
Health Studies User Conference 2024

Abstracts

Session 1: Keynote presentation

Chair: Dr Vanessa Higgins, UK Data Service

Understanding and documenting the fundamental role of racism on ethnic inequities in health: analysis of 30 years of Health Survey data

Professor Laia Becares, Professor of Social Science and Health, Department of Global Health and Social Medicine, King's College London

Using seven different health surveys hosted by the UK Data Service, covering almost 30 years of data, this presentation discusses how theoretically-informed secondary data analysis has informed our understanding of the mechanisms by which racism leads to ethnic inequalities in health. It focuses on three major contributions to our understanding of: the role of racism in producing and reproducing ethnic inequalities in health in the early life course; the accumulation of experienced discrimination and disadvantage and how they lead to ethnic inequalities health across the life course; and the role of diverse neighbourhoods in buffering against the detrimental impact of racism on health. The presentation will identify how survey methodology and questionnaire content shape the evidence we can provide, and highlights how further development of measures and data collection can inform how we can document racism as the fundamental cause of ethnic inequalities in health.

Laia Bécares is Professor of Social Science and Health in the Department of Global Health and Social Medicine, King's College London. She is a Social Epidemiologist by training, and her research focuses on understanding the pathways by which the discrimination and marginalisation of people and places lead to social and health inequities. This work has mostly focused on using social and health survey data to examine the association between othering, oppression and health, in order to understand how experiences of discrimination pattern people's health and social outcomes, as well as that of their children, and how the accumulation of experienced discrimination across people's lives determines their health as they age.

Session 3: Parallel research paper session 1

Parallel session 1a

Chair: TBC

Are diabetes and blood sugar control associated with eye disease development?

Stephen Jivraj, University College London

Background

The growing global burden of diabetes suggests a future growth in prevalence of eye disease. This study addresses gaps in evidence of blood sugar control as a risk factor for the development of glaucoma, diabetic eye disease, macular degeneration, and cataract using waves 2-9 (2004-2019) of the English Longitudinal Study of Ageing.

Methods

Logistic regression modelling is used to predict the probability of development of four eye conditions separately over a 14-year period. Analysis of around 29,000 person observations over 8 study waves for each eye disease is conducted with an average of 5.7 per participant. Participants baseline blood sugar control is categorised as non-diabetic (diabetes not previously diagnosed and HbA1c < 6.5), controlled (diabetes previously diagnosed and HbA1c < 6.5), uncontrolled (diabetes previously diagnosed and HbA1c => 6.5), undiagnosed (diabetes not previously diagnosed and HbA1c => 6.5). Controls at baseline for age, sex, physical activity level and body-mass index are included in the regression analysis.

Results

The main finding from this study is older adults in England who are controlling a diabetes diagnosis have less propensity to develop glaucoma, diabetic eye disease or macular degeneration compared with those without a diabetes diagnosis or with uncontrolled diabetes. There was significant increase in the probability of developing cataract irrespective of blood sugar control.

Conclusion

This study illustrates the importance of blood sugar control in the development of eye diseases.

What can UK Censuses tell us about health inequalities among young people?

Katrin Metsis, University of St Andrews

The WHO has estimated that around 70% of premature deaths among adults are related to behaviours initiated during adolescence. However, evidence on health inequalities is mostly collected from children and adults. Although some studies have found that youth is a period of relative health equality, most of the evidence indicates that health inequalities are present in adolescence and carry into adulthood.

We used data from the 2001, 2011, and 2021 UK Censuses. First, we used descriptive methods to determine differences in general health status by socio-demographic variables. Second, logistic regression analysis was applied to calculate the odds of reporting poor health by the household reference person's National Statistics Socio-economic Classification (NS-SEC).

We observed a similar gradient in health status by the NS-SEC across all datasets after controlling for the effect of age, gender, household deprivation measures, and the UK region. All NS-SEC groups had higher odds of reporting poor health compared to young people from managerial and professional households. Young people from households where the reference person was long-term unemployed were identified as a vulnerable group. Their odds of reporting poor health were three times higher compared to those from managerial or professional backgrounds; and up to 50% higher compared to other NS-SEC groups.

