

Health Studies User Conference 2022

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Abstracts

Cross-sectional survey updates

Understanding patient experience: an introduction to the GP Patient Survey and NHS Patient Survey Programme

Eileen Irvin, Ipsos

Patient experience is a vital part of understanding people's relationship with their health and with health services. This session will look at the GP Patient Survey (GPPS), commissioned by NHSEI, and the National Patient Survey Programme (NPSP), commissioned by the CQC.

GPPS evaluates patient experience in primary care. The NPSP contains five surveys covering different areas of care: Adult Inpatient Survey, Maternity Survey, Community Mental Health Survey, Children and Young People's Survey and Urgent & Emergency Care Survey. These programmes are used for regulation, service improvement, and policy measurement and design.

The surveys use a push-to-web approach, sending a combination of letters with an online survey link, paper questionnaires, and SMS reminders containing unique personal links. The surveys are offered in a variety of accessible formats, including additional languages, braille, large print, and via telephone helpline. GPPS is also available in BSL and NPSP in Easy Read.

The surveys cover a wide variety of topics, looking at people's journey through health services, as well as a range of demographics, to explore health inequalities. For example, GPPS 2021 showed a marked increase in patients who said they had felt isolated in the last 12 months, with the proportion more than doubling (from 7% to 15%) since 2020, with levels varying across demographics. The latest Maternity survey shows that infant feeding support has been less accessible since the start of the pandemic, with the proportion of mothers provided with relevant information about feeding during pregnancy and receiving advice on feeding in the first six weeks after birth dropping between 2019 and 2021. This provides huge potential to conduct analysis on a wide variety of topics. Data is published at a variety of levels and access can be requested for the full datasets.

Parallel research paper session 1

COVID-19

Changes in social environments and smoking among young adults during the first year of the COVID-19 pandemic: Evidence from the UK Millennium Cohort Study

Eunice Leong and Thierry Gagné, UCL

Background

COVID-19 regulations exposed young adults to a range of new social environments that may have influenced their health behaviours. This study examines the impacts of these changes on young adults' risk of smoking across the first year of the pandemic.

Methods

We used longitudinal data from 2,254 young adults aged 19-20 in the UK Millennium Cohort Study across three points (May 2020, September-October 2020, and February-March 2021).

We used random-intercept Poisson regression models to examine differences in smoking status by levels of restrictions over time and social interactions (i.e., the frequency at which participants met and helped people outside their household), controlling for covariates at birth and age 17. We also examined if differences varied between university and non-university students.

Results

Compared with May 2020, young adults were 74% more likely to smoke in September 2020 (95%CI 1.54-1.96) and 44% more likely in February 2021 (95%CI 1.27-1.63). Participants who met people on two or more days per week were more likely to smoke than those who did not meet people (PR = 1.43, 95%CI 1.23-1.67). The frequency at which participants helped others was not associated with smoking. The increased risks of smoking in Sep 2020 and Feb 2021 were more severe in university students compared to others ($p = .005$), but there were no differences in the association of social interaction variables with smoking between student and non-university students.

Conclusions

In 2020-21, young adults have been more likely to smoke when COVID-19 restrictions were eased, particularly if they were university students, and if they had more frequent social interactions. Smoking prevention among young adults requires continued attention to the places where young adults may be more susceptible to smoking.

Employment related COVID-19 exposure risk among disabled people in the UK

Andrew M Bryce, University of Sheffield

We provide new evidence about the work-related exposure of disabled people to COVID-19 using household survey data from Understanding Society combined with a novel occupational risk indicator. Despite their higher clinical vulnerability, disabled people in employment in the UK were significantly more likely to be going out to work during the pandemic rather than working from home, and were working in occupations that were more exposed to COVID-19 than the occupations of non-disabled workers. Our results raise questions about whether there are sufficient safeguards for disabled people in the workplace, and have longer-term implications for a labour market where COVID-19 is a persistent health issue.

