



CENTRE FOR POPULATION CHANGE

Changing Populations

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How prepared was the NHS for coronavirus?



How have older people fared during the pandemic?



The effects of pandemic restrictions on family relationships



Economic and Social Research Council

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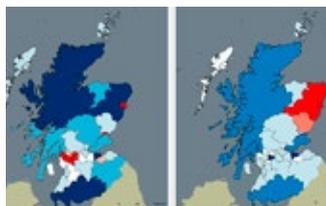
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Welcome

Hello and welcome to this edition of Changing Populations. I hope you and your loved ones are keeping safe and well during these challenging times. Despite the move to home working (and home schooling!) for much of the past six months, I am proud that the CPC team has continued its world-class research, with some pivoting their research to focus on the pandemic and how it is affecting our daily lives.

From increased stress levels, to precarious living arrangements, to loneliness, each generation is facing its own challenges, requiring targeted policy responses. The long-term scarring will likely play out for decades to come for those at the youngest end of the spectrum. While for those at the older end, the risk to health and adequate care needs immediate attention.

Alongside Covid-19, our research has also been shaped by Brexit. In November, in preparation for the UK leaving the European Union and the UK's changing immigration policies, we took CPC migration research to the UK Parliament. You can read more about these expert-led webinars on page 22. Indeed, webinars and the online learning environment have become vital this year. As an example of a successful transfer to online learning, on page 24 we give an overview of our training course designed to share knowledge on the most recent advances in building, analysing and documenting agent-based models of social processes.

On pages 16-20, we discuss global fertility, alongside UK trends in parents' partnership status when having babies, gender attitudes and practices among married and cohabiting parents, and declining teenage pregnancy rates. You can also find out how we are using Minecraft to bring population pyramids depicting real countries and fictional worlds to new audiences, see page 21.

CPC is committed to ensuring our research makes a difference and, in November, I was delighted to



win, alongside my CPC colleagues, the ESRC Celebrating Impact Prize for Outstanding Policy Impact. This award recognises our work in improving estimates of the UK's current and future populations, providing local and national policy-makers, planners and businesses with better evidence for policies and services. It is a real honour. I extend my thanks to the ESRC for their support and recognition.

In another autumn success, I was proud to launch the 'Handbook on Demographic Change and the Lifecourse', for which I was editor alongside my CPC colleagues Maria Evandrou and Athina Vlachantoni. The book brings together many leading academics from across the globe. It is pleasing to see that eight of the 20 chapters are co-authored by CPC researchers, showcasing work from across the Centre's first decade alongside that from many of our key collaborators.

And finally, we meet some of the research team in our researcher spotlight, extending our warm congratulations to Professor Jackline Wahba who was awarded an OBE in the Queen's Birthday Honours list. One of the leading voices on the economics of migration, you can read more about Jackie's career and research on page 25.

As always, I hope you enjoy finding out more about our research activities. If you have any questions or comments, please email cpc@southampton.ac.uk

Professor Jane Falkingham OBE
CPC Director

Facts and Figures

June 2020 – December 2020

PRESENTED

41

PAPERS

TOOK PART IN

28

ONLINE EVENTS

HOSTED

9

CPC SEMINARS
AND WEBINARS

MENTIONED IN

259

NEWS AND
MEDIA OUTLETS



74

PUBLICATIONS



419,100

TWITTER IMPRESSIONS



1,271,307

WEBSITE VISITS

Upcoming events:

4 February: CPC Webinar - Studying health and migration using social media: tools for survey participant recruitment complement digital trace data | Emilio Zagheni

12 February: CPC Webinar - Carrying out rapid qualitative research during a pandemic: Lessons from Covid-19 | Cecilia Vindrola

25 February: CPC Webinar - Rory Coulter

19 February: CPC Webinar - Paleodemography of Black Sea Scythians: An exploration by using Bayesian methods

22 March: Understanding Society Families Conference

25 March: CPC Webinar - Jamie Pearce

For further details and more information about our events, please visit www.cpc.ac.uk/activities/full_events_calendar

To keep up-to-date with our latest news, events and publications, visit www.cpc.ac.uk, follow us on Twitter @CPCpopulation and Facebook. For all the latest CPC news and comment, visit our 'Centre for Population Change in the news' page on Scoop.it! www.scoop.it/topic/centre-for-population-change

Centre for Population Change wins ESRC Celebrating Impact Prize

Professor Jane Falkingham and colleagues from the Centre for Population Change (CPC) have won this year's ESRC Celebrating Impact Prize for Outstanding Public Policy Impact. The award recognises CPC's efforts in providing evidence to help policy-makers, planners and businesses improve systems and services.

From its outset, CPC researchers have worked closely with the Office for National Statistics (ONS) to ensure their work addresses the most relevant policy topics. They have developed better measures of the three drivers of population change – fertility, mortality and migration. CPC's population models and estimates related to these areas are being used to:

- Improve fertility estimation for local authorities, creating a better means to predict demand for key services such as school places, including nursery and early years learning, as well as maternity services;
- Develop new methodology for estimating life expectancy at older ages which has informed the way pension, life and health insurance products are priced as well as helping people better plan their pension and care needs;
- Reintroduce post-study work visas for international students following a CPC, ONS and Universities UK collaboration that helped to revise inaccurate figures on international student out-migration. This has improved understanding of student mobility and allayed concerns about non-compliance with student visas; and
- Develop more effective estimates of excess mortality due to Covid-19, by taking account of changing population structures and long-term trends in mortality. More accurate estimation is crucial in determining the effect of the present pandemic and its differing impacts within the population, and CPC is working closely with ONS to ensure the methods are applied.



Professor Mark E Smith, President and Vice-Chancellor of the University of Southampton said: "It is my great pleasure to offer my warmest congratulations to Professor Jane Falkingham and her many colleagues associated with the Centre for Population Change on winning this very important award.

"Over the last decade, the CPC team has improved the measurement of demographic change, resulting in more accurate population projections and statistics to support policy, planning and business decisions in the UK. Their research also explores what demographic change means for society and the people living in it which is a true mark of their impact on us all. As a University where we believe we do remarkable things aimed at changing the world for the better, it is through awards such as this we get external verification of our standing. Well done to all of those involved."

The full CPC team nominated for the ESRC Celebrating Impact Prize includes Professor Jane Falkingham, Professor Maria Evandrou, Professor Ann Berrington, Professor Jakub Bijak, Professor Corrado Giulietti, Professor Peter W F Smith, Professor Athina Vlachantoni, Professor Jackline Wahba, Teresa McGowan and Becki Dey.



We're delighted that we have won the 2020 ESRC Celebrating Impact Prize for Outstanding Policy Impact. It is a great honour to have been shortlisted this year and we were in esteemed company alongside many impressive ESRC projects. I am proud to be the Director of the Centre for Population Change, and grateful to a fantastic team of researchers for their many innovations and efforts in improving lives through their research. I extend my congratulations to each of them in achieving this award.



Professor Jane Falkingham OBE,
CPC Director and Dean of
the Faculty of Social Sciences at
the University of Southampton

Find out about all the 2020 ESRC Celebrating Impact Prize winners and finalists, and watch a short film about CPC research, on the ESRC website.

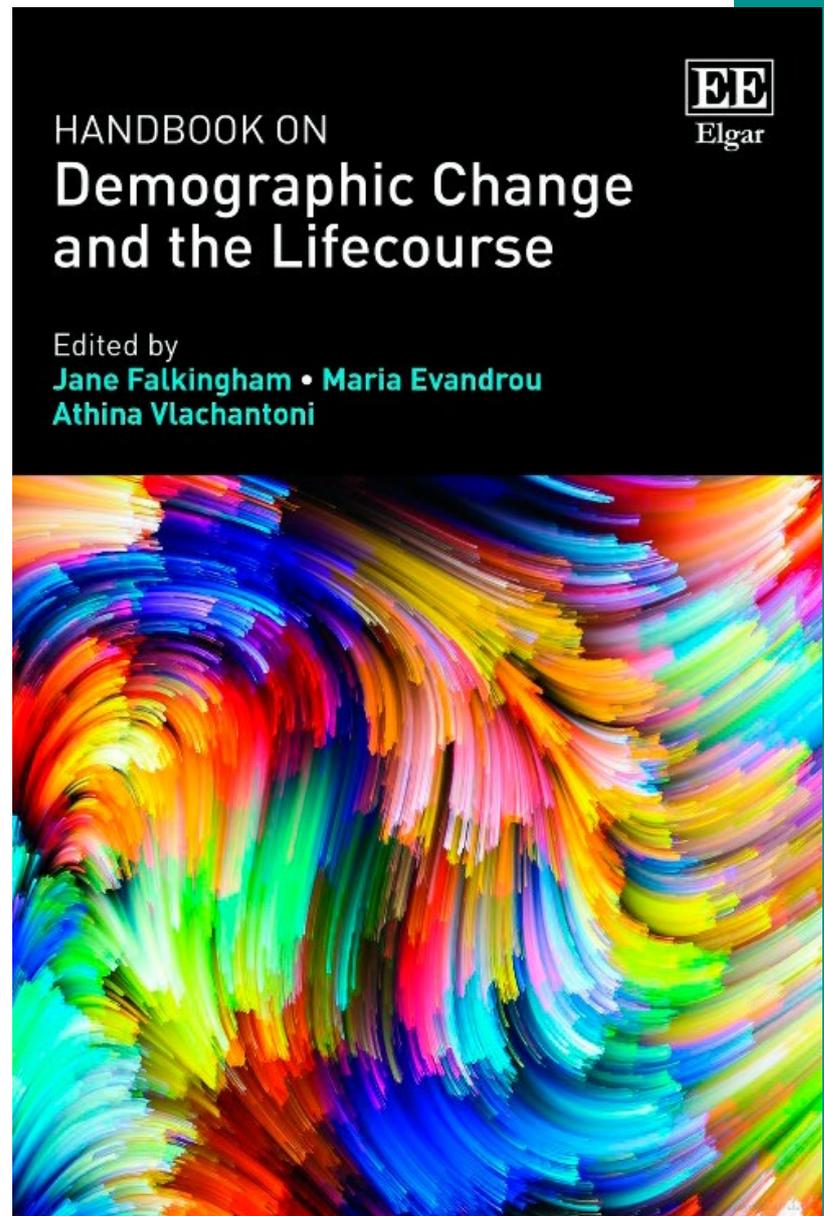
Handbook on Demographic Change and the Lifecourse

Professor Jane Falkingham, Professor Maria Evandrou and Professor Athina Vlachantoni are the editors of a new innovative research handbook on demographic change and the lifecourse.