Our findings suggest that health inequalities among 10–24-year-olds can be observed by using data from the UK Censuses and by using the NS-SEC measure.

Examining oral hygiene and dental visits' impact on adult oral health over 11 years in England

Abdul Azim Abdul Razak, University College London

Background

Understanding the impact of oral hygiene practices and dental attendance on clinical outcomes over time is crucial for emphasizing the importance of consistent oral care, particularly among young to middle-aged adults (Watt et al, 2013). This study aimed to examine the association between self-reported health behaviors and clinical outcomes over an 11-year period.

Methods

Secondary data analyses of the Adult Dental Health Survey from 1998 (n=1,275) and 2009 (n=2,421) was conducted, focusing on nationally representative samples of young to middle-aged adults in England. The main exposures were toothbrushing frequency and dental attendance, while outcomes were prevalence of dental caries, the Decayed, Missing, Filled Tooth (DMFT) index, and the presence of periodontal pocket depth (PPD) ≥ 4 mm.

Results

Increased dental attendance was associated with a reduced prevalence of caries and PPD ≥ 4 mm but a higher DMFT index. In 1998, adjusted analyses revealed that brushing teeth twice or more daily lowered the odds of caries (OR: 0.73, $p=0.047$), and regular attendees had reduced odds of caries (OR: 0.55, $p<0.001$). In 2009, stronger associations were observed: both exposures were linked to all three outcomes, except for toothbrushing frequency and dental caries. Brushing teeth twice or more daily was associated with a lower DMFT index (regression coefficient: -1.47, $p<0.001$) and reduced odds of PPD ≥ 4 mm (OR: 0.75, $p<0.001$). Regular attendees had lower odds of dental caries (OR: 0.42, $p<0.001$), higher DMFT (regression coefficient: 1.56, $p<0.001$), and lower odds of PPD ≥ 4 mm (OR: 0.69, $p<0.001$). Adjusting for demographic and socioeconomic factors slightly weakened these associations.

Conclusion

Maintaining good oral hygiene practices and regular dental visits significantly influence the oral health outcomes of young to middle-aged adults. Improvements in these behaviors were associated with improved clinical results over time. These findings underscore the importance of emphasizing oral health promotion as a vital aspect of long-term oral care maintenance.

Parallel session 1b

Chair: Nicola Shelton, University College London

Long COVID – impact on employment and mental health

Darja Reuschke, University of Birmingham

Long COVID describes a long-term debilitating illness following an infection with the SARS-CoV-2 virus. Symptoms are multidimensional and can include chronic or episodic physical, cognitive or mental illness. This paper examines the effects of Long COVID on employment and in-work experiences using the Understanding Society COVID-19 2020-2021 study. It estimates the likelihood of exiting employment as well as on changes in working hours and mental health and well-being of those who remain in work. A sample is used of individuals 16 years and older who were in employment in January/February 2020 and followed during the pandemic 2020-2021. Two groups of individuals with Long COVID are defined based on the duration of symptoms. Group 1 has Long COVID 5-28 weeks after an infection with COVID-19, which is up to the maximum length of Statutory Sick Pay in the UK. Group 2 has symptoms for 29+ weeks, which is beyond the statutory entitlement to sickness pay.

The results show that Group 2 is at higher risk of exiting employment. Between-person estimates of mental health and well-being show negative effects of Long COVID for both groups but these are greatest in Group 2. Within-person estimates suggest that factors associated with earnings mediate the negative Long COVID effects on mental health in Group 1 and that Group 2 adapts to working with Long COVID. Group 1 is at risk of working zero hours (i.e. being on sick leave) but neither Group 1 nor Group 2 have a higher probability of working fewer hours compared to those with no COVID-19 symptoms. The negative impact of Long COVID on working hours therefore stems primarily from working zero hours (sickness leave) rather than working fewer hours, suggesting a lack of accommodation by employers of Long COVID at work.