Coronavirus restrictions and subjective wellbeing (SWB): New evidence from the ONS OPN Covid-19 Survey

Chris Deeming and Shimaa Elkomy, University of Strathclyde

Different sets of public health restrictions have been introduced at different stages of the pandemic in England, Scotland and Wales, reflecting governmental action to suppress the virus. In this study we consider the social impact of the pandemic and lockdowns restrictions on the UK population and subnational populations with a focus on Subjective Wellbeing (SWB). We pool 50 waves of the new Opinions and Lifestyle Survey (OPN) COVID-19 Social Impacts survey by the Office for National Statistics (ONS) to empirically examine the social and SWB impacts of different public health interventions. We consider the impact that the pandemic has had on SWB, examining pandemic/pre-pandemic effects in the survey data. We also look at what effect the duration of the pandemic has had on SWB levels. Finally, we consider the impact of different public health measures and restrictions on SWB, here we consider the impact and effects of school shutdown, work closure, and the stay at home policy. We also discuss some of the methodological challenges and developments in our work, and some of the practical issues of working with the OPN COVID-19 module data, accessed remotely via the Office for National Statistics Secure Research Service (SRS).

Long-term health conditions and labour market outcomes during the COVID-19 pandemic

Edward JD Webb, Philip G Conaghan, Sarah R Kingsbury, Theresa Munyombwe, Robert West, and Adam Martin, University of Leeds, and Claire Hulme, University of Exeter Medical School

Background

Long-term health conditions can lead to worse labour market outcomes. COVID-19 may have increased inequalities, with people with long-term conditions facing reduced opportunities, although they may have benefited from e.g. increased home working. Evaluating outcomes during COVID-19 could help target support for people with long-term conditions.

Methods

Understanding Society COVID-19 survey data from April 2020-September 2021 was used to identify participants employed at baseline (January/February 2020) and diagnosed with: asthma, arthritis, cancer, diabetes, emotional, nervous or psychiatric problems (ENP), COPD, bronchitis, liver conditions, epilepsy, or high blood pressure (HBP). Propensity score matching matched participants with/without each condition on baseline variables. Random effects panel models were used to assess changes to employment status, hours worked, earnings conditional on employment, and working from home. Whether participants received universal credit (UC) post-March 2020, indicating increased need for support, was assessed using logit.

Results

The most common condition was asthma (N=5,105), the least common was COPD (N=90). Little of significance was found for earnings. There were significant effects of asthma, arthritis, diabetes, COPD (largest effect, 6.1 fewer hours/week) and bronchitis on hours worked. Significantly lower probability of employment was seen for asthma, arthritis, cancer, diabetes, ENP (largest effect, 0.02 lower probability), epilepsy and HBP. Participants with asthma, arthritis, COPD (highest odds ratio, 9.58), liver conditions and HBP were more likely to receive UC. Only participants with COPD were more likely to work from home.

Conclusion

Although there was little effect on earnings conditional on employment, people with most studied diagnoses reduced employment and/or worked fewer hours. For many conditions, people were more likely to claim UC, indicating reduced labour market participation was likely involuntary. Apart from COPD, people with long-term conditions did not disproportionately take advantage of home-working opportunities. People with long-term conditions require support with labour market participation following COVID-19.

Mental health

Multimorbidity and mental health for people who have experienced homelessness: Analysis of the 2007 and 2014 Adult Psychiatric Morbidity Surveys

Natasha Chilman, Peter Schofield, Sally McManus, and Jayati Das-Munshi, King's College London

Objectives

Data on the health of people who have experienced homelessness are rarely collected or examined in large national household surveys in the UK. In this study, we utilise data from two waves of a nationally representative survey in England to determine the prevalence of mental and physical multimorbidities in individuals who have experienced homelessness.

Methods

The Adult Psychiatric Morbidity Surveys from 2007 and 2014 were combined to provide cross-sectional data from a random sample of individuals living in private households. The presence of mental and physical health morbidities was assessed by structured validated scales. The survey-weighted prevalence estimates of health conditions and multimorbidities for participants who had experienced homelessness were compared to those who did not report homelessness.

