organizational influences (e.g., size, profit status, location and population served, and most recently, organizational culture).

Methods We used a factorial experimental design in which the subjects, primary care doctors (n=192), viewed clinically authentic vignettes of “patients” presenting with identical signs and symptoms suggesting diabetes. They were stratified according to gender and level of experience. During an in-person interview, they were asked how they would diagnosis and manage the vignette ‘patient’.

Results After controlling for the first two levels of influence (patient and provider), each of which contributed 4.4 and 2% respectively, organizational culture significantly contributed to their behavior, accounting for 14.3% of the variation in clinical decision-making for diabetes. Considering nine different dimensions of practice culture, organizational trust and business emphasis contributed most to the variance in treatment for diabetic foot neuropathy.

Conclusion Attempts to reduce health care variations continues to focus on the levels of patient attributes and physician characteristics (e.g. improved educational efforts). Findings from this experiment suggest a need to further investigate the contribution of organizational factors (third generation) and suggest appropriate interventions at that level. As important however, is the consideration of a **fourth generation**: cognitive aspects of physician decisions. Qualitative methods (i.e. “think aloud”) and newly developing methods to objectively measure unconscious bias (e.g., the Implicit Association Test) can provide more robust assessment of what goes on “inside the doctors’ head,” which eventually produce healthcare disparities.

HSR: General

OP69 THE USE OF NHS ROUTINE DATA TO ANALYSE THE EFFECTS OF HEALTHCARE INTERVENTIONS

doi:10.1136/jech-2012-201753.069

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Background In 2007, the strategy ‘Healthcare for London’ planned the establishment of polyclinics in each PCT to help improve the primary care infrastructure. These polyclinics serve as a hub for a group of GP practices which combined form a polysystem. We aimed to investigate the impact of services provided in a polysystem on unplanned (emergency) admissions, using routine NHS activity data. In one polysystem case study, a pulmonary rehabilitation service for COPD was established. In another, a diabetes patient education programme was offered.

Methods We used routine Hospital Episodes Statistics inpatient data from 2004/5 to 2009/10 covering around 1500 London practices. Differences in adjusted trends in emergency admission rates were compared between the polysystem GP practices case studies and other London practices. Multilevel regression models assessed standardized rate ratios, controlling for year variation, GP practice and population factors. We incorporated interaction terms to allow the effects of the polysystem to vary independently by year.

Results Over the study period COPD emergency admission rates fell across London with a yearly admission rate ratio of (95% CI) 0.98 (0.97, 0.99, p<0.001). The rates in the study polysystem did not differ from the rest of London at baseline and there was not enough evidence to suggest that the introduction of the polysystem service in May 2007 had any effect on the admission rates. A total of 12% of the registered COPD population was seen as new contacts in the first year of the service.

Diabetes emergency admission rates have been falling across London over the study period with a yearly admission rate ratio (95% CI) of 0.98 (0.96, 0.99, p=0.001). In the first year of the diabetes

intervention, the rate of emergency admissions for diabetes fell by 80% in patients from the polysystem practices compared with London, with an interaction factor (95% CI) of 0.20 (0.13, 0.31) p<0.001 and this fall was maintained in the following year. Intervention in this London Polysystem covered 70% of the diabetic population. The power to detect an effect was increased due to the coverage.

Conclusion NHS routine data can be used to assess the impact of health service interventions that are aimed at reducing admissions. Commissioners must be aware that to assess the impact of interventions, the implementation needs to be on a large scale and that medium term follow up is required in order to study the trends.

OP70 PLACE OF CANCER DEATHS IN ENGLAND, 2001-2010: TIME TRENDS AND DETERMINANTS

doi:10.1136/jech-2012-201753.070

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Background Place of death is an important quality indicator for end of life care. Understanding where patients with cancer die and what factors are associated with place of death is important for improving end of life care and has significant health care cost implications. There is, however, limited up-to-date evidence to guide practice.

Methods This is a whole population-based observational study. All deaths with cancer as the underlying cause of death (ICD-10 codes: C00-C97), which occurred in the period 2001–2010, were extracted from death registrations in England. The time trends in place of death (coded as hospital, home, hospice, nursing home and elsewhere) were described and tested by using the Cochran-Armitage Trend Test. Factors associated with hospital death (age, gender, year of death, cancer site, index of multiple deprivation (IMD), region) were evaluated using the generalised linear model. The clustering effect within region was accounted for using an exchangeable working correlation structure.

Results A total of 1,270, 071 cancer deaths were recorded over the 10 years period, of which 47.4% occurred in hospitals, 24.1% in homes, 17.1% in hospices, 6.6% in nursing homes and 4.8% elsewhere. In the study period, deaths in hospital decreased from 49.7% to 42.2% (annual decrease 0.8%; $P_{\chi^2_{59,6}} < 0.001$), and home deaths increased from 22.3% to 27.6% (annual increase 0.4%; $P_{\chi^2_{48,7}} < 0.0001$). Independent risk factors for dying in hospitals were: being older (Adjusted OR_{75-84 vs 18-54} (AOR): 1.25; 95% confidence interval (95%CI): 1.24–1.26) and living in deprived areas (AORs: 1.06–1.31). Leukaemia (AOR_{ref = lung}: 3.66; 95%CI: 3.65–3.68), Non-Hodgkin's Lymphoma (AOR_{ref = lung}: 2.89; 95%CI: 2.88–2.90) and Bladder cancer (AOR_{ref = lung}: 1.46; 95%CI: 1.45–1.47) were the top three cancer deaths most likely to occur in hospitals. Men had a slightly higher chance than women of dying in hospitals (AOR: 1.13; 95%CI: 1.13–1.14). Cancer deaths in hospitals were more likely to occur in London than in South West (AORs range: 0.84 in South East Coast to 1.27 in London).

Conclusion We found an overall reducing trend in hospital deaths and an increasing trend in home deaths in the past ten years. However, significant inequality in place of death still exists. Future research needs to explore the underlying reasons.

OP71 DISCRIMINATING CLINICAL OUTCOME MODELS MAY DRIFT UNACCEPTABLY: EXAMPLE OF CARDIAC SURGERY MORTALITY

doi:10.1136/jech-2012-201753.071

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