

CONFERENCE ABSTRACT

Modelling the substitutability of community, long-term, and hospital care and their impact on acute hospital length of stay in Ireland

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Brendan Walsh, Samantha Smith, Maev-Ann Wren, James Eighan

Economic and Social Research Institute, Ireland

Background: Within the context of reduced health expenditure and Government policy of transferring of care out of acute hospitals, this study models the supply of acute, community, and long-term care on acute hospital length of stay in Ireland. This study examines how different forms of acute and non-acute care often operate as substitutes for each other and that investment or changes in one area will have spillover effects on others. Understanding these substitution effects is vital in order to reduce the demands on the expensive, strained acute hospital sector, and to provide a better model of integrated care within a healthcare system.

Methods: This study uses data from the large administrative Hospital Inpatient Enquiry (HIPE) database (2010-2014), and other administrative databases to model the role acute and non-acute supply of care have on acute inpatient length of stay in Ireland. Longitudinal methods using both linear and count data models as well as multilevel modelling techniques are incorporated. Analyses were undertaken on both elective and emergency admissions, as well as specific populations where non-acute services may be most important, i.e. patients requiring rehabilitation.

Results: This study finds that both the supply of acute hospital beds and staffing, and the non-acute supply of care impact acute hospital length of stay. Results from the hospital-level model found that a 10% reduction in acute hospital beds led to a 5.6% reduction in average length of stay for inpatients in public hospital, with a larger reduction seen for emergency admissions (6.2%). Inequities also emerged; those with public insurance (a medical card) or not in a private bed being most sensitive to the reduction in acute bed supply.

Considerable geographical differences in the supply of community care and long-term care were also observed. There was substantial evidence that poorer provision of non-acute services resulted in longer length of stay. These results highlight that non-acute and acute health services are often substitutable.

Conclusion and discussion: The reduction in the supply of many healthcare services during a period of reduced healthcare expenditure impacted patient outcomes, including acute hospital length of stay. Both acute and non-acute healthcare supply impacted length of stay, with community services found to be substitutable for more expensive acute care. Greater

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awareness that changing the provision of both acute and non-acute care will impact patient outcomes will aid better models of integrated care. Better integration of acute and non-acute health may have highly beneficial effects on both patient outcomes and sustainability of services.

Keywords: acute care; non-acute care; length of stay; delayed discharge