The handbook features contributions from leading international demographers and social scientists, covering areas such as employment, health, migration, social security, family formation, housing and inequality, to give substance to investigations into the individual's lifecourse. Highlighting major theoretical and methodological advances in lifecourse research, the book sheds light on family dynamics, health and mobility, illustrating the implications for policy and reform.

Comprehensive and cutting-edge, students and researchers of demography, social policy, sociology and gerontology will be able to use the handbook to enhance their own research agendas. Policy-makers and demographic research practitioners will also benefit from its insights.

For more information and to purchase the handbook, visit the [Edward Elgar Website](#).



Covid-19 saliva sampling test launched across Southampton

A team from the University of Southampton is leading a programme, launched last summer, which evaluates regular Covid-19 infection testing for whole households. CPC members, including Professor Jane Falkingham, were involved in the first phase of the trial, advising on the weekly rollout of the tests.

Backed by the UK government, the programme involves a partnership of the University, Southampton City Council, and the NHS. The multi-disciplinary team includes colleagues from Southampton's Faculty of Medicine, as well as social statisticians and demographers from CPC and the University's Social Statistics and Demography department.

In June and July 2020, the partnership trialled the testing method on a large number of households in the city on a weekly basis. Nearly 10,000 people took part in this successful first phase which showed that an at-home saliva sampling kit can provide a reliable method for large-scale, regular testing and established systems to return results within 48 hours. It also provided further evidence for the accuracy of a rapid, lower cost 'RT-LAMP' laboratory test in detecting coronavirus.

The non-invasive saliva test allows easier testing of people of all ages and ensures that everyone in the household gets tested regardless of symptoms and on a regular basis. Initially, Southampton's 800-strong GP-practice workforce were invited to take part, followed by some other essential key workers and some University of Southampton staff and students as the programme evaluated the logistics needed for regular testing of entire households. The second phase, launched in September 2020, evaluated the application of the convenient, non-invasive saliva test in educational settings, involving staff and students at the University of Southampton and staff and pupils from four local schools where this kind of testing offers the potential to avoid wholesale or long-term closures.

Throughout the first two phases of the programme, saliva samples were collected on a regular basis from participants and taken to the Animal and Plant Health

Agency in Weybridge where they were tested using Optigene's COVID-19 LAMP test. Results were returned no more than 48 hours later.

Experts from the University of Southampton and other partners will continue to analyse data in real time to understand the virus' spread, and to simulate different scenarios as a way to inform decision-making around sustained periods of lockdown to help move the economy and society to a better state of normality.

Over 20,000 students, pupils and staff from the University of Southampton and the four schools were invited to participate in the second phase of the programme.

"By providing such testing in schools we aimed to give pupils, parents and staff confidence in the management of infection risk in schools," explained Professor Keith Godfrey of the University of Southampton's MRC Lifecourse Epidemiology Unit.

The details of those who test positive are shared with the NHS Test and Trace programme so contact tracing can start immediately.

Through testing University of Southampton students, arriving from across the UK and overseas, the partnership's aim is to keep the infection risk low in Southampton and give confidence to students, staff and local communities.

Councillor Christopher Hammond, Leader of Southampton City Council, said: "Regular testing is a vital tool to help us manage the risk of Covid-19 infection in our communities. Thanks to the thousands of Southampton residents who took part in the first phase of this trial, we now have a much greater understanding of the potential for this promising new saliva test.

The second phase is helping us to better understand how the test can be rolled out across different types of school and university settings. If we are successful, we hope to offer the testing programme to more settings in the near future."

Harry Kutty, Headteacher at Cantell Secondary School and Chair of the Aspire Community Trust who represents the four schools involved in this phase of the trial, commented: "We're really excited to be part of this innovative trial. Getting schools open and running safely and smoothly is our number one priority and anything that could potentially help give parents, teachers and staff confidence and avoid wholesale closures has to be a good thing. Hopefully what we learn as early adopters can help to develop this programme to be available to more schools and other settings in future."

Professor Godfrey added: "Those taking part have helped pave the way for wider regular testing across the educational, community and business settings here in Southampton and more widely. What we have learned from the Southampton COVID-19 Testing Programme has informed national policy and coronavirus control measures elsewhere across the country."

Further reading:

Further information can be found in the full report 'Evaluation of the expanded Southampton pilot study (Phase 2) for use of saliva-based lamp testing in asymptomatic populations: Final report, 16th November 2020' Keith Godfrey, Southampton COVID-19 Testing Pilot Programme (2020)

How prepared was the NHS for coronavirus?

The Covid-19 outbreak has increased pressure on the National Health Service (NHS). Dr Armine Ghazaryan, Professor Corrado Giuliotti and Professor Jackie Wahba ask whether the NHS has been equipped to save lives; was the government doing enough to 'protect the NHS' in the years leading up to the pandemic? Have the Brexit referendum and recent austerity hampered investment in the NHS?



Protecting the capacity of NHS services is seen as vital for dealing with the Covid-19 pandemic. The message from the UK government during the worst phases of the outbreak has been to 'stay home, save lives, protect the NHS'. But over the last decade, the healthcare sector has not had adequate public funding for it to grow and develop. It has been affected by austerity measures and uncertainty over Brexit. The UK's ageing population has created additional demand for healthcare services and, coupled with stagnant government spending, this has increased the pressure on service provision.

The research team has found that:

- The UK has higher health expenditure as a share of GDP than the OECD average, but lower healthcare spending per person;
- Spending cuts over the last decade

have suppressed the growth of the NHS workforce;

- The UK has much fewer doctors (2.8) and nurses (7.8) per 1000 people compared to other European countries;
- The UK is more dependent on foreign-born doctors and nurses than average among OECD countries; and
- The UK needs to grow its NHS workforce to cope with the increase in its ageing population and in preparation for potential future global health crises.

Dr Ghazaryan comments: "At this critical time, it is important for the UK government to "protect the NHS" by ensuring that spending on healthcare is growing in-line with an ageing population. It will be vital to nurture more medical students through training and, crucially for nursing students, through funding. It is also important that shortfalls in the domestic workforce are

well-managed. The UK government needs to attract and retain foreign doctors and nurses to enable the UK to cope after the Covid-19 pandemic, through Brexit, and to deal with any future global health emergencies."

Further reading:

Empowering the NHS: Challenges for the pandemic (ESRC Centre for Population Change Report)

Empowering the NHS: Challenges for the pandemic (CPC Policy Briefing 53)

How prepared was the NHS for coronavirus? (Economics Observatory)

How have older people fared during the pandemic?

Older people are one of the most at-risk groups when it comes to the health effects of Covid-19. There has been much concern over the high levels of deaths in care homes, and the restrictions placed on care home residents and their quality of life. However, CPC research results have also shown that, overall, older people have received care and support from the wider community during the pandemic restrictions.

A research team from CPC and the Centre for Research on Ageing analysed new data from the Understanding Society COVID-19 survey collected in April 2020. The results were then linked to Understanding Society data collected in 2018/19. Led by Professor Maria Evandrou, the team examined the extent of informal support or care received by people aged 70 and over from family,

neighbours or friends not living in the same household in the first four weeks of the first UK lockdown. This was then compared with the support they received before the outbreak of the coronavirus pandemic.

The research team found that people aged 70 and over have been mostly well-supported by family, friends and

neighbours. However, there seems to be a small but vulnerable group of older people whose daily living needs are not being met. Among older people who live alone and have difficulties with personal care tasks, 17% did not receive any informal help from family, friends or neighbours.



The good news is that our research results indicate that the majority of older people received support from the wider community. During the crisis, older people received an increased level of help from existing caregivers or received support from new caregivers. This was especially the case for those living alone or with a partner also aged 70 and over.

However, previous research has shown that statutory social services are being increasingly concentrated on those with the highest level of need. There is a danger that, during the pandemic, those older people with more moderate needs may slip under the radar of the formal safety net.

