

Longitudinal Studies Strategic Review

2017 Report to the
Economic and Social Research Council:
*Executive Summary and Policy Impact Case
Studies*

◆ Authors

Pamela Davis-Kean, University of Michigan, Review Chair

Raymond L Chambers, NIASRA, University of Wollongong, Panel Member

Leslie L Davidson, Columbia University, Panel Member

Corinna Kleinert, University of Bamberg, Panel Member

Qiang Ren, Peking University, Panel Member

Sandra Tang, University of Michigan, Research Assistant

Executive summary

Context

The 2017 Longitudinal Strategic Review was commissioned to review the continuing scientific needs for longitudinal research resources, how these needs could be met by the Economic and Social Research Council (ESRC), and to offer recommendations on strategic and innovative ways to enhance this portfolio in the future.

The last [strategic review](#)¹ occurred in 2006, and since then there have been changes in both what the ESRC has invested in regarding their longitudinal portfolio, as well as normative changes in the UK population and the policies and context that impact this population. It is therefore timely to review the longitudinal data strategy of the ESRC.

Even during this review, the structure of UK government research funding is changing: the ESRC will now be part of the larger research funding body [UK Research and Innovation](#) (UKRI), and the locus of decision-making will evolve. Other funders of longitudinal investments (notably, the [Medical Research Council](#) (MRC) and [Wellcome](#)) have updated their strategies for funding longitudinal and cohort investments, and the ESRC has worked closely with these funders to develop potential avenues for greater synergies across funders. There have also been advancements and developments in legislation to make access to other sources of data (administrative and medical data, social media, smart meter data, consumer data, and harmonisation of multiple datasets) more feasible, and in technologies and methodologies to increase the value of an already rich source of data for the longitudinal data community. Other opportunities also continue to emerge such as the [Life Sciences Industrial Strategy](#)² and the regional digital innovation hubs initiative. These changes pose both opportunities and challenges for ESRC's continued investment in longitudinal studies and for social science research more broadly in the UK.

Project overview

It is within this changing context that the independent international review panel has gathered information and views through an open online consultation and in-person workshop, information requests and invitations, participation in events and use of published material, and meetings with key stakeholders and experts, exploring the continuing needs for evidence and priorities for investment in ESRC's longitudinal studies. These methods of gathering data from the community of users and stakeholders led to the initial review questions being honed down to three major priority questions, which then became the focus of the review panel's deliberations:

- What are the scientific and policy-relevant content needs for longitudinal data in the future?
- What are the advantages and challenges to using longitudinal data enhancements such as administrative data linkage and harmonisation?
- How can training, access, and promotion of longitudinal investments be continued and enhanced for both traditional and non-traditional research communities?

These questions and a summary of key findings from the review are provided below followed by specific recommendations that have been ordered by the panel's views on priority for implementation.

Key findings

1. What are the scientific and policy-relevant content needs for longitudinal data in the future?

- The UK is recognised globally as having significant strengths in longitudinal data, thanks to historic investments by the ESRC and other funders over many decades. The investment in these resources gives the UK social science community a competitive advantage in understanding critical population trajectories over the life course and across changing contexts.

¹ Martin, J. et al. (2006). [Strategic Review of Panel and Cohort Studies: Report to the Research Resources Board of the Economic and Social Research Council](#). London: Longview.

² UK Office of Life Sciences. (2017). [Life Sciences: Industrial Strategy report](#).

