The Relationship between Social Deprivation and the Quality of Primary Care

**Background** In his original observations concerning the ‘inverse care law’, Tudor Hart described poor general practice services in areas where social deprivation was highest and need was greatest.

**Aim** To use Quality and Outcomes Framework (QOF) indicators to explore the characteristics of primary care in more deprived and less deprived communities

**Method** QOF data were obtained for each practice in England in 2004–2005 and 2005–2006 and linked with census derived social deprivation data (Index of Multiple Deprivation scores 2004), national urbanicity scores and a database of practice characteristics. Data were available for 8480 practices in 2004–2005 and 8264 practices in 2005–2006. Comparisons were made between practices in the least and most deprived quintiles.

**Results** The difference in mean total QOF score between practices in least and most deprived quintiles was 64.5 points in 2004–2005 (mean score, all practices, 959.9) and 30.4 in 2005–2006 (mean, 1012.6). In 2005–2006, the QOF indicators displaying the largest differences between least and most deprived quintiles were: recall of patients not attending appointments for injectable neuroleptics (79 versus 58%, respectively), practices opening ≥45 hours/week (90 versus 74%), practices conducting ≥12 significant event audits in previous 3 years (93 versus 81%), proportion of epileptics who were seizure free ≥12 months (77 versus 65%) and proportion of patients taking lithium with serum lithium within therapeutic range (90 versus 78%). Geographical differences were less in group and training practices.

**Discussion** Overall differences between primary care quality indicators in deprived and prosperous communities were small. However, shortfalls in specific indicators, both clinical and non-clinical, suggest that focused interventions could be applied to improve the quality of primary care in deprived areas.


Social and Ethnic Inequalities in the Diagnosis and Management of COPD in South London

**Background** COPD in the UK is caused mainly by smoking and is associated with socio-economic deprivation. It is the largest single cause of emergency admissions in London. It is widely under-diagnosed with a true prevalence in London of about 3.5% compared to a diagnosed prevalence of 1.1%. Little is known of ethnic differences in COPD prevalence in London. Rates of smoking across ethnic groups are comparable when allowing for socio-economic deprivation.

**Aim** To seek evidence for social and ethnic inequalities in the diagnosis and management of COPD in the London boroughs of Lambeth and Southwark.

**Method** Data were extracted from the electronic and paper records of 65 general practices (population 435,768) including spirometry, medications and exacerbations. Severity was classified by Global Initiative for Chronic Obstructive Lung Disease (GOLD) stage. Prescribing was assessed.

**Results** A total of 4747 (1.1%) patients with a diagnosis of COPD were identified. Spirometry was recorded in 3275 (69%) of whom 950 (29%) met criteria for the diagnosis. Mean index of multiple deprivation score (IMD) was 35.3 compared to a mean 33.1 for the practice populations (NS). Ethnicity data were available for 54.8%. 80.3% were white and 8.5% were black among people with COPD compared to 62.7% white and 25.8% black in the local population (P=0.001). Spirometric diagnosis was not related to IMD score (OR 1.01, 95% CI 0.96-1.03), but more deprived patients were more likely to be prescribed inhaled corticosteroids (OR 1.02, 95% CI 1.01-1.03). Ethnicity was not a predictor of inhaled cortico-steroid use.

**Discussion** Socio-economic deprivation was not associated with less access to treatment in people with COPD in south London. COPD patients of African or Caribbean origin were less likely to have a diagnosis of COPD despite similar levels of risk through smoking. Underdiagnosis of COPD is probably greater among black patients in south London than other ethnic groups leading to reduced access to appropriate treatment such as smoking cessation, pulmonary rehabilitation and drug prescription.

White, P, Booth H, Thornton H, Georgopoulou S.
Differences in the Primary Care Management of Patients with Psychosis from Two Ethnic Groups: A Population-Based Cross-Sectional Study

Background Ethnicity is an important dimension in many aspects of psychosis.

Objective To investigate ethnic differences in the primary care management of patients with psychosis.

Methods Data were obtained from Lambeth DataNet, a database of computerized general practice case records derived from practices in an inner city London borough. We undertook a cross-sectional survey of patients with psychosis. Outcome measures: health screening, chronic disease management and prescribing data and differences between ethnic groups were expressed as odds ratios (ORs).

Results One thousand six hundred and ninety-four of 165,911 (1.02%) registered patients had a diagnosis of psychosis; 1090 (64%) had ethnicity recorded; 501 were White and 403 were Black or Black British. There were no significant ethnic differences for blood pressure, cholesterol or HbA1c monitoring or control; cervical or mammography screening; treatment with hypotensives, statins, antidepressants, lithium, antipsychotics or atypical antipsychotics. Depot injectable antipsychotics were more likely to be prescribed to Black patients than other delivery modes: OR2.10 (95% CI: 1.20–3.67).