Results

Within the total sample (n=14,949), 599 participants reported experiencing homelessness at some point in their life (prevalence=3.73%, 95% CI 3.40-4.09). Descriptive assessments indicated that people with an experience of homelessness had a higher prevalence of common mental disorders (45.4%, 95% CI=41.1-49.7, n=295) compared to the rest of the sample (15.4%, 95% CI=14.7-16.2, n=2,319), and a higher prevalence of psychotic experiences (20.6%, 95% CI=16.9-24.9, n=108; compared to 5.02%, 95% CI=4.59-5.49, n=614). Furthermore, this group had a higher prevalence of substance dependency (9.73%, 95% CI=7.08-13.2, n=50; compared to 1.97%, 95% CI=1.69-2.3, n=209) and harmful alcohol use (7.77%, 95% CI 5.68-10.5, n=49; compared to 3.01%, 95% CI 2.68-3.37, n=385). The majority of formerly homeless participants reported two or more physical health conditions (67.5%, 95% CI 62.8-71.9, n=423).

Conclusions

Prior experience of homelessness endured as a marker of exclusion in the two waves of this national household survey. We observed important and neglected inequalities in health for people who had experienced homelessness, highlighting the need for co-ordinated and integrated healthcare support for this group.

Exploring the longitudinal impact of social media on adolescent mental health: Findings from the UK Longitudinal Household Study

Ruth Plackett, Jen Dykxhoorn, and Jessica Sheringham, UCL

Background

Cross-sectional studies have found a relationship between social media use and depression and anxiety in young people. We examined the longitudinal relationship between social media use and young people's mental health and the role of self-esteem and social connectedness as potential mediators.

Methods

The sample comprised 3,228 young people from Understanding Society (waves 1-10). Mental health at age 14 or 15 was measured by the SDQ Total Difficulties score. The number of hours spent on social media was measured at age 12 or 13. Self-esteem at age 13 or 14 was measured via eight questions and social connectedness was measured by two questions. Multilevel linear regression models explored whether social media use at age 12 or 13 predicted mental health at age 14 or 15. Path analysis with structural equation modelling investigated the mediation pathways.

Results

In unadjusted analysis, for those who spent 7 or more hours on social media vs none, their mental health problems trended upwards by 3.87 (95% CI, 0.71-7.03) but this relationship was attenuated after including covariates. In unadjusted path analysis, more social media use was associated with lower self-esteem (b=-0.10, p<0.05), which in turn was associated with more mental health problems (b=-6.80, p<0.001). The indirect effect (b=0.70, p<0.05) showed that 68% of the effect of social media use on mental health two years later was mediated by self-esteem. This relationship was attenuated after adjusting for covariates and in imputed data, and social connectedness was not associated.

Conclusion

This study shows the importance of longitudinal evidence, as we found there was little evidence to suggest a causal relationship between social media use and mental health issues two years later. Interventions that address social media use alone may not improve young people's mental health but those that consider factors like self-esteem may be more effective.

An intersectional analysis of inequalities in young people's mental health within the higher education context

Kieran Balloo, University of Southern Queensland and University of Surrey, Anesa Hosein, University of Surrey, Nicola Byrom, King's College London, and Cecilia A. Essau, University of Roehampton

Taking higher education as a specific social context in which to explore structural and social determinants of inequalities in young people's mental health, this study used the new gold standard for quantitative intersectionality research (Multilevel Analysis of Individual Heterogeneity and Discriminatory Accuracy [MAIHDA]) as an analytical approach. Drawing on data from the Longitudinal Study of Young People in England, we used MAIHDA to predict the odds that mental distress during adolescence, sex, socioeconomic status, sexual identity, ethnicity, and their intersections, were associated with young people's mental health outcomes at age 25. Analyses were performed both within and outside of the higher education context to determine whether university attendance shaped any intersectional effects. The results did not reveal any evidence of intersectional effects (i.e. a multiplicative model) on young people's mental health outcomes. Significant main effects of social identities (i.e. an additive model) were, however, found: Being female or identifying as a sexual minority increased the odds of young people experiencing mental health problems at age 25, although the odds of self-harming were half the size for sexual minorities who attended university; Black and Asian individuals were less likely to declare a mental illness than White individuals; and young people who grew up in a more deprived area and did not attend university were more likely to experience mental health problems. Implications of the findings are that mental health interventions for young people do not necessarily have to be designed exclusively for specific intersectional groups, but could instead be targeted at broad social group memberships. Since, the university environment appears to produce better mental health outcomes for some young people, further investigation is needed to understand potential benefits afforded by attending university, and to determine whether this should and could be replicated in the wider general population.

