

# Increased Length of Inpatient Stay and Poor Clinical Coding in People with Diabetes – A Point Prevalence Study

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**Background:** Between 2004 and 2010 the prevalence of inpatient diabetes at the Norfolk and Norwich University Hospital (NNUH) grew from 9.7% to 13.6% - a 40% increase<sup>1,2</sup>. Patients with diabetes have longer lengths of stay, accounting for up to 80,000 extra bed days per annum<sup>3,4</sup>. In addition, clinical coding for people with diabetes remains poor<sup>5</sup>. The Hospital Episode Statistics (HES) data remains the main source by which data about NHS admissions are collected – they are, however, highly dependent on accurate clinical coding<sup>6</sup>.

**Aim:** The aim of this audit was to establish if patients with diabetes and foot problems were in hospital for longer than the national average length of stay, stated by the HES database. Another aim was to identify the accuracy of clinical coding within the NNUH.

**Method:** This audit was carried out by the podiatrists at NNUH on 9<sup>th</sup> March 2009. All adult wards (excluding the maternity wards) were asked to identify the inpatients that had at the time who were known to have a diagnosis of diabetes mellitus. All the lead nurses of the wards had been contacted previously informing them about the exercise. On the day, lead nurses for a clinical area within a ward were asked to identify the patients with diabetes under their care. After patient consent had been obtained, anonymised data was collected. Anyone identified as having diabetes had their feet examined for foot problems and their hospital number was noted.

The clinical coding department was contacted in March 2010 to provide a list of hospital numbers and their lengths of stay, for the inpatients who had been given a diagnosis of diabetes on the 9<sup>th</sup> March 2009. This data was then crossed with the data collected on the actual day. Using Healthcare Resource Group (HRG) codes, we assessed length of stay of our cohort and compared it to the national average.

**Results:** on the 9<sup>th</sup> of March 2009, the podiatrists identified 110 out of 810 (13.6%) adult beds as being occupied by someone with a diagnosis of diabetes. Of these, 40 patients had current foot problems or were felt to have 'high risk' feet. All of these individuals were known to our foot clinic. On looking at the data provided to us by clinical coding 1 year later, they identified 119 in patients as having a diagnosis of diabetes whilst an inpatient on the 9<sup>th</sup> of March 2009. Of these, 83 out of 119 (69.8%) had a length of stay substantially longer than the HRG provided national average, (days  $\pm$ SD) 22.39 (22.26) vs. 11.68 (6.46), ( $p < 0.001$ ).

Furthermore, on matching the hospital numbers for the patients collected contemporaneously by the podiatrists and comparing it to that given to us by clinical coding 1 year later, there were 30 patients identified by the podiatrists who were not coded for as having diabetes, and 47 people who were coded as having diabetes, who were not identified by the nursing staff.

**Discussion:** The National Diabetes Inpatient Audit consisting of over 14,000 patients identified that "Less than a third of the patients recalled a foot examination, yet one in 30 acquired a foot lesion while in hospital"<sup>7</sup>. Thus, the risk of poor or not identifying patients with diabetes may have dire consequences. With a single foot amputation reporting to cost the health service £10,960<sup>5</sup> such omissions may prove very dear. It is important to have in place robust systems to ensure that inpatients with diabetes are easily identifiable and that they have appropriate foot care instituted.

The coding department at NNUH deals with over 15,500 discharges per calendar month. The discharge summaries are most often written by junior medical staff who do not usually understand the link between what they write on a discharge summary and the income it generates for the Trust. There has been previous work to show how poor clinical coding is - with one study showing that up to 25% of elderly inpatients with diabetes were not coded as such upon discharge<sup>1</sup>.

In summary, our data shows that there remains some work to be done in getting patients with a diagnosis of diabetes identified to the nursing staff – thus helping to prevent potentially preventable co-morbidities, and furthermore, discharge summaries need to be better written to ensure accurate coding and thus income for hospital Trusts.

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