Magnus Andersson Hagiwara is an ambulance nurse with a special interest in pre-hospital patient assessment and clinical judgement.

This thesis have developed and evaluated a computerised decision support system aimed for pre-hospital care. The thesis was guided by a theoretical framework for developing and evaluating a complex intervention. The thesis was based on four studies with different designs and methods. The first study was a systematic review of randomised controlled trials. The second and the last studies had experimental and quasi-experimental designs, where the CDSS was evaluated in a simulation setting and in a clinical setting. The third study included in the thesis had a qualitative case study design.

The main findings from the studies in the thesis were that there is a weak evidence base for the use of CDSS in pre-hospital care. No studies have previously evaluated the effect of CDSS in pre-hospital care. Due to the context, pre-hospital care is dependent on protocol-based care to be able to deliver safe, high-quality care. The physical format of the current paper based guidelines and protocols are the main obstacle to their use. There is a request for guidelines and protocols in an electronic format among both clinicians and leaders of the ambulance organisations. The use of CDSS in the pre-hospital setting has a positive effect on compliance with pre-hospital guidelines. The largest effect is in the primary survey and in the anamnesis of the patient. The CDSS also increases the amount of information collected in the basic pre-hospital assessment process. The evaluated CDSS had a limited effect on on-the-scene time.