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CONFERENCE ABSTRACT

Place of care and place of death – the frequency of hospital use prior to death and the increased importance of nursing homes in end of life care in Norway

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Introduction: Care setting and place of death may influence quality of death and dying. Transfers and relocations close to death may be traumatic. Frequent hospital admission close to death may be expensive, ineffective and against the preferences of patients and their relatives. When asked, most people prefer to die at home. A high proportion of hospital deaths may be an indicator of a potentially inappropriate care setting at the end of life. In most developed countries the majority of deaths take place in hospitals. However, a downward trend in share of hospital deaths is seen in many countries, including Norway. In Norway the share of hospital deaths peaked in the mid-1970s with half of the death taking place in hospitals. A marked shift in place of death, out of hospitals into nursing homes has taken place in Norway during the last decades. A changing pattern in the place of death may reflect changing demographics and morbidity, as well as changes in service structures and policy towards end of life care. The purpose of this study is to investigate trends in place of deaths in Norway during the 25-year period from 1987 to 2011 and to analyze to what extent changing patterns can be predicted by changes in demographics and cause of death. Furthermore, differences over time and between geographical localities will be investigated in relation to bed capacity in hospitals and in nursing homes as well as other context characteristics of the patient's place of residence. Finally, differences in hospital use towards the end of life between places of death will be investigated.

Methods: Trends in standardized place of death, both overall, by age, and cause of death, is analyzed by joint-point regression as well as graphical representation. Data was obtained from the Norwegian Cause of Death Registry. The data covers all deaths in Norway in the years from 1987 to 2011 and includes, for each descendent, information about year of death, place of death, age at death, gender, cause of death, and municipality of residence. The impact of service structure and local context factors on pattern of place of death at municipal level will be analyzed by panel data regression analysis. Data on contextual factors at municipal level (hospital district level for hospital beds) are collected from Statistics Norway. Due to data availability, the analysis of contextual factors is restricted to the period 2002-2011. Descriptive analysis will be used to investigate the frequency of hospitalizations towards end of life. Data on hospital admissions is obtained from Norwegian Patient Register. Data from

the Cause of death Registry for all registered deaths in 2011 will be linked at individual level, using unique patient identifier (common serial number, generated by data owners), with data on hospital admissions two years prior to death.

Results: In 1987 almost half of the deaths in Norway took place in hospital. In 2011 almost half of the deaths took place in nursing homes. More than half of the change in the share of nursing home deaths during the 25 year study period can be related to changes in demographics and cause of deaths. The age, gender and cause of death standardized share of home deaths was stable. Factors other than demographics and morbidity have influenced the development in place of death. An increased standardized share of nursing home deaths is found across age groups, i.e. not only among the elderly. The shift towards deaths in nursing homes is especially apparent for cancer deaths. Results from panel data regression analysis indicate that availability of long term care beds in the local community is positively associated with the share of nursing home deaths and negatively associated with share of home deaths and hospital deaths, while availability of hospital beds at hospital district level is positively associated with the share of hospitals deaths and negatively associated with the share of home deaths and nursing home deaths. Due to delays in data deliverance the analysis of pattern of hospital admissions prior to death by place of death is delayed.

Discussion: Nursing homes have become an increasingly important setting for end of life care for cancer patients and other patient groups. While this development was evident during the entire 25-year study period for cancer, the shift happened more recently for other patient groups like diseases in the circulatory system. Compared to many other countries Norway have a low share of people dying at home, especially for cancer patients. Patterns of place of deaths are influenced by availability of hospital beds and institutional care in the local communities.

Conclusion: The changing patterns in the place of death are partly reflecting demographic shifts, but also changing service structures and policies. The more prominent role of nursing homes and other non-hospital local services in end of life care implies that end of life competencies need to be developed in the long term care setting. Many end of life care pathways involve transitions between service settings. Avoiding costly and unnecessary transfers and developing high quality and person-centered care pathways at end of life is an important research as well as policy.

Keywords: end of life care; place of death; transitions