



December 2010 – SUPPORT Summary of a systematic review

# Improving the nursing work environment: identifying effective interventions

Nurses are an indispensable part of healthcare systems. The Nursing Work Environment (NWE) is defined as the context within which nurses provide their services, and includes infrastructural, management and social components. NWEs are vulnerable to the negative side-effects of restructuring and cost-saving drives, which may result in decreased levels of staff satisfaction and potentially negative patient outcomes. Although interventions for the improvement of NWEs have been proposed, few have been evaluated in terms of their effectiveness.

## Key messages

### → Interventions to improve the NWE may:

- Improve leadership, autonomy, workload, clarity (degree of role specificity), professional development opportunities, innovation, participation in decision making, and recognition (respect, reward systems)
- Improve or worsen teamwork
- Improve or worsen workplace safety



## Who is this summary for?

People making decisions concerning improvements of the nursing work environment.

### ! This summary includes:

- **Key findings** from research based on a systematic review
- **Considerations about the relevance of this research** for low- and middle-income countries

### X Not included:

- Recommendations
- Additional evidence not included in the systematic review
- Detailed descriptions of interventions or their implementation

## This summary is based on the following systematic review:

Schalk DMJ, Bijl MLP, Halfens RJG, Hollands L, Cummings GG. Interventions aimed at improving the nursing work environment: a systematic review. *Implement Sci* 2010; 5:34.

## What is a systematic review?

A summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise the relevant research, and to collect and analyse data from the included studies.

**SUPPORT** – an international collaboration funded by the EU 6th Framework Programme to support the use of policy relevant reviews and trials to inform decisions about maternal and child health in low- and middle-income countries.

[www.support-collaboration.org](http://www.support-collaboration.org)

**Glossary of terms used in this report:**  
[www.supportsummaries.org/glossary](http://www.supportsummaries.org/glossary)

**Background references on this topic:**  
See back page

# Background

Nurses are vital to the provision of safe care in healthcare systems. While NWEs offer opportunities for professional autonomy, recognition and development, cost-cutting exercises in healthcare systems or individual institutions may impact negatively. These negative impacts may include, for example, higher nurse/patient ratios, reduced professional and clinical support, increases in the number of non-nursing tasks undertaken, and the delegation of nursing tasks to nurses who have not yet been trained to perform them. Interventions to improve NWEs typically target one or a small number of the elements which constitute an NWE. While many interventions have been proposed, few have been evaluated in terms of their effectiveness.

## How this summary was prepared

After searching widely for systematic reviews that can help inform decisions about health systems, we have selected ones that provide information that is relevant to low- and middle-income countries. The methods used to assess the quality of the review and to make judgements about its relevance are described here:

[www.supportsummaries.org/methods](http://www.supportsummaries.org/methods)

## Knowing what's not known is important

A good quality review might not find any studies from low- and middle-income countries or might not find any well-designed studies. Although that is disappointing, it is important to know what is not known as well as what is known.

## About the systematic review underlying this summary

**Review objective:** To identify which interventions have been implemented to improve NWEs and how effective they were at improving them.

	What the review authors searched for	What the review authors found
<b>Interventions</b>	Interventions to improve the NWE	11 controlled intervention studies including: 8 before-after studies 3 intervention-control studies
<b>Participants</b>	Nurses	Registered/licensed nurses (also: student nurse extenders, secretaries, unit leaders) 5 studies conducted in hospital settings 3 studies conducted in nursing homes 1 study conducted in a community healthcare institution 1 study conducted in a psychogeriatric clinic 1 study conducted in several healthcare workplaces
<b>Settings</b>	Nursing workplace	5 studies from the United States of America (USA) 2 studies from the Netherlands 3 studies from Sweden 1 study from Norway
<b>Outcomes</b>	Teamwork; leadership; autonomy; workload; clarity; recognition; physical comfort; flexible scheduling; organisational policies; professional development opportunities; salary, participation in decision making; innovation; workplace safety	Teamwork; leadership; autonomy; workload; clarity; recognition; professional development opportunities; participation in decision making; innovation; workplace safety

**Date of most recent search:** April 2008 (latest date of publication)

**Limitations:** This review has important limitations.

1. Only published studies (except doctoral dissertations) in English were included, the Cochrane Library was not searched and authors/experts were not contacted.
2. Results reporting and discussion are by intervention, not by outcome, and the effect size is not reported.