Conclusions Measurable aspects of physical health care of patients with psychosis were similar, regardless of ethnicity. Increased use of the depot antipsychotic medication in black patients needs further exploration.


Narrowing the Inequality Gap in Blood Pressure Control in England, 2005 to 2007

Background Blood pressure control is generally worse in poorer communities. However, blood pressure control has been improving steadily, partly driven by improved monitoring and recall of patients associated with QOF targets. Has this overall improvement in blood pressure control resulted in a widening of the inequality gap?

Aim To explore social inequalities in blood pressure monitoring and control.

Method Data were obtained from 8515 practices in England (99.3% of all practices) in year 1, 8264 (98.3%) in year 2 and 8192 (97.8%) in year 3. We obtained data on blood pressure indicators and chronic disease prevalence estimates contained within the UK ‘Quality and Outcomes Framework’; social deprivation (IMD-2004) scores for each practice, ethnicity data obtained from the 2001 national Census; general practice characteristics

Results In 2005, 82.3% of adults (n = 52.8m) had an up-to-date blood pressure (BP) recording; by 2007 this proportion had risen to 88.3% (n = 53.2m). Initially, there was a 1.7% gap between mean BP recording levels in practices located in the least and most deprived quintiles but three years later, this gap had narrowed to 0.2%. Achievement of target BP levels in 2005 for practices located in the least deprived quintile ranged from 71.0% (95%CI: 70.4, 71.6) in diabetes to 85.1% (95%CI: 84.7, 85.6) in coronary heart disease; practices in the most deprived quintile achieved 68.9% (68.4, 69.5) and 81.8% (81.3, 82.3), respectively. Three years later, target achievement in the least deprived practices had risen to 78.6% (78.1, 79.1) and 89.4% (89.1, 89.7), respectively. Target achievement in the most deprived practices rose similarly to 79.2% (78.8, 79.6) and 88.4% (88.2, 88.7) respectively. Similar changes were observed for the achievement of BP targets in hypertension, cerebrovascular disease and chronic kidney disease

Discussion Since the reporting of performance indicators for primary care and the incorporation of pay-for-performance in 2004, blood pressure monitoring and control have improved substantially. Improvements in achievement have been accompanied by the near disappearance of the achievement gap between least and most deprived areas

Managing Hypertension in General Practice: A Cross Sectional Study of Treatment and Ethnicity

**Background** NICE guidelines are the accepted standard for determining the management of hypertension in UK primary care.

**Aims** To explore adherence and non-adherence to NICE hypertension guidelines, the extent to which this influenced blood pressure (BP) control and the role of ethnicity.

**Method** We conducted a cross-sectional study based on primary care data from Lambeth DataNet, a database of primary care records in one inner city London borough. NICE guidelines were used to determine adherence to recommended treatment options for four groups of patients with hypertension: under 55 years on monotherapy; 55 years and over on monotherapy; any age on dual therapy; any age and with co-morbid diabetes. BP control was determined for each treatment category and ethnic group. We controlled for age, sex, social deprivation and clustering within general practices.

**Results** 32,183 patients were identified with a current diagnosis of hypertension. Ethnic coding was available for 28,320 (88.0%). Overall, 13,546 patients with ethnicity coding could be allocated to one of the four clinical categories of hypertension. 44% of patients received non-guideline adherent treatment; ethnicity was not a significant determinant. Mean arterial pressure did not differ significantly between those receiving ‘correct’ or ‘incorrect’ hypotensive treatment.

**Discussion** Evidence based guidelines for the management of hypertension were not followed in 44% of patients included in our study. Nevertheless, we found no evidence that failure to follow treatment recommendations resulted in poorer BP control. Further work is needed on the reasons for non-implementation of guideline recommendations in primary care.

*Schofield P, Baawuah F, Seed P, Ashworth M.*

Donation, Transplantation and Ethnicity (DonaTE): NIHR Programme of Applied Research (2009-13)

**Background** Black and South Asian ethnic minorities have relatively high needs for kidney transplantation associated with an incidence of end stage renal failure that is 3 to 4 times that for the White population. However waiting times for transplantation are about twice as long, with ethnic minorities comprising 28% of the active kidney transplant list (8% UK population) (NHSBT 2010/11). A major factor leading to increased waiting times is the low availability of well matched kidneys (blood group and HVLA tissue type), with ethnic minorities forming only 4% of deceased donors. The Organ Donation Taskforce (Dept of Health, 2008) stated that there was an urgent need for work to, ‘develop a more detailed understanding of the barriers to donation within the BME (Black & minority ethnic groups) community and the most effective ways to overcome them.’ (para 4.48)

**Aims** To investigate reasons for the low rates of registration and consent by BME families and produce an evaluated training module to increase the competence and confidence of ICU staff in communicating with bereaved BME families.