Family, friends and neighbours who would usually provide care have been unable to visit during lockdown. So, there may be a small but vulnerable group of incapacitated older people whose needs for daily living are not being met. This, in turn, may contribute to the continued unmet need for social care. It could also manifest itself in falls and other unanticipated visits to hospital A&E, negating the benefits of shielding during lockdown.



Professor Maria Evandrou,
CRA Director & CPC Co-Director



People aged 70 and over have been mostly supported by family, friends and neighbours



17% of older people who live alone did not receive any informal help



Care home design in a pandemic

For older people in dedicated care settings, such as care homes, evidence is starting to emerge that the stringent measures put into place to stop the spread of Covid-19 are having ongoing detrimental effects on the overall health and wellbeing of residents. The design of care homes and long-term care facilities plays an important part in supporting the independence and wellbeing of older people, and particularly people with dementia.

CPC member Dr Alison Dawson at the University of Stirling argues that environmental designers, care providers and care managers all urgently need to respond to the changes in long-term care brought about by Covid-19. As the coronavirus pandemic has developed globally, recommended infection control precautions (ICPs) based on the best evidence available have been swiftly implemented by long-term care providers anxious to protect those that they care for. In some cases, this is achieved by restricting residents' opportunities for physical activity and social interaction (e.g. remaining in and receiving meals/care only in their bedroom, no outside visitor policies).

In order to protect the most vulnerable residents, long-term care providers have been forced to make sometimes deep

moral and ethical decisions to implement measures which have costs to all residents in terms of loss of opportunities for activity and interaction. They have also had to balance such decisions against the negative health and wellbeing outcomes which flow from such measures.

Dr Dawson comments: "The principles of environmental design for dementia set out in the 1980s and 90s remain revolutionary and relevant. They have been greatly instrumental in shaping the physical, technical, caring and social environments of long-term care in ways which contribute positively to resident wellbeing and quality of life and to staff job satisfaction. These principles should not and must not be abandoned or made totally subservient to the needs of infection control as long-term care providers seek to establish a 'new normal'.

"The recent good news of multiple approved Covid-19 vaccines and their rollout to UK care home residents is heartening, but we cannot know what their longer term efficacy might prove to be for different age groups / health contexts, and how quickly we will see their beneficial effects in terms of reducing Covid-19 cases and deaths. In the meantime, long-term care providers will be faced repeatedly with having to weigh the risks of Covid-19 infection and transmission to staff and residents

against the risks to those same groups of losing, even temporarily, access to activities or practices which support and enable residents to have the best possible lived experience of care. The new role of environmental design needs to be maximising the benefits to all by supporting providers in maintaining a balance between these competing risks.

"Despite the licensing and rollout of multiple vaccines globally, the coronavirus behind Covid-19 is unlikely to be a short-term challenge to long-term care. Developing approaches to support people to live well in an era of continued aerosol threat will leave those living and working in long-term care better prepared for both successive Covid waves and future 'Disease X' events".

Excess care home deaths

Research led by CPC member Professor David Bell and co-ordinated by the University of Stirling collated publicly available data across the four UK nations to compare and inform the impact of Covid-19 in long-term care settings such as care homes. The resulting report illustrates how care home residents, particularly in England, have been disproportionately impacted by Covid-19.

The research team found that care homes in England experienced the highest increase in excess deaths during the



Covid-19 pandemic period studied (9 March 2020 - 26 June 2020), compared with those in the rest of the UK. England recorded a 79% increase in excess deaths during this time, over 13% higher than the recorded excess deaths in Scotland and Wales, and 33% higher than Northern Ireland. Excess deaths are those above the recorded five-year average.

Of all deaths registered as Covid-19 related in the UK, 17,127 (31%) occurred within care homes and at least 21,775 (40%) were accounted for by care home residents. While Scotland had the highest proportion of care homes affected by Covid-19 and the highest proportion of care home deaths attributed to the virus, it had a lower proportion of excess deaths in these facilities compared to England and Wales.

The findings form part of a larger study offering crucial insights into the impact of the Covid-19 pandemic on the UK's care sector. Professor Bell has given evidence to the Scottish Parliament Health and Sport Committee on Health and Social Care, and to the House of Commons Scottish Affairs Committee, commenting on the impact of the coronavirus pandemic on the Scottish labour market and later life care. The evidence has also been used in the House of Commons Scottish Affairs Committee report on Coronavirus and Scotland.



Given the variation in testing and death registration practices across the UK, it will never be

possible to unequivocally assign care home deaths during the pandemic to Covid-19 or other causes. Therefore, measuring excess deaths presents the most reliable approach by which to assess the relative failure or success in handling the pandemic in care homes. In doing the analysis, we found significant gaps in the availability of timely and consistent data, highlighting the urgent need to invest in collecting social care data and statistics.



Professor David Bell,
University of Stirling



England recorded a 79% increase in excess care home deaths between March - June 2020



31% of Covid-19 related deaths occurred within care homes between March - June 2020

Further reading:

Older and home alone in lockdown: how has support from family, friends and neighbours changed? (CPC Policy Briefing 52)

Older and 'staying at home' during lockdown: informal care receipt during the COVID-19 pandemic amongst people aged 70 and over in the UK (SocArXiv)

World Alzheimer Report 2020: Design, Dignity and Dementia (Alzheimer's Disease International)

The hidden casualties of COVID-19: Challenges in long-term care (ADI webinar, YouTube)

Designing environments for people with dementia: A systematic literature review (Emerald Publishing Ltd)

COVID-19 mortality and long-term care: a UK comparison (LTCCovid.org, International Long-Term Care Policy Network)

Scotland had highest number of care home Covid cases in UK, says study (The Times)

Lockdown strength or lockdown stress? The effects of pandemic restrictions on family relationships

Covid-19 lockdowns have seen families living in ways never before experienced. For some, more time together seems to have improved relationships between partners and with their children, providing a welcome positive outcome from the crisis. For others, the worry and uncertainty coupled with new living arrangements have caused stress, leading to lack of sleep and possible long-term physical and mental health implications. CPC researchers have been investigating what the pandemic restrictions have meant for UK families.





Parents have reported stronger relationships with their children

CPC member Professor Brienna Perelli-Harris led a study, working with Dr Sandra Walzenbach from the University of Essex, which analysed responses from parents surveyed in the Understanding Society: COVID-19 Study, May 2020, a nationally representative study that collected data from 5500 parents. They found that about a quarter of parents said that their relationships with their children had become better during the government’s stay at home policy at the beginning of the pandemic. Less than 5% reported it had become worse.

Professor Perelli-Harris, the Understanding Society Topic Champion for Families and part of the Study’s Scientific Leadership Group, commented: “Many recent studies have pointed out the increasing economic and caring burden for women; for example, the April COVID-19 survey indicated that, on average, mothers spend nine more hours doing childcare and home schooling per week than fathers.

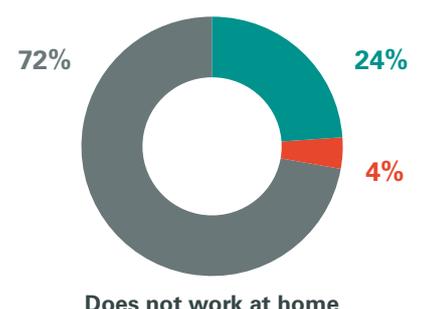
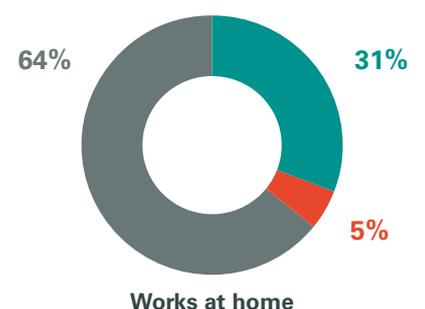
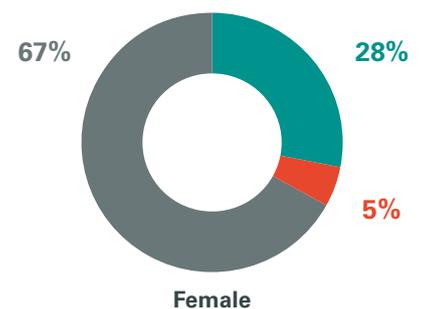
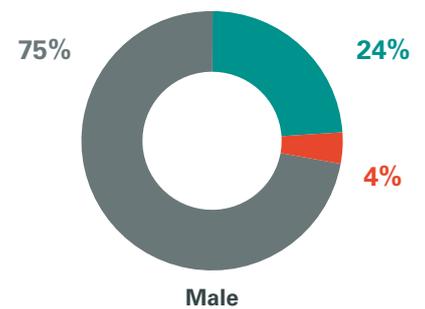
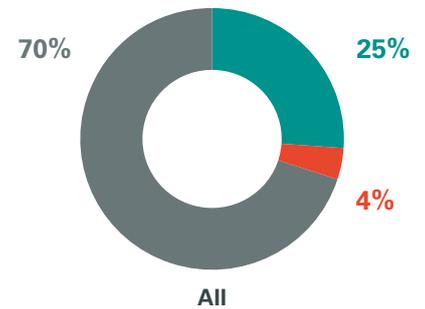
“However, there are hidden gains. Nearly one-third of women appear to have benefited from the first lockdown as a time to become closer to their children. Only 5% reported their relationships had become worse. It seems that, despite the unequal pressures of home schooling and housework, slightly more mothers than fathers reported an improvement in their relationships.”