Schalk DMJ, Bijl MLP, Halfens RJG, Hollands L, Cummings GG. Interventions aimed at improving the nursing work environment: a systematic review. *Implement Sci* 2010; 5:34.

# Summary of findings

Eleven studies were included and these had been conducted in different types of healthcare institutions in the USA and Northern Europe. All studies were controlled intervention studies, and most used a before–after design. A variety of interventions and outcome manifestations were reported. In the findings overview, the outcomes were categorised using the NWE taxonomy proposed by the authors.

- **Teamwork** may be improved through short-term participatory interventions, social support training, and individualised care and regular systematic clinical supervision. Teamwork may be improved or worsened by primary nursing (assignment of patients to a primary nurse), and may be worsened by shared governance
- **Leadership** may be improved as a result of social support training, and by the educational toolbox of practical instruments for use at elderly care workplaces
- **Autonomy** (empowering, professional identity) may be increased by primary nursing, the educational toolbox, and individualised care and regular systematic clinical supervision
- The **Workload** of nurses (adequate staffing, work pressure) may be decreased by primary nursing, short-term participatory interventions, and the nursing practice quality circle (regular meetings of nurses to identify and discuss problems, and suggest solutions).
- **Clarity** (degree of role specificity) may be improved by primary nursing and short-term participatory interventions
- **Professional development opportunities** may be improved by short-term participatory interventions, the educational toolbox, and individualised care and regular systematic clinical supervision
- **Innovation** (technological demands) may be improved by the nursing practice quality circle
- **Participation in decision making** may be improved by the educational toolbox
- **Recognition** (respect, reward system) may be improved by individualised care and regular systematic clinical supervision
- **Workplace safety** may be improved or worsened by interventions to prevent violence

## About quality of evidence (GRADE)



**High:** It is very likely that the effect will be close to what was found in the research.



**Moderate:** It is likely that the effect will be close to what was found in the research, but there is a possibility that it will be substantially different.



**Low:** It is likely that the effect will be substantially different from what was found in the research, but the research provides an indication of what might be expected.



**Very low:** The anticipated effect is very uncertain and the research does not provide a reliable indication of what might be expected.

For more information, see last page.

