

# Outcomes and Experiences of a Fast Track

## A direct admission process from ambulance to stroke unit for patients not eligible for acute intervention

Akademisk avhandling

Som för avläggande av filosofie doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentligen försvaras i hörsal Arvid Carlsson, Academicum, Medicinaregatan 3, den 17 februari 2023, klockan 09.00.

Av Ingela Wennman

Fakultetsopponent: Professor Magnus Hagiwara, Högskolan i Borås, Sverige

### Avhandlingen baseras på följande delarbeten

- I. **Wennman, I.**, Klittermark, P., Herlitz, J., Lernfelt, B., Kihlgren, M., Gustafsson, C., & Hansson, P.-O. (2012). The clinical consequences of a pre-hospital diagnosis of stroke by the emergency medical service system. A pilot study. *Scandinavian journal of trauma, resuscitation and emergency medicine*, 20(1), 48.
- II. **Wennman, I.**, Carlström, E., Fridlund, B., & Wijk, H. (2021). Experienced critical incidents affecting lead-times in the stroke care chain for low-priority patients—A qualitative study with critical incident technique. *International Emergency Nursing*, 58, 101040.
- III. **Wennman, I.**, Carlström, E., Fridlund, B., & Wijk, H. (2022). Actions taken affecting lead time in the care pathway for low-priority patients with a suspected stroke: A critical incident study. *International Emergency Nursing*, 60, 101105.
- IV. **Wennman, I.**, Wijk, H., Jood, K., Carlström, E., Fridlund, B., Alsholm, L., Herlitz, J., Hansson, PO. Outcomes of a Fast Track process from the emergency medical service system to stroke unit for patients not eligible for acute intervention – a case control register study based on 1066 patients. *Submitted*.

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## A direct admission process from ambulance to stroke unit for patients not eligible for acute intervention

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### Abstract

People who suffer from a stroke and are not eligible for stroke alert are often transported to the emergency department (ED) before admission to the stroke unit. Long length of stay (LOS) in ED is associated with health-associated harms. For selected patients, a direct admission process (Fast Track (FT)) from emergency medical services (EMS) to the stroke unit has been developed. **The overall aim** was to describe and explore a changed organisational care pathway process from EMS to stroke unit for patients not eligible for stroke alert, focusing on both patient and organisational perspectives in terms of safety outcomes and factors affecting LOS in the care pathway. **Methods:** Data were gathered through a case-control design, including both prospective and retrospective data (I), individual explorative descriptive interviews (II and III), and a case-control design using quality registers (IV). Quantitative data were analysed using descriptive and inferential statistics, and qualitative data by using the critical incident technique. **Main findings:** The changed care pathway, i.e. FT from nurse-manned EMS to the stroke unit, was indicated to be safe for selected patients, associated with relatively high diagnostic accuracy and the care pathway LOS was significantly shortened. There were no significant differences regarding complications or patient-reported outcome measurement between the FT group and patients transported via the ED. Experienced critical incidents (CI) that negatively affected the care pathway LOS were connected to how different units other than their own worked, the challenges of assessing patients' symptoms, workflows/organisational silos, available hospital beds and the atmosphere in this context. Factors that favoured the process were linked to patients'/relatives' involvement, staff members' level of experience/skills and cross-sectional collaboration/professional relations. To manage delays, staff members acted by safeguarding the patients, striving to gain an overview of the situation, convincing others to work differently and building trust with patients/relatives. The situation affected the staff in all departments by causing unpleasant feelings, which they kept to themselves. Over time, the FT showed a decreasing trend regarding the number of EMS initiated FTs, a decreasing trend regarding the acceptance of the FT and an increasing trend for denied FT, associated with a lack of available hospital beds. **Conclusion:** FT was indicated to be safe for selected patients and long LOS in the ED could be avoided. There were no significant differences regarding outcomes between the groups. Over time, the data showed a decreasing trend in FT, with the main reason being a lack of available hospital beds. Several CIs were identified that affected the care pathway process, including patients', staff's, and the organisation's transitions, in connection with the changed process.

**Keywords:** Fast Track, stroke, ambulance, emergency department, stroke unit, care pathway, patient safety, organisation, transition theory