What is the relationship between the stringency of government COVID-19 policies and subjective wellbeing? Evidence from the Opinions and Lifestyle (OPN) COVID-19 Survey

Christopher Deeming, University of Strathclyde

Responsibility for Public Health is a devolved matter and devolution played a key role in shaping how the UK nations responded to the pandemic. UK nations diverged in the timing, duration, and stringency of their responses to COVID-19. However, the relationships between lockdown stringency (strictness) and subjective wellbeing (SWB) remains under researched.

In this paper, we are interested in the SWB effects of government policy responses. We examine the impact of different lockdown policies and restrictions on SWB in England, Scotland and Wales, specifically looking at the relationships between the stringency of lockdown policy and SWB.

For the empirical analysis, we draw on the Opinions and Lifestyle (OPN) COVID-19 Survey which provides individual measures of subjective wellbeing, reported on a daily basis during the pandemic (ONS 2023a, 2023b). The lockdown stringency scores are taken from the Oxford COVID-19 Government Response Tracker (OxCGRT) (Hale et al, 2021). The Stringency Index was continuously updated on a daily basis during the pandemic and includes metrics relating to school and workplace closures, stay-at-home requirements and restrictions on public gatherings and travel controls.

We report the impact of stringency on SWB in the three nations, while controlling for socioeconomic factors. The analysis was carried out in the ONS Secure Research Service (SRS) and uses 111 pooled waves of the OPN survey data, covering the entire pandemic period to 31 March 2022.

Gender and education differences in trajectories of physiological ageing: longitudinal analysis of a prospective English cohort study

Mikaela Bloomberg, University College London

Introduction

Given substantial heterogeneity in health between older adults, there have been many recent efforts to develop metrics of physiological ageing that explain variability in health outcomes better than chronological age alone. However, previous measures of physiological age (PA) are cross-sectional and understanding how PA changes with increasing chronological age is a necessary next step. Furthermore, though gender and education are key characteristics that contribute to heterogeneity in ageing-related outcomes, gender and educational differences in PA have not been explored. In the present study, we examined how gender and education interact to inform longitudinal PA trajectories.

Methods

We used three waves of data (2004/05-2012/13) from 8,891 participants aged 50-100 years from the English Longitudinal Study of Ageing. PA was derived in a healthy subsample using principal component analysis of clinical biomarkers. We then validated PA in the analytic sample by confirming associations with incident ageing-related chronic conditions, memory impairment, and functional limitations using Cox proportional hazards models adjusted for chronological age and gender. We used joint models adjusted for birth cohort to produce trajectories of PA from chronological ages 50-80 in men and women at three levels of education (less than secondary, secondary, and above secondary).

Results

Gender differences in PA were minor at age 50, but PA increased faster in women than in men ($p < 0.001$); by age 70, women had PA 1.6 years (95% confidence interval=1.0-2.1) older than men. Examination of interactions between gender and education revealed that these gender differences occurred among less educated women only (p interaction=0.03); women educated above secondary level maintained PA younger than men at age 70.

Conclusion

Higher education may be important to reduce gender disparities in physiological ageing. Policies to promote gender equity in higher education may contribute to reducing gender inequalities in a wide range of health outcomes in old age.

Session 4: Parallel research paper session 2

Parallel session 2a

Chair: *Linda Ng Fat, University College London*

Neurodivergence, learning disability and metabolic syndrome conditions, in England

Nicola Shelton, University College London

Abstract not available.

Construction of a Frailty Index using Understanding Society and Analysing the Influence on Ethnicity Using a Multilevel Growth Modelling Framework

Alexander Labeit, University College London

As the UK population ages, frailty will increasingly become the principal issues facing the health care system. According to the 2021 Census data 82% of people in England and Wales are white, and 18% are Black, Asian, mixed or other Minority Ethnic (BAME) group. Surprisingly, little is known about the influence of ethnicity on the level and the development of frailty (growth trajectories). The aim of this analysis will be to construct a longitudinal frailty index (FI) and analyse the change in frailty over time in the general population of the UK for individuals of age 50 and above.

In a first step, different versions of a FI have been constructed using Understanding Society (US), a large panel study of 40,000 households in Great Britain. US includes a 'boost' sample of 11,500 participants from diverse ethnic minorities. For the construction of the FI an accumulation of deficits approach has been used. The FI facilitates tracking changes in subjective, physical, functional, cognitive health and chronic conditions. Domains which are included in the construction of a FI from US are health conditions, health limitations and disabilities/difficulties. Different FI versions including a different number of domains and number of waves are constructed and compared with each other.

