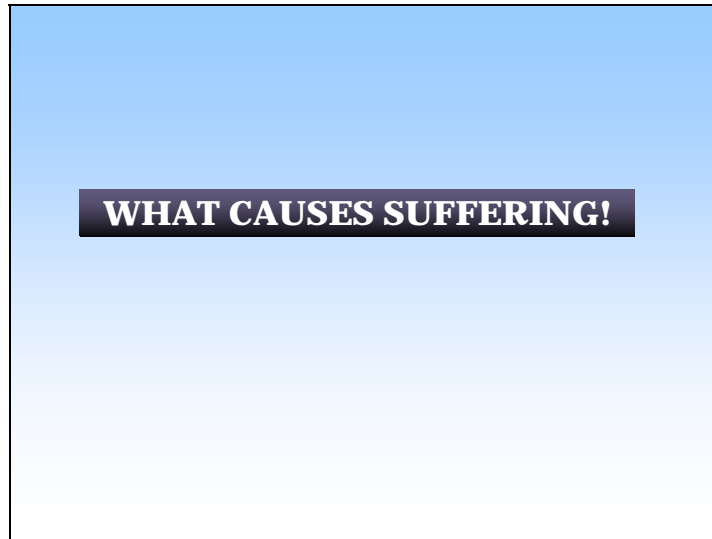
Constraints in the psychosocial work environment could cause mental and physical health pathologies of various magnitudes and types, which may occur in three phases of seriousness in the evolution of the natural history of the disease (Vézina et al., 1992).

First, in phase I, psychological, physiological or behavioural reactions may appear, such as fatigue, irritability and somatic disorders, sleep problems and psychological distress, absenteeism, reduced leisure activities and participation in social life, violence and intimidation.

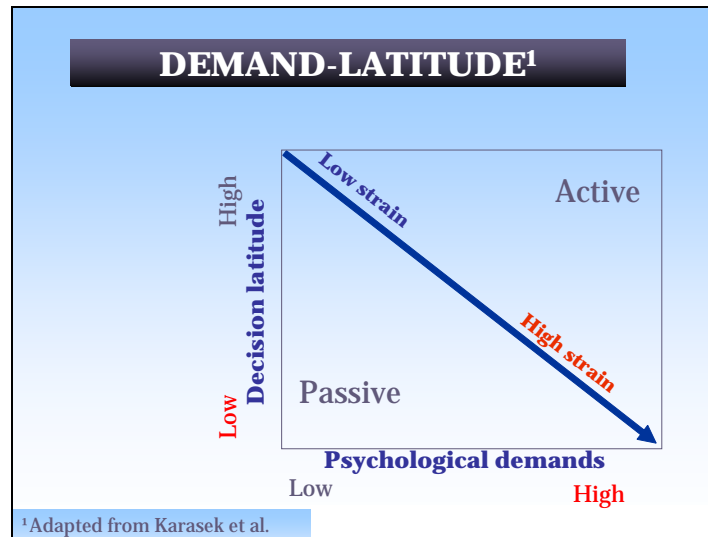
Next, if exposure to the constraints is maintained, reversible pathological reactions may appear in phase II, such as high-blood pressure, musculoskeletal disorders, general anxiety, depression and certified sickness absences.

Finally, phase III may be characterized by irreversible pathologies such as permanent disabilities or mortality related to the pathologies of phase II such as cardiovascular diseases.

It is therefore important to act early on the work environment to prevent the deterioration of mental and physical health.



Identifying the changes that need to be made on how work is organized to reduce psychosocial constraints at the workplace and their adverse effects on **mental and physical health** is based on two theoretical models supported by a large number of empirical studies: Karasek's "Demand-Latitude-Support" model and Siegrist's "Effort/Reward Imbalance" model. (Schnall, Belkic, Landsbergis, & Baker, 2000; Siegrist, 2002b; van der Doef & Maes, 1999).



In concrete terms, Karasek has managed to highlight the various possible combinations between job requirements, on the one hand, and workers' autonomy, on the other (Karasek & Theorell, 1990).


The two main components of Karasek's model are psychological demands (amount of work, intellectual requirements and time constraints) and decision latitude (use and development of skills and control on work involving work autonomy and participation in decision-making). According to this model, mental and physiological strain occurs at work when high psychological demands are accompanied by low decision latitude. Many empirical studies support the effect of these constraints on physical health (cardiovascular diseases) and mental health (depression and burnout) (Bourbonnais, Brisson, Vézina, & Moisan, 1996; Kristensen, 1996; Stansfeld, Fuhrer, Shipley, & Marmot, 1999).

Used with great success in many countries and widely disseminated in the scientific community, this model has become an inescapable reference in the field of occupational mental health.

What causes suffering (cont'd)

PSYCHOLOGICAL DEMANDS:

- ❖ Workload
- ❖ Time constraints
- ❖ Intellectual requirements

An illustration of a person sitting on the floor, looking overwhelmed and stressed, surrounded by a large, chaotic stack of papers and folders. The person is wearing a dark suit and has a distressed expression. The papers are piled high, some fanned out, and the person appears to be struggling to manage them.

Psychological demands refer to the amount of work to be performed, the mental requirements and time constraints (Karasek et al., 1998; Larocque, Brisson, & Blanchette, 1998).


Aspects of work that cause an increase in psychological demands are:

- Excessive amount of work
- Work with high mental demands
- Intense concentration for long periods
- Conflicting demands
- Frequent interruptions
- Hectic job
- Not enough time to get the job done
- Working very fast
- Having to slow down to wait for others

What causes suffering (cont'd)

DECISION LATITUDE:

- ❖ Decision-making autonomy
- ❖ Use and development of skills

An illustration of a person in a blue suit running through a maze of signs and arrows, symbolizing decision-making and navigating complex situations.

Decision latitude involves two dimensions: decision-making autonomy, which refers to the possibility of having some control over your work or having a say on decisions concerning your work, and the use of qualifications, which refers to the possibility of being creative and developing your skills in your work (Karasek et al., 1998; Larocque et al., 1998).

The aspects of work that encourage decision-making autonomy include the possibility of:

- Making decisions autonomously
- Deciding how to do your work
- Having influence on your work

The aspects of work that encourage the use of skills include the possibility of:

- Developing your special abilities
- Learning new things
- Using a high level of skill
- Performing a variety of different things
- Using your creativity
- Doing many different things



Johnson completed the Karasek model by adding a third component – human relations - to take into account the **social support of colleagues and superiors** (Johnson & Hall, 1988), which would modify the association between job strain and the emergence of health problems by acting as an antidote or protective factor. Social support includes instrumental support (additional resources or assistance in performing your work) and emotional support or socio-psychological esteem, on the one hand, and a negative level of support, hostility and conflict, on the other.