She continues: “The survey has shown that working from home and having the time to home school seems to improve parent-child relationships. Note, however, that those who can work from home most likely have higher incomes and education. Overall, though, the differences by socio-economic status are minor, with nearly a third of those in deprived circumstances still reporting that their relationships had improved recently. And keep in mind that 97% of parents in Britain say that they have a close or very close relationship with their children. Very few say that they are not at all close to their children. It is good to see the findings getting policy consideration in the recent report ‘Coronavirus (COVID-19): impact on children, young people and families - evidence summary’ published by the Scottish Government.”

Some groups did appear to suffer more due to the lockdown. The April COVID-19 Understanding Society survey indicated that lone parents have experienced particularly severe declines in household earnings and have been falling behind on bills. These stressors may be impacting relationships. And while the survey is based on a nationally representative sampling framework, it may still have missed the most disadvantaged who have suffered the most. For example, there is insufficient data on men who have experienced hardship to be able to say whether their relationships have become better or worse. Those in the worse circumstances most likely did not answer the survey at all.

Percentage of parents who reported their relationships with their children had become better, worse, or stayed the same by gender, and working at home

■ Better ■ Worse ■ Stayed the same



These graphs have not been adjusted for other factors

Furlough makes couples' relationships stronger

In another positive finding from Professor Perelli-Harris, along with Dr Shih-Yi Chao and Professor Ann Berrington, it seems the UK government's furlough scheme has allowed many couples the time and flexibility for a better work-life balance and strengthened their relationships.

Again, the study used data from the Understanding Society COVID-19 surveys to examine couples' relationship quality during the pandemic, and differences by socioeconomic status. One in five survey respondents reported improved relationship quality during the pandemic, with only 8% reporting a decline. Policies of economic support, such as the government's Coronavirus Job Retention Scheme and Self-Employment Income Support Scheme, seem to protect couples' relationships, even bringing them closer and allowing a better work-life balance.

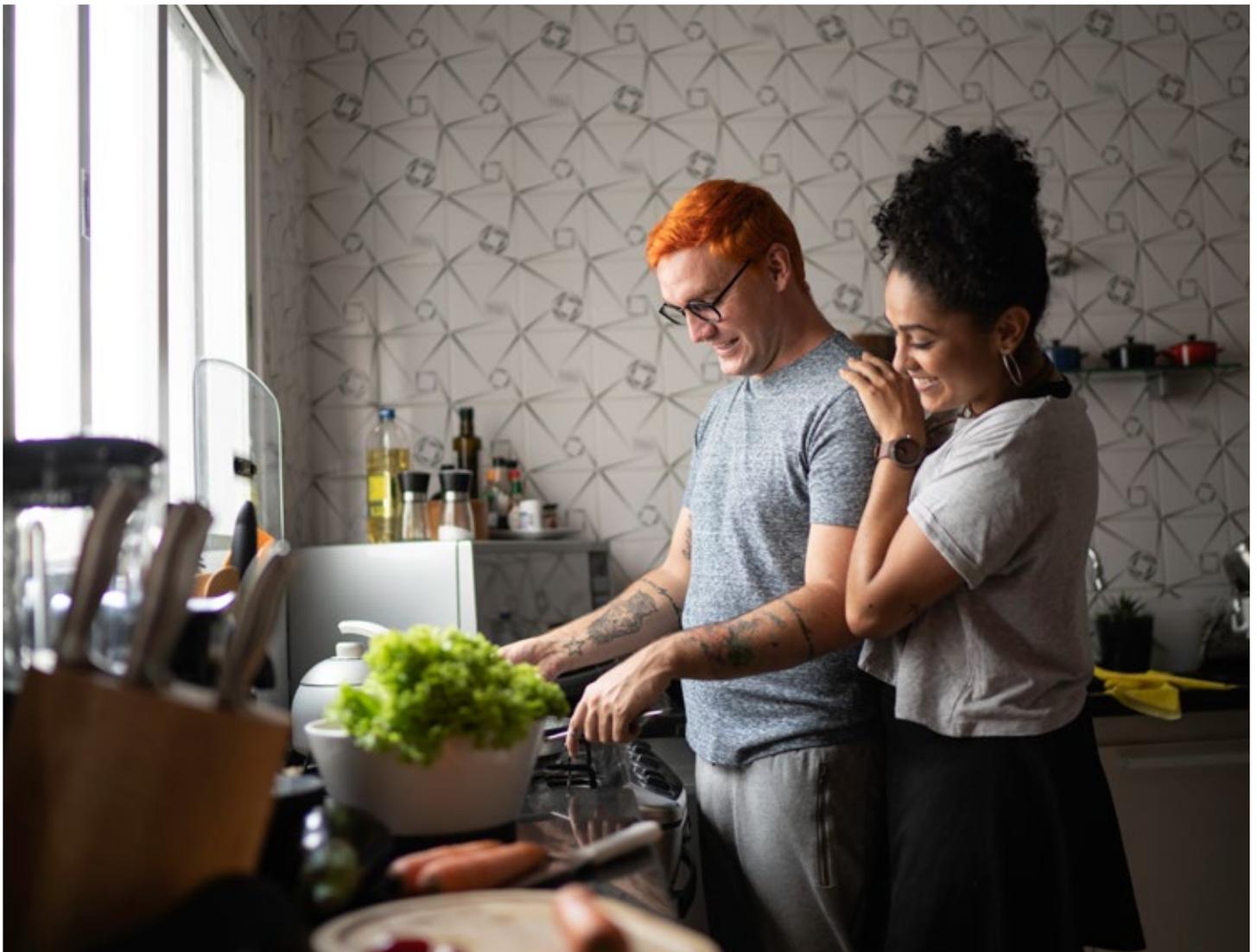
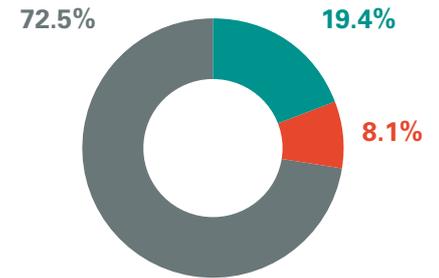
Professor Perelli-Harris comments: "Past, current, and future economic resources and security play an influential role in couple relationship quality. Poor relationship quality can, in turn, have

negative consequences for adult and child health and wellbeing. Having better socioeconomic resources makes couples more resilient to the shocks brought about by the Covid-19 pandemic. Unsurprisingly, our findings show that worry over uncertain future financial situations worsens relationship quality.

"One positive outcome of the pandemic that we uncovered is that the furlough scheme has been an important way for couples to buffer the insecurity that could destabilise their relationships. It seems that this policy has allowed many couples the time and flexibility for a better work-life balance, strengthening their relationships. This shows us that policies designed to stabilise couples' financial situations are important for families during the pandemic, particularly for the socioeconomically disadvantaged who are more likely to lose their jobs. Indeed, we believe this is an important consideration when planning the future of all of our working lives; policy-makers should note that improvements in work-life balance and more flexible working conditions seem to have a positive effect on relationships."

Change in couple relationship quality during the first UK national lockdown

■ Better ■ Worse ■ Stayed the same



But who's been losing sleep during lockdown?

Despite these positive outcomes for many, a CPC study has revealed that sleep loss is affecting more people during the Covid-19 pandemic. Rising stress levels due to anxieties about health, financial consequences, changes in social life and daily routine may all affect sleep. Sleep deprivation can have knock-on effects for physical and mental health. The study found that the Covid-19 pandemic has caused sleeping difficulties for women with young children, key workers and people of BAME heritage in particular.

Conducted by Professor Jane Falkingham and a team from CPC and the Centre for Research on Ageing, the analysis used survey data from the Understanding Society COVID-19 Study collected during April 2020. It was then compared with survey data collected in 2018/19. The sample included 15,360 respondents aged 16 and above. The first lockdown led to a rise in the number of people suffering sleeping problems from one in six (15.7%) of the sample to one in four (24.7%).

The findings show that women have been more vulnerable to sleep deprivation during lockdown. The proportion of women losing sleep over worry before the pandemic was 18.9%, rising to 31% during the pandemic. These findings are in-line with much of the recent research that suggests experiences during the Covid-19 pandemic in the UK have been very different for men and women.

In many households, women continue to be the primary carers for children and older relatives. For women with children 0-4 years of age, 19.5% suffered sleep loss over worry before the pandemic. This doubled to 40% during the first lockdown. For women with school children aged 5 – 18, sleep loss also rose, from 21.7% to 38%.

People from BAME heritage were also more likely to experience sleep loss during lockdown than those identifying as British White, mainly due to demographic and socioeconomic differences between the groups. The proportion of people in BAME groups reporting sleep problems was 20.7% before the pandemic, and 32% during lockdown. These findings join up with other research that BAME groups have higher rates of coronavirus infection, high anxiety associated with coronavirus-specific circumstances, are more likely to be key workers, to have dependent children, and to feel lonely. All of these are likely to increase the risk of sleep loss.

