Does HIPE Data Capture the Complexity of Stroke Patients in an Acute Hospital Setting?

Abstract

The Hospital Inpatient Enquiry (HIPE) system is currently used as a principle source of national data on discharges from acute hospitals. The Casemix Programme is used to calculate funding for patient care (HIPE activity and Specialty Costs Returns). The coding is usually undertaken by clerical personnel. We were concerned that the medical complexity of our stroke patients was not captured by the process. The aims of this study were to compare activity coded by HIPE coding staff and medical staff in consecutive stroke patients discharged from the hospital. One hundred consecutive discharged patients with stroke as primary diagnosis were coded by clerical staff [usual practice] and by medical staff. We compared the coding and any differences. We calculated the financial comparison of subsequent differences in Diagnostic Related Groups (DRGs) and Relative Values (RVs). Clinician coded DRGs resulted in a higher assigned RV in 45 cases. The total RV value for HIPE using clerical coding was 595,268.94 and using medical coding was â‹725,252.16. We conclude that medical input is useful in detailing the complications arising in stroke patients. We suggest that physicians should assist in the HIPE coding process in order to capture clinical complexity, so that funding can be appropriately assigned to manage these complex patients.

Introduction

The HIPE system is currently used as a principle source of national data on discharges from acute hospitals. Stroke patients are subject to this process. Data from the medical notes is coded based on the WHOâ s International Classification of Diseases. These data are subsequently grouped into Diagnosis Related Groups (DRGs) in an effort to make them clinically meaningful and administratively feasible. Following the allocation of a DRG to each discharge episode (based on the HIPE data) a Relative Value (RV) is assigned to this clinical episode. It is an expression of how costly an individual DRG is, relative to the average cost for all DRGs. The main parameters that affect the relative value of the case (and hence informing the level of remuneration which can be claimed in the acute hospital service) are the principal diagnoses, the secondary diagnosis, procedures, age, sex, discharge status and length of stay.[1-3] Data collected from HIPE are used to define a hospitalâ s case-mix and the complexity of admission episodes. Clerical staff collect and input data to HIPE from the Health Care Record and Discharge summary, with little clinician or medical involvement. HIPE data is then submitted to the ESRI for analysis, and subsequently audited by the Casemix unit. Following this a national base price for a particular admission is derived. An individual hospitals activity is then measured against this national average, and financial penalties or gains to that hospital result. We proposed that the coding process in stroke patients might benefit from medical input to capture complexity. The aims of this study were to compare HIPE coding by clerical staff i.e. usual practice with medical staff coding, in discharged stroke patients to determine whether a greater medical input into the review of the clinical notes and HIPE recording would affect the financial outcome to the hospital.

Methods

Data were collected on patients discharged with diagnosis of stroke from January 2002 to February 2004. Stroke admissions were defined by principal diagnosis based on ICD-9 codes version 9.0 (430 to 438) by previous HIPE coding in the usual way. A clinician, with hospital based training in HIPE coding examined each chart. A stroke admission was defined as a new acute neurological event documented to have lasted more than 24 hours, with or without CT evidence of an infarct or haemorrhage. Patients were excluded if the admission episode was consistent with Transient Ischaemic Attack, or where the primary diagnosis was Angina and Myocardial Infarction, (This was done in accordance with the HIPE code of ethics).[4] Patients who had stroke listed as a secondary pre-existing co-morbidity prior to admission were also excluded. Diagnoses related to the stroke admission, (examples including dysphasia, dysarthria, dysphagia, pneumonia, and stroke related cognitive changes), were recorded by the clinician using the HIPE summary sheet. This was done adhering to the ICD-9 codes and the HIPE â Code of Ethicsâ . The clinician was blinded to the result of the initial HIPE coding process. The clinician recorded the diagnoses and procedures on HIPE summary sheet which was re-submitted to the HIPE officer, blinded to the original clerical HIPE coding, who assigned a DRG and subsequently an RV. We then compared the DRGs and RVs from the HIPE coding generated by the usual clerical assessment with those generated from the physician coding.

Results

One hundred consecutive discharges confirmed as stroke were analysed. Stroke characteristics are outlined in Table 1. Table 2 describes DRGs and RVs derived from clinician and clerical coding. Clinician coding resulted in a change in the DRG in 53 of the 100 charts examined (53%). There was an average of 4.87 diagnoses per patient, including the primary diagnosis of the stroke itself, stroke related diagnoses and other medical diagnoses, in the clinician-coded DRGs. The changes in DRG, following clinician coding, resulted in a higher RV in 45 cases and a lower RV in 8 cases. An RV of 1.0 equated with â‹3,664 based on 2003 costs. The level of increase in RV varied depending on the DRG assigned. The total RV value for clerical coded HIPE data was â‹ 595,268.94 and for clinician-coded data was â‹752,252.16, a difference of â‹129,983.22, in the overall group of hundred patients.

Discussion

This study highlights that physician input into HIPE coding can assist in describing the complexity of a stroke related discharge. This allows a more realistic RV to be generated which in turn allows a more realistic funding to be allocated. It was estimated that the cost of treating an episode of acute stroke in Ireland was â‹6,722.00, in 1999/2000. Approximately 83% of this cost is associated with ward costs.[5] Accurate HIPE data can assist in appropriate funding and hence appropriate resources being allocated to stroke, which should in turn allow for better patient care and in turn outcome.[5,6] Whilst we are still underestimating the true cost of management we risk inadequate services for stroke. Since this study was initiated, further changes in the ICD classification of stroke and its complications have come about. There has been a move from ICD-9 to ICD-10, 4th and 6th edition and a more advanced Casemix Grouper (known as the Australian refined (AR) Grouper is also now in use. However despite this, there is still little clinician involvement in informing the HIPE process. Our data indicate that there is a need to involve clinicians in the HIPE coding process to allow for accurate capture of clinical data which in turn will enable accurate planning of services and appropriate funding.

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