The theory is that a person's ability to deal with strain resulting from high demands combined with low latitude is better when the person has good social support at work (Johnson & Hall, 1988; Johnson, Hall, & Theorell, 1989). This theory has been corroborated by studies on cardiovascular diseases which show the importance of “social support” as a moderator of risks resulting from these constraints (Fuhrer, Stansfeld, Chemali, & Shipley, 1999; Stansfeld, Rael, Head, Shipley, & Marmot, 1997; van der Doef et al., 2000).

Social support of colleagues refers to team spirit, listening and sharing expertise at work. **Social support of superiors** is reflected in appropriate leadership, listening and meeting needs, esteem and respect.

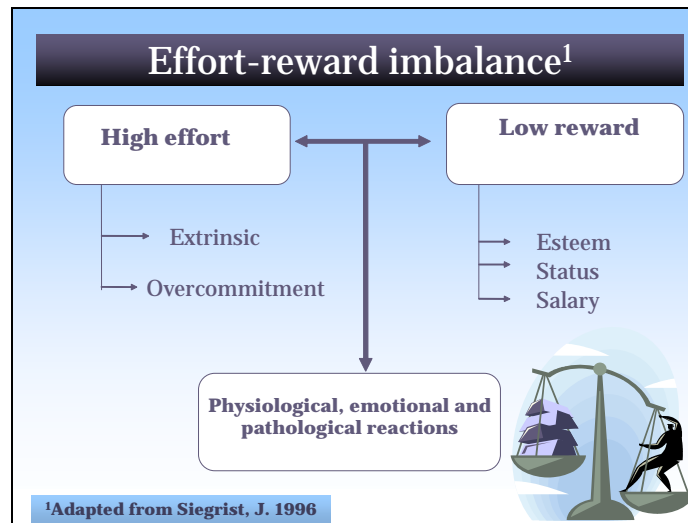
Here are some examples of social support of colleagues:

- My colleagues make me feel like part of the team
- My colleagues are friendly toward me
- My colleagues help me in case of emergency
- My colleagues take a personal interest in me

- My colleagues allow me to ask them for advice

Here are some examples of social support of superiors:

- My superiors make workers feel confident
- My superiors give advice and support
- My superiors make people work together
- My superiors give credit to workers for the work they do

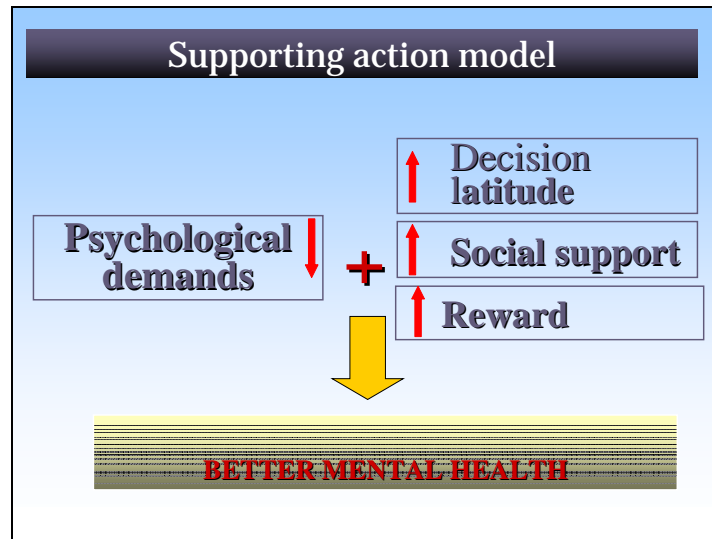


Johannes Siegrist has developed a complementary model to that of Karasek described above, which is based on the **imbalance between effort made at work and the reward obtained**. The three dimensions of reward are: 1- the socio-emotional dimension, which is measured by the respect and esteem received at work, 2- the control over your professional status dimension, which is measured by promotion prospects and job security, and 3- the monetary dimension, which has to do with salary earned.

Balance lies in the possibility of having access to legitimate benefits which should be expected given the effort put in at work. According to this model, work situations that demand high effort and offer little reward could have adverse effects on physical and emotional health (Marmot, Theorell, & Siegrist, 2002; Siegrist & Peter, 2000; Siegrist, Peter, Junge, Cremer, & Seidel, 1990). These adverse effects of the effort-reward imbalance have been observed in many empirical studies (Niedhammer & Siegrist, 1998; Peter, 2002; Siegrist, 2002a,2002b).

Reward is measured by the following aspects:

- Respect of superiors and colleagues
- Satisfactory support in difficult situations
- Fair and equitable treatment
- Job security not threatened
- Professional position corresponding to training
- Respect and esteem at work
- Satisfactory salary
- Good promotion prospects





In short, we now have relevant and readily useful knowledge about certain psychosocial constraints and how each is able, alone or in combination with others, to affect the health of people who are exposed to such constraints (Vinet, 2004). In this regard, the “demand-latitude-support” and “effort-reward” models are replete with information that has been confirmed by many empirical studies. By linking the information obtained from these models with indicators of psychological distress and illness absence reports, it is now possible to examine the situation prevailing in a particular company and to compare it with the results obtained with reference groups composed of workers of the same age and gender.

The next step is to initiate and support corrective and preventive action. Using the information obtained from the “demand-latitude-support” and “effort-reward” models, we can designate the variables that must be considered when concerted action is undertaken and introduced into the organizational life of a given company and challenges its management practices. By addressing decision latitude, social support of superiors and colleagues, it is possible to create antidotes for ever-increasing demands and thus prevent health problems and reduce sickness absences.

**WHAT CAUSES SUFFERING
(cont'd)**

OTHER CONSTRAINTS

- Emotional demands
- Physical load
- Perception of quality of work




In health institutions, other specific stressful working conditions may include emotional demands, physical load and the perception that the quality of work has deteriorated.

Examples of emotional demands include:

- The sight of patients suffering
- Death of a patient to whom you had grown attached
- Administration of painful care to a patient
- Feeling of powerlessness

WHY act?

STUDIES that have measured **IMPROVEMENTS** in **PSYCHOSOCIAL CONSTRAINTS** at the workplace have reported a **SIGNIFICANT DECREASE** (from between 9% and 55%) in the **SYMPTOMS** associated with **MENTAL HEALTH** and **ILLNESS ABSENCES**.



Up until now workplace interventions have focused primarily on individuals rather than on work organization, with the establishment of stress management programs instead of reducing constraints in the psychosocial work environment. Other authors have pointed out that organizational approaches were more effective (Bourbonnais et al., 1999; Kompier & Kristensen, 2001; Parkes & Sparkes, 1998; White, 1997) and were accompanied by more significant and durable effects than individual approaches (Burke, 1993). [Studies that have measured improvements in psychosocial constraints at the workplace have noted steep declines of between 9% and 55% in symptoms related to mental health and illness absences](#) (Bond & Bunce, 2001; Kawakami, Araki, Kawashima, Masumoto, & Hayashi, 1997; Lourijzen, Houtman, Kompier, & Gründemann, 1999).