- ESRC's combination of longitudinal cohort and household panel studies covers the most urgent research questions of the scientific community, and provides an adequate data landscape to study a broad range of research and policy-related questions on different aspects of the life course. Government analysts consulted in the course of the review were overwhelmingly positive about the value of longitudinal data in informing policy.
- It is clear that only longitudinal studies can answer certain questions. Panel studies, for example, are particularly useful for estimating rapid changes and answering some policy issues, while cohort studies are particularly useful for providing rich information on different aspects of the life course.
- However, longitudinal surveys are expensive to maintain and the birth cohorts take a long time to generate useful insights about older age groups. There is a large gap in cohort measurements on young children. Thus, it is important to prioritise investments carefully.
- Cohorts established long ago are inevitably no longer fully representative of their age groups in the current UK population, and do not always provide the breadth of data required to look at devolved matters or particularly vulnerable groups. This can limit the usefulness of the existing studies in understanding some of the key issues of our age.
- Although numerous studies have been published from ESRC-funded longitudinal studies, the review panel has found it difficult to trace specific evidence of the 'instrumental' or 'direct' policy impacts from these investments within the time and resources allocated to this review. Impacts from these ESRC longitudinal data investments undoubtedly exist but are hard to pinpoint and quantify, in part because insights drawn from their use more typically contribute to 'conceptual' impact (or 'enlightenment') and thus act gradually to change the discourse, thinking, and common knowledge around an issue. If left unchecked, a lack of evidence is likely to undermine the case for future investments, given the general principle that research funding in the UK should be founded on an evidence-based scientific case.
- By building on the rapidly expanding access to greater quantities of administrative data, there may now be considerable opportunity to implement innovative approaches from the start in the design of a new study (or related studies) tracking key groups in a period of rapid change, such as younger cohorts where the UK lacks data to answer crucial policy and research questions.

2. What are the advantages and challenges to using longitudinal data enhancements such as administrative data linkage and harmonisation with longitudinal survey data?

- The ways in which longitudinal data is collected and analysed needs to continue to be state-of-the-art, particularly in terms of allowing for the impact of increasing data linkage and harmonisation, and the ESRC needs to take advantage of opportunities to help ensure that the UK maintains its leading position in these areas in the future.
- There is an opportunity to maximise the linkage of routine administrative and health data to our longitudinal studies and to realise benefits. These include improved representativeness in coverage, enhanced content and value of the data for research, and increased speed in creating insights.
- Use of an innovative sampling methodology – an administrative data population spine on which to base current and new longitudinal studies – would provide a key underpinning and transformative element of the UK's research data infrastructure; its creation would involve a number of challenges but the returns would be significant and reach beyond social science.

3. How can training, access and promotion of longitudinal investments be continued and enhanced for both traditional and non-traditional research communities?

- The level and range of training offered in the UK is world-leading. Nonetheless there are challenges to maintaining the right mix of skills and mentoring in the longitudinal studies community (particularly in the face of competition for quantitative methodological skills from other non-research sectors).
- There is widespread support for continuing and expanding a longitudinal data support centre approach, in combination with the [UK Data Service](#), for making access and discoverability of longitudinal resources as straightforward as possible for researchers and policy makers.
- Better methods for tracking the use of ESRC's longitudinal data are also needed.

Recommendations (presented in order of priority)

1. Construct an administrative data spine that can be used for new and existing longitudinal studies supported by the ESRC and other funders

1.1 Policy-relevant research requires longitudinal data that is representative of a rapidly changing UK population. This in turn requires the future design of ESRC longitudinal data resources to be capable of dynamically representing this population. We therefore recommend that the ESRC develop and maintain a longitudinal administrative data spine with maximum population coverage that can be used as the basis for data linkage and as a sampling frame for its longitudinal surveys.

- o We recommend that ESRC negotiates with the appropriate government department(s) to obtain ongoing and guaranteed access to a register of unique personal identifiers with comprehensive UK population coverage, such as the NHS identifier, that can be used as an administrative spine for future longitudinal studies. This can also be a resource for data linkage for the ESRC's currently supported longitudinal studies and potentially those of other major funders.
- o We strongly advise that ESRC works collaboratively to ensure that it plays a leading role in developing UKRI's strategy for how the research councils (and other funders) can create a foundational longitudinal infrastructure that is open for research use.
- o We recommend that ESRC convenes a group consisting of representatives from government, legal, public, and academic spheres to advise on creation and management of this administrative data spine.