For keyworkers, the proportion reporting sleep problems before and during the pandemic was 16.4% and 28.9% respectively. Keyworkers from the health and social care sector or education and



childcare sector had the highest increase of sleep loss since pandemic lockdown, from 19% to 36.6% for the health and social care sector and from 15.8% to 33% for the education and childcare sector.

Professor Falkingham comments: “We are seeing that Covid-19 is having a disproportionate impact on the health of individuals from different ethnic groups and those employed in certain jobs. The indirect impacts of Covid-19, including the closure of schools and businesses, and the move to home working, seem to be worse for working age people and women. These factors may, in turn, impact upon sleep health.”

She continues: “The Covid-19 pandemic and the policy responses to it have widened the differences in sleep deprivation across gender and ethnicity, putting women and ethnic minorities at an even greater disadvantage. Disrupted and poor sleep is associated with wider mental and physical health challenges. Policy-makers and health professionals need to take action now, and we are

encouraged that this research was included in the recent ‘COVID-19: mental health and wellbeing surveillance report’ published by Public Health England, and the ‘Coronavirus (COVID-19): impact on children, young people and families - evidence summary’ published by the Scottish Government. It will be vital that better sleep health is supported and promoted amongst vulnerable groups during the pandemic if they are to avoid future secondary health complications.”

Stress levels rise as living arrangements change

Another CPC study investigated changing living arrangements during lockdown; younger adults and older family members often had to live together again during lockdown causing stress levels to rise. School and university closures, the move to remote working, furlough or the loss of employment all meant that many adult children who had previously left the parental home returned. Other individuals moved to provide care and support for a family member or friend who has been ‘shielding’, and some vulnerable and/



or older people moved in with a younger relative or friend.

The study team, led by Professor Maria Evandrou, Co-Director of CPC and Director of the Centre for Research on Ageing, has been examining the effects of these changes. The findings provide strong evidence that people whose living arrangements have changed because of the Covid-19 pandemic are more likely to report increased stress and family conflict than those who haven't moved. The research uses recently available data from five large scale nationally representative surveys, including the second wave of the Understanding Society COVID-19 study, to explore the impact of the unexpected changes in living arrangements on wellbeing and familial relationships, as measured by self-reported stress and interpersonal conflict.

Professor Evandrou comments: "At first sight, the changes in living arrangements caused by the Covid-19 pandemic could be seen as positive, as returning young adults benefit from the resources of

the parental home, and older parents receive support from younger household members. An unexpected move, however, can also cause stress. For example, young people could feel they have lost their independence, while older members of the household could struggle with having their grown-up children and even grandchildren living at home again. Within a household, members provide and receive emotional, instrumental and financial support. Stress and conflict, however, can flare up when people believe that resources and demands for support are not equal. This stress can then lead to longer term health risks."

She continues: "Our findings have important implications for public health and wider policy, so I am glad to see our research has been included in the Public Health England 'COVID-19: mental health and wellbeing surveillance report'. Not least because younger people seem to be more affected by changing living arrangements; those aged 16-29 accounted for over half of all respondents reporting that they had moved.

"Prolonged periods of stress can lead to serious health problems. Policy-makers need to be mindful that services may need to flex to take these new, albeit for many temporary, forms of living into account. For example, Universal Credit has been a lifeline for many families during the pandemic, but claims may be delayed for those whose changes in circumstances are complicated by temporary moves, with extended waiting times adding to stress. Other services such as GP practices may also need to 'flex', recognising that one in ten younger people have changed address during the pandemic – and may move again over the coming months as circumstances change."

Further reading:

How has the Covid-19 crisis impacted parents' relationships with their children? (CPC Policy Briefing 54)

Family relationships (Understanding Society Briefing Note)

Couples in Crisis: How the government's furlough scheme has protected relationships during the Covid-19 pandemic (CPC Policy Briefing 61)

'Sleepless in Lockdown: unpacking differences in sleep loss during the coronavirus pandemic in the UK (medRxiv)

'Sleepless in Lockdown': Unpacking differences in sleep loss during the coronavirus pandemic in the UK (The Lancet Public Health)

Who's been losing sleep during lockdown? (CPC Policy Briefing 55)

Coronavirus lockdown caused sharp increase of insomnia in UK (The Guardian)

Changing living arrangements, family dynamics and stress during lockdown: evidence from four birth cohorts in the UK (SocArXiv)

Changing living arrangements and family conflict in lockdown (CPC Policy Briefing 58)

COVID-19: mental health and wellbeing surveillance report (Public Health England)

Coronavirus (COVID-19): impact on children, young people and families - evidence summary September 2020 (Scottish Government)

Fertility and partnerships – how are they changing?

In the past 20 years in the UK, the partnerships that people are in when they have a baby have changed dramatically. The number of couples who live together but are not married (cohabiting) has surged in the UK, and a new family type has been created: cohabiting couples with children. Another trend we are seeing is a decline in under-18 conception rates across all English regions. At the global level, there is even some alarm about overall fertility rates going into decline. CPC fertility and family strand members have been examining these changes, and what they mean for policy and future planning.

How has parents' partnership status changed?

In all four constituent countries of the UK (England, Wales, Scotland and Northern Ireland) the proportion of live births that occur within marriage has gone down. It has become much more common for unmarried women to have babies (nonmarital births). However, not all nonmarital births are the same. Births outside of marriage might be to a couple who are living together but not married (cohabiting), or to single women (who may or may not register the birth jointly with their partner).

Research, carried out by Dr Bernice Kuang with Dr Sindhu Vasireddy, Professor Ann Berrington and Professor Hill Kulu has found that, although cohabiting parents have become more common in England, Wales and Scotland, there aren't, however, as many cohabiting parents in Northern Ireland. Birth registration data suggest that parents in Northern Ireland are more likely to be either married or living at different addresses.

One explanation for this difference is that cohabitation may be less culturally acceptable in Northern Ireland than in the other countries of the UK. The lack of legal abortion in Northern Ireland (during the time period studied) may also be important in explaining the large percentage of births registered jointly to parents at different addresses. In England, Wales and Scotland, women who became pregnant but were not in a relationship could seek an abortion, whereas women

in similar situations in Northern Ireland faced greater barriers to accessing abortion. Without the option of legal abortion, pregnant women who are not already in a cohabiting relationship may prefer to give birth while continuing to live separately from the other parent.

Dr Kuang comments: "The changing partnership context of childbearing that we've seen in this study has implications for policy-makers. Women who register a birth as the only parent (sole registrant), or parents who register a birth together but don't live together, tend to be younger than married and cohabiting parents. This is important to know because younger parents may require more support and have different health needs than older parents. Earlier research has also found sole registrants to be more disadvantaged and have worse health outcomes than married and joint registrants."

She continues: "This study indicates the continued growth of unmarried parents, particularly non co-resident parents in Northern Ireland. Our findings highlight the importance of understanding the different needs of all family types, as unmarried families become more diverse. More research is needed to investigate the characteristics of non-cohabiting parents in Northern Ireland, who may face the challenges of co-parenting from two different homes. This growing subgroup of parents should be properly acknowledged by public policy so their needs can be supported through public services and benefits."

Gender attitudes and practices among married and cohabiting parents

As the number of cohabiting parent families increase, it is important to understand the differences between married and cohabiting families to form effective social policy. Carried out by Dr Shih-Yi Chao with Professor Ann Berrington and Professor Brienna Perelli-Harris, this study examines gender attitudes and practices to better understand gender inequality and social economic conditions among cohabiting and married parents. For example, we might expect that cohabiting couples are more modern in their attitudes compared with their married counterparts. Cohabiting women may be more likely to be in paid work and cohabiting men may be more likely to share housework duties. We might also expect that women in cohabiting partnerships are less willing to specialise in domestic work; cohabitants in the UK have fewer legal protections, especially upon separation, so specialisation in unpaid work at home might be seen as more risky for cohabiting women.

Dr Chao says: "Our findings show that cohabiting parents and their children tend to have fewer resources. Policy-makers, therefore, need to pay attention to the rising number of cohabiting families with dependent children, formulating policies to aid and support them. Cohabiting parents are less likely to both be earning a salary (dual-earners) or both be earning a similar salary (equal-earners). Cohabitants are



Couples' income composition by the age of the youngest child and partnership status, UKHLS wave 8, 2016-2017



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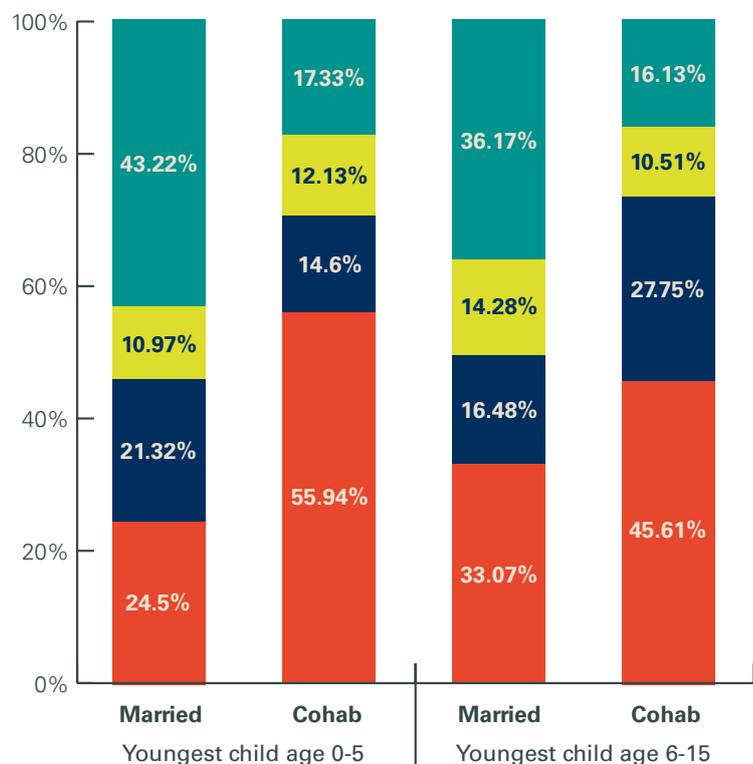
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Dr Shih-Yi Chao

Couples' education composition by the age of the youngest child and partnership status, UKHLS wave 8, 2016-2017

■ Both low ■ Father low; Mother high
■ Both high ■ Father high; Mother low



also more likely to have lower educational attainment. As the cost of raising children has increased, our findings indicate that children born in cohabiting families are at an increased risk of encountering socioeconomic disadvantages; there is a higher proportion of low-educated single-earner families where parents are cohabiting.”