IS THERE A NEED?

Research context:

Regional advisory committee on occupational mental health:
Human resources managers in acute- and long-term care facilities

Advisory committee:

Ministry of Health and Social Services, Regional Health and Social Services Board, human resources departments of health institutions, union representatives and nurses



A regional advisory committee on occupational mental health consisting of the human resources managers in acute- and long-term care facilities

Given the increase in absenteeism among the staff in the area's health institutions, a regional committee was set up in the spring of 2001 by the Quebec Regional Health and Social Services Board (RSSSQ) to discuss the issue and to find solutions to this new epidemic.

An advisory committee: Ministry of Health, Regional Health and Social Services Board, human resources departments of health institutions, union representatives and nurses

In addition, work began in 1998 during the study on the impacts of the transformation of the health system on the professional and family life of nurses had shown the importance of constraints and health problems in health institutions. During that study, we had worked with an advisory committee consisting of several representatives of unions and management of the health system, representatives of the Ministry of Health and Social Services (MSSS), the RSSSQ and of the health institutions being studied. The members of the advisory committee showed great interest in an intervention project designed to reduce constraints in the psychosocial work environment and mental health problems.

General objective of the research

Evaluate the effectiveness of preventive intervention aimed at:

- reducing constraints in the psychosocial work environment
- reducing mental health problems and sickness absences.

The purpose of the study was to use a participatory intervention approach to reduce constraints in the psychosocial work environment (intermediate effect) and in so doing, to reduce mental health problems and sickness absences (final effects).

Specific objectives of the research*

- **Produce knowledge** that could be used to **develop appropriate interventions** (development phase)
- **Evaluate** the **implementation process** of the intervention by documenting how the **changes** are being **implemented** (implementation phase)
- **Evaluate** the **effects** of the intervention (evaluation phase)

* Based on the three-phase intervention model proposed by Goldenhar et al 2001

The **specific objectives** were based on the three-phase intervention model of (Goldenhar, LaMontagne, Katz, Heaney, & Landsbergis, 2001).

The **development phase** was intended to produce knowledge that could be used to develop appropriate interventions to reduce the prevalence of psychosocial constraints at the workplace.

During the development phase of the intervention, prior knowledge on theoretical models as well as empirical evidence about their effects on mental health was disseminated in the experimental hospital. A quantitative approach was used for the *a priori* evaluation of the risks, i.e. to determine to what extent psychosocial constraints at the workplace and psychological distress were excessive relative to an appropriate reference population. A qualitative approach (observations of care units, interviews with key informers and establishment of an intervention group (IG)) used the knowledge of the organization to identify the best ways of reducing excessive psychosocial constraints.

The **implementation phase** was intended to evaluate the intervention implementation process by systematically documenting how the changes were implemented.

For the intervention implementation phase, the intervention is defined as any organizational change (administrative or clinical) made by management or the community, introduced in an effort (or whose explicit consequence is) to improve the situation with regard to any of the psychosocial constraints targeted. The responsibility for implementing these changes therefore lay essentially with the organization. The nature and intensity of the changes were evaluated. Information relating to the context of the intervention and the factors impeding or facilitating its implementation in the community were collected and analyzed.

The evaluation phase was intended to evaluate the effects of the intervention on the prevalence of psychosocial constraints at the workplace, on the prevalence of mental health problems and on the incidence of certified sickness absences.

The purpose of the **intervention effectiveness evaluation phase** was to determine to what extent the intervention reduced psychosocial constraints at the workplace and their related health problems. The effects of the intervention were assessed with a quasi-experimental before-after approach including a control group. The evaluation was based on instruments validated by measuring targeted psychosocial constraints and health problems.

Research approach and methods

HOW TO ACT?

- ⇒ Quasi-experimental design including a control group
- ⇒ Quantitative and qualitative methods

WITH WHICH POPULATION?

Health-care personnel of two hospitals in the Quebec City area

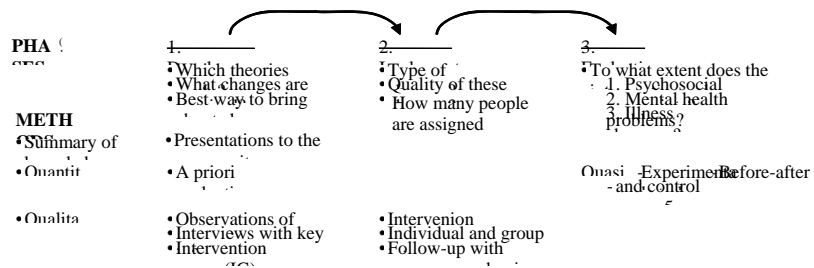


HOW TO ACT?

Quasi-experimental design including a control group

To evaluate the effectiveness of the intervention, a quasi-experimental before-after design including a control group was used (Figure 1)

Figure 1 : Research phases and methods



(1) Golde et al.

Quantitative and qualitative methods

The three phases of the study were based on the complementary use of quantitative and qualitative research methods.

WITH WHAT POPULATION?

The population of the study included health-care personnel in both hospitals (CHU and CHA) of the Quebec City area (nurses, licensed practical nurses and hospital attendants in direct contact with clients).

The population studied included the staff of the experimental hospital (N=492) and a comparable control hospital (N=616). The two hospitals offered general and specialized acute care. The population included all health-care personnel who were in direct contact with clients (nurses, licensed practical nurses and hospital attendants) and were permanent, full-time or part-time, temporary or casual or on-call employees.

Research approach and methods

QUANTITATIVE METHODS

- **PRE-** and **POST-**intervention measurements: telephone interviews before, 12 months and 36 months after the start of the intervention

QUALITATIVE METHODS

- **Participatory** intervention **process**
- **Monitoring** of implementation of changes and appropriation of the process

Quantitative methods

Pre- and post-intervention measurements: telephone interviews before the intervention, 12 months and 36 months after the start of the intervention

Quantitative measurements (telephone interviews conducted by a specialized firm) were taken in each hospital (experimental and control), on three occasions: before the intervention, 12 and 36 months after. These measurements dealt with psychosocial constraints at the workplace and mental health (psychological distress, burnout, sleep problems). The purpose of the evaluation was to determine the extent to which the intervention reduces these issues.