Interventions to improve the nursing work environment				
<p><b>Patients or population:</b> Nurses</p> <p><b>Settings:</b> Nursing workplace (e.g. hospitals, other healthcare institutions)</p> <p><b>Intervention:</b> An intervention to improve the NWE (primary nursing, shared governance, social support and stress inoculation training, short-term participatory interventions, nursing practice quality circle, educational toolbox, individualised care and regular systematic clinical supervision, violence prevention intervention)</p> <p><b>Comparison:</b> No intervention (before intervention or control group)</p>				
Outcomes	Impact Intervention: +/- <i>outcome manifestation</i>	Number of participants (studies)	Quality of the evidence (GRADE)	Comments
<b>Teamwork</b>	Primary nursing, short-term participatory interventions: + <i>Social support</i> Primary nursing: - <i>Communication</i> Shared governance: - <i>Intrapersonal conflicts</i> Social support and stress inoculation training: + <i>Peer Cohesion</i> Individualised care and regular systematic clinical supervision: + <i>Cooperation</i>	424 (5 studies)	⊕⊕○○ Low	+ Significant improvement - Significant deterioration
<b>Leadership</b>	Social support and stress inoculation training: + <i>Supervisor support</i> Educational toolbox: + <i>Leadership</i> ; + <i>Performance feedback</i>	317 (2 studies)	⊕⊕○○ Low	+ Significant improvement
<b>Autonomy</b>	Primary nursing: + <i>(Job) Autonomy</i> Educational toolbox: + <i>Participation</i> Individualised care and regular systematic clinical supervision: + <i>Autonomy</i>	632 (4 studies)	⊕⊕○○ Low	+ Significant improvement
<b>Workload</b>	Primary nursing and Short-term participatory interventions: + <i>Job demands</i> Nursing practice quality circle: + <i>Work pressure</i>	286 (3 studies)	⊕⊕○○ Low	+ Significant improvement
<b>Clarity</b>	Primary nursing: + <i>Resident assignment</i> Short-term participatory interventions: + <i>Guidelines on how to do the job</i>	223 (2 studies)	⊕⊕○○ Low	+ Significant improvement
<b>Professional development opportunities</b>	Short-term participatory interventions: + <i>Opportunity to develop</i> Educational toolbox: + <i>Skills development</i> Individualised care and regular systematic clinical supervision: + <i>Professional growth</i>	385 (3 studies)	⊕⊕○○ Low	+ Significant improvement
<b>Innovation</b>	Nursing practice quality circle: + <i>Innovation</i>	63 (1 study)	⊕⊕○○ Low	+ Significant improvement
<b>Participation in decision making</b>	Educational toolbox: + <i>Participation</i>	270 (1 study)	⊕⊕○○ Low	+ Significant improvement
<b>Recognition</b>	Individualised care and regular systematic clinical supervision: + <i>Recognition</i>	39 (1 study)	⊕⊕○○ Low	+ Significant improvement
<b>Workplace safety</b>	Violence prevention intervention: - <i>Registration violent events</i> ; + <i>Awareness of risk situations for violence</i> ; + <i>Avoidance of potential dangerous situations</i> ; + <i>Dealing with aggressive patients</i> ; + <i>Perceived knowledge</i> + <i>Self-efficacy</i> ; + <i>Violence prevention skills</i>	824 (2 studies)	⊕⊕○○ Low	+ Significant improvement - Significant deterioration
p: p-value    GRADE: GRADE Working Group grades of evidence (see above and last page)				

# Relevance of the review for low- and middle-income countries

→ Findings	▷ Interpretation*
APPLICABILITY	
→ All included studies were conducted in HICs.	<p>▷ NWE components, such as infrastructure, may be structurally different in LMICs and HICs. This may be due, for example, to resource constraints in LMICs or cultural differences. Evidence from HICs may therefore not be directly applicable to LMICs.</p> <p>▷ Nurses in LMICs often provide a wider range of services and have more responsibility than their peers in HICs.</p> <p>▷ The measured outcomes are very relevant to LMICs.</p>
EQUITY	
→ The review did not examine effects of the interventions on equity.	<p>▷ Nurses often lack authority within staff hierarchies, particularly female nurses in male-dominated societies. Interventions to improve NWEs should therefore be expected to improve equity.</p> <p>▷ Differences in baseline conditions in healthcare settings in LMICs (private vs. public; primary vs. secondary vs. tertiary level of care) will have an impact on the relative effectiveness of any intervention and its potential benefits.</p>
ECONOMIC CONSIDERATIONS	
→ The review did not provide information on the costs or cost-effectiveness of interventions.	<p>▷ The funds required to implement many interventions to improve NWEs may be unavailable in many LMICs. Funds to sustain them may also be lacking.</p> <p>▷ Nurse staffing costs are low in LMICs relative to other NWE budget costs (e.g. for drugs or infrastructure). In HICs, by contrast, nurse staffing costs often considerably higher. Therefore achieving cost-savings by cutting nursing staff numbers would be a lower priority in LMICs and a higher priority in HICs. Thus, there is limited scope for increased workloads due to staff cuts due to cost saving requirements.</p>
MONITORING & EVALUATION	
→ The review found that the effectiveness of interventions targeting salary, flexible scheduling and organisational policies has not been assessed.	<p>▷ The (cost-)effectiveness of interventions to improve NWEs needs to be formally evaluated.</p> <p>▷ The (cost-)effectiveness of interventions in LMICs to improve NWEs needs to be evaluated.</p> <p>▷ Interventions to improve NWEs should be monitored and the casuses of any negative effects identified.</p>

