CONFERENCE ABSTRACT

Evaluating data across care boundaries: integrated care in the context of multi-morbidity

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Introduction: Effective discharge of patients from hospital represents a key step in provision of effective integrated care. The discharge process is rarely evaluated, from an informatics perspective, due to data acquisition challenges. A particular challenge is the increasing prevalence of patients with multiple interacting medical conditions ("multi-morbidity"). This requires management by multiple care teams, often including those not directly involved with the main cause for admission. An important example of this is patients with diabetes admitted under surgery, who may require medical and specialist social input during admission and subsequent discharge.

Methods: Data was extracted from the electronic patient record for all patients discharged with a diagnosis of diabetes from a UK tertiary centre from 2015-2017. Pathology data was extracted from a regional pathology database crossing hospital & community care. Patients were filtered to those discharged from surgery. Pre-specified risk factors were evaluated for impact on readmission and mortality.

Results: 5351 patients were discharged from surgical teams with a multi-morbid diagnosis of type 2 diabetes, 627 patients had a multi-morbid diagnosis of type 1 diabetes under surgical teams. Patients were evaluated by disease cohort, with statistically significant risk factors ($p<0.05$) including age, co-morbidity, length of stay and dementia. There was no statistically significant outcome difference dependent on the day-of-the-week of discharge, despite the complexity of some patients. Assessment and provision of education by diabetes specialist nurses had a statistically significant impact ($p<0.05$) on outcomes.

Discussion: This work is important in demonstrating the capability of informatics to access and evaluate datasets considering multi-morbidity and hospital discharge, both key elements in provision of effective integrated care. Our results demonstrate the central importance of education in managing transitions across care boundaries.

Conclusions: Multi-morbidity is an increasing challenge for the provision of effective integrated care. Informatics enables rigorous evaluation and supports delivery of improved care. It is important we consider risk factors for individual cohorts of patients with multi-morbidities, to ensure care is tailored to individuals.

Lessons Learned:

1- Health informatics provides important insights into multi-morbidity and evaluation of cross-boundary care.

2- There are readily identifiable risk factors for patients with diabetes being discharged from surgical settings.

3- Patient education appears central to effective transition across care boundaries.

Limitations: This study was completed in relation to discharges from a single centre to community settings in the same region, albeit with a large sample size over a number of years.

Suggestions for further research: Future work should combine informatics data with patient experience data, direct from patients. This is particularly important when considering the social care setting, and highlighted in recent NICE Guidelines.

Patient & Public Involvement: Identification of the research topic and research approach was supported and developed in collaboration with patients. This was achieved through the Diabetes UK "Diabetes Voices" team, and NIHR People In Research Establishment. Those contributing individually were reimbursed for their time and expertise according to INVOLVE Guidelines.