Qualitative methods

Participatory intervention process

To determine which changes must be made, a participatory process with an intervention group (IG) was chosen. For reasons of feasibility (size of the institution, maximum number of people to be included in the IG), three units were targeted for inclusion in the IG. They were selected based on information taken from the *a priori* evaluation of psychosocial constraints at the workplace and psychological distress (pre-intervention measurement) and observations of the care units. Although three care units were selected, the identification of constraints in these units often led to solutions that could be applied in all care units. Furthermore, the Human Resources Department introduced projects to improve constraints at the workplace for health-care personnel throughout the hospital.

Monitoring of implementation of changes and management of the process

All changes designed to improve the four targeted constraints were monitored throughout the hospital. The intervention was defined in terms of the organizational changes made by management to reduce psychosocial constraints at the workplace.

1- Research development phase

- 1.1- Presentation of research and commitment of the community**
- 1.2- Pre-intervention measurement**
- 1.3- Intervention process** in the experimental hospital

1.1- Presentation of research and commitment of the organization

- Meeting with representatives of management, unions and employees
- Confirmation of interest in the research and **commitment of management**
- Encouragement to participate

Meeting with representatives of management, unions and employees

An experimental hospital was chosen for the intervention based on information obtained from previous research showing a high prevalence of psychosocial constraints and psychological distress among nurses. A meeting was held with representatives of the Nursing Department and the Human Resources Department to seek their commitment to allow the research to be conducted in their institution. The researchers presented studies on working conditions and nurses' health, the conceptual framework, the objectives and the anticipated phases of the research. They also made a presentation to nurses' and hospital attendants' union representatives, as well as to head nurses of all care units of the hospital, to ask for their collaboration in the research project.

Confirmation of interest in the research and commitment of management

The Nursing Department, the Human Resources Department and the unions of the hospitals (experimental and control) had been collaborating in the research since 1999 and gave their support for the study to continue. The management of the experimental hospital had initiated various measures to encourage the recruitment and retention of health-care personnel. It also supported the continuation of the research because it was very interested in the long-term evaluation of such a process. The Nursing Department, which was very favourable to the research and wanted to improve the quality of life for nurses at the workplace, supported the continuation of the study. Management agreed to designate credible representatives to participate in the intervention group (IG), to release and replace staff representatives for their participation in the IG, and to promote the implementation of solutions recommended by the IG.

Encouragement to participate

Moreover, the Human Resources Department and the Nursing Department agreed to disseminate the results from the IG's work throughout the hospital. The managers of the experimental hospital participated in the IG and agreed to release their health-care personnel with pay to participate in the IG's work and to attend various meetings with the researchers.

1.2- Pre-Intervention Measurement

Determine the frequency of psychosocial constraints and psychological distress

Compare with an appropriate reference population: (Santé Québec 1998)

Participation rate:

Experimental hospital: 492 subjects; 73% response rate

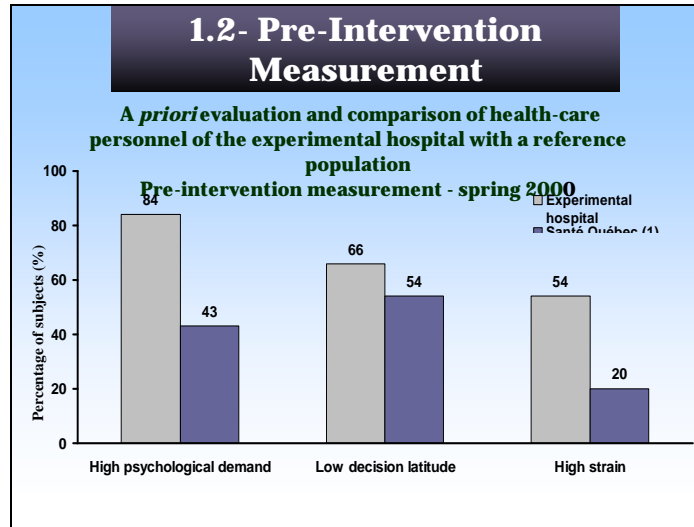
Control hospital: 618 subjects; 69% response rate

Pre-intervention measurement:

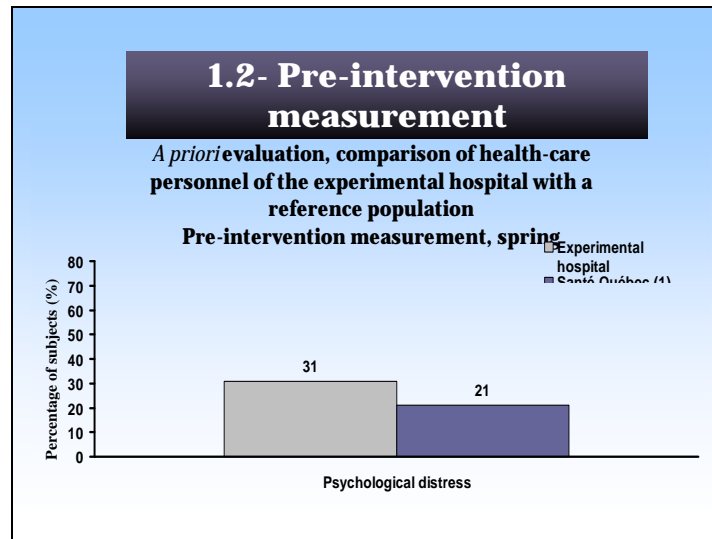
A questionnaire on the psychosocial work environment and health was conducted by telephone interviews in the spring of 2000. The response rate in the experimental hospital was 73% (492 health-care personnel) and that of the control hospital was 69% (618 health-care personnel).

This measurement allowed us *a priori* to verify the relevance of making an intervention by first showing the importance of the issue and by comparing the frequency of constraints and health problems among hospital health-care personnel with those of an appropriate reference population: a representative sample of Quebec workers from Santé Québec's 1998 health and social survey.

The pre-intervention measurement showed the importance of health issues among health-care personnel and the relevance of preventive intervention on the four targeted psychosocial constraints (high psychological demands, low decision latitude, weak social support from colleagues and superiors and low reward at work).



The comparison with Quebec workers showed that psychological demands (84%), low decision latitude (66%) and weak workplace social support (54%) were higher in the experimental hospital than in the reference population (43%, 54% and 20% respectively).



The comparison with the reference population also showed a high level of psychological distress in the experimental hospital (31%) compared with Quebec workers (21%).

These observations supported the relevance of intervening in the psychosocial work environment in order to prevent mental health problems among health-care personnel.



1.3- Intervention process

- ❖1.3.1 - Choice of three target units
- ❖1.3.2 - Establishment of intervention group (IG)
- ❖1.3.3 - **Work of IG**

A participatory process involving health-care personnel, the Nursing Department and nurses' and hospital attendants' unions was set up to identify possible solutions for reducing the four targeted psychological constraints.

