Re-Attenders to the Emergency Department of a Major Urban Hospital Serving a Population of 290,000

Abstract:
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Abstract
The national Emergency Medicine Programme (EMP) in Ireland, defines a re-attender as any patient re-presenting to the Emergency Department (ED) within 28 days with the same chief complaint. A retrospective, electronic patient record audit was carried out on all re-attenders to Connolly ED during November 2012. There were 2919 attendances made up from 2530 patients; 230 patients re-attended a total of 389 times. The re-attendance rate was 13% (395/2919). 63 (27%) were frequent presenters. There was a significantly higher admission rate at second attendance than first (89 (39%) vs 39 (17%); p=0.001). 25% (57/230) of patients left before completion of treatment (LBCT) at first attendance (41 (17%) vs 14 (6%) at second attendance respectively; p=0.001). A previous study carried out in an inner city Dublin ED showed that increasing frequency of attendance was significantly associated with increasing age, male sex, local residence and OMS (free medical health care) eligibility. A British study concurred showing frequent attenders were typically older, male and also that they presented with greater acuity than typical ED patients. This audit was undertaken as part of a quality improvement process within the department to assess both the quantitative and qualitative factors contributing to re-attendances and to explore the patient and departmental related factors contributing to re-attendance.

Methods
A retrospective, electronic patient record audit was carried out on all re-attenders to Connolly ED during November 2012. All adult patients who represented to the emergency department within 28 days with the same presenting complaint. No exclusion criteria were used. Patients were categorized into five major department outcomes: admitted (admission to hospital after being seen by an in-house specialist medical team), discharged (by ED staff directly or after being seen by specialist team), left before completion of treatment (LBCT) (patient left the ED while waiting to be seen either by ED clinician, consulting clinician or before treatment was concluded), refused admission or died in the ED. Data was recorded on Excel and tests of significance for categorical data were calculated using X² (Chi-squared test). For frequent presenters (four or more presentations to ED within the previous year), their first two presentations in November were used. No funding was provided for the study. No conflict of interest was declared by the authors.

Results
Demographics
There were 2919 attendances in Nov 2012 made up from 2530 patients; 230 patients re-attended a total of 389 times. The overall re-attendance rate was 13%. Sixty-three patients (27%) were frequent presenters, that is, attended the ED on 4 or more occasions in 2012. There was no significant difference in gender in re-attendees; 110 (48%) female, 120 (52%) male (p=0.5). The age distribution showed two peaks in the young adult and elderly population; 24 (5%) patients were discharged by ED staff and 21 (47%) discharges were by in-house specialist medical teams. Eighty-nine patients were admitted on their first presentation and later discharged. 43 (15%) patients were admitted at second attendance. 28/89 (31%) of second attendance admissions were failed discharges after being seen by a specialist team, 21 (47%) discharges were by in-house specialist medical teams. Eighty-nine patients were admitted on their first presentation and later discharged.

