

numbers; (2) the five closest hospitals geographically; (3) hospitals in the same administrative area; (4) a national comparison group. We also employed waiting time as an instrumental variable to account for possible effects on waiting times on patient numbers. We used three outcomes: overnight admissions; day-case admissions; and patients not attending for their booked appointments, and used a model segmented into three month periods after report publication in order to examine the range of short and longer term effects.

**Results** Two out of three of the hospitals we examined showed no difference in patient numbers at any point in the 12 months after negative reports were published. One of the hospitals showed a reduction in overnight patients for 3 months (-12%,  $p=0.003$ ) and 6 months (-14%,  $p<0.001$ ) after report publication, but patient levels returned to normal after this. Additional examination of patient numbers in advance of these reports coming out also did not change these results.

**Conclusion** The publication and dissemination of highly critical reports by a health care regulator does not appear to have resulted in patients' sustained avoidance of the hospitals involved. We only found an impact in one of the three hospitals we examined, and this only persisted for 6 months. This reminds us that simplistic assumptions regarding the power of information to drive patient numbers are unrealistic, and that reliance on these alone to drive quality improvement may be misguided.

#### OP48 INCREASED MORTALITY ASSOCIATED WITH WEEKEND ADMISSION; A RESULT OF HIGHER SEVERITY OF ILLNESS AT THE TIME OF ADMISSION?

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**Background** A number of studies have shown that weekend admissions to hospital are associated with significantly higher mortality compared with weekday admissions. Previous studies have suggested that the observed variability in weekend-weekday mortality is a consequence of the quality of care provided in hospital. However, little information exists on whether the increased mortality associated with weekend admission is explained by the relative severity of illness at the time of admission.

**Methods** We performed a retrospective analysis of all emergency acute care admissions in England between April 2009 and March 2010 using Hospital Episode Statistics data. In-hospital mortality among patients who were admitted as emergency admission on weekends as compared to weekdays was analysed using the following measures: (1) overall deaths in hospital; (2) deaths in hospital within and after 3 days of admission (3) deaths in hospital among patients with 'higher risk' conditions and 'lower risk' conditions. The 'higher risk' conditions consisted of 103 Primary Diagnosis codes (ICD-10), which accounted for the 74% of in-hospital deaths in the UK. The remaining Primary Diagnosis codes were categorised as 'lower risk' conditions.

**Results** There were 10,221,500 emergency hospital admissions during the two-year study period; 23.8% of the patients were admitted on weekends. A total of 391,938 patients died in hospital; a quarter of these died within 3 days of admission. Admission on weekends was associated with significantly higher in-hospital deaths as compared to weekday admission (Odds Ratio 1.11, 95% CI 1.10–1.12). Mortality within 3 days of admission (early deaths) was also higher for patients admitted on weekends (OR 1.16, 95% CI 1.14–1.17) and this difference persisted for both 'higher risk' and 'lower risk' conditions. However, when early deaths were excluded

from the analysis, mortality was not affected by weekend admission.

**Conclusion** Higher mortality was seen among patients admitted on weekends compared to those admitted on weekdays. However, as the odds ratio for deaths after 3 days of admission was not affected by day of admission, it is probable that the weekend admission effect on mortality is at least in part due to higher severity of illness at the time of admission rather than purely being a consequence of poorer quality of in hospital care at the weekend, and this warrants further investigation.

Thursday 13 September 2012

Parallel Session C

Socioeconomic Inequalities III

#### OP49 SOCIOECONOMIC STATUS AND LATE ADOLESCENT TRAJECTORIES OF SMOKING, DRINKING, AND PSYCHIATRIC DISTRESS

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**Background** Problems with smoking, alcohol use and psychiatric distress usually develop in adolescence and often co-occur. These problems may be inter-related but their co-occurrence could result from a common cause such as socioeconomic disadvantage.

**Methods** The Twenty-07 Study includes self-reported data on smoking, alcohol use and psychiatric symptoms (GHQ-12) from 1,515 adolescents at approximate ages of 15 (baseline), 16 and 18. Latent class analysis ( $n=1238$  with valid data) was used to identify distinct patterns of late adolescent development in smoking, alcohol use and psychiatric distress and relate these to various indicators of socioeconomic status (leaving school at 16, baseline area deprivation, and baseline parental measures of social class, education, housing tenure, income, employment status and family structure) whilst adjusting for gender.

**Results** Four latent classes were identified: 1) a low-risk class with low levels of smoking at all ages, low early drinking, moving towards regular drinking at age 18, and low levels of psychiatric symptoms; 2) a class with similar patterns for smoking and drinking but with high levels of psychiatric distress; 3) a class which engaged with alcohol earlier, many of whom were heavy drinkers by age 18, and had medium levels of distress; and 4) a high-risk class who engaged early with both smoking and drinking, most of whom were heavy smokers by age 18, and had medium and increasing levels of distress. In unadjusted analyses most indicators of socioeconomic disadvantage were associated with raised odds of membership in the high-risk class (reference group: low-risk class). With mutual adjustment for gender and all socioeconomic variables, those leaving school at 16 (OR 6.01; 95% CI 3.93–9.17) and in rented accommodation (OR 1.74; 1.19–2.56) still had significantly raised odds of membership in the high-risk class relative to those staying in school or in owner-occupied accommodation. Rented accommodation was protective for membership in the class with drinking but not smoking problems (OR 0.51; 0.30–0.86) and those in the most deprived areas were less likely to be in the class with psychiatric distress only (OR 0.37; 0.17–0.83) than those in more affluent areas.

**Conclusion** Socioeconomic disadvantage is implicated as a common cause of smoking, alcohol use, and psychiatric distress. Relationships with socioeconomic status are complex however and depend on the combination of outcomes, for example, trajectories with drinking but not smoking problems and those with psychiatric