and families with young children. More than seven out of 10 people accessing advice services were eligible for Healthy Start vouchers (benefits related) which can be exchanged for milk, fresh fruit and vegetables. There was a total recorded annual gain of just over £2.7 million and £328,000 in one-off lump sums. Other reported client outcomes included immigration advice, addressing fuel poverty and onward homelessness referrals.

Conclusion This paper will suggest that HWC has resulted in positive outcomes towards mitigating the impact of child poverty. Midwives and health visitors have played an active role and there is scope to develop this work across the wider Early Years workforces.

PS46 THE COMPLEX ASSOCIATION BETWEEN BLOOD GLUCOSE CONCENTRATION AND BIRTH WEIGHT IN WOMEN WITH PRE-GESTATIONAL DIABETES

doi:10.1136/jech-2012-201753.145

[1]PWG Tennant, [1]SV Glinianaia, [2,3]RW Bilous, [1,4]J Rankin, [1,4]R Bell. *[1]Institute of Health & Society, Newcastle University, Newcastle upon Tyne, UK; [2]Institute of Cellular Medicine, Newcastle University, Newcastle upon Tyne, UK; [3]James Cook University Hospital, South Tees Hospitals NHS Foundation Trust, Middleborough, UK; [4]Regional Maternity Survey Office, North East Public Health Observatory, Newcastle upon Tyne, UK*

Background Large fetal size (macrosomia) is a frequent pregnancy complication in women with diabetes. High blood glucose during pregnancy is hypothesised to explain much of the association, but previous investigations have presented equivocal results. This could be due to inadequate adjustment for confounding factors or a non-uniform association between blood glucose concentration and birth weight.

This study investigated the association between blood glucose concentrations during early and late pregnancy and birth weight in women with pre-gestational diabetes, whilst accounting for a range of potentially relevant clinical and socio-demographic factors.

Methods All singleton births in women with pre-gestational diabetes delivered during 1996–2008 were identified from the Northern Diabetes in Pregnancy, a population-based survey of all pregnancies occurring in women with pre-gestational diabetes in the North of England. Cases of congenital anomaly (identified from the Northern Congenital Abnormality Survey) were excluded.

Three measures of glycated haemoglobin concentration (HbA1c) were obtained, to estimate the blood glucose concentration around conception, and during the second and third trimesters. The associations between HbA1c at these time points, a range of other clinical and socio-demographic variables, and birth weight were examined by multiple linear regression. The total and indirect associations were further examined by path-analysis. Gestational age was modelled as a three-order polynomial.

Results Increasing peri-conceptional HbA1c was associated with reduction in birth weight (adjusted regression coefficient, b=-50.4 grams per 1%, 95% CI: -71.1 to -29.6), while increasing third-trimester HbA1c was associated with increase in birth weight (b=171.9 grams per 1%, 95% CI: 132.1–211.7). There was no association between birth weight and second-trimester HbA1c.

Of the other variables in the adjusted model; male sex, increasing maternal height, increasing maternal BMI, multiparity, and later gestational age at delivery were all significantly associated with larger birth weight, while increasing maternal age, later gestational age at booking, maternal smoking, history of pre-pregnancy nephropathy or retinopathy were all significantly associated with smaller birth weight.

Maternal socio-economic status (estimated from maternal postcode at birth) was associated with a range of birth weight modifiers (maternal height, BMI, age, parity, smoking status, and periconceptional HbA1c), but as these acted in opposite directions, the overall effect on birth weight was negligible.

Conclusion Maternal blood glucose concentrations are associated with birth weight, but the association is complex, reversing as pregnancy progresses. For women with pre-gestational diabetes, maintaining good glucose control throughout pregnancy is likely to be associated with the lowest risk of pathological fetal size.

PS47 COULD IMPROVED TRAINING OPPORTUNITIES REDUCE HEALTH WORKFORCE MIGRATION FROM SUB-SAHARAN AFRICA? EVIDENCE FROM A DISCRETE CHOICE EXPERIMENT AMONG PHARMACISTS

doi:10.1136/jech-2012-201753.146

[1,2,3]G Stynes, [2]M Oketch, [3]F Smith, [1]R Smith, [4]R Owusu-Daaku, [1]M Lagarde. *[1]Department of Global Health and Development, Faculty of Public Health and Policy, LSHTM, London, UK; [2]Department of Humanities and Social Science, Faculty of Policy and Society, Institute of Education, London, UK; [3]Department of Practice and Policy, UCL School of Pharmacy, London, UK; [4]Department of Clinical and Social Pharmacy, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana*

Background Sub-Saharan Africa (SSA) suffers from acute shortages of all types of health workers, partly due to high rates of health workforce migration (HWM) to high-income countries. The role of non-financial incentives in HWM is inadequately defined and their potential as policy levers is overlooked. This study examined the hypothesis that improved local education opportunities could alter the relative uptakes of local and foreign training, ultimately reducing education-led HWM from SSA. Initial qualitative research (reported separately) found that SSA pharmacists valued seven key education-related factors: location (SSA or elsewhere), cost, availability of their preferred course, learning approach (theoretical or practical), course length, access to learning resources (e.g. equipment) and institutional quality.

Methods A discrete choice experiment (DCE) was designed to enable quantification of the relative influence of these attributes on SSA pharmacists' education location decisions. Convenience and snowball sampling strategies were necessary, due to limited resources and incomplete sample frames. Participants self-administered a paper- or web-based DCE, comprising 16 labelled choice sets. Each choice set consisted of three hypothetical alternatives: a nominally SSA-based education opportunity (encompassing some split-site programmes with varying proportions of time spent abroad); a fully foreign-based education opportunity; and a 'delayed choice' option. Hypothetical alternatives were differentiated in each choice set, by varying the levels of the seven education attributes, which represented current and prospective standards for each attribute. Respondents chose one alternative per choice set. The resulting choice data were modelled using the mixed logit model, taking into account respondents' socio-demographic characteristics and varying preferences.

Results 428 practising pharmacists and pharmacy students, of SSA origin and any migration status, were recruited in Ghana (face-to-face), the UK and online (both via email). Approximately one-third of respondents displayed unvarying, dominant preferences for one education alternative, regardless of variations in the seven attributes. The preferred alternative in this group was usually the education alternative located fully overseas. Nevertheless, two-thirds of respondents were willing to make at least one trade-off between different levels of different attributes, i.e. the majority of respondents chose the local alternative and the overseas alternative at least once each.

Conclusion The results are intended to inform policymakers seeking new and sustainable ways to address the crisis of HWM in low-income countries. These findings offer hope that a non-trivial proportion of health workers, who migrate to pursue education abroad, might be persuaded to study at home if policymakers implemented desirable changes to local education opportunities.

J Epidemiol Community Health: first published as 10.1136/jech-2012-201753.146 on 17 September 2012. Downloaded from http://jech.bmj.com/ on June 1, 2020 by guest. Protected by copyright.