Parallel research paper session 2

Health inequalities

Ethnic inequalities in cervical screening uptake in the UK

Deborah Chilekwa, Hull York Medical School

Objectives

To examine the association between ethnicity and cervical screening uptake in the UK.

Method

The sample consisted of 12,006 women aged 25-64 living in the UK (mean age 45, SD 11) Mann-Whitney U and Chi-square tests were performed to determine the bivariate relationship between sociodemographic variables and cervical screening uptake. Based on the results from the bivariate analyses, an odds ratio (OR) was derived using logistic regression analysis with the following significant variables ($p < 0.05$): age, ethnicity, religion, educational status, economic activity, national statistics socioeconomic classification, access to a car and number of visits to the GP.

Results

In the weighted multivariable model, Asian women were less likely to go for a cervical screening test compared to White women (OR 0.525, $p < 0.01$). Additionally, women were more likely to go for cervical screening if they had access to a car (OR 1.172, $p < 0.001$) and had visited the GP (compared to no visits to the GP: 1-2 visits, OR 1.450, 3-5 visits OR 1.826, 6-10 visits OR 1.943, >10 visits OR 1.415, all: $p < 0.001$). The ethnic groups of South Asian women for cervical screening uptake were Indian (27.4%), Pakistani (10.5%), and Bangladeshi (13%).

Conclusion

The likelihood of participating in cervical screening was 47% lower among Asian women compared to White women. This has implications for future research and practice in terms of identifying barriers to uptake and subsequently developing culturally appropriate interventions to try to improve uptake amongst Asian women.

Understanding the burden of chronic back pain: a spatial microsimulation of chronic back pain at small area level across England

Harrison Smalley and Kimberley Edwards, University of Nottingham

Background

Chronic back pain (CBP) carries a significant burden. Understanding how and why CBP prevalence varies spatially, as well as the potential impact of policies to decrease CBP, would prove valuable for public health planning. This study aims to simulate the prevalence of CBP at ward-level across England, identify associations which may explain variation, and explore 'what-if' scenarios for the impact of policies to increase physical activity on CBP.

Method

A two-stage static spatial microsimulation approach was used. The simulation 'combined' national CBP data from the Health Survey for England (HSE) 2017 and national physical activity data from the HSE 2013, 2014 and 2015 with spatially disaggregated demographic data from the 2011 Census. The output was validated, mapped, and analysed using geographically weighted regression (GWR). 'What-if' analysis altered individuals moderate-to-vigorous physical activity (MVPA) levels and repeated the simulations.

Results

Significant clusters of high CBP prevalence were found predominantly in coastal areas and low prevalence in cities. Univariate GWR found a strong positive correlation between physical inactivity and CBP prevalence at ward-level, strongest in/around cities ($R^2=0.815$; Coefficient: Mean=0.833, SD=0.234, Range=0.073–2.623). This relationship was largely explained in the multivariate multiscale-GWR model by confounders, the proportion of residents that are: >60, in low skilled jobs, female, obese, smokers, white/black or disabled ($R^2=0.924$; Coefficient: Mean=0.070, SD=0.001, Range=0.069–0.072). 'What-if' analysis showed a detectable reduction in CBP prevalence for increases in MVPA of 30 and 60 minutes (-2.71%).

Conclusion

CBP prevalence varies across England. At ward-level physical inactivity is highly positively correlated with CBP. This relationship is largely explained by geographic variation in confounders. Policies to increase physical activity will likely result in a significant reduction in CBP prevalence. To maximise their impact, policies could be tailored to high prevalence areas.