\*Judgements made by the authors of this summary, not necessarily those of the review authors, based on the findings of the review and consultation with researchers and policymakers in low- and middle-income countries. For additional details about how these judgements were made see:

[www.supportsummaries.org/methods](http://www.supportsummaries.org/methods)

# Additional information

## Related literature

Cummings G, Estabrooks CA: The effects of hospital restructuring that included layoffs on individual nurses who remained employed: A systematic review of impact. *International Journal of Sociology and Social Policy* 2003, 23:8-53.

Kennerly SM: Effects of shared governance on perceptions of work and work environment. *Nursing Economics* 1996, 14:111-116.

Latham L, Hogan M, Ringl K: Nurses supporting nurses. Creating a mentoring program for staff nurses to improve the workforce environment. *Nurse Administration Quarterly* 2008, 32:27-39.

Moos RH, Schaefer JA: Evaluating healthcare work settings. A holistic conceptual framework. *Psychology and Health* 1987, 1:97-122.

O'Brien-Pallas L, Baumann A: Quality of nursing worklife issues – a unifying framework. *Canadian Journal of Nursing Administration* 1992, 5:12-16.

Van Wyk BE, Pillay – van Wyk . Preventive staff support interventions for health care workers. *Cochrane Database of Systematic Reviews* 2010, 3:CD003541.

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## Conflict of interest

None declared. For details, see: [www.supportsummaries.org/coi](http://www.supportsummaries.org/coi)

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This summary has been peer reviewed by: Greta Cummings, Canada and Victoria Pillay-van Wyk, South Africa.

## This review should be cited as

Schalk DMJ, Bijl MLP, Halfens RJG, Hollands L, Cummings GG. Interventions aimed at improving the nursing work environment: a systematic review. *Implement Sci* 2010; 5:34.

## The summary should be cited as

Steinmann P. Improving the nursing work environment: which interventions work? A SUPPORT Summary of a systematic review. December 2010. [www.supportsummaries.org](http://www.supportsummaries.org)

## Keywords

evidence-informed health policy, evidence-based, systematic review, health systems research, health care, low and middle-income countries, developing countries, primary health care, nursing, work environment, work conditions, interventions

## About quality of evidence (GRADE)

The quality of the evidence is a judgement about the extent to which we can be confident that the estimates of effect are correct. These judgements are made using the GRADE system, and are provided for each outcome. The judgements are based on the type of study design (randomised trials versus observational studies), five factors that can lower confidence in an estimate of effect (risk of bias, inconsistency of the results across studies, indirectness, imprecision of the overall estimate across studies, and publication bias), and three factors that can increase confidence (a large effect, a dose response relationship, and plausible confounding that would increase confidence in an estimate). For each outcome, the quality of the evidence is rated as high, moderate, low or very low using the definitions on page 3.

For more information about GRADE: [www.supportsummaries.org/grade](http://www.supportsummaries.org/grade)

## SUPPORT collaborators:

**The Cochrane Effective Practice and Organisation of Care Group (EPOC)** is a Collaborative Review Group of the Cochrane Collaboration: an international organisation that aims to help people make well informed decisions about health care by preparing, maintaining and ensuring the accessibility of systematic reviews of the effects of health care interventions. [www.epocoslo.cochrane.org](http://www.epocoslo.cochrane.org)

**The Evidence-Informed Policy Network (EVIPNet)** is an initiative to promote the use of health research in policymaking. Focusing on low- and middle-income countries, EVIPNet promotes partnerships at the country level between policy-makers, researchers and civil society in order to facilitate both policy development and policy implementation through the use of the best scientific evidence available. [www.evipnet.org](http://www.evipnet.org)

**The Alliance for Health Policy and Systems Research (HPSR)** is an international collaboration aiming to promote the generation and use of health policy and systems research as a means to improve the health systems of developing countries. [www.who.int/alliance-hpsr](http://www.who.int/alliance-hpsr)

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