She continues: “How couples share domestic labour in cohabiting relationships is similar to those who are married; married couples usually tend to conform to conventional gender labour divisions (for example, women take on more household duties, while men work outside the home). Cohabitors, however, tend to be more liberal in their attitudes towards gender roles. But it is likely that things such as expensive childcare or employment conditions mean that they often have no choice in how they divide household responsibilities. There is also a higher possibility that cohabitators will experience relationship breakdowns. This could mean that, for mothers in particular who may have spent time out of the workforce, they are pushed into further economic hardship if their relationship breaks up.”

Understanding declining teenage pregnancy rates in England

In another important research area for policy, under-18 birth rates have been declining in recent years, falling by around a quarter between 1998 and 2008, and then halving in the following eight years. This decline was mostly driven by reduced conception rates and, to a lesser extent, more conceptions ending in abortion. All English regions have seen a decline in under-18 conception rates, but there are significant geographical differences in the levels and rates of decline. Northern regions have higher conception rates than southern regions. Inner London had much higher initial conception rates but has seen a faster decline. Areas with more youth unemployment still have higher rates of teenage conception than less deprived regions.

CPC members, Katie Heap and Professor Ann Berrington, with Professor Roger Ingham from the Department of Psychology, University of Southampton, used England’s Local Authority Districts (LADs) to explore possible geographical reasons for declining teenage conception rates between 1998 and 2017. They found that declining rates of teenage

pregnancies in England are related to local areas experiencing less youth unemployment, growing Black or South Asian teenage populations, more educational attainment, unaffordable housing, and a lack of available social housing.

Both education and employment for young people changed dramatically during the period studied. There were rising numbers of teenagers entering higher education, as well as the 2008 economic recession. We have also seen growing second- and third-generation teenage ethnic minority populations.

Areas with greater proportions of South Asian pupils had lower conception rates throughout 1998–2017. This may be due to later sexual experiences, or that they may have more reasons to avoid pregnancy, being more likely to aspire to higher education. Indeed, young people from ethnic minority groups are now more likely to attend university than in the past. Added to this, in 2003 both Black African and Caribbean teenagers had lower GCSE attainment than their White British counterparts, but by 2013 had closed this gap.



Housing became less affordable throughout the 2000/2010s. At the same time, the age of leaving education rose and other transitions into adulthood happened later. The study found that there were lower conception rates in areas with less affordable housing or a lack of social housing, and increasingly unaffordable housing was associated with a larger fall in teenage pregnancies.

Ms Heap comments: "This study found that some of the changes in teenage pregnancy rates at the local level are explained by the characteristics of teenagers living in the area and wider changes in society. Alongside behavioural changes, policy-makers need to keep in mind the contextual changes of their own areas and areas they aim to emulate.

"Overall, the key concern is to improve outcomes for teenagers and children, especially the most vulnerable, and reduce long-term demand on services. Policy-makers must, then, consider these geographical and population-level changes, helping local areas to continually adapt their approach to maintaining and reducing under-18 conception rates."

What about global fertility rates?

In July, CPC members Professor Brienna Perelli-Harris and Dr Jason Hilton were invited by The Conversation to comment on a much-publicised study published by The Lancet on global population levels. Part of a group of demographers who signed a response letter to the Lancet about the IMHE study, highlighting concerns that the models, data and underlying assumptions had not received sufficient scrutiny, Professor Perelli-Harris and Dr Hilton explain more:

"When the BBC reported on the results of a new study on global population in mid-July, the tone was alarmist. "Jaw-dropping" declines in births were foretold, while one of the study's authors revealed worries about his daughter's future in light of "enormous social change". The study by the University of Washington's Institute for Health Metrics Evaluation (IMHE), published in The Lancet, projects that global population will peak at 9.7 billion around 2064 and then fall to 8.8 billion by 2100. However, we needn't start panicking just yet. Understanding how such forecasts are produced can help to explain why.

To predict how global population will evolve over the next century, we must make predictions about two key components of population change: mortality and fertility. These can then be combined to estimate population growth or decline. Organisations such as the UN regularly produce world population forecasts.

Estimating fertility

Fertility is the most important of the three components for determining global population change. Demographers have known for decades that the total fertility rate, a measure used to calculate the number of children a woman would have in her lifetime, has been declining around the world.

By 2020, more than 90 states and territories in the world had total fertility rates below 2.1; the average number of children women would have to have in order to replace themselves and their partners, taking into account those who die before they reach adulthood.

Some countries in southern and eastern Europe have had extremely low fertility



since the early 1990s, with total fertility rates of 1.3 or below. East Asia, including Japan and South Korea, have had very low fertility rates throughout most of the 2000s, and Korea currently has a total fertility rate of 1.1. So “jaw dropping” falls in fertility occurred in these areas some time ago.

It is the speed of decline and eventual level of fertility in low income countries that is the major difference between the IMHE and other population forecasts. A key element of the IMHE forecasts is that they predict fertility based on women’s education and access to contraceptive methods.

Intuitively, this makes sense: education and contraception are known to reduce fertility, as women gain autonomy and are better able to make choices about childbearing. However, predicting fertility based on future access to education and contraception is not easy.

This is why the UN focuses on predicting fertility and mortality alone. It bases predictions for countries that have high fertility and mortality on the average patterns of decline for countries that have already reached lower levels. These projections result in a world population peaking at 11 billion in 2100, much higher than the IMHE projections.

What might happen in Africa?

Another approach is to base projections on expert opinion. In 2014, researchers at the Wittgenstein Centre for Demography and Global Human Capital interviewed over 550 population experts around the globe, and used their informed opinions to guide their estimates.

They predicted that world population would peak at 9.4 billion around 2070 and then decline to 9 billion by 2100 – not so different from the IMHE. However, these demographers made it very clear that the size of the world’s future population would depend on how quickly girls’ education expands, especially in Africa. Demographers studying Africa tend to think that fertility will remain high, due to lack of political will and unequal development across the continent. So whether fertility does start to decline throughout Africa is still very unclear.

Dollops of uncertainty

Most demographers recognise that we need to include estimates of uncertainty in projections to highlight our confidence in our predictions of future populations. The doomsday scenario publicised in the media does not recognise that declining fertility often represents positive developments, such as increasing female autonomy and education. Nor does it recognise that such alarmist predictions may lead governments to pursue policies which undermine reproductive rights.

So, such studies must receive critical scrutiny, and the media coverage surrounding future population scenarios needs to be less alarmist and more cautious.

*This section on global fertility rates is an excerpt from *The Conversation* published under a Creative Commons license.*

Further reading:

Twenty years of having babies across different countries of the UK: How has parents’ partnership status changed? (CPC Policy Briefing 56)

Gender attitudes and practices among married and cohabiting parents (CPC Policy Briefing 57)

Understanding declining teenage pregnancy rates in England (CPC Policy Briefing 60)

Understanding the decline in under-18 conception rates throughout England’s local authorities between 1998 and 2017 (Health & Place)

Is global fertility really plummeting? How population forecasts are made (The Conversation)

CPC Population Pyramids: Remote public engagement with Minecraft

In November 2020, over 300 people clicked on our event listing for “CPC Population Pyramids: Minecraft Edition!”, and Minecraft users who accessed our activity spent on average one hour each exploring our educational world. So, what was it, and why did we do it?

The CPC Public Engagement team built an educational activity in popular online game Minecraft to engage and educate the public on the topic of population. This Minecraft “world” was open to the public throughout November 2020 as part of the Human Worlds and ESRC Festival of Social Sciences digital online festivals.

CPC Events Administrator, Kim Lipscombe, reflects on the challenges and innovations required when designing a new online public engagement activity: “From the perspective of an Events Administrator, the start of 2020 was defined by cancellations and postponements. But universities and schools didn’t fully close; research and learning didn’t stop. As traditional public engagement festivals were transformed into a series of virtual events and activities, we had to come up with new ways to communicate CPC research to the public.

