

An innovative emergency medical services system

H-N. WU, Y-T. CHENG, C. PEI. **The implementation of an innovative emergency medical services system for solitary elderly in Nantou county, Taiwan.** *Gerontechnology* 2014;13(2):309; doi:10.4017/gt.2014.13.02.340.00 **Purpose** Pre-hospital emergency medical care had been administered to only about 20% of elderly patients who had experienced a severe coma¹. In addition, patients who were compromised in other ways, such as patients with hearing loss, dementia, and patients with no immediate family to care for them care seriously affect the professional judgment of emergency medical technicians (EMTs)². This increases the evacuation time and difficulty of medical care during treatment provided by emergency medical services (EMS) personnel. In 2007, Professor T. Okamoto proposed modifications to the current EMS system with the goal of assisting EMTs during their initial patient assessment. The system provides the EMTs relevant medical history and related information about the patient at the time of first contact. The system is expected to simplify the process of identification medical treatment and decreases the rate of patient morbidity. This goal will be achieved mainly through improving in-service EMS continuing education, training and other factors. Moreover, this revised EMS system can be integrated with existing telemedicine technology creating a multi-functional EMS system. The system was adopted by the Nantou County Fire Department, Taiwan. This research explores the risk factors associated with the implementation of the EMS system in Nantou County. **Method** A literature review established a preliminary mind map to analyze and compile key factors that affect the operations, procedures, and quality of the EMS system; key factors were confirmed using a questionnaire. Twelve experts in the fields of medicine, business administration, and academia were invited to participate in a Delphi method expert survey. **Results & Discussion** The result ranked 18 key risk factors with an average $\bar{x} = 3.7$ indicating they were significant factors influencing this type of medical care. These experts reached a consensus opinion, and four key factors related to implementation of the system were obtained through a mind map³ (Figure 1). They are: (i) data gathering, (ii) process design, (iii) telecare, and (iv) education and training. Figure 1 also shows the fourteen secondary factors. In the future, two analytic methods known as the Decision Making Trial and Evaluation Laboratory (DEMATEL) and an Analytical Hierarchy Process (AHP)⁴ will be adopted to explore the causal relationships among the factors.

References

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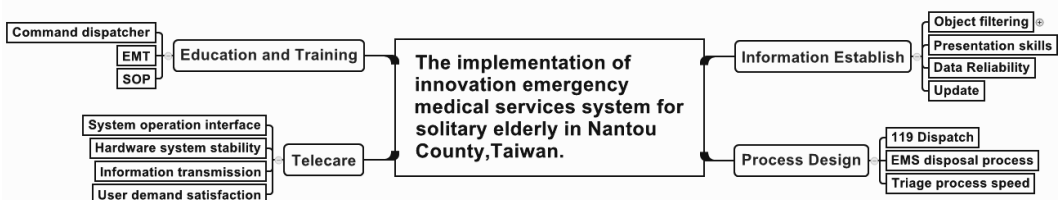


Figure 1. The mind map of key risk factors related to the innovative EMS system for solitary elderly in Nantou County, Taiwan