2. Commission a new birth cohort with an accelerated longitudinal design and additional funding for transition to adulthood for the Millennium Cohort Study

2.1 We recommend that the ESRC commissions a new UK population-representative birth cohort, and if possible, within a reasonable time frame, sampled from the administrative population spine so that data is available on those that participate (or not) as well as those that leave the study.

- o We recommend the use of an accelerated longitudinal design with sufficient power to examine key questions at the national and regional level or in vulnerable subgroups. This accelerated design entails that pivotal age periods (to be determined) can be ascertained across two or more ages simultaneously.

2.2 We recommend funding an additional sweep of the [Millennium Cohort Study](#) (MCS) to allow for an important life stage – transition to adulthood – be prioritised.

3. Continued funding for the household panel study and targeted innovative grants for existing cohorts

3.1 We recommend that ESRC continues investment in [Understanding Society](#), subject to a strong scientific case and peer review, since it provides the backbone for observing changes in socioeconomic issues and household mobility in the UK, is based on a large national sample, enables international comparisons, and is highly valued for its flexibility in experimentation and importance to the policy community.

3.2 We also recommend that ESRC investigate the feasibility of basing future sweeps of Understanding Society on households identified via the longitudinal administrative data spine described in **Recommendation 1**.

3.3 We recommend that ESRC supports the [National Child Development Study](#) (NCDS), [British Cohort Study](#) (BCS70), and [Next Steps](#) through competitive and innovative grant proposals that can enhance the data in the existing cohorts, which may include targeted administrative data linkages and harmonisation as well as potential new data collection focused on important questions in line with ESRC's strategic priorities using a rigorous re-funding strategy.

3.4 We recommend that the ESRC commissions a mechanism for innovation in the cohort studies, similar to the innovation panel in Understanding Society, to continue supporting methodological development (piloting, testing, and experimentation) in their longitudinal investments.

4. Broaden consultations, extend sampling and introduce time-limited funding

4.1 We recommend that the ESRC ensures that study consultations are sufficiently broad and the processes are clearly articulated, to ensure an appropriate mix of academic and policy experts, and that the process of consultation is transparent.

4.2 We recommend that ESRC prioritises funding of studies (including the recommended new cohort) that consider ways to oversample devolved nations and communities of importance or policy interest. An important focus of this recommendation is to consider ways of establishing a representative population sample that allows for policy-relevant regional and community sub-samples that are large enough to be appropriately analysed. In particular, we recommend that this requirement is a priority when developing the longitudinal administrative data spine described in **Recommendation 1**, which would facilitate maintaining representativeness by allowing for refreshing of the sample over time.

4.3 We recommend that the data collection for any longitudinal investment new or ongoing be time-limited. Requests for data collection beyond the initial funding period should be submitted for review in a new proposal that outlines a strong scientific rationale accompanied with clear research questions related to why additional data should be collected at the time proposed. This will allow for innovations to be introduced to the studies and for ESRC to consider the representativeness and ongoing value of their investments in their portfolio of longitudinal studies.

5. Invest in data management and sharing

5.1 With additional funding and resources, we recommend that ESRC takes the lead in the UK across funders to expand the cross-collaborative functions of a longitudinal data resource centre. Such a centre would lead on carrying out and sharing research focusing on longitudinal analysis issues faced by all funders, would provide leadership in the use of data linkage and data harmonisation methods that could be used to facilitate their funded research, and promote international collaboration. We recommend that ESRC continues to support the functions of a longitudinal data resource centre to:

- o continue enhancement and innovation on data linkage, data harmonisation, impact, training, and discoverability
- o support the provision of topical data platforms (e.g. mental health, political science) for special interest data users
- o extend activities to cover the broader longitudinal investments across more UKRI longitudinal studies and beyond in collaboration with other funders
- o develop strong collaborations with other national and international groups.

5.2 We recommend that the ESRC strongly support continued funding of the UK Data Service, which has been central to the ease of access and increasing use of the data encompassed in the ESRC longitudinal investments.