Sexual orientation identity and type II diabetes: individual participant meta-analysis of 3,580 cases among 100,503 individuals from fourteen health surveys in the UK

Dr Joanna Semlyen and Dr Jane Skinner, Norwich Medical School, University of East Anglia
Health inequalities in people who identify as lesbian, gay, bisexual and 'other' (LGBO) have been observed across a range of health outcomes and health risk behaviours in the UK. No UK data exists for association between sexual orientation identity and type II diabetes before this study.

We present preliminary findings from a pooled dataset of 100,503 people created from fourteen UK health surveys (Health Survey for England 2011, 2012, 2013, 2014, Scottish Health Survey 2008 to 2013, Northern Ireland Health Survey 2013/14, National Surveys of Sexual Attitudes and Lifestyles 3 (NATSAL), 1970 Birth Cohort Study and Understanding Society). Participants identified as lesbian/gay ($n = 1,222$, 1.22%), bisexual ($n = 936$, 0.93%), 'other' ($n = 638$, 0.63%) or heterosexual ($n = 97,707$, 97.22%). Individual participant data meta-analysis with logistic regression was used to estimate odds ratios for self-reported type II diabetes. Adjusting for age and sex and allowing for between-study variance, adults identifying as lesbian/gay (OR = 1.51, 95% CI 1.08, 2.11), bisexual (OR = 1.73, 95% CI 1.21, 2.49) and 'other' (OR=1.54, 95% CI 1.07,2.20) were at increased risk of type II diabetes compared to adults who identified as heterosexual. Further adjustment for BMI category, ethnic minority status, educational attainment, smoking and alcohol use removed the association for the 'other' group (OR = 1.25, 95% CI 0.87, 1.81) but the association for lesbian/gay (OR = 1.73, 95% CI 1.22, 2.44) and bisexual (OR = 1.72, 95% CI 1.19, 2.48) identities remained.

Our analysis shows LGBO adults are at increased risk for type II diabetes. Minority stress may explain these and other observed health disparities in this population. Sexual orientation identity should be collected routinely in population health surveys, clinical trials and clinical settings, to allow us to gain important knowledge about health disparities in this group. Collecting such data routinely ensures compliance with equal opportunities legislation.

COVID-19 and Mental Health

Housing, financial conditions and mental health during a pandemic

Marco Felici, University of Cambridge

[Full paper](#)

The COVID-19 pandemic has been recognised to heavily affect mental health. Because of the nature of the pandemic response, characterised by lockdowns and social distancing, housing has had a particularly important role. Within the British context, this paper looks at the relationship between housing, financial conditions and mental health in the pandemic period along three dimensions: tenure, falling behind with housing payments and access to outdoor space. Using a series of difference-in-differences set ups, I document that the pronounced cross-sectional gradient in reported mental health found in pre-pandemic times across tenure types, with outright homeowners faring best and renters worst, stays largely the same in the pandemic period too. Moreover, existing differences across ability to pay for housing and access to outdoor space are not persistently altered either. In fact, apart from sizeable but short-lived exceptions, the difference in mental health is remarkably constant across the different dimensions, following a same trend over time.

Is caring for others good for our mental health? Evidence from the COVID-19 pandemic in the UK

Chiara Costi and Bruce Hollingsworth, Lancaster University, Vincent O'Sullivan, University of Limerick, and Eugenio Zucchelli, Lancaster University and Madrid Institute for Advanced Study

While there is a growing literature focused on mental effects of Covid-19 on the general population, less is known about potential psychological consequences of providing informal care during the ongoing pandemic. The Covid-19 outbreak caused sudden disruptions of most formal care services due to national lockdowns. This resulted in 4.5 million individuals who started providing informal care in the UK alone.

Mental health challenges related to Covid-19 and the psychological burden associated with informal care are widely documented. However, until now these two issues have been considered separately. Moreover, there is currently no evidence on the causal impact of providing informal care with different caregiving duration on mental well-being of informal carers during the pandemic. Since governments rely on unpaid caregivers as an alternative to formal care, investigating this research question is policy-relevant.