1.3.1 Choice of three care units for intervention

- **Observation**
- **Pre-intervention questionnaire**
- **Interviews with key informers**



1.3.1 Choice of three care units for intervention

For reasons of feasibility, the size of the institution and the optimum number of persons to be included in the IG, three units were designated for inclusion in the IG. They were chosen based on information from the observation of care units, the pre-intervention measurement of psychosocial constraints at the workplace and psychological distress and interviews with key informers.

Observation

The purpose of direct observation of care units in the experimental hospital was to acquire the best knowledge of the institution, the work organization and the psychosocial constraints present in the units. About 20 hours of observation were completed during the day, evening and night shifts in most of the care units of the hospital.

Pre-intervention questionnaire

The information gathered from the pre-intervention questionnaire on psychosocial constraints and psychological distress among health-care personnel was used to determine which care units would benefit the most from preventive intervention: those that had the highest prevalence of constraints or psychological distress compared with the other units and with a representative sample of Quebec workers.

Interviews with key informers

Semi-structured individual interviews conducted by the researchers with key informers provided a better insight into the institution. The following themes were addressed: a) favorable or unfavorable elements for implementing solutions; b) communication difficulties between the units and between work shifts on the same unit that may affect the intervention; c) working relationships within the units; and d) contradictions between the needs of management and those of the employees. These data facilitated the work of the intervention group.

These individual interviews lasted approximately 90 minutes. They were conducted with the head nurses of each of the units targeted for the intervention, a nursing coordinator and a nurse dispenser. All these people had good knowledge of the daily operations of their unit or the other units of the hospital because of their professional experience in nursing, which allowed the researchers to rapidly obtain the maximum information necessary for the study.

1.3.2 Establishment of intervention group

- A-** Role of IG
- B-** Recruitment of members of IG
- C-** Composition of IG

1.3.2 Establishment of intervention group

A- Role of IG

- Identify constraints
- Propose interventions to reduce the constraints
- Determine intervention priorities and their feasibility
- Disseminate information on the care unit

The intervention group was established according to the principles of German health circles (Beermann, Kuhn, & Kompier, 1999), which have proven their effectiveness in the prevention of occupational stress in Europe (European Agency for Safety and Health at Work, 2002). The principles of these health circles are as follows: a) work in small groups; b) members representing the different hierarchical levels; c) regular work meetings; d) preferably eight to ten meetings; e) meetings run by an external moderator; and f) individual knowledge of group members serving as the foundation for developing solutions to constraints at the workplace. The ultimate goal of these health circles is to identify and eliminate problems at the source.

The role of the IG was to:

- 1) Identify constraints on care units based on models presented previously: psychological demands, decision latitude, social support of superiors and colleagues, and reward. The members had to determine what contributed to an increase in targeted constraints in their own work and in those of colleagues in the care unit.
- 2) Propose interventions to reduce these constraints with a view to primary prevention. The members of the IG had to identify possible solutions to be made in work organization in order to prevent and/or reduce the emergence of mental health problems related to the psychosocial work environment.
- 3) Determine the intervention priorities and their feasibility.
- 4) Disseminate information in the care unit and report their constituents' comments back to the IG.

Using the theoretical models mastered by the research team, models that helped address the professional origins of certain mental health problems from a work organization standpoint rather than attributing these problems solely to the individual weaknesses of

workers, the members of the IG were able, first of all, to target the main constraints of their work environment in each of the three units, and then to search for solutions that would reduce these constraints at the workplace.

The constraints and their solutions were identified in collaboration with health-care personnel of the units who were consulted by their colleagues of the IG. The support of members of the IG representing the Nursing Department, the Human Resources Department and the unions also helped immensely in achieving these three objectives.

1.3.2 Establishment of intervention group

B- Recruitment of members of IG (criteria)

- Voluntary participation and credibility (peer recognition)
- Leadership
- Ability to work in a team and to mobilize
- Agent of change
- Ability to communicate his or her ideas and to listen to those of others

The members of the IG were recruited on a voluntary basis. Those eligible had to be recognized by their peers, show a certain degree of leadership and an ability to work in a team. They had to show the ability to communicate, listen and mobilize. This recruitment method helped attract people who were interested in participating fully in the IG and fulfilling their responsibilities within the group.

The following criteria were posted in the three care units targeted:

The members of the IG had to show or possess:

- ✓ a desire to be actively involved in the IG;
- ✓ very good knowledge of their unit, its operation, its unique features and its clientele;
- ✓ good knowledge of actual operations in other units of the hospital;
- ✓ ability to mobilize people and to consult them in order to improve the quality of life at work;
- ✓ good judgment and an open mind;
- ✓ desire to learn and identify constraints at the workplace and to find solutions for reducing these constraints, while disseminating this knowledge to colleagues; and
- ✓ the ability to work in a team.

1.3.2 Establishment of intervention group

C- Composition of IG (10 to 15 members)

- Management representatives
- Unit head nurses
- Union representatives
- Health-care personnel (hospital attendants and nurses)

The IG was composed of five representatives of health-care personnel (four nurses and one hospital attendant), one clerk-receptionist, two union representatives, three head nurses of the three care units and one representative of the Human Resources Department and the Nursing Department.

Except for the three unit heads who were de facto members of the IG, the other members were designated differently.

With regard to the employees, a recruitment campaign was held in each of the units targeted for the research. Given limited human resources, workers had been advised that one nurse per unit, one hospital attendant for the three units and one clerk-receptionist for the three units would be chosen to become members of the IG and to represent all their colleagues.

The representatives of the Nursing Department and the Human Resources Department on the IG were mandated by the managers of the two departments. The IG member representing the nurses' union was appointed by the president, while the representative of the hospital attendants' and the clerk-receptionists' union was the president herself.

1.3.3 Work of intervention group (IG)

- **Eight meetings** of members of the IG over a period of four months
- **Meetings every 2 to 3 weeks**
- **Consultation** of unit colleagues between meetings

The work of the IG was carried out over four months, during eight meetings lasting three hours each, every two to three weeks, from December 2000 to March 2001. During each meeting, the members of the IG were guided by two researchers from the team to focus the search for solutions on the targeted constraints.

Outside of the formal meetings of the IG, health-care personnel in the IG who were released for the equivalent of a half day, had to meet with their colleagues of the three shifts to provide them with information from the IG and to gather their comments and suggestions. The union representatives in the IG also had to provide information to their members and obtain their comments and suggestions. The unit heads had to offer support to employees in the IG and promote the research in their units. The representatives of the Nursing Department and the Human Resources Department had to provide information obtained from their superiors, facilitate the search for solutions to the constraints identified by the unit members, and bring information back to the members of the IG, while assuming responsibility for other specific mandates.

Before the work of the IG started, each member was informed by the research team that the group meetings were designed to achieve specific objectives and that they could not be used as a pretext to discuss labour relations matters. In fact, due to the presence of actors who traditionally could have adversarial relations, it was important to make them understand that the IG was a privileged place where each person's energies would be directed toward the common goal of improving the quality of life at work for health-care personnel by preventing the emergence of occupational mental health problems.

