

A SWEDISH GUIDE AND INTERVENTION STRATEGY TO ENSURE SAFE PATIENT HANDLING AND MOVEMENT IN HEALTHCARE

Introduction

Health and social care (HeSCare) workers are often tasked with the (manual) handling of patients. Handling of patients is a generic term that includes several tasks such as (lateral) lifting of patients (from one surface to another), repositioning of patients (moving the person into a different position to redistribute pressure), turning of patients or helping patients from a sitting position to a standing position. Numerous research studies across the different occupational healthcare sectors have documented high physical work demands as a risk factor for developing musculoskeletal disorders (MSDs).¹

In 2015, the Swedish Work Environment Authority² (SWEA) published a report in which ergonomic strain was identified as an area for improvement in systematic work environment management (SAM), particularly concerning women's working conditions.³ To prevent strain injuries, the report highlighted the need for concrete methods to identify risk situations that may lead to joint and muscle overload over time. In total, 75% of the inspected employers in the HeSCare sector were required to address deficiencies in their work environment, primarily concerning procedures for assessing the risk of strain injuries during patient transfers.

In 2019, the research project Patient and Workers Safety Study (PAWSS)⁴ was launched in the Östergötland region of Sweden to enhance occupational safety and health (OSH) in the HeSCare environment for both caregivers and patients.

This case study, which focuses on one of the areas of investigation of the broader research project, describes the development and evaluation of risk assessment and interventions promoting safe patient handling and movement in the Swedish healthcare sector. It mainly discusses the research-based guide 'Säkra personflyttningar – en forskningsbaserad guide för bättre arbetsmiljö'⁵ ('Safe patient handling and movement – A research-based guide for a better work environment') launched in December 2022 by the Swedish Agency for Work Environment Expertise⁶ (SAWEE) as well as the study that is (being) executed to evaluate a multifactorial intervention strategy for safe patient handling and movement in the healthcare sector (the research based-guide is part of the intervention strategy).

This case study is part of a research project⁷ carried out with the aim to provide an overview of research on work-related musculoskeletal (MSK) risk factors and MSK health in the HeSCare sector.

Description of the case

Safe patient handling and movement: a research-based guide for a better work environment

The aim of the 'Safe patient handling and movement' research-based guide is to outline collaborative methods for ensuring safe patient handling and movement, and to incorporate these methods into a structured approach to workplace environment management. The guide, which is available in Swedish

¹ EU-OSHA – European Agency for Safety and Health at Work, *Musculoskeletal disorders in the healthcare sector*, 2020. https://osha.europa.eu/sites/default/files/Discussion_paper_MSDs_in_health_care_sector.pdf

² More information is available at: <https://www.av.se/en/about-us/>

³ Arbetsmiljöverket (2015). *Kvinnors arbetsmiljö 2011-2014. Slutrapport*. <https://www.av.se/globalassets/filer/publikationer/rapporter/kvinnors-arbetsmiljo-2011-2014-kunskapssammanstallning-rap-2015-6.pdf>

⁴ See: <https://www.arbetsochmiljomedicin.se/am/forskning/arbetsmiljo-arbetshalsa-och-ergonomi/patient-and-workers-safety-study>

⁵ Available at: <https://mynak.se/wp-content/uploads/2022/12/Sakra-personforflyttningar.pdf>

⁶ More information is available at: <https://sawee.se/>

⁷ The full report is available at: <https://osha.europa.eu/en/publications/musculoskeletal-health-and-risk-factors-hescare-sector-review-existing-information>

and English,⁸ is directed at workplaces within healthcare, ambulance care, dental care, and public and private care, including home nursing, domestic services and personal assistance. In the guide, three types of workplaces are distinguished:

- work in a healthcare environment — in a workplace, such as a healthcare unit, dental clinic or a nursing home;
- work in a home environment — in the care recipient's home, such as home care services, home nursing or personal assistance; and
- work in a public environment — pre-hospital care, ambulance care.

The guide is primarily directed at managers, workers and safety representatives who, through collaboration, are committed to improving the work environment and ensuring safe patient handling and movement. The guide consists of three parts:

- The first part is theoretical and knowledge-oriented and includes explanations as to why it is important to work actively with health-promoting work environment management and to ensure safe patient handling and movement. It furthermore explains the rationale and approach of SAM in Sweden,⁹ and explains how SAM is fundamental in establishing safe patient handling and movement.
- The second part presents a more practical work process in five steps aimed at creating conditions for safe patient handling and movement through SAM. The five-step process follows the same model as the SAM and is based around policies, procedures, knowledge, collaboration, role allocation, and the ongoing work to investigate, assess risk, remedy and follow up. The five steps that are described in detail are:
 - Step 1: Start up and establish. In this step it is discussed how to start with promoting safe patient handling by establishing the purpose and goals, allocating roles and establishing the work in the organisation.
 - Step 2: Investigate and analyse. In this step the analysis of the current situation is discussed. This section provides suggestions on how the current situation can be examined.
 - Step 3: Identify and assess risks. This section is dedicated to the risk assessment process: it describes several risk assessment instruments, such as TilThermometer,¹⁰ and describes how risk assessment in practice can be conducted.
 - Step 4: Plan and implement measures. This section describes the process of choosing and implementing measures. It discusses how to choose and gives various examples of measures, at individual, group and organisational level.
 - Step 5: Follow up and evaluate. This last section describes how to check progress made and the evaluation and potential editing of measures that should be carried out.

Within each step, the processes and activities that need to be taken are described in great detail, with practical tips and tools that can be used in the phase. When necessary, the relevant (Swedish) legislation is referred to. Every step ends with a checklist that can be used to make sure all is in place for taking the next step in the approach.

- Lastly, the appendices contain examples, checklists and selected supporting documents for the process. Also included are tips on literature and web pages to read.

⁸ Available at: <https://sawee.se/publications/safe-patient-handling-and-movement/>

⁹ In Sweden, employers are legally obliged (by AFS 2001:1) to investigate, carry out and follow up on activities in such a way that ill health and accidents at work are prevented and a satisfactory working environment achieved, which is called 'systematic work environment management (SAM)'. SAM involves methodical research, risk assessment, implementation and monitoring of workplace conditions to prevent accidents and ill health.

¹⁰ More information about this tool is available at: <https://www.tilthermometer.com/vvt/> and to Tilthermometer Case study made by EU OSHA available at: <https://osha.europa.eu/en/publications/tilthermometerc-mapping-severity-and-type-exposure-physical-strain-when-handling-patients>

In summary, the guide gives guidance on measures at individual, group and/or organisational level and how managers, workers and safety representatives can jointly plan and choose measures based on the three perspectives of health promotion, prevention and rehabilitation. By including all these perspectives in the work, opportunities and conditions are created for safe patient handling and movement and a sustainable working life for the workers.

The guide was created with the help of various stakeholders, including:

- a group of health care professionals (nurses, physiotherapists and ergonomists) who provided the user perspective;
- the SWEA;
- the Swedish Association of Local Authorities and Regions;
- the National Board of Health and Welfare; and
- representatives from trade unions and employers' organisations.

As well as the guide, a printable poster¹¹ and quick guide¹² for patient handling have been published, which can be used as support in daily work.

A multifactorial intervention strategy for safe patient handling and movement in the healthcare sector

Following the publication of the research-based guide, the research project PAWSS started a randomised controlled trial¹³ to further improve the safe manual handling of patients in 2023. The overall aim of the study was to evaluate the implementation and the effectiveness of a multifactorial intervention strategy for safe patient handling and compare it with a single intervention strategy. This study was conducted at Swedish regional and municipal healthcare systems, specifically in clinics or nursing homes (home care settings are excluded).

Care units are randomised to use either a multifactorial intervention strategy (arm A) or a single intervention strategy (arm B) for safe patient handling and movement. The activities that are taking place in both arm A and arm B are based on the **research-based guide** as described above. Table 1 shows the elements of the interventions in both arms of the study.

Table 1: Intervention strategies in arm A and arm B of the study

Arm A	Arm B
Digital introduction on work environment management focusing on patient handling and movement	
Safe patient handling and movement: a research-based guide: a digital introduction to using it for all workers and in-depth strategies to discuss during two workshops for managers and implementation teams	Safe patient handling and movement: a research-based guide: a digital introduction to using it for all workers
Training modules (theoretical and practical) in manual handling of patients	
Risk assessment with TilThermometer (four times at each care unit)	

¹¹ Available at: <https://media.sawee.se/2024/05/Safe-patient-handling-and-movement-poster-a3.pdf>

¹² Available at: <https://media.sawee.se/2024/05/Safe-patient-handling-and-movement-quick-guide-A7.pdf>

¹³ Wählin, C., Buck, S., Sandqvist, J., Enthoven, P., Fock, J., Andreassen, M., & Strid, N. (2023). Evaluation of the implementation and effectiveness of a multifactorial intervention strategy for safe patient handling and movement in the healthcare sector: A study protocol of a cluster randomised controlled trial. *BMJ Open*, 13(2), e067693. <https://bmjopen.bmj.com/content/13/2/e067693>

Arm A	Arm B
Fall risk assessment using the Downton Fall Risk Index (DFRI) ¹⁴ and daily fall risk assessment instrument at the care unit (all patients)	
Work environment mapping with the Structured Multidisciplinary Work Environment Survey (SMET) ¹⁵ including written and oral feedback to the manager	Work environment mapping with the Structured Multidisciplinary Work Environment Survey (SMET) ¹⁶ and written feedback to the manager

The specific aims of the study were as follows:

1. to evaluate and compare the intervention effectiveness of the applied strategies regarding safety climate in relation to patient handling and movement;
2. to evaluate the implementation outcome concerning the healthcare workers' perceptions of acceptability, appropriateness and feasibility of the intervention(s); and
3. to explore the implementation process and intervention fidelity to the interventions.