Exploiting the longitudinal nature of the UKHLS (Understanding Society), we employ the last three Mainstage waves (2016-2019) together with eight Covid-19 Survey waves (April2020-March2021). We implement a difference-in-differences approach with multiple time periods, defining treatment groups according to caregiving duration. We observe three groups of experienced informal caregivers starting their provision in 2017, 2018 or 2019; new caregivers starting with the pandemic outbreak; and a never-caregivers group. This allows exploring the role of adaptation, investigating mental outcomes of informal carers with different caregiving durations, also including control variables. As people can self-select into

caregiving, we employ propensity score matching to pre-process the data, accounting for attrition and non-response bias.

Our estimates suggest that mental health fluctuated according to social restrictions, but informal carers had consistently worse outcomes during the pandemic. It also seems that adaptation plays a role, with experienced caregivers coping better than new caregivers. This paper suggests that policies mitigating psychological burden of unpaid carers might be helpful, especially at the start of care provision.

Key worker health status pre- and during the COVID19 pandemic: an explorative analysis using the EQ-5D-5L

Gemma E Shields, Aleix Rowlandson, Filippo Varese, and Linda Davies, University of Manchester, Paul French, Manchester Metropolitan University, and Kate Allsopp, Greater Manchester Mental Health NHS Foundation Trust

Background

The Resilience Hubs mixed-methods study is evaluating an NHS outreach, screening and support service to address the mental health needs of key workers during the COVID-19 pandemic. We aimed to summarise the health status of key workers accessing Hub support and to compare them to a pre-pandemic sample of key workers using 2018 data from Health Survey for England (HSE).

Methods

As part of the Resilience Hubs study, 6 months after Hub screening, key workers were invited to complete a questionnaire which included the EQ-5D-5L; a measure of health status across 5 domains (mobility, self-care, usual activity, pain/discomfort, anxiety/depression). A comparison was made to HSE 2018 data, restricted to health and social care associate professionals, which represented a sample of key workers pre-COVID-19 pandemic. HSE interview weight was applied to account for selection and non-response biases. Health status profiles were converted to EQ-5D values (ranging from 0 to 1; 1 indicating perfect health) using the published tariffs and methods recommended by NICE at the time of the study initiation and data collection.

Results

The sample of Hub users were more likely to report having some problems across the EQ-5D domains, especially related to usual activities and anxiety/depression. The mean EQ-5D value in the Hub sample was significantly lower (mean 0.755; 95% CI 0.731, 0.779; n=270) than the HSE pre-pandemic sample of key workers (mean 0.870; 95% CI 0.853, 0.888; n=348) ($p < 0.01$).

Conclusions

Key workers accessing Hub support during the pandemic had reduced health status compared to the pre-pandemic sample. There are limitations to the analysis, e.g., a lack of data specific to the Hub user cohort pre-pandemic. Future HSE data should be analysed to compare a broader cohort of key workers pre- and post-pandemic.

COVID-19 lockdown, (un)employment and mental health: Evidence from UK

Srinjoy Sen, Subhasish Dey, and Atisha Ghosh, University of Warwick

The Covid-19 Pandemic has not only affected the physical health of people but also had deleterious effects on the mental health and well-being of large swathes of the population across countries. We use longitudinal data from earlier waves of the UK Household Longitudinal Study (UKHLS or Understanding Society) and the April, May, June 2020 waves of the UKHLS COVID-19 study to assess the impact of employment shocks arising from the first nationwide UK lockdown in March 2020 on individual's mental health. We aim to evaluate the impact of employment shocks arising from the reduction in hours worked

compared to the pre-lockdown period (Jan-Feb 2020) on proxy measures of mental health using a quasi-experimental research design such as difference-in-difference (DiD) methods. We further managed to identify the reasons for the reduction in work hours compared to Jan-Feb 2020 which could be attributed to the Covid-19 pandemic or the national lockdown such as being laid off, being made redundant, furloughed, employer cutting tasks and self-isolation. Our main result is that Covid-19 related fall in workhours significantly worsened mental health outcomes - respondents who faced Covid-19 related fall in employment were 3 ppt. more likely to be at the risk of mental health problems. We check for the validity of our DiD methods using event-study specifications to ensure that there are no diverging pre-trends. We also make our findings robust by conducting matched-DID estimations so as to control for individual and household level factors which could influence reduction in workhours. The main contribution of our paper is to establish a causal impact of Covid-19 on mental health by exploiting the channel of Covid-19-lockdown induced unemployment using a quasi-experimental research design.

