Abstract

Accurate coding system is fundamental in determining Casemix, which is likely to become a major determinant of future funding of health care services. Our aim was to determine whether the Hospital Inpatient Enquiry (HIPE) system assigned codes for psychiatric disorders were accurate and reflective of Liaison psychiatric input into patients' care. The HIPE systems coding for psychiatric disorders were compared with psychiatrists coding for the same patients over a prospective 6 months period, using ICD-10 diagnostic criteria. A total of 262 cases were reviewed of which 135 (51%) were male and 127 (49%) were female. The mean age was 49 years, ranging from 16 years to 87 years (SD 17.3). Our findings show a significant disparity between HIPE and psychiatrists coding. Only 94 (36%) of the HIPE coded cases were compatible with the psychiatrists coding. The commonest cause of incompatibility was the coding personalities failure to code for a psychiatric disorder in the present of one 117 (69.9%), others were coding for a different diagnosis 46 (21%), coding for a psychiatric disorder in the absent of one 11 (6.6%), different sub-type and others 2 (1.2%) respectively. HIPE data coded depression 30 (11.5%) as the commonest diagnosis and general examination 1 (0.4%) as least but failed to code for dementia, illicit drug use and somatoform disorder despite their being coded for by the psychiatrists. In contrast, the psychiatrists coded delirium 48 (18%) and dementia 1 (0.4%) as the commonest and the least diagnosed disorders respectively. Given the marked increase in case complexity associated with psychiatric co-morbidities, future funding streams are at risk of inadequate payment for services rendered.

Beaumont Hospital uses the DRGs classification system in its Casemix based funding model. The Hospital Inpatient Enquiry (HIPE) system is the principal source of data used for the allocation of DRGs. Episodes of inpatients care are coded for the purpose of assigning a Diagnosis Related Group (DRG); using the International Classification of Diseases, 10th revision- Australian Modification (ICD-10 AM) coding classification which is an internationally recognised integrated coding scheme for diagnoses and procedures. Similar studies have been conducted in other medical subspecialties, however, relatively limited data exist on the accuracy of the coding of psychiatric disorders in the Hospital Inpatient Enquiry (HIPE) system. In recognition of the increased case complexity associated with psychiatric co-morbidities, the significant impact that a coded diagnosis has on the assigned DRG, we set out to evaluate the accuracy of the activity coded by the HIPE systems clerical staff by comparing it with that coded by the psychiatrists. Beaumont hospital is a major academic teaching hospital providing emergency and acute care services across 54 medical specialties to the North Dublin area since November 1987. It is the National Treatment Centre for Ear, Nose and Throat, the Neuroscience Centre of Excellence in Ireland and one of the 8 National Centres of Cancer Excellence.

The Commission on Health Funding was established in 1988 following a period of significant cutbacks in health services in Ireland, during which acute hospital bed numbers were cut by 22%. A national Casemix project was established in 1991 following the recommendation of the commission that Each hospital should be funded for the provision of an agreed level of services to public patients, based on the activity level implied by the role and catchment area, and the Casemix based cost of treating such patients. The use of Casemix enabled policy makers understand the nature and complexity of healthcare delivery, and also allows policy makers understand the nature and complexity of healthcare delivery. Our findings show a significant disparity between HIPE and psychiatrists coding. Only 94 (36%) of the HIPE coded cases were compatible with the psychiatrists coding. The commonest cause of incompatibility was the coding personalities failure to code for a psychiatric disorder in the present of one 117 (69.9%), others were coding for a different diagnosis 46 (21%), coding for a psychiatric disorder in the absent of one 11 (6.6%), different sub-type and others 2 (1.2%) respectively. HIPE data coded depression 30 (11.5%) as the commonest diagnosis and general examination 1 (0.4%) as least but failed to code for dementia, illicit drug use and somatoform disorder despite their being coded for by the psychiatrists. In contrast, the psychiatrists coded delirium 48 (18%) and dementia 1 (0.4%) as the commonest and the least diagnosed disorders respectively. Given the marked increase in case complexity associated with psychiatric co-morbidities, future funding streams are at risk of inadequate payment for services rendered.