In the second step, after selection of one of the FI candidates, frailty trajectories will be modelled for different ethnic groups: Indian, Pakistani, Bangladeshi, Caribbean, African ethnic minorities compared to White British groups. The aim is to analyse the differences in levels and the intensity of development of frailty over age. Further covariates such as sex will be included and different multilevel specifications will be compared with each other for analysing the influence of ethnicity.

Impact of electrification on health outcomes in Peru: Evidence from panel data

Kalyan Kumar Kameshwara, University of Westminster, and Maria Cristina Montero de Espinosa García, University of Exeter

There are only a very few studies that examine the impact of electricity on health. Most of those have focused on correlation and were not able to infer if the impact is de facto driven by electricity or other unobserved variables. We investigate the causal impact of electricity on outcomes of health, over a period of 15 years. This paper uses the rich panel data to exploit the variation across individuals and the overtime 'within' individual variation to estimate the impact of electricity on inequalities in outcomes, after controlling for other confounding characteristics.

We employ the data from a longitudinal cohort study, Young Lives (2002-2016), that tracked 3000 children from two different cohorts in Peru over 15 years followed across 5 waves. Young Lives study

employed a multistage, cluster-stratified random sampling to select households randomly from different sites.

We use two-way fixed effects approach to demonstrate a significant positive link. This paper moves to focus on the consistency and unbiasedness of the estimators in light of potential threats to exogeneity. To push for a more robust causal inference by tackling the endogeneity problem, we use two approaches: (1) estimate using the outcomes as lagged variables. (2) Instrumental variable approach. We do this by exploiting natural shocks to the household.

We also highlight heterogeneity analysis to examine if the effects vary for different genders, class positions or ethnicity. The evidence presented in the paper makes a case from a policy perspective to also prioritise the need for investing in high capital infrastructural projects (mainly electricity) over or along with tinkering in the realm of micro-interventions to induce behavioural changes. We make a case to argue against divesting in capital-intensive macro-projects that have a tremendous potential to improve human capital over a sustained period, especially in the context of developing countries.

Parallel session 2b

Chair: Sally McManus, City, University of London

Depressive symptoms, socioeconomic position and mortality in older people living with and beyond cancer

Natalie Miller, University College London

Background

Higher depressive symptoms are associated with increased risk of mortality in people living with and beyond cancer (LWBC). However, existing research has not accounted for a wide array of potential confounders or accounted for competing causes of death in the context of cancer-specific mortality. Furthermore, socioeconomic inequalities in depression and mortality exist among people LWBC. This study aimed to examine the association between depressive symptoms and mortality in people LWBC and whether socioeconomic position (SEP) moderates this association.

Methods

Participants diagnosed with cancer from the English Longitudinal Study of Ageing (ELSA) who reported depressive symptoms within four years following their diagnosis were included. Elevated depressive symptoms were defined by a score of 3+ on the 8-item Center for Epidemiologic Studies Depression Scale (CES-D). SEP was indexed by wealth tertiles. Mortality was ascertained via linkage to a national register. Cox regression analysis was used for all-cause mortality. Competing risk regression was used for cancer-specific mortality. Analyses were adjusted for sociodemographic and clinical factors.

Results

The sample consisted of 1352 participants (mean age = 69.6 years). Over the 16 year follow-up, 596 deaths occurred, of which 335 were cancer-related. After adjusting for covariates, elevated depressive symptoms were associated with a 93% increased risk of all-cause mortality (95% CI: 1.52-2.45) within the first four years of follow up. Elevated depressive symptoms were associated with a 38% increased risk of cancer-specific mortality. While directionally consistent, this association did not reach statistical significance at conventional levels after excluding people who died within one year after baseline assessments. There were no interactions between depressive symptoms and SEP.

Conclusions

This study found that elevated depressive symptoms are associated with increased risk for all-cause mortality among people LWBC within a four year follow-up. Early detection and intervention of depression in people LWBC is crucial for improving outcomes.