The participatory nature of the IG meetings was also explained: work in partnership and in an interdisciplinary context during which all members would have the freedom to express themselves on:

- concerns relating to realities in the units;

- identification of work constraints;
- possible solutions proposed.

After each meeting, the minutes were drawn up, submitted to the members and validated. The IG process could be exported and implemented in the other care units of the institution.

This method of operation was adopted to facilitate the management by all representatives of a process for identifying constraints at the workplace and possible solutions for such constraints.

1.3.3 Work of IG (cont'd)

- A- Identification of constraints according to the targets
- B- Identification of possible solutions
- C- Submission of a report to the Nursing Department with action plans

A- Identification of constraints according to the targets

From the first meeting, the theoretical models of the research were presented to the members of the IG. The work of the IG consisted in identifying constraints related to the variables of the Karasek, Johnson and Siegrist models. These models were aimed at the primary prevention of health problems by intervening in the work environment and specifically addressing psychological demands, decision latitude, support of superiors and colleagues, and reward.

At the first meeting, the members were able to review the results of the telephone questionnaire to establish the linkage with the theoretical models. The members of the IG noted the high frequency of psychosocial constraints reported by the health-care personnel of their institution and gave their opinion on factors that may explain the presence of such constraints in their work and in the work units.

They were able to identify the poor working conditions that were first listed, then described in detail and finally grouped into 56 avenues for intervention that were later classified according to the category of the problem (teamwork and team spirit, assignment, replacement and staffing, work organization, training, communication and ergonomics) and according to the four psychosocial factors targeted by the research, as each problem could be related to more than one psychosocial factor. The problems most frequently raised concerned psychological demands (43%), reward (24%), decision latitude (20%) and social support at work (13%).

Teamwork and team spirit were mentioned several times by the members of the IG with regard to the reward variable, particularly between the different professional groups (clerks, attendants, nurses and physicians) who do not feel recognized or respected by the

others, but also with regard to the social support variable, both emotional and informational.

Under the theme of assignment, replacement, staffing and probation, psychological demands increased due to the lack of stability of teams in the units, which creates an endless need for training and more supervision by the regular staff.

Moreover, the discussions showed a lack of communication and information, which causes frustration and lack of motivation among employees who do not understand how decisions are made and do not feel consulted (decision latitude) or respected (effort-reward imbalance).

For more details, see the research report:

<http://www.csssbc.gc.ca/publications/doc/RIPOST/RrInterEvaOptiEnvPsySoc.pdf>

and two articles published on the research subject (Bourbonnais et al., 2006; Bourbonnais, Brisson, Vinet, Vézina, & Lower, 2006)

B- Identification of possible solutions

Solutions aimed at psychological demands were discussed on the basis of teamwork: consolidation of the team, increasing the core team and stabilizing replacements. Solutions aimed at decision latitude included work enrichment, training and consultation of health-care personnel on all work shifts in making decisions concerning their work. Social support was addressed with a view to improving the dissemination of information (team meetings). Finally, solutions for effort-reward imbalance were aimed at improving communications within the care team and recognizing the importance of the work of each health-care worker.

C- Submission of a report to the Nursing Department with action plans

A report on the work of the IG was presented to the Nursing Department in the fall of 2001. The report contained recommendations for solutions (action plans) placed in order of priority and feasibility. Several solutions had already been made to several constraints identified during the work of the IG. They had to do with conditions that could be solved easily and managed by the units, including ergonomic changes, transmission of information on the evening and night shifts, management of replacements by the units rather than by the Human Resources Department to foster personnel stability, regular team meetings, and special training to meet specific needs, such as palliative care. Other solutions concerned organizational constraints that required the support and consent of management for their realization in the short, medium and long terms. They were included in an action plan and one or more members of the IG were designated to monitor the situation. These solutions included major ergonomic changes such as replacing the patients' bell system, creating a bank of experienced personnel to serve as replacements depending on the specialty of the care unit, providing better training for

new nurses during the probation period, enriching the tasks of hospital attendants, establishing a new drug distribution system, revising the system of communication and information through the hospital between the care units and the work shifts.

1.3.3 Work of IG (cont'd)	
TARGETS	Proposed changes
PSYCHOLOGICAL DEMANDS:	⇒ Stabilize the work teams
REWARD:	⇒ Improve the perceptions of the importance of role and skills
SOCIAL SUPPORT:	⇒ Strengthen teamwork (regular meetings, communication between work shifts, etc.)
LATITUDE:	⇒ Promote more delegation and enrichment of tasks according to the skills of the care team

This slide shows an example of a proposed change to improve each of the four constraints targeted by the study.

1.3.3 Work of IG (cont'd)

Sample action plan

- **Target:** psychological demands
- **Problem prioritized:** lack of stable personnel
- **Change objective:** stabilize the work teams
- **Means of achieving this objective:**
 - ✓ Accelerating permanency
 - ✓ Creating a bank of experienced replacements

This slide shows a sample action plan concerning psychological demands (target).

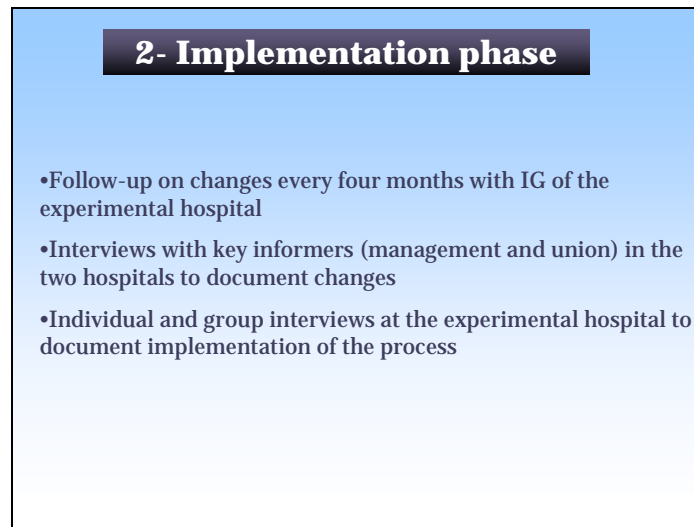
Problem prioritized:

The time taken to fill positions is considered very long. Between the time that the position is posted and when an appointment is made, the position is held by replacements with inadequate knowledge of the work to be done. The replacements represent considerable constraints because they are not always the same, which ultimately leads to exhaustion and lack of motivation for the regular nurses, who must continuously train and supervise these replacements.

Change objective: stabilize the work teams

Means for achieving this objective:

- Changes to be made to the staffing process to accelerate permanency
- Creation of a bank of already trained and/or experienced replacements to avoid overworking the regular nurses.



