

Development of an In-Hospital Patient Bank for the Emergo Train Simulation Platform to Enhance Hospital Capacity

Linda Bohlin¹, Jenny Pettersson¹,
Johan Hornwall¹, Peter Berggren^{1,2}

¹Region Östergötland, Sweden

¹Linköping University, Sweden

INTRODUCTION

The Emergo Train System (ETS) is an academic and educational simulation method used to train and test preparedness for emergencies and disasters. The system uses magnetic symbols on whiteboards to represent patients, staff, and resources, along with markers to indicate priority and treatment. ETS has been continuously developed, with additions such as hospital patients for quality measurement, new patient banks for burn injuries and war-related injuries, as well as role-playing cards.

In 2025, the ETS family has been expanded to include ward patients. With these additions, it is now possible to train the entire care chain—from the incident site to the emergency department, surgery, intensive care, and finally, the hospital ward. The ward module can also be used independently to set up ward-specific exercises, such as evacuation training.

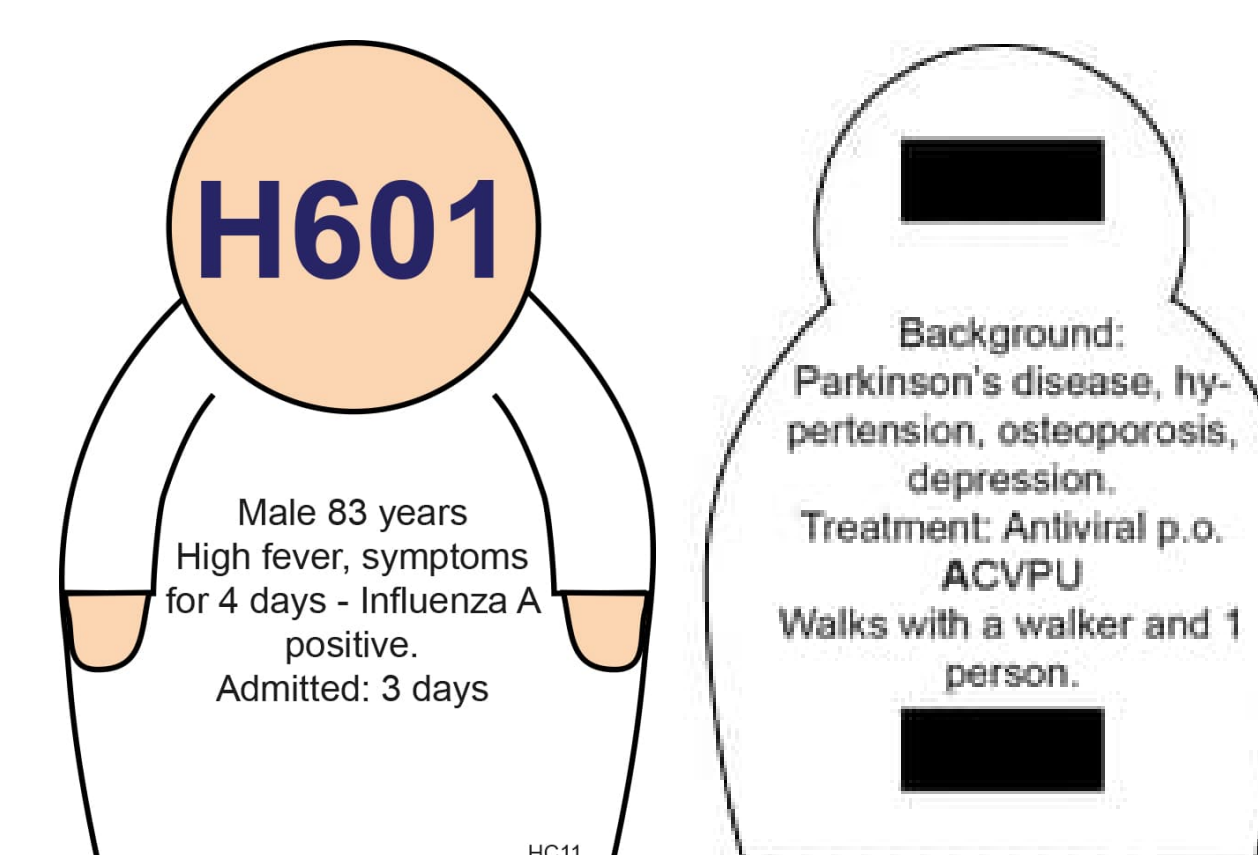
METHODS

The data collection was carried out using anonymized report sheets from several hospital wards with a medical, surgical and orthopedic focus. An analysis was conducted to determine what constituted relevant information, and the patients were then created. The patients were tested in in four different exercises with different focuses to determine if any relevant information had been missed. The feedback during the tests was positive, and only a few adjustments were made. After that, patients and patient outcomes were reviewed by medical experts, and some changes were made accordingly.

Involving ward staff in the exercises enables an entirely new target group to use ETS, either in hospital-wide exercises or exercises specifically for individual departments.

RESULTS

The wardbank resulted in 50 patients with medical conditions, 25 patients with surgical conditions, and 25 patients with orthopedic conditions. A document was also created for the instructor with questions and answers in case participants wanted more specific information about the latest vital parameters or blood test results. Additionally, new resources were developed based on staffing and equipment in a hospital ward, as well as a patient outcome template that allows for evaluating whether patients were at risk of health deterioration or if there was an overutilization of resources.



Patient and Background	Cat	Latest NEWS	Test results	Activities
H601 High fever, influenza A positive, symptoms for 4 days. Admitted: 3 days	HC11 ▲	RR: 18, SpO ₂ : 98 %, supplemental oxygen: 0 Systolic blood pressure: 140 Pulse rate: 80 Level of consciousness: Alert Temperature: 37,6 Points: 0	Initial CRP: 120 mg/L, CRP day: 3; 45 mg/L	Walks with a walker and 1 person <u>Restrictions for Transfer: Isolated</u>

EVALUATION IN-HOSPITAL PATIENTS WARD – MEDIUM – H601-H700				
Patient	Home (HC10)	Home with home care, home nursing (HC11)	Remain or transferred to another hospital ward without special monitoring (HC12)	Require level of care with special monitoring/expertise (HC13)
H601	Health risk	OK	Overutilised	Overutilised

CONCLUSION

Now, ETS can be used throughout the entire healthcare chain – from the injury site to the emergency department, through surgery, intensive care, and onto the hospital ward. Involving ward staff in the exercises enables an entirely new target group to use ETS, either in hospital-wide exercises or exercises specifically for individual departments.

The next step is to introduce patients so that both primary care and care homes can also be practiced.

Corresponding authors

linda.bolin@regionostergotland.se
jenny.pettersson@regionostergotland.se
johan.hornwall@regionostergotland.se
peter.berggren@regionostergotland.se