5.3 Due to the broader availability of the ESRC's longitudinal studies and ubiquity of use, there is a need for better evidence of the use and impact of research findings and better practice at citing data. We recommend that ESRC supports longitudinal investments to develop innovative technology and tools, and better methods and measures to track and compile metrics on data use and sharing to enable demonstration of impact.

6. Data linkage and harmonisation

6.1 We recommend that ESRC collaborates within UKRI and with other funders to strongly promote, facilitate, and negotiate administrative data linkage (broadly defined) for researchers to achieve a step change in capacity to meet increasing demands for longitudinal information including at local authority level and for particular subgroups.

6.2 We recommend that all ESRC-funded longitudinal studies using data linkage will be required to provide appropriate paradata about the data linkage process, which can then inform analysis of the linked data.

6.3 We recommend that the ESRC continues to fund retrospective harmonisation of all studies of similar design, especially the cohort studies, where a scientific need is identified.

6.4 We recommend that ESRC funds or mandates that future longitudinal studies develop methods for prospective harmonisation to maximize use and further extend the value of the data, and provide leadership with other funders to harmonise data sources across the UK and internationally.

6.5 We recommend that all ESRC-funded longitudinal studies using data harmonisation are required to provide appropriate metadata about the harmonisation process and appropriate means of creating, storing, and sharing harmonisation-related metadata.

7. Review and expand training and develop a data dashboard for policymakers

7.1 Building on current efforts, ESRC should commission a review of the provision and organisation of all training applicable to longitudinal studies currently provided at multiple institutions, and ensure innovative and sufficient academic training at the doctoral and post-doctoral levels into the future to make best use of the unparalleled longitudinal data generated in the UK. This should include funding ongoing career development beyond the post-doctoral level to ensure well-placed senior mentorship in longitudinal research.

7.2 We recommend that ESRC, in collaboration with UKDS, funds the development of a centralised analysis platform aimed at policy users of its longitudinal data resources to access information related to these resources and data enhancements, and facilitate analysis. This dashboard would provide descriptive statistics and share data in a way that is accessible to users who are interested in longitudinal data, but with diverse interests and varying levels of statistical knowledge and methodological training. This may involve investment in new technologies to create such a dashboard.

Conclusion

It is clear that the ESRC has created a unique portfolio of longitudinal data resources for the research community that reaches far beyond the social sciences and the UK. It is hoped that the recommendations and priorities provided in this strategic review will continue to enhance the investments and the role of the ESRC as a leader in the collection sharing and use of longitudinal data for scientific and policy purposes.

Policy impact case studies

ESRC Office

December 2017

Longitudinal Studies: Evidence of Influencing Policy

The following Case Studies have been grouped by the themes identified at the Longitudinal Studies Review workshop held in January 2017. The approach to the selection of case studies is outlined at the end of the report.

Key:



Main Scientific Themes	Scientific sub-themes
Long-term effects of childhood and adult experience	Education and Skills – school, FE, HE, Lifelong
	Impact of policy on individuals, groups and communities
	Psychosocial and emotional factors
Demographic shifts and mobilities	Intergenerational dis/continuities
	Changes in employment patterns, pathways and labour markets
	Social, educational and geographical mobility differences
	Social and physical factors
Health and Wellbeing	Mental Health
Equality and Inequality	Social, economic, educational, geographic and digital/technological inequalities
Biosocial research and genomics	Biosocial research
Diversity and Identity	Political values, attitudes and voting behaviour
Ageing population	Ageing, health and well-being



1. Millennium Cohort Study research finds exclusively breastfed babies 14 times less likely to die in their early months than those not breastfed at all, providing rationale for best practice standards

Breastfed children have **at least six times greater chance of survival** in the early months than non-breastfed children. An exclusively breastfed child is **14 times less likely to die** in the first six months than a non-breastfed child, and [breastfeeding drastically reduces deaths from acute respiratory infection and diarrhoea](#).