Open session

The effect of social participation on health and well-being: Evidence using Spatial Marginal Treatment Effects Model

Anna Wilding, Luke Munford, and Matt Sutton, University of Manchester

Background

Social participation is the involvement of individuals in activities that provide connections with others. Past research has shown associations between social participation and improved health outcomes. However, causality has not been established due to endogeneity from reverse causality. Availability and proximity of community assets are plausibly valid instruments but have not been related to health and well-being outcomes. We map community assets in a large, heterogeneous urban area to estimate health returns to social participation.

Methods

We geo-coded fourteen different types of community assets within Greater Manchester and linked this information to the UK Household Longitudinal Study. We use distance to assets as spatial instruments in a marginal treatment effects regression model. This model estimates how treatment effects vary by propensity to participate and produces marginal policy relevant treatment effects (MPRTE). They estimate the average effect of marginal shifts in either increases in proximity of assets or propensity scores, and the treatment effects report expected returns for those who subsequently would participate due to the incremental change.

Results

Spatial proximity of assets predicts social participation. The effects of participation on health and well-being are not homogenous, with greater returns for those more likely to engage. The average treatment effect on the treated is 1.91 (95%CI 0.30-3.52) points on a five-point measure of self-assessed health and 21.8 (95%CI 3.13-40.3) points on the 100-point Short-Form 12 of Mental Health Component Summary score. MPRTEs indicate that marginal shifts in either proximity of assets or propensity scores would have insignificant treatment effects across both outcomes.

Discussion

Social participation has significant gains to health and well-being yet disproportionately benefits those more likely to engage. Future policies will require large shifts in community asset infrastructure and encouragement of social participation for equitable gains across individuals to ensure it does not contribute to existing inequalities.

Performance-related pay and objective measures of health after correcting for sample selection

Nicole Andelic, Julia Allan, Keith A. Bender, Daniel Powell, and Ioannis Theodossiou, University of Aberdeen

There is a growing literature suggesting that performance-related pay (PRP) may lead to poor health. However, much of the literature relies on self-reported data and the relationship between PRP contracts and health is particularly difficult to examine due to confounding variables. For example, it is possible that the variables that lead to workers choosing to work in PRP, e.g. risk preference, are the same variables which lead to poorer health.

Data from the UK Household Longitudinal Survey is used as UKHLS includes a nurse assessment module in 2011-2012 where multiple health measures were taken. To maximise the number of observations we categorise our sample by the three groups of health measures: measures of blood pressure ($n=5667$), inflammation markers in blood ($n=4025$) and self-reported health ($n=6120$). Finally, the regressions statistically corrected for self-selection bias using two instruments: Size of firm and % share of PRP workers in occupation.

Examining each of the health outcomes after correcting for self-selection bias and socio-demographic covariates, we find that PRP contracts are associated with poorer self-reported mental health, higher systolic blood pressure and higher levels of fibrinogen. PRP also predicts improved levels of self-reported physical health but is not a statistically significant predictor of the remaining health outcomes.

The results are in line with previous research whilst addressing two common limitations of previous research. Firstly, by measuring blood pressure and inflammation markers in blood it is possible to circumvent some of the issues associated with self-reported health measures. Secondly, by correcting for self-selection bias the study controls for some of the endogeneity that is associated with workers both self-selecting into PRP as well as having poorer health. These findings have implications for firms that use PRP as they may need to implement policies to mitigate against chronic stress.

