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 accuracy coded by HIPE coding staff and medical staff in consecutive stroke patients discharged from the hospital. One hundred consecutive stroke patients were selected and the HIPE coding process was compared to the clinician coding process. We compared the coding and any differences. We calculated the financial comparison of subsequent differences in Diagnostic Related Groups (DRG) and Relative Values (RV). Clinician coded DRGs resulted in a higher assigned RV in 45 cases. The total RV value for HIPE coding was 595,286.94 and using medical coding was 752,252.16. We conclude that medical input is vital in determining the complexity of stroke patients. We recommend that further pilot studies be performed to ascertain if additional resources are needed to capture complex cases.

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 ICDs International Classification of Diseases. The 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. This main parameter that affects the relative value of the case (and hence informing the level of remuneration which can be claimed in the acute hospital service) is the principal diagnosis, the secondary diagnosis, procedures, age, sex, discharge status and length of stay. 

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. 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 chart sheet. This was done according to the ICD-9 codes and the HIPE Code of Ethics. The clinician was blinded to the result of the initial HIPE coding process. The clinician recorded the diagnoses and procedures on HIPE chart 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 from clinician and clerical coding. Clinician coding resulted in a change in the DRG in 53 of the 100 charts examined (53%). There was a mean increase in RV of €87 per case, including the primary diagnosis of the stroke itself, stroke related diagnoses and other complications arising in stroke patients. Clinician coding resulted in a change in the DRG in 53 of the 100 charts examined (53%). A change of €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 will allow a more realistic funding to be allocated. It was estimated that the cost of caring for an episode of acute stroke in Ireland was €6,722.00, in 1999/2000. Approximately 83% of this cost is associated with ward costs. 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.

One hundred consecutive discharges confirmed as stroke were analysed. Stroke characteristics are outlined in Table 1. Table 2 describes DRGs and RVs from clinician and clerical coding. Clinician coding resulted in a change in the DRG in 53 of the 100 charts examined (53%). There was a mean increase in RV of €87 per case, including the primary diagnosis of the stroke itself, stroke related diagnoses and other complications arising in stroke patients. Clinician coding resulted in a change in the DRG in 53 of the 100 charts examined (53%). A change of €129,983.22, in the overall group of hundred patients. Whilst we are still underestimating the true cost of management we risk inadequate services for stroke patients. 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 5th edition and a more advanced Casemix Grouper known as the Australian refined (APR) Grouper is also now in use. However despite RVs, 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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References

4. Introduction to HIPE Coding, Basic Training Course, HIPE Unit, ESRI, Dublin 2002.
6. B Clarke, S Kennelly, D Shanley, D Hogan-Lowe, PME McCormack
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