The implementation process evaluation includes the healthcare workers' experiences of the multifactorial intervention strategy for safe patient handling and movement. The hypothesis in this study is that care units receiving the multifactorial intervention strategy will develop a better safety climate in relation to patient handling and movement compared with care units receiving the single intervention strategy. Furthermore, the hypothesis is that the multifactorial intervention strategy will be perceived as more acceptable, appropriate and feasible than the single intervention strategy.

What was achieved?

The study described above ended in 2024, but unfortunately the results of the study are yet to be published. This means that the possible impact of both the research-based guide on safe patient handling and movement as well as the intervention strategy for safe patient handling and movement in the Swedish healthcare system are unknown at the moment.

However, it can be stated that the guide itself is a tangible result that can be seen as a 'roadmap' to help employers and employees work together to ensure safe patient handling and movement.

Lastly, it is worth noting that AFA försäkringar¹⁷ (a Swedish healthcare insurance company) has granted funding for continued research in the area of 'Implementation of interventions at the individual and organisational level that promote safe transfers in healthcare and care' during the period of 2025-2028. This means that in the coming years, more relevant information on safe patient handling and movement will be published, contributing to safer and healthier handling of patients.

Success factors and challenges

Although the results of the study where the guide (and additional interventions) were implemented are not yet published, some strengths of the guide can be identified already:

- During the development of the guide, a wide range of stakeholders was involved, from social partners to end users, ensuring that the guide is broadly accepted.

¹⁴ A validated assessment tool used to identify risk factors for falls.

¹⁵ Haraldsson, P., Jonker, D., Rolander, B., Strengbom, E., & Areskoug-Josefsson, K. (2019). Structured Multidisciplinary Work Evaluation Tool (SMET): Reliability testing of a multidisciplinary/multifactorial work questionnaire. *Work*, 62(2), 287-297. <https://doi.org/10.3233/WOR-192863>

¹⁶ Haraldsson, P., Jonker, D., Rolander, B., Strengbom, E., & Areskoug-Josefsson, K. (2019). Structured Multidisciplinary Work Evaluation Tool (SMET): Reliability testing of a multidisciplinary/multifactorial work questionnaire. *WORK*, 62(2), 287-297. <https://doi.org/10.3233/WOR-192863>

¹⁷ More information is available at: <https://www.afaforsakring.se/>

- Addressing different levels (individual, group and/or organisational level) when it comes to choosing and planning measures to improve safe patient handling is particularly valuable. By including all these perspectives in the work, opportunities and conditions are created for safe patient handling and movement.
- Addressing different worker groups (managers, employees and safety representatives) and giving guidance on how those groups can jointly make improvements makes.
- By following the principles of the Swedish legislation on SAM, the guidance builds on something employers and employees are familiar with.

Transferability to other EU Member States

Although the guide is originally written for a Swedish context and based on Swedish work environment legislation, the concepts discussed in the guide and the practical organisation for a better work environment for safe patient handling and movement could be implemented in all EU Member States.

The Swedish legislation on SAM that is described in the guide is based on the European Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work, also known as the OSH Framework Directive.¹⁸ The guide recommends that readers should familiar themselves with relevant legislation and regulations pertaining to patient handling and movement in their own country to ensure compliance and best practices.

An initiative like the Swedish case described in this case study, in which guidance is developed by authorities and social partners to prevent a highly prevalent risk for HeSCare workers and consecutively implemented in the field, could be replicated in any other EU Member State. Such initiatives contribute to meet the existing demand among HeSCare establishments for practical guidance and tools to better manage MSK risks factors associated with patient handling.

Further information

Patient and Workers Safety Study (PAWSS):

<https://www.arbetsochmiljomedicin.se/am/forskning/arbetsmiljo-arbetshalsa-och-ergonomi/patient-and-workers-safety-study>

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<https://bmjopen.bmj.com/content/13/2/e067693>

¹⁸ See: <https://osha.europa.eu/fr/legislation/directives/the-osh-framework-directive/1>

In this case study interviews were performed with the developers of the research-based guide on safe patient handling and movement and the researchers of the project Patient And Workers Safety Study (PAWSS).

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