Findings:

- Using MCS data, researchers [Quigley, Kelly and Sacker \(2007\)](#) found breastfeeding to be associated with lower hospitalisation rates for respiratory infections and child diarrhoea;
- Six months of exclusive breastfeeding was associated with a 53% decrease in hospital admissions for diarrhoea and a 27% decrease in respiratory tract infections (controlling for other factors).

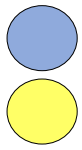
Impacts:

The research findings have contributed to best practice and guidance on the benefits of breastfeeding:

- UNICEF Baby Friendly Initiative Standards (2013): a worldwide programme of the World Health Organization and UNICEF which has been implemented in 134 countries. Findings have been used as part of the evidence and rationale for these standards.
- The research has been widely cited by other health organisations, such as breastfeeding information packs for UK children's centres issued in 2009 by the National Childbirth Trust, and by the British Dietetic Association in its 2013 policy statement on 'Complementary Feeding: Introduction of solid food to an Infant's Diet'.

Further information / underpinning research

- [Unicef Nutrition web pages – information on breastfeeding](#)
- [REF2014. Millennium Cohort Study: building a picture of a new generation](#)
- [Dep. of Health \(2009\) Commissioning local breastfeeding support services. London.](#)
- [Dex, S. & Joshi, H. \(2004\) Millennium Cohort Study First Survey: A User's Guide to Initial Findings. London: CLS.](#)
- [British Dietetic Association \(2013\) policy statement, 'Complementary Feeding: Introduction of solid food to an Infant's Diet'](#)
- [NCT, 2009, Breastfeeding Pack for Children's Centres](#)
- [UNICEF: Baby Friendly Initiative: The Evidence and Rationale for the UNICEF Baby Friendly Initiative Standards \(2013\)](#)



2. Research using longitudinal studies data underpins Department for Work and Pensions plans to tackle the impacts of worklessness, supporting 1.8 million children

In 2014-15 there were 1.8 million children in workless families across the UK, and in over eight out of ten cases the child was in a long-term workless family. The Department for Work and Pensions (DWP) used **Understanding Society**, a longitudinal household survey, and the **Millennium Cohort Study**, a birth cohort study, to build an understanding of the multiple disadvantages that workless families often face, and the impacts these disadvantages have on children and young people.

Findings:

- Having a parent out of work, alongside a range of associated disadvantages, has a detrimental effect on the whole family and is likely to lead to an intergenerational cycle of disadvantage.
- 75 per cent of children in workless families failed to reach the expected level at GCSE, compared to 52 per cent in lower-income working families.
- Children growing up in workless families are almost twice as likely as children in working families to fail at all stages of their education.

Approximately £47.5 billion of the Government welfare budget is spent on family benefits, income support, tax credits and the unemployed ([ONS figures, 2016](#)) while estimates made by [Coles et al](#) in 2010 on the life-time public finance cost of 16-18 year olds who are Not in Education, Employment or Training (NEET) were between £12-35.5 billion. Other estimates in a [report commissioned by Save the Children](#) suggest the UK GDP in 2013 would have been around £20 billion higher had action been taken to close the achievement gap between the poorest pupils and others at age 11.

Impacts:

Based on ESRC-supported research and using both Millennium Cohort and Understanding Society data, the Department for Work and Pensions (DWP) has launched a major policy initiative (presently totalling £42 million) aimed at supporting parents/carers and families who experience worklessness and economic disadvantage, with the objective of improving educational attainment and mental health outcomes for children and young people. This policy announcement uniquely recognises young people's educational attainment and mental health as primary pillars of future employability, and the importance of the longitudinal studies employed to support these conclusions and policy investment recommendations.

As an example of longitudinal study data use, the DWP describe: "We joined data on how pupils perform in key tests and exams to the **Understanding Society data** – and this has shown us for the first time what a difference it makes to children's educational attainment if they live in a workless family." This innovative, research-led policy investment is directing support to front-line professionals aimed at improving educational and mental health outcomes for children whose parents/carers experience worklessness.

