Evidence-based Nurse Staffing

High quality patient care and a good working environment for nurses are the focus of a new project

In collaboration with the Region Midt a project has been carried out with the aim of optimising the shift planning in the wards at Regionshospitalet Gødstrup. The project is funded by the European Union via the Technical Support Instrument, managed by the European Commission Directorate-General for Structural Reform Support (DG REFORM). Based on a solid evidence foundation, including occupancy and care intensity, the goal is to be able to calculate the necessary number of nurses and competencies required to deliver high professional quality in patient care and achieve a healthy work environment in the individual wards.

The project focuses on developing a framework supported by a patient intensity system that can improve shift planning by taking into account patient characteristics (indicators), patient flow, and nurses' competencies. This should support high professional quality in patient care and a healthy work environment in the individual wards. The model should be able to support the calculation of resource allocation to the right departments, where and when care intensity and workload are high, and highlight hotspots with low staffing levels in relation to care needs. A large part of the project will consist of a series of analyses that map current processes and sub-elements that are included in shift planning. In this regard, various interviews and workshops will be held across the departments, taking into account the daily work in the wards.

Why is there a need for a change?

With an aging population, a larger proportion of patients with multidiseases, and an increasing need for specialized treatment and nurses with specialized competencies, HEV is facing a situation where there is a need to develop tools that can be used to optimize staffing principles.

Currently, attendance profiles and shift planning are based on the number of beds in a given ward, the historical occupancy rate of these beds, and subjective assessments of workload. The criteria for shift planning are insufficient, and when patient's actual care needs are not taken into account, there is a risk of an inappropriate distribution of nursing resources and competencies (including specialized competencies) to meet patient's care needs.

Therefore, there is a need to use already existing patient data to calculate care intensity and thus qualify the distribution of nursing hours and competencies on a (more) evidence-based foundation.

Funded by the European Union

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The aim of the project is to ensure increased quality of patient care and establishment of a good work environment at the hospital

A customized framework has been developed and described to support an organizational transformation in connection with the implementation of a patient intensity system. The framework aims to ensure that information is collected on the care needs of hospitalized patients, and that this data is used to document and define when the hospital achieves satisfactory staffing levels that ensure high patient safety, a good work environment for employees, and a healthy hospital economy.

By implementing the framework, it is ensured that the optimal shift plan is developed, and that the attendance of nurses matches the number of patients and their current care needs. Optimal shift planning is achieved in two steps:

by ensuring that the ward has the appropriate average staffing levels and by implementing flexible models for attendance to level resources across wards while taking into account care needs, nurse attendance, nurse competencies, and compliance with applicable employment agreements.
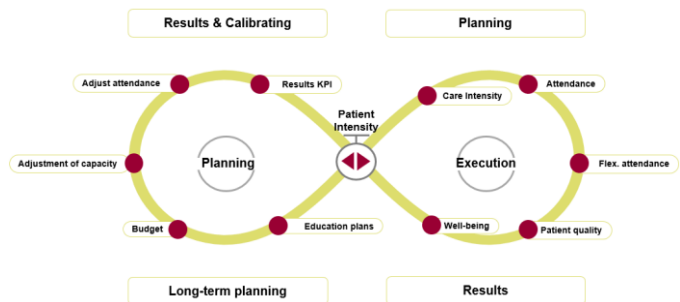
The project has defined a management and planning model that ensures a continuous focus on the variation in the need for care and the quality of care provided. By creating a continuous focus on the quality of care and the well-being of nurses and continually adjusting the attendance conditions, good results can be achieved.

Based on an economic, risk-based, and functional evaluation, the IT and system requirements for collecting patient intensity data and how these can be used in the future have been assessed. It has been assessed that the quickest value can be created by purchasing a patient intensity assessment system. The recommendation is based on the possibility of utilizing the empirical and evidence-based data that a purchased system contains, thereby minimizing risks and investments in developing a system at Regionshospital Gødstrup.

However, if it is decided to implementing a system at a regional or national level, it can be evaluated whether a Danish development of an adapted system can be initiated.

Results, quality and economy

Patient intensity, attendance of nurses, and strategic and tactical leadership affect both the employees' well-being, the quality of care that patients receive, and the overall economy of the hospital. Therefore, the framework contains a coherent definition of which patient assessment results the hospital can advantageously measure and use in the daily management and operation of the hospital. Along with ongoing assessment and improvement of employee well-being, a positive work environment can be created that not only complies with defined budgets but also focuses on quality and well-being and enhances the overall quality.

Management and communication

The hospital management, selected specialists and researchers, as well as the Danish Nurses' Association (Dansk Sygeplejeråd) have been involved in the project, and there have been ongoing workshops with the hospital and external stakeholders. The project was concluded with a conference at the Regionshospitalet Gødstrup, with participation from national and international specialists and researchers.

Next steps in the project

The project has, through an analysis of the current organizational maturity, determined that the implementation of a framework and a patient intensity tool requires a major organizational transformation where several organizational elements need to be adjusted.

For full implementation of the recommended solutions, there are a number of barriers that need to be overcome. Therefore, the next step in the project is to decide on the purchase or development of a patient intensity system, as well as involving nurses and the Danish Nurses' Association(Dansk Sygeplejeråd) in the decisions and defining possible models for creating increased daily flexibility at the hospital, so that patients' care needs can better match nurses with the right competencies.

Several trial runs have already been initiated at Regionshospitalet Gødstrup, driven by chief nurses at the hospital. However, the recommendation is that the upcoming implementation of the framework and patient intensity system should be driven through a program office to ensure follow-up, prioritization, and leadership focus.

The recommendation is to implement the framework and an patient intensity system locally at Regionshospitalet Gødstrup or regionally. The project must also try to affect the national public authorities to establish a national standard for safe nurse staffing, and implement a similar framework at Danish hospitals.