Daily eating windows amongst UK adults and their relationship with metabolic health: Insights from the National Diet and Nutrition Survey

Mel de Lange, University of Bristol

In recent years, time-restricted eating (TRE) (limiting food intake to ≤ 12 hours a day) has emerged as a strategy to lose weight and improve metabolic health. However, the potential of TRE to improve the health of UK adults is unknown as it is unclear what daily eating window (DEW) UK adults normally eat within, what type of people have longer DEWs, and whether there is a relationship between metabolic health and length of DEW in this population. This cross-sectional study utilised 4-day food diaries of UK adults aged ≥ 19 years ($n=6,802$) participating in the 2008/09–2016/17 UK National Diet and Nutrition Survey Rolling Programme (NDNS RP). 78% of adults had a DEW of >12 hours. Mean DEW length was 13 hours and 33 minutes, which suggests a reduction to a TRE regime of 12 hours could be feasible. A longer DEW was associated with being older, male, white, degree-educated and employed, as well as not smoking, getting less sleep, being more physically active, drinking alcohol more frequently and consuming a greater proportion of your diet as fruit and vegetables. After adjusting for potential confounders and mediators, a longer DEW was associated with higher HDL cholesterol and c-reactive protein concentrations, and a lower BMI, waist/hip ratio and LDL cholesterol concentrations. Overall, this suggests that a

longer DEW is not associated with worse metabolic health. However, the effect sizes for these metabolic markers were small and unlikely to be important for public health. On this basis it is not possible to recommend TRE as an intervention to improve the metabolic health of UK adults. Future research into DEWs should aim to utilise more objective, passive measures of the timing of food intake, such as accelerometer data and wearable cameras.

Using and accessing health studies and training resources

What is the CLOSER Learning Hub and how can it help me in using longitudinal studies for my research?

Dr Neil Kaye, CLOSER – UCL

There is a wealth of rich social and health data to be found in the UK birth cohort studies, household panel studies, and on-going longitudinal studies that cover the whole life course. However, it is not always intuitive how to access and use the data from these studies, especially for newcomers to longitudinal research.

CLOSER, based in UCL's Social Research Institute, works with our 19 partner studies – including Understanding Society, the UK birth cohort studies, the English Longitudinal Study of Ageing, Born in Bradford, Generation Scotland and many others – to increase the visibility, use and impact of using longitudinal study data for social and biomedical research.

CLOSER's Learning Hub is an online educational resource which helps those new to longitudinal studies, including students and policy makers, to better understand the value of these studies and how to use their data.

This presentation provides a demonstration of the Learning Hub, including a short introductory animation that has been designed to give a broad overview of how it can help users to get started with their research.

It will look in-depth at the resources available on the Hub, including its learning modules, data access guidance and research case studies. From understanding the benefits of longitudinal research, to accessing longitudinal data sets and thinking about analysing and writing up research, this presentation provides a clear guide for anyone considering using longitudinal study data in their research.

Using linked Hospital Episode Statistics data to aid the handling of non-response and restore sample representativeness in the 1958 National Child Development Study

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There is growing interest in whether linked administrative data have the potential to aid analyses subject to missing data in cohort studies. Using linked 1958 National Child Development Study (NCDS) and Hospital Episode Statistics (HES) data, we applied a multi-stage data-driven approach to identify HES variables which are predictive of non-response at the age 55 sweep of NCDS. We then included these variables as auxiliary variables in multiple imputation (MI) analyses to see if they helped restore sample representativeness in terms of early life variables which were essentially fully observed in NCDS (mother's husband's social class at birth, cognitive ability at age 7) and relative to external population data (educational qualifications at age 55, marital status at age 55).

After application of our approach we identified five HES variables that were predictive of non-response at age 55 in NCDS. For example, cohort members who had been treated for adult mental illness were almost 3 times as likely to be non-respondents (risk ratio 2.81; 95% confidence interval 2.05, 3.86). Inclusion of these variables in MI analyses did help restore sample representativeness. However, there was no additional gain in sample



representativeness relative to analyses using only previously identified survey predictors of non-response (i.e. NCDS rather than HES variables).

In our applications, inclusion of HES predictors of NCDS non-response in analyses did not improve sample representativeness beyond that possible using survey variables alone. Whilst this finding may not extend to other analyses or NCDS sweeps, it highlights the utility of survey variables in handling non-response.