2- Implementation phase

- Follow-up on changes every four months with IG of the experimental hospital
- Interviews with key informers (management and union) in the two hospitals to document changes
- Individual and group interviews at the experimental hospital to document implementation of the process

2- Implementation phase

A second qualitative phase of the research consisted in documenting the changes implemented in each of the institutions. Since the changes were not under the responsibility of the researchers, several could occur both in the experimental group and in the control group for different reasons, such as the economic context and the management policies of the health institutions. Decisions concerning these changes were taken by the managers of the institutions. Documentation of the implementation of the intervention required exhaustive follow-up on the changes throughout the research period, until the second post-intervention measurement 36 months later. This follow-up was done with the IG during meetings held every four months, through interviews with key informers and semi-structured, individual and group interviews with health-care personnel.

All the changes aimed at improving the four targeted constraints were monitored throughout the experimental hospital.

During three meetings held from January 2002 to the winter of 2003, the IG contributed to the evaluation of the implementation of the intervention by monitoring the changes made following the recommendations included in the IG report. The members reported the extent of the changes made and commented on the reduction of constraints identified. They also addressed the management of the process of identifying constraints and solutions by health-care personnel. Lastly, they developed the plan for communicating and disseminating the results to targeted care units and to all units of the institution.

The researchers conducted interviews with key informers to continuously document the intervention implementation process. These interviews were conducted with managers (heads of care units, representatives of the Nursing Department, representatives of the

Human Resources Department), representatives of the nurses' union and the hospital attendants' union and occupational health and safety managers to collect all information concerning organizational changes likely to influence the four constraints being studied, in all units of the hospital. The monitoring was carried out through different means: meetings held face-to-face, by telephone or by email, consultation of administrative documents, annual reports, minutes of meetings of management and health and safety committees, work organization and the care teams. This information was brought back to the IG. In the control hospital, monitoring of the organizational changes likely to influence the four constraints was carried out through regular meetings with the assistant director of human resources, who was responsible for occupational safety and health (OSH) in that hospital. We also analyzed internal administrative documents concerning organizational changes introduced in the hospital.

Individual and semi-structured group interviews were conducted to describe the change implementation process and to evaluate the management of the participatory intervention process by the organization. The health-care personnel were invited to describe the participatory intervention process and their real and desired involvement in implementing the changes. They were also asked to identify the factors that facilitated or impeded the process and those that would help improve and foster its dissemination.

3- Evaluation phase

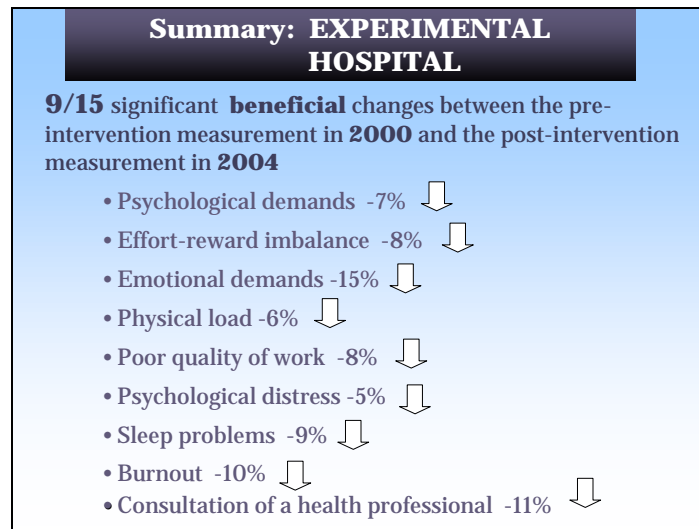
- 2nd post-intervention measurement 36 months after the start of the intervention
- Pre- and post-intervention comparison (2000-2004)
 - Experimental group:
N = 311; Response rate: 77%
 - Control group:
N = 301; Response rate: 69%

3-Evaluation phase

2nd post-intervention measurement

A telephone interview was conducted 36 months after the start of the intervention (spring 2004). In the experimental hospital, 311 health-care personnel responded to the questionnaire, for a response rate of 77%, while in the control hospital, 301 health-care personnel responded, for a response rate of 69%.

The particular climate of discouragement related to the major changes resulting from the restructuring of the health system (budget cuts, downsizing, replacements, etc.) made recruitment more difficult. Several measures were then taken to maximize the participation rate (advertising, posting, systematic follow-up by interviewers, participation prizes). Given this unique context and the corrective measures taken, we feel that the participation rate is as high as it could be.



In the experimental hospital, out of 15 variables measured, 9 improved between the pre-intervention measurement in 2000 and the post-intervention measurement in 2004. Psychological demands went from 84% to 77% (down 7%). The imbalance between effort put in at work and the reward obtained went from 67% to 59% (down 8%). Emotional demands went from 60% to 45% (down 15%). Physical load decreased from 57% to 51% (down 6%). The quality of work was less often described as bad, going from 54% in 2000 before the intervention to 46% in 2004 after the intervention (down 8%).

Health problems concerning psychological distress also decreased from 30% to 25% (down 5%). Sleep problems fell from 37% to 28% (down 9%), while burnout went from 49% to 39% (down 10%). Finally, consultation of a health professional during the two weeks preceding the questionnaire went from 44% to 33% (down 11%) between the two measurements.

**Summary: EXPERIMENTAL HOSPITAL
(cont'd)**

Small (insignificant) decrease in the four other constraints measured: latitude, support of superiors, support of colleagues, and reward

Small decrease in the other two health problems: perception of general health and client burnout

The other constraints remained stable or declined only slightly between 2000 and 2004. Low decision latitude was still reported by 64% of the subjects in 2004. Weak social support of superiors and weak social support of colleagues were reported by 79% and 62% of the subjects, respectively. Lastly, low reward went from 47% to 42% (- 5%), but this improvement was not statistically significant.

Finally, two other health problems were reported less often in 2004, although these improvements were not statistically significant. Average or poor perception of health was reported by 10% of the subjects in 2004, compared with 11% in 2000, while client burnout or exhaustion related to work with patients went from 24% before the intervention in 2000 to 23% after the intervention in 2004.

Summary: CONTROL HOSPITAL

- **3 beneficial significant changes:**
 - Physical load -8% ↓
 - Emotional demands -11% ↓
 - Sleep problems -7% ↓
- The **majority** of **health problems** and **constraints deteriorated** between 2000 and 2004 but the deterioration was not significant

In the control hospital, three beneficial significant changes occurred between the pre-intervention measurement and the post-intervention measurement at 36 months. These improvements concerned physical load, which went from 72% to 64% (down 8%) between 2000 and 2004, emotional demands, which went from 54% to 43% (down 11%) and sleep problems, which were reported by 42% of the subjects in 2000 and 35% in 2004 (down 7%).