**Six Intereated Studies**

**Study 1: Systematic review** The social, religious, cultural and organisational barriers to deceased donation among minority ethnic groups were examined by a systematic search and narrative synthesis of studies undertaken in the UK and North America. This identified differences in knowledge and in willingness to talk with family, trust, religious/faith issues and bodily concerns.

**Study 2: Community study** 22 focus groups have been conducted with people of Black African, Black Caribbean, Bangladeshi, Indian and Pakistani backgrounds living in London. The group discussions addressed gaps in knowledge identified by the literature review and focused on differences between and within ethnic groups associated with age, gender and community.

**Study 3: Ethnographic study of Intensive care units** This research examined organisational and cultural influences on the consent process, including the role and activities of the Specialist Nurse for Organ Donation. Researchers spent three weeks at each of the five hospital study sites conducting participant observation and over 100 interviews with key staff.

**Study 4: Bereaved Family Study** This on-going study examines family decision-making and experiences of communication and support by staff. It involves semi-structured interviews with the next of kin of BME patients who either have consented or have not consented to organ donation.

**Study 5: Multi-professional Discussion groups** Discussion groups are being held with ICU clinicians and nurses and members of the Organ Donation Committee at the 5 study sites (2 per site) to consider ethical and organisational issues in relation to deceased donation and professionals' own beliefs and attitudes.

**Study 6: Development and Evaluation of an Intervention** The intervention will comprise a brief training module (with DVD) for ICU staff that focuses on key aspects of discussions with BME families where a lack of knowledge/understanding was identified in our prior studies. The evaluation will examine changes in consent rates for BME groups, cost-effectiveness and changes in staff knowledge, attitudes and practices.

*Prof Myfanwy Morgan (PI): myfanwy.morgan@kcl.ac.uk Or Charlotte Kenten (Research Fellow): charlotte.kenten@kcl.ac.uk*

*Website: [http://www.kcl.ac.uk/medicine/research/divisions/hsc/research/groups/donate/index.aspx](http://www.kcl.ac.uk/medicine/research/divisions/hsc/research/groups/donate/index.aspx)*
Ethnic Differences in Blood Pressure Monitoring and Control in Lambeth

**Background** High blood pressure is the single most important risk factor worldwide for the development of cardiovascular disease, and has been shown to disproportionately affect some ethnic minority groups.

**Aim** To explore ethnic inequalities in blood pressure monitoring and control.

**Method** Data from Lambeth DataNet was used, based on case records from GP practices in one inner-city London borough. Blood pressure monitoring and control was compared using Quality and Outcomes Framework (QOF) targets for patients with: diabetes, coronary heart disease, stroke, hypertension, and chronic kidney disease. The study controlled for age, sex, social deprivation, and clustering within GP practices.

**Results** A total of 16 613 patients met the study criteria, with 5962 categorised as Black/Black British. Blood pressure monitoring was similar across ethnic groups and as good, if not better, for black patients compared to white. However, marked ethnic inequalities in blood pressure control were found, with black patients significantly less likely to achieve QOF targets than their white counterparts (odds ratio [OR] 0.73; 95% confidence interval [CI] = 0.64–0.82). Further inequalities were revealed in blood pressure control within disease groups and ethnic subgroups. In particular, blood pressure control was poor in African patients with diabetes (OR 0.63; 95% CI = 0.50 to 0.79) and Caribbean patients with coronary heart disease (OR 0.53; 95% CI = 0.37 to 0.77) when compared with white patients.

**Discussion** While black patients with chronic conditions are equally likely to have their blood pressure monitored, their blood pressure control is consistently poorer than that of their white counterparts. This may have important implications for cardiovascular risk management in black patients.


Managing Stroke Risk in Patients with Atrial Fibrillation across Lambeth and East London

**Background** Atrial fibrillation (AF) is the most common cardiac arrhythmia, with prevalence rising from 0.7% in people aged 55-59 to 18% in those over 85. It is associated with a fivefold increased risk of stroke. Prevalence of AF has been shown to be lower amongst Black and ethnic minorities, while stroke risk has been shown to be higher.