Prevalence and nature of workplace bullying and harassment and associations with mental health conditions in England: a cross-sectional probability sample survey

Annie Bunce, City, University of London

Background

Evidence on workplace bullying and harassment (WBH) in the UK has not used probability-sample surveys with robust mental health assessments. This study aimed to profile the prevalence and nature of WBH in England, identify inequalities in exposure, and quantify adjusted associations with mental health.

Methods

Data were from the 2014 Adult Psychiatric Morbidity Survey, a cross-sectional probability-sample survey of the household population in England. Criteria for inclusion in the secondary analysis were being aged 16–70 years and in paid work in the past month ($n = 3838$). Common mental disorders (CMDs) were assessed using the Clinical Interview Schedule-Revised and mental wellbeing using the Warwick-Edinburgh Mental Wellbeing Scale. Analyses were weighted. We examined associations between past-year WBH and current CMD using multivariable regression modelling, adjusting for sociodemographic factors. Interaction terms tested for gender differences in associations. The study received ethical approval (ETH21220–299).

Results

One in ten employees (10.6%, $n = 444/3838$) reported past-year experience of WBH, with rates higher in women (12.2%, $n = 284/2189$), those of mixed, multiple, and other ethnicity (21.0%, $n = 15/92$), and people in debt (15.2%, $n = 50/281$) or living in cold homes (14.6%, $n = 42/234$). Most commonly identified perpetrators of WBH were line managers (53.6%, $n = 244/444$) or colleagues (42.8%, $n = 194/444$). Excessive criticism (49.3%, $n = 212/444$), verbal abuse (42.6%, $n = 187/444$), and humiliation (31.4%, $n = 142/444$) were the most common types. WBH was associated with all indicators of poor mental health, including CMD (adjusted odds ratio [aOR] 2.65, 95% CI 2.02–3.49), and 11 of 14 mental wellbeing indicators, including lower levels of confidence (aOR 0.57, 0.46–0.72) and closeness to others (aOR 0.57, 0.46–0.72). Patterns of association between WBH and mental health were similar in men and women.

Conclusions

These findings reinforce a need for more cohesive UK legislation against WBH; guidance on recognition of bullying behaviours for employees, managers, and human resources, focusing on prevention and early intervention, and increased awareness of the impact of WBH on mental health among health service practitioners. Limitations include reliance on cross-sectional data collected before pandemic-related and other changes in workplace practices. Longitudinal data are needed to improve evidence on causality and the longevity of mental health impacts.

Indirect victims of violence: mental health and the close relatives of serious assault victims in England

Elizabeth Cook, City, University of London

An extensive body of evidence shows the impact of being the direct victim of a serious assault. However, much less is known about the impact on relatives of victims, who may be indirect victims.

Based on analyses of the 2014 Adult Psychiatric Morbidity Survey, a face-to-face, cross-sectional probability-sample survey of adults aged 16 and over in England, this article estimates what proportion of the population was closely related to a victim of serious assault, and whether this experience was associated with higher rates of feeling unsafe, depression and anxiety disorder, post-traumatic stress, self-harm, and suicidality.

Descriptive and multivariable regression analyses were conducted, adjusting for complex survey design and potentially confounding factors. Results show that one adult in twenty (4.5%, n=345) was closely related to a victim of serious assault (95% confidence interval (CI):4.0-5.2%). Close adult relatives of assault victims were more likely than the rest of the population to have been direct victims of violence and abuse themselves, to have experienced multiple other adversities, and to live in more deprived neighbourhoods. However, even when controlling for these experiences, relatives of victims had adjusted odds of feeling unsafe in the neighbourhood where they lived 2.36 times higher than the rest of the population (CI:1.26-4.44), and their odds of having a depressive or anxiety disorder were 1.37 times higher (0.99-1.90).

These analyses indicate that relatives may well already be vulnerable, with potential to also be further affected by the experiences of family members. To more fully account for the effects of violence in society, research with indirect victims of serious violence in the context of their own experiences of wider adversities and victimization is required. This should be factored into a broader remit for victim support services which includes support for victims' families.