“We usually have a physical stand at science outreach events. Population Pyramids are a simple and visually



engaging way to start discussions about population and the research of the ESRC Centre for Population Change. At past events we have used pyramids built out of Lego. It’s very accessible and an instant draw to both younger and older people alike.”

She continues: “I heard Minecraft described as virtual Lego, and was inspired by the work of other scientists’ Minecraft outreach, such as MolCraft and Minecraft Navigation. It seemed an ideal platform to transfer the instantly recognisable and interactive elements of our Lego activity to the online environment.”

In the CPC Minecraft “world” users log on to the multiplayer server to explore 3D models of population pyramids. Using their Minecraft character, users can learn to read the graphs and are invited to think about the populations represented. To engage a range of interests and increase understanding, we included some examples of fictional and popular culture populations – how would the population of Hogwarts look when plotted on a pyramid?

CPC Population Pyramids: Minecraft Edition was hosted online from 7-22 November for the Human Worlds and ESRC Festival of Social Sciences digital online festivals. It will be available to explore again during the 2021 Southampton Science and Engineering Festival (SOTSEF), 5-15 March. In the meantime, if you would like to play or explore this content with your class, email cpc@soton.ac.uk to request a copy of the world file.

You can also investigate the population pyramids of over 90 countries between the years 1780 to 2011 using the population pyramids simulator (<http://pyramids.cpc.ac.uk/app/>), and follow @CPCpopulation on twitter to keep up-to-date with our latest outreach and events.



Unpacking migration: regional diversity and impact on services

In November, there was a series of migration webinars hosted by the Parliamentary Office of Science and Technology (POST) in collaboration with CPC and Public Policy Southampton. Leading experts came together to discuss the social and economic impacts of migration, and the outlook from migration modelling.



In the UK, the topic of migration is one of the most debated issues facing both policy-makers and the British public. It is multidimensional, complex and uncertain. Many members of the UK Parliament are deeply interested in migration and its implications, not only for the economy, but also for society and local communities.

CPC Director, Professor Jane Falkingham OBE, and CPC member, Professor Jakub Bijak, spoke at two of the webinars which were open to the public. Professor Falkingham spoke at the 'Economy, society and migration' event, highlighting CPC's research on international student migration. Professor Bijak presented at the 'Forecasting migration' session, speaking about migration modelling and uncertainty. There was a panel discussion at each webinar with leading migration experts from universities and the third sector, UK parliamentarians and policy officials, followed by Q&A sessions. As part of the series, there were also closed briefings for Parliamentarians and staff to allow them to have informal discussions with key experts.

As the government plans its new immigration policy, it is vital that UK Parliamentarians hear evidence and impartial independent research. In advance of upcoming legislation scrutiny, these webinars have helped inform policy debate and contribute to well-informed policies.

Further reading:

[International students in the UK and Brexit \(CPC Policy Briefing 59\)](#)

[Intentions and outcomes of graduating international students \(CPC Policy Briefing 43\)](#)

[How Can Europe Better Prepare for Future Migration Movements? \(Population and Policy Brief 26\)](#)

Increased migration to Scotland from the rest of the UK

In the last 20 years, more people have been moving to Scotland from the rest of the UK, reversing the long-held trend of people leaving Scotland to live elsewhere.

Before 2001, more people migrated out of Scotland than went to live there. But since then, people moving from the rest of the UK have increased Scotland's population by 137,000. Led by CPC Co-Director, Professor Hill Kulu, and CPC member, Professor David Bell, the Scottish Government's Expert Advisory Group on Population and Migration have prepared a report on how migration between the rest of the UK and Scotland contributes to Scotland's demography. CPC PhD candidate Nicholas Campisi also worked on the report, conducting data analysis and preparing a set of maps. The maps to the right show that all cities, except Aberdeen and its surrounding areas, receive more migrants from the rest of the UK than they lose. While most big cities (except Edinburgh) experienced negative net migration to the rest of the UK at the beginning of this century, those patterns have changed.

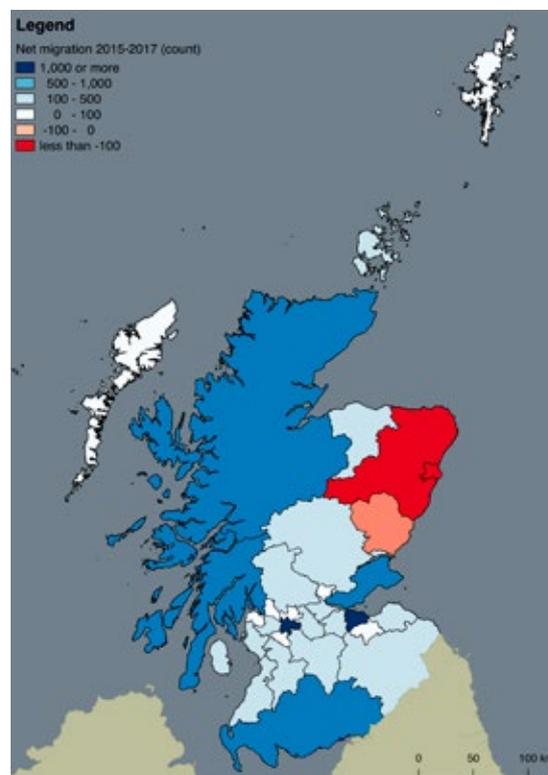
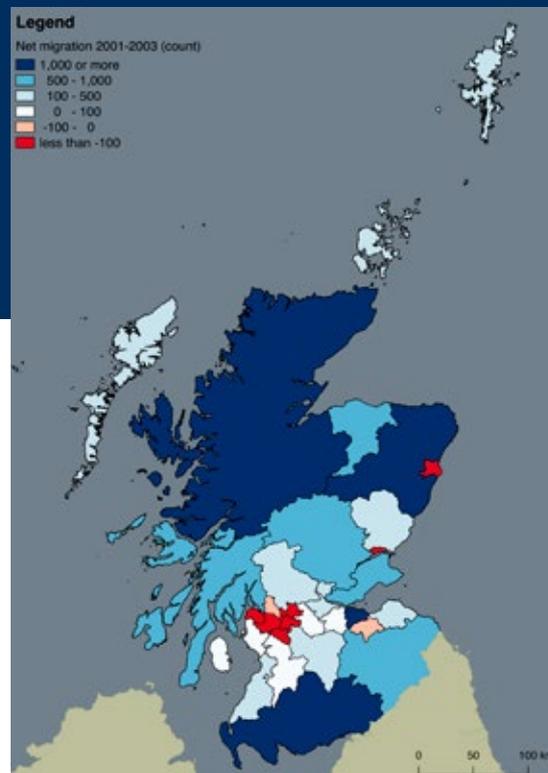
Professor Kulu comments: "Scotland has enjoyed positive net migration from outside of Scotland of around 20,000 annually over the past two decades. Around two-fifths of these flows represent migration between Scotland and the rest of the UK. This contrasts with the second half of the twentieth century when Scotland lost its population to the rest of the UK (and overseas). Our research finds that young people who leave England to study in Scotland often decide to stay in Scotland after their studies. At the same time, we found that overall movement between Scotland and the rest of the UK has declined. While the reasons behind this are complex, changes in the job market, improved telecommunication and increased ability to work from home are important. It will be interesting to see how this trend develops in the future, especially if working at home continues to remain high following the boost during the coronavirus pandemic."

Christina Boswell, Chair of the Expert Advisory Group on Population and Migration, said: "Internal migration within Scotland, and between Scotland and the rest of the UK, has received far less attention than migration from overseas. But these flows are an important part of overall migration, with significant impacts for places of origin and destination. As migrants tend to be younger and more qualified than those who stay, they bring economic benefits and dynamism to the (mainly urban) areas they move to.

"The counterpart is that places of origin often experience population decline and ageing, and labour shortages in key sectors. This makes it really important to understand the drivers of internal migration, so that Scottish and local government can work together to attract and retain migration to the areas that need it most."

Further reading:

Internal migration in Scotland and the UK: Trends and policy lessons (Expert Advisory Group on Migration and Population Report)



Net migration in Scotland by council area, 2001-2003 and 2015-2017 (avg over 3 years)
Source: National Records of Scotland

Agent-based modelling for social research

Members of the ERC Bayesian Agent-based Population Studies (BAPS) project team, based at the University of Southampton and the University of Rostock, organised a short course on “Agent-based modelling for social research”. With agent-based simulation models gaining traction amongst social scientists, the aim of this course was to familiarise the participants with the most recent advances in building, analysing and documenting agent-based models of social processes.

A computational tool used to simulate the actions and interactions of autonomous agents (individuals and groups), agent-based models can be used to assess their effects on the system as a whole.

The course was ambitious in scope, covering aspects related to the choice of modelling language and environment; tailoring models for specific research purposes; statistical analysis of model results and key principles of experimental design; inclusion of realistic cognitive assumptions in models; and documenting the modelling endeavours by using a variety of approaches. The content of the course also reflected the innovative research developments within the project.

Originally scheduled as an in-person course for March 2020, due to pandemic

restrictions the team had to curate a different kind of learning experience to take the programme online. The resulting course, designed for practitioners working in the public sector as well as researchers, comprised of pre-recorded videos, reading lists, tasks and code samples, followed by live lectures, quizzes, discussion, small group work and one-to-one tutoring.