The majority of the other constraints and health problems deteriorated between the two measurements, although these changes are not statistically significant: decision latitude declined by 2% (from 29% to 27%), social support of superiors, down by 4% (from 19% to 15%), support of colleagues, down by 4% (from 37% to 33%), quality of work, down by 3% (from 49% to 46%). Meanwhile, psychological distress increased by 4% (from 29% to 33%) between the pre-intervention measurement and the post-intervention measurement. Average or poor perception of health rose by 2% (from 9% to 11% of the subjects) between the two measurements, while burnout increased by 2% (from 48% to 50%) between the two measurements in 2000 and 2004.

CONCLUSION

The **results** obtained in the experimental hospital **36 months** after the intervention **support** the relevance of **intervening** in the psychosocial **environment** to **reduce** constraints with a view to the **primary prevention** of psychological health problems among health-care personnel

The results obtained in the experimental hospital 36 months after the intervention support the relevance of intervening in the psychosocial environment to reduce constraints with a view to the primary prevention of psychological health problems among health-care personnel.

Indeed, while many psychosocial constraints at the workplace decreased significantly between the pre-intervention measurement and the post-intervention measurement in the experimental group, health problems also fell sharply in that hospital. However, few significant changes occurred in the control group during the same period with regard to the reduction of constraints or health problems.

The more long-term effects of the intervention will depend on the will of management and employees to take ownership of the process of identifying constraints in the psychosocial work environment and to adopt solutions for reducing such constraints.

The fact that the intervention was aimed at psychosocial constraints whose link with health is well documented in many workplaces increases its potential of being applied outside the hospital sector. Although the psychosocial constraints and the means to reduce them identified in this study are specific to the health sector, the process of identifying and solving problems and the rigorous evaluation of the effects of preventive intervention are easily exportable to other workplaces across Canada. The results will have a major impact on the primary prevention of mental health problems, which are among the major causes of illness in the working population.

DISCUSSION

Limitations of the intervention:

Present in all interventions in a real environment: the intervention cannot be controlled

- Intervention limited to three units in the hospital
- Problem of representation in the IG
- Problem of communication from the IG to the rest of the staff
- Many proposed changes were never implemented (restructuring and budget cuts)

Limitations of the intervention

Intervention limited to three units in the hospital

The intervention process depended on the availability of researchers and health-care personnel and could not be implemented throughout the experimental hospital. Also, three care units were targeted more specifically. However, the intervention was not limited to these three units represented by the members of the IG. Many of the 56 constraints identified by the IG gave rise to solutions that can be applied to all care units and certain changes adopted by the Nursing Department were implemented throughout the hospital. It is difficult, however, to determine the extent to which problems unique to other care units were correctly identified or the intensity of the intervention in these units.

Problem of representation in the IG

Interviews with health-care personnel revealed the need to review the composition of the IG and the role of its members, particularly representatives of health-care personnel. Initially well received by the health-care personnel due to the presence of representatives of the Human Resources Department and the Nursing Department, the composition of the intervention group had certain limitations due to the absence of one actor that plays a major role in the workplace, namely doctors, who were not invited to participate in the IG and were not consulted, even though their relations with other health-care personnel were mentioned among the irritants. Moreover, certain members – notably team leaders – felt obligated to participate in the research because their unit had been targeted.

Problem of communication from the IG to the rest of the staff

The consultation of health-care personnel also presented certain limitations, including considerable diversity in the manner of holding the consultation, lack of training on a data-collection technique, consultation in the context of overload where people consulted were not released, and the risk of conflict of interest among health-care personnel consulting in their own workplace.

Many proposed changes were never implemented because of the budget cuts that were introduced at the same time as the intervention process.

Conditions for success of participatory interventions

A) Context variables

- ❖ Support of management and involvement of all levels of supervision
- ❖ Leadership
- ❖ Participation of workers in identifying problems and developing solutions

Conditions for success of participatory interventions

The success of such a process depends on several factors, including the **commitment and support of senior management**. The intervention process must reflect a priority of senior management and the board of directors of the institution, rather than be a project of just a few people. The commitment of the intervention group to support the implementation of action plans proposed by the intervention group assures health-care personnel that things will change and that management will listen to them.

Moreover, the intervention could not be carried out adequately in the absence of appropriate **leadership**. It is important for the institution's management to assign responsibility for the smooth operation of the process to someone with recognized leadership skills in the institution. The leadership, credibility and communication and listening skills of the members of the intervention group should not be overlooked. These people should be able to mobilize the health-care personnel of their workplace and get them involved in the process. The success of the intervention process also depends on these agents of change.

Lastly, the participatory process depends from the outset on the **participation of health-care personnel**. It has been shown that worker participation, when it involves an objective of reviewing work organization to improve the decision latitude, helps improve mental health and productivity and reduces absenteeism (Bond & Bunce, 2001).

**Conditions for success of
participatory interventions (cont'd)**

B) Process variables

- ❖ *A priori* identification of groups of workers at risk based on validated theoretical models
- ❖ Rigorous implementation of changes required among targeted groups of workers
- ❖ Appropriation of the intervention process by the workplace (empowerment)

A priori identification of constraints and health problems must be carried out in order to determine the groups of workers at risk. There is no need to carry out an intervention among workers who are doing well and have a good quality of life at work; indeed, this would be akin to running a smoking prevention program among non-smokers.

Since all the parties involved in the intervention work to identify possible solutions to problems faced at the workplace and make recommendations for changes, it is vital that a response be provided by management and the **required changes be made**.

Finally, it is essential for the work environment to **take ownership of the intervention process** because this process must continue long after the researchers have left.

10 steps of participatory intervention

- ❖ Presentation of the project to workers and securing of management's commitment
- ❖ Awareness and mobilization of workers and creation of an intervention group (IG)
- ❖ Realisation of a quantitative portrait of the situation (*a priori* measurement) according to validated theoretical models
- ❖ Presentation of the portrait to workers and the IG and clarification of the perspective adopted for improving the work environment
- ❖ Elaboration of concrete action plans by the IG based on the portrait and group discussions with workers and management

Reminder of the ten vital steps for effective intervention.

10 steps of participatory intervention*

- ❖ Implementaton of action plans by the workers concerned
- ❖ Periodic meeting of the IG to discuss progress and obstacles (follow-up on proposed changes)
- ❖ Evaluation of effectiveness with the same questionnaire as for the pre-test (*a priori* evaluation)
- ❖ Presentation of results to IG and management
- ❖ Follow-up on changes and appropriation of the process of identifying problems and solutions in departments and work teams

* Adapted from Mykletun, p. 29-30
http://ebib.arbetslivsinstitutet.se/ah/2000/ah2000_10.pdf

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