Discussion
Re-attendances made up 13% (395/2919) of attendances in this one month audit, higher than that recommended by the College of Emergency Medicine and the guidelines recommended by the Irish Emergency Medicine Programme. The College of Emergency Medicine in the UK recommend a re-attendance rate < 5% at 7-days. The re-attendance rate was 13% (395/2919). 63 (27%) were frequent presenters. There was a significantly higher admission rate at second attendance than first (89 (39%) vs 39 (17%); p=0.001). 25% (57/230) of patients left before completion of treatment (LBCT) at first attendance (41 (17%) vs 14 (6%) at second attendance respectively; p=0.001). There was no significant difference in gender (p=0.5) and the majority fell into the younger age brackets, with 74% of those in the study aged under 60 years. This differed from our expectations based on background literature as studies in Ireland have shown that increasing frequency of attendances was associated with increasing age and the male gender. Similar results demonstrated internationally found frequent attendances were significantly associated, with patients over 75 years and male gender. Additionally, age and chronic obstructive pulmonary disease and heart failure have been significantly associated with frequent attendances. One way to reduce ED presentations in patients with these chronic diseases would be to use a drop in service or rapid access outpatient clinics offered by in-house medical teams. That way patients would have access to appropriate physicians and allied
The differences found in this study may be a reflection of population trends in the catchment area. Blanchardstown faces up into the east-west electoral constituency which contains a population growing three times faster than the Irish national average and the average age (30.2) is below the national average (35.6). Additionally, only 3.8% of the Dublin West population is aged 65 years and over compared with 11% nationally11. Hence, a younger population with different reasons for re-attendance. Previous studies would suggest that increasing frequency of attendance was significantly associated with out of hours attendance, that is, attendance between the hours of 1700 and 0900. However, this study demonstrated that 187 (47%) presented between 16:00 and 08:00 and in fact the majority 123(33%) initially presented between 08:00-16:00. This is an unusual finding as the departments highest staffing levels are between 08:00-16:00. This may be due to the region being such as older trend than the national average and factors to be considered. There was a significantly higher admission rate at second attendance than first (39% versus 17%, p≤0.001). This may have been due to worsening pathology between first and second presentations. Alternatively, a missed clinical diagnosis at first attendance or fear of missed diagnosis leading to overly cautious admissions at second attendance may have been responsible. Possibly, given the current bed shortages and hospitals working at maximum capacity there is an increased number of re-presentations. Thus, ensuring a denial of out-patient management is attempted at initial presentation and can result in re-attendance with partially treated or worsening pathology. This may explain why 31% of second attendance admissions had previously been admitted at first attendance and their discharge was unsuccessful. Worryingly, 25% (57/230) of patients LBCT at first attendance (significantly higher than the number at second attendance p≤0.01). This figure is much higher than the 5% recommendation set by the Emergency Medicine Programme in Ireland. Other departmental factors such as staff levels, skill mix and long waiting times may need to be examined to determine their role in to re-attendance rates. Moreover, 14/89 (16%) of second attendance admissions were patients who LBCT at first attendance. Efforts must be made to reduce the number of patients who leave before completion of care as this poses potential clinical risk.

Frequent presenters were significantly more likely to be admitted at second attendance than first (p=0.02). There were also more likely to leave before completion of treatment at both first and second attendance compared with the overall group (30% vs 25% and 13% vs 7%). Similar reasons for higher second admission would apply to frequent presenters and possibly with more emphasis on an increased fear of missed diagnoses compared with non-frequent attenders. The higher rates of LBCT cannot solely be attributed to departmental or patient factors but rather a blend of the two. Frequent presenters also tend to access more community based services such as general practitioners, social workers, addiction counsellors, psychiatric and community welfare services. Reasons for this and their increased ED presentations was attributed to poorer mental health, lower levels of perceived social support and thus, services not meeting the needs of this psychosocially vulnerable group. As well as psychosocial vulnerability, alcohol misuse and dependence can significantly contribute to the frequency of emergency department presentations and so improving access to drug and alcohol services could help reduce re attendance rates. Furthermore, evidence suggests that individualised care plans designed by a multi-disciplinary team can significantly reduce ED attendances for frequent presenters16. Whilst initially creating more work, this ‘difficult-case’ management programme is effective at reducing the number of ED visits and importantly, improves the care delivered to this group of patients16.

Due to its design, this audit has a number of limitations. The method of data collection used a computer-based capture where by re-attenders were labelled by representing within 28 days with the same presenting complaint. Re-attenders were excluded from their second attendance. Hence, by using November, re-attenders whose first presentation was in October were included and those whose second attendance was in December were missed. Therefore, this reduces the accuracy of the data. The study included 230 re-attenders over a one-month period. Hence, significant patterns and trends may not be apparent within a small sample size. For more accuracy, a one year audit would be necessary and ideally multi-centered. Reasons for re-attendance are multi-factorial and include both patient and departmental factors. We have analysed only a few of these factors and more detailed research must be undertaken to examine exact reasons for patient return and therefore highlight preventative measures we can implement.

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References
2. Personal communication with Philip Walker as part of a masters research project on frequent attenders to Connolly Emergency Department.