Instead of being together in a computer lab in Southampton, participants were logging on from across Europe, as well as Brazil, Chile and Hong Kong. From the feedback collected, most participants said they would use their learning towards research for a future peer-reviewed publication, and some will continue working on their course projects.

Professor Alexia Fürnkranz-Prskawetz, executive director of the Vienna Institute

of Demography at the Austrian Academy of Sciences, opened the course by presenting a keynote on “An agent-based modelling approach to account for social interactions in demography”, which is now available on the CPC YouTube channel.

Professor Jakub Bijak commented: “At the start of 2020, we thought we would be hosting a one-week intensive training course at the University of Southampton. Instead, we faced the challenge of running the course online over one month in the autumn. I am very proud of my colleagues and their hard work in creating such engaging and innovative course materials. It was a pleasure to have met and taught the students who fully embraced the move to an online environment. Despite conflicting time zones and pandemic-based challenges, the 21 participants presented fantastic work and running models at the end of the course. We are excited to see their future ABM publications!”

The course materials will be made available to the public shortly, and the BAPS project team are keen to put their learning into practise again and run another course hopefully in 2021. Keep an eye on the CPC events page and Twitter for updates about future events and courses.

The short course on “Agent-based modelling for social research” was organised in collaboration with the Max Planck Institute for Demographic Research, the ESRC Centre for Population Change and the National Centre for Research Methods and was run by Jakub Bijak, Andre Grow, Philip Higham, Jason Hilton, Martin Hinsch, Sarah Nurse, Toby Prike, Oliver Reinhardt, Peter Smith and Adelinde Uhrmacher, with administrative support provided by Kim Lipscombe.



This course was one of the best I have been to. The course instructors were good people who spent an enormous amount of time on us and were extremely helpful... I learnt how dedicated the instructors were to their science and didn't hold back in sharing knowledge in the hopes of bringing research forward. I really do hope there is a continuation to this course as there is still a lot to learn. Thank you very much.



Course participant feedback

Researcher Spotlight

Jackline Wahba awarded OBE in Queen's Birthday Honours



CPC member and University of Southampton Professor, Jackline Wahba, one of the leading voices on the economics of migration, has been awarded an OBE for services to Economic Policy in the Queen's Birthday Honours for 2020.

She is a Professor of Economics at Southampton, having obtained her PhD in the subject from the University before pursuing her long academic career.

Professor Wahba has been a member of the UK Migration Advisory Committee since 2012 and leads the migration research within CPC. She has also advised national governments and international organisations, including the World Bank, the Organisation for Economic Development and Co-operation, the International Labour Organisation, the International Organisation for Migration, the European Training Foundation and the European Commission.

She is a renowned expert on the economics of migration and has published extensively on its global impact, recently elected as a member of the Council of the Royal Economic Society.

"I am delighted to receive this great honour and very pleased to have my work recognised in this way," Professor Wahba enthused. "I am truly grateful to all the colleagues I have collaborated with over the years without whom I would not have been able to achieve this unexpected honour.

"I would also like to especially thank the University of Southampton for supporting me throughout my career and enabling me to contribute to the study of Economics, in particular that of the economics of migration, and economic policy," she continued.

Professor Jane Falkingham OBE commented: "I am absolutely delighted that Jackie's dedicated service to the scientific and policy communities has been recognised by the award of an OBE. Her cutting edge research on the economics of migration has highlighted the value of skilled migrants to the UK and other nations alongside the vital role remittances play in the well-being of those 'left behind'. Most recently she has been working with ONS and UUK on improving our understanding of the intentions of international students, refining the measurement of international student migration in government statistics. Colleagues within the Faculty of Social Sciences and the ESRC Centre for Population Change are justifiably proud of her and join me in offering our heartfelt congratulations."

Interested in labour and development economics, Jackie's recent work has focused on migration and labour markets, in particular on:

- International migration, particularly determinants and impact of return migration on country of origin; entrepreneurship, human capital accumulation of migrants; remittances and impact of overseas migration on those left behind;
- Migrants' labour market experience in host countries; welfare state generosity and migration skill selectivity;
- Labour mobility: sectoral mobility; interregional mobility;
- Labour market: role of social networks, role of economic reforms, informal sector, unemployment and child labour.

As well as for CPC and the University of Southampton, Jackie is a research fellow of the Economic Research Forum (ERF), the Centre for Research & Analysis of Migration (CReAM) and the IZA Institute of Labour Economics. She is also a member of the Expert Advisory Board for the Migration Observatory at the University of Oxford.

PhD Spotlight

Mary Abed Al Ahad is a PhD student in Geography (Arts) at the University of St Andrews, funded by the St Leonard's merit scholarship. She is also a PhD-affiliated student in the IMPRS-PHDs program at the Max Planck Institute for Demographic Research, in Rostock, Germany. Her work examines the effect of air pollution and weather changes on mortality and hospitalisation in the general population and by ethnic subgroups in Scotland. Her supervisors are Dr Urksa Demsar, Professor Frank Sullivan, and CPC member Professor Hill Kulu.



At the American University of Beirut, I gained my Bachelor of Science degree in Biology, a Masters in Environmental Health, and worked for one year in public health and epidemiology research. This research experience gave me valuable knowledge and skills in quantitative analysis. I was then motivated to continue in the public health research field and search for a PhD opportunity. My search resulted in me applying to the University of St Andrews, combining environmental sciences and public health, and I was accepted to do a PhD in Geography (Arts) in 2019.

My PhD project aims to investigate: 1) the effect of air-pollution on self-reported health and limiting long-term illness in four ethnic groups and two country of origin categories in the UK; 2) the effect of air-pollution and weather changes on all-cause mortality and hospitalisation in the general population and by ethnic subgroups in Scotland; and 3) the effect of air pollution and weather changes on cardiovascular, respiratory, cerebrovascular, cancer and mental disorders mortality and hospitalisation in the general population and by ethnic subgroups in Scotland. To achieve my project objectives, I will be using the Scottish longitudinal study dataset linked to hospitalisation data from "Public Health Scotland". The Scottish longitudinal study data

is individual level longitudinal data that links the 1991, 2001, and 2011 census data with mortality and socio-demographic data, with the possibility of additional linkages to weather (mainly temperature, relative humidity, wind, and rainfall) and air pollution data at the postcode level. To carry out the analysis, I will mainly be using survival analysis and multilevel mixed effect models.

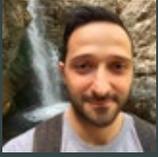
So far, I have published the first article of my PhD thesis entitled 'The effect of air-pollution and weather exposure on mortality and hospital admission and implications for further research: A systematic scoping review' (PLOS ONE) and I have just finished writing my second PhD article entitled 'Are perceptions of health influenced by exposure to long-term air pollution in the United-Kingdom? A multi-ethnicity cross-sectional study' for submission to Social Science and Medicine. In addition to writing my PhD thesis, I recently became a member of the "HATUA" (Holistic Approach to Unravelling Antibiotic Resistance in East Africa) research team. Within the team we are working on an interdisciplinary cross-sectional study investigating the social, biological and community-level drivers of antimicrobial resistance.

Being part of the CPC research group as a PhD student has helped me a lot in developing my research skills through attending many seminars including the CPC Brown Bag seminars. I also have access to training courses and attended the CPC- Max Planck Institute for Demographic Research on 'Agent-based modelling'; a useful simulation quantitative analysis technique that has the agent at its focus. I was really excited to learn the agent-based modelling method and to apply it in my future demographic research career."

Further reading:

The effect of air-pollution and weather exposure on mortality and hospital admission and implications for further research: A systematic scoping review (PLOS ONE)

New starters and PhD congratulations



Georgios Aristotelous joined the University of Southampton as a Research Fellow as part of the QuantMig: Quantifying Migration Scenarios for Better Policy project.



Haiyu Jin joined as a PhD student researching the association between care-giving and health outcomes for spouse caregivers. She is under the supervision of Professor Athina Vlachantoni and Professor Maria Evandrou at the University of Southampton.



Sarah Christison joined the University of St Andrews to work in the CPC Fertility Strand. Sarah received her PhD from the University of Edinburgh where she evaluated small area population estimates and projections for small areas in Scotland.



Vivian So has joined the University of St Andrews as a Research Fellow on the internal migration work package.



Valentina Di Iasio has joined the University of Southampton to work on the QuantMig: Quantifying Migration Scenarios for Better Policy project.



Sindhu Vasireddy joined the Fertility Trends project as Post-doctoral Research Fellow at the University of St Andrews.



Wanting Huang is a PhD student in gerontology at the University of Southampton researching the divergence in the health status and care demands of the older Chinese population. She is supervised by Professor Athina Vlachantoni and Professor Maria Evandrou.



Susan Watson joined the University of St Andrews as CPC Project Administrator.



Yazhen Yang is a Research Fellow at the University of Southampton. She has joined the CPC team to work on an ESRC-SCDTP based research project: 'Grandchild caring and late-life depression: A comparative study in England, Europe and China'.



Congratulations to Alexandra-Andreea Cirtel who passed her PhD viva successfully. Her research, supervised by Professor Ann Berrington, focused on 'New perspectives on intimate relationships and singlehood'.

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