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Methods

The study design was a prospective survey. The sample was drawn from all patients who were admitted into Beaumont hospital, Dublin between 1st of January 2010 and 30th of June 2010 and were referred for Liaison psychiatric assessment, other than to the psychos- oncology or Neuro-psychiatry services, due to a different method of data collection. These patients were assigned psychiatric diagnosis/diagnoses by the departments 3 Consultant psychiatrists at the weekly review meetings. This was then compared to the HIPE systems coding for psychiatric disorders by the hospital's clerical personnel. Both coding department personnel and the consultant psychiatrists in the department of psychiatry used the ICD-10-AM coding classification. Additional data collected included demographics and co-morbid diagnosis. A total of 262 inpatients had psychiatric assessments by the liaison psychiatry department during the 6 months period, as recorded in the department. We also cross checked the electronic referral system to make sure that no referred patient was missed in the study period. The coding for their psychiatric disorders were made by the consultant psychiatrists were then compared with the coding of clerical personnel in the coding department for the same patients using the Hospital Inpatient Enquiry (HIPE) system.
The Additional Impact of Liaison Psychiatry on the Future Funding of General Hospital Services

Results
A descriptive analysis for the data was done using SPSS statistical software. For the nominal variables of primary psychiatric disorders, analysis of frequency was performed and the frequencies for both psychiatrists and clerical personnel coding respectively identified was the failure of clerical personnel to code for diagnosed psychiatric disorders, others were coding for a different disorder in the absence of one, incomplete diagnosis, coding for different subtypes of the disorders and coding for psychiatric assessment instead of a specific disorder.

The main findings of our study were the lack of compatibility between psychiatrists' and the HIPE system's coding. HIPE data recorded depression in 30 (11.5%) as the commonest diagnosis, followed by alcohol dependence syndrome 28 (11%), anxiety disorders 7 (3%), schizophrenia 9 (3%), Bipolar Affective Disorder (BPAD) 9 (3%), delirium 5 (2%), adjustment disorder 3 (1%), other psychotic disorders 1 (1%), eating disorders 1 (1%), and general examination 1 (0.4%). There were no codes given for dementia, illicit substance misuse or somatoform disorders.

The hospital coders documented no clerical personnel's coding was compatible with the psychiatrists' coding. The hospital coders documented no clerical personnel coding compared. A total of 262 cases were reviewed in the study. A slight majority were male 135 (51.5%) compared to female 127 (48.5%). Mean age was 49 years (s.d 17.1) ranging from 16 to 87 years. Only 94 (36%) of the clerical personnel coding was compatible with the psychiatrists coding. The hospital coders documented no psychiatric disorders in 162 (62%) cases compared to 50 (19%) documented by the psychiatrists.

Discussion
The main findings of our study were the lack of compatibility between psychiatrists and the HIPE systems coding for psychiatric disorders. This is in keeping with similar studies in medical sub-specialities which showed Relative Values of 595,268.84 and 725,252.16 for clerical and medical coding respectively as well as for surgical sub-specialties.

The additional complexity added by the prolongation of hospital stay associated with psychiatric diagnoses due to poor treatment compliance, poor insight and delirium is likely to add considerable costs to the patients care. For the purpose of assigning these patients to one of 468 DRGs, the HIPE coding did not capture the complexity of these patients and the level of activities undertaken by the Liaison psychiatry department. This leads to a significant loss of potential hospital revenue, and given that the same data is used for making decisions about resources allocation, it distorts the picture of clinical practice. Less than half (35%) of the HIPE coding were compatible with that coded by the psychiatrists for the same patients. The commonest form of incompatibility identified was the failure of clerical personnel to code for diagnosed psychiatric disorders, others were coding for a different disorder in the absence of one, incomplete diagnosis, coding for different subtypes of the disorders and coding for psychiatric assessment instead of a specific disorder.

One of the limitations of this study was that it was confined to just one institution. However there is no reason to think the situation would be different in any other general hospital with a liaison psychiatry service. What is likely to differ is the recognition of psychiatric diagnoses in general hospitals that lack a liaison psychiatry presence and where their psychiatric activities are focussed on Emergency Department attendees who have predominantly self-harmed.

Another limitation was the lack of sufficient data to allow for sub-group analyses to identify the factors contributing to the disparities in the coding. However, the strengths of the study include the large number of cases reviewed, use of a validated instrument (ICD-10-AM) in coding for the diagnosis, the involvement of 3 consultants in assigning the diagnoses and the use of more than one data source (Liaison psychiatry department referral register and the electronic referral system) to make sure that all referred patients were accounted for in the study period.

Our findings have revealed significant deficiencies in the accuracy of the HIPE system in coding for psychiatric disorders as currently collected, with the potential for significant loss of hospital revenue and distortion of the picture of clinical practice. It has also highlighted the important role of mental health professionals and other clinicians in ensuring accurate patient-based data by collaborating with their coding colleagues to improve complex coding accuracy. There is a strong argument to be made in recommending the establishment in hospitals of a data assurance clinical governance framework with a collaborative multidisciplinary input from both clinicians and clerical personnel to improve errors in coding for discharged patients as well as involvement in ongoing training and educational programme in coding for both clerical personnel and clinicians, which Beaumont Hospital, Dublin is currently proceeding with.

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References
1. Gunnar Ljungren, Ulla Winblad Spangberg. Cost and Casemix in all department of geriatric medicine in Stockholm, Sweden: a validation of the resources utilization group. CASEMIX. 2000; Volume 2, Number 1