**Aim** To explore ethnic differences in the prevalence and treatment of AF and the risk of stroke.

**Method** In June 2011, demographic and clinical data was downloaded for all patients with AF registered with general practices across Lambeth, using Lambeth DataNet and an east London dataset (N=6,646: 4586 east London, 2060 Lambeth). Bivariate statistics were used to examine prevalence and logistic regression was used to examine differences in prescribing. CHA2DS2-VASC scores, which are the currently recommended tool for determining stroke risk in patients with AF were calculated.

**Results** The crude prevalence of AF was 0.5% (0.7% age standardized) and ranged from a high of 1.2% amongst white patients to 0.4% in Black groups and 0.2% amongst south Asian patients. This prevalence is similar to other studies. 80% of the AF population were at high risk for stroke (CHA2DS2-VASC >=2), with mean score significantly higher for Black patients (3.4) in comparison to South Asian (3.3) and White (3.2) (p<0.01). 50% of the AF population were on warfarin. After stratifying by stroke risk- Black patients with AF are significantly less likely to be prescribed warfarin as compared to White patients (odds ratio [OR] 0.83; 95% confidence interval [CI] = 0.70–0.98). Further inequalities were revealed in warfarin prescribing by gender. After stratifying by stroke risk- Male patients were significantly less likely to be prescribed warfarin compared to female patients (OR 0.70; 95% CI = 0.62 to 0.80).

**Discussion** Despite having a lower prevalence of AF, ethnic minority groups are at higher risk of stroke using the CHA2DS2-VASC score. Black patients at high risk of stroke are significantly less likely to be prescribed warfarin than white patients. Male patients at high risk are less likely to be prescribed warfarin than female patients. Practitioners need to be aware of the increased risk of stroke and should consider using computerised alerts for CHA2DS2-VASC score in order to prevent under prescribing of anticoagulation in these groups.

Self-Reported Long-Term Needs after Stroke

Background Development of interventions to manage patients with stroke after discharge from the hospital requires estimates of need.

Aim To estimate the prevalence of self-reported need in community-dwelling stroke survivors across the United Kingdom.

Methods We conducted a survey of stroke survivors 1 to 5 years post-stroke recruited through Medical Research Council General Practice Research Framework general practices and 2 population-based stroke registers. Levels and type of need were calculated with comparisons among socio-demographic groups, disability level, and cognitive status using the $x^2$ test or Fisher exact test, as appropriate.

Results From 1251 participants, response rates were 60% (national sample) and 78% (population registers sample) with few differences in levels of reported need between the 2 samples. Over half (51%) reported no unmet needs; among the remainder, the median number of unmet needs was 3 (range, 1 to 13). Proportions reporting unmet clinical needs ranged from 15% to 59%; 54% reported an unmet need for stroke information; 52% reported reduction in or loss of work activities, significantly more from black ethnic groups ($P=0.006$); 18% reported a loss in income and 31% an increase in expenses with differences by age, ethnic group, and deprivation score. In multivariable analysis, ethnicity ($P=0.032$) and disability ($P=0.014$) were associated with total number of unmet needs.

Discussion Multiple long-term clinical and social needs remain unmet long after incident stroke. Higher levels of unmet need were reported by people with disabilities, from ethnic minority groups, and from those living in the most deprived areas. Development and testing of novel methods to meet unmet needs are required.


Strategies to Manage Hypertension: A Qualitative Study with Black Caribbean Patients

Background The detection of hypertension in black Caribbean populations is good, but its control is thought to be inadequate.

Aim To explore how black Caribbean patients with hypertension understand their condition, and the strategies they use in managing hypertension.

Method Practice records of from one general practice in inner-city London were searched to identify black Caribbean patients with known and treated hypertension. Audiotaped in-depth interviews were conducted with participants and transcripts of the interviews were analysed for thematic content.

Results We interviewed 19 black Caribbean patients with hypertension. Participants reported physical symptoms for elevated blood pressure; a minority relied on symptoms to determine their medicine use. A majority of participants equated 'normal' blood pressure readings with being cured and with no need for prescribed medicine. All participants had been prescribed antihypertension medication, and seven reported taking medication as prescribed. Those who did not, reported diverse and dynamic patterns of medication use. Some who had achieved normal blood pressure equated this with being cured and stopped medication, resuming when diagnosed with high blood pressure. Some modified their use of tablets according to bodily symptoms that they felt indicated higher or lower blood pressure. Some stopped or reduced medication because of unwanted effects and almost half of the participants used Caribbean 'bush' remedies.

Discussion These findings suggest that some patients are making reasoned decisions about blood pressure management, drawing on medical information, their own bodily experiences of illness and sociocultural notions and practices. However, this may lead to medication use that diverges from that which is recommended. This study indicates a continued need to address these patients' perspectives and develop and evaluate new strategies to achieve hypertension control in this group.

Ethnic Differences in Pre-Hospital Delay after an Acute Stroke: the South London Stroke Register

**Background** Ethnic differences have been reported in thrombolysis rates possibly due to delayed presentation to hospital after an acute stroke.

**Aim** To examine factors associated with pre-hospital delay after an acute stroke including ethnicity.

**Method** Data were from a population-based study involving 1392 patients with first-ever strokes between 2002 and 2010 in a multi-ethnic South London population. Associations were determined between pre-hospital delay (≥ 3 hours) and variables of interest including ethnicity using multivariate logistic regression analyses.

**Results** The overall median pre-hospital delay to presentation time was 4.73 (1.55-12.70) hours and was longer in black patients 5.20 (1.90-15.00) hours compared to white patients 4.55 (1.50-12.49) hours. In multivariate analysis adjusting for socio-demographic and case severity variables, the odds of presenting to hospital ≥ 3 hours after onset of stroke symptoms were increased in patients of black ethnicity compared to whites (OR:1.63; 95% CI:1.11-2.38).

**Discussion** Existing ethnic differences in pre-hospital delay after an acute stroke may influence the uptake of thrombolysis in black patients in this population. This highlights the need for more sustained educational campaigns targeted at those at higher risk of delay, including those of black ethnicity.

Wolfe, C. et al.

Methods for Assessing CVD Risk in an Ethnically Diverse Population – A Cross-Sectional Comparison Study

**Background** Risk screening now plays a prominent role in CVD prevention in the UK. The choice of estimation method is left to GPs although it is not yet clear how these may differ when applied to a black and ethnic minority population

**Aim** Assess the difference between CVD risk estimation methods when applied to a black and ethnic minority population

**Method** Cross sectional study – analysing health records from 51 GP practices in Lambeth, South East London, including 75,476 registered patients aged 40-74, of whom 23,188 are black (African and Caribbean) and 52,288 white. We compared the 10 year CVD risk derived using Framingham, QRISK2, ASSIGN and ETHRISK algorithms.

**Results** There was greater divergence among the different estimation methods when applied to black patients, with a pooled kappa of 0.53 (95% CI 0.50-0.56) for men, and 0.49 (0.45-0.54) for women compared to their use with white patients, where the pooled kappa was 0.67 (0.65-0.68) for men and 0.61 (0.58-0.64) for women. Compared to national prevalence data, showing a decreased overall CVD risk for the black population, mean ethnic risk ratios derived from all four estimates appeared to over-estimate the risk. For example, Framingham gave a mean risk ratio of 0.98 (0.96-1.01) for black, compared with white, men and 1.04 (1.01-1.06) for black women. The QRISK2 derived estimates were the least divergent giving a black / white mean risk ratio of 0.73 (0.71-0.74) for men and 0.85 (0.83-0.87) for women.

**Conclusion** The choice of risk algorithm used does make a difference to estimates of CVD risk for black African and black Caribbean patients. Preliminary results suggest that the QRISK2 method has the best fit with national prevalence data for this population.

Scholfield P, Crichton N (to be submitted).
Ethnic Isolation and Psychosis: Re-Examining the Ethnic Density Effect

Background Elevated incidence of psychotic illness has been consistently shown among migrant populations. Ethnic density, the proportion of an ethnic group in a defined area, is cited as one factor with a reduced risk of psychosis where ethnicity is shared. However, UK studies have shown mixed results. We set out to re-examine the ethnic density effect at a greater level of geographic detail than previous studies.

Method Using a large sample of patient records from GP practices in South East London we were able to assess neighbourhood factors at the detailed lower super output area (LSOA) level. This comprises, on average, 1500 people compared to around 6000 per ward, the measure used in previous studies. We compared Black (Afro-Caribbean) and White psychosis incidence by neighbourhood ethnic density over a ten year period.

Results We found a clear negative association between ethnic density and psychosis incidence. In neighbourhoods where Black people comprised 25% or more of the population there was no longer a statistically significant ethnic difference in psychosis rates. However, where Black people were less well represented their relative risk increased nearly threefold (odds ratio (OR) 2.88, 95% confidence intervals (CI) 1.89–4.39). Furthermore, incidence rates for black people in the lowest density quintile were over five times greater than in the most dense quintile (OR 5.24, 95% CI 1.95–14.07). However, at ward level this association was much weaker and no longer statistically significant.

Conclusions Ethnic density is inversely related to psychosis incidence at a detailed local neighbourhood level.