Proposals based on the findings include:

- Redefining the Troubled Families Programme "to encourage a greater emphasis on tackling worklessness and issues associated with it".
- Strengthening support to help reduce relationship distress between parents/carers, whether together or separated, announcing an innovative new programme, backed initially by £30 million (April 2017), with an additional £12 million added in the November 2017 Budget Statement.

Future opportunities for further impact:

- Linking Troubled Families recommendations with the Industrial Strategy in order to support and encourage the younger generations to gain employment.
- Follow the Troubled Families Programme reviews and promote these research findings to charities working with disadvantaged families or poverty-focused e.g. [Child Poverty Action Group](#) who work to understand what [causes poverty](#), the [impact](#) it has on children's lives, and how it can be [solved](#) – for good. Child poverty costs broader society an estimated £29 billion a year.
- Follow up with the devolved administrations and ask how they utilise the data collected on poverty. Also, local authorities may be interesting to follow in terms of how they implement the schemes and recommendations.

Further information/underpinning research

- DWP, [Improving lives: Helping Workless Families](#), April 2017
- Damien Green, [Helping Workless Families: Written statement](#), April 2017
- Dame Carole Black, [Drug and alcohol addiction, and obesity: effects on employment outcomes](#)



3. Use of the ESRC Longitudinal Studies' genetic samples and data

The ESRC funded longitudinal studies provide biomedical and genetic information in addition to social science data. NCDS, the 1958 birth cohort, is in the top four of all datasets ever used in GWAS (Genome-Wide Association Studies) discoveries, and has been used in double the number of papers of, for instance, the Wellcome Trust Case Control Consortium that is specifically designed for this type of research.

Mills and Rahal (under review) engaged in a detailed analysis of the 3,293 genetic discoveries GWAS from 2005 to 2017. GWAS form the basis of fundamental research in biology, molecular genetics, neurobiology and medical sciences.

Findings:

- In a systematic empirical overview, Mills and Rahal identified the datasets used, participant characteristics, traits under study and the funders of each type of research, by linking the databases of the GWAS Catalogue, information on publications and information on diseases.

Impacts:

- These GWAS studies have discovered key genetic variants, genes and biological pathways that play a role in specific diseases and disorders.
- Understanding the biology of diseases has in turn translated into new therapeutics and drug targets in the move towards personalised or precision medicine.
- The top datasets used were generally longitudinal cohort data that asked a wide variety of questions and were not specifically hypothesis driven, suggesting that a broader inclusion of questions incites wider usage by multiple disciplines over time.

“The usage and impact of core ESRC-funded data and birth cohorts that contains biomedical and genetic information outside of the social sciences has been remarkable. Considering that the 1958 Birth Cohort has been one the most used datasets in GWAS discoveries to date, it has made a considerable impact on international biomedical, genetic and fundamental biological research. These studies have led to fundamentally new breakthroughs in cancer (notably breast, colorectal and prostate cancer), immunity, protein measurement and the nervous system.”

- Melinda Mills, Department of Sociology, University of Oxford

Further information:

- Mills, M.C. & C. Rahal (under review). The Anatomy of GWAS.
- A Genome-wide Association Study (GWAS) is a hypothesis-free data mining method using whole-genome data that tests to see whether there is a correlation between specific genetic loci and a phenotype or trait (e.g., schizophrenia, height, breast cancer).
- Access to the biomedical and genetic samples and data from the ESRC-funded longitudinal studies is managed by a specialised data access committee METADAC, rather than the UK Data Service.



4. MCS data influential in Welsh Government's commitment to tackling obesity

The proportion of the Welsh adult population which is overweight or obese currently stands at 58% and illnesses associated with obesity are estimated to cost the Welsh NHS more than £73m a year.

Findings:

- The Welsh Government used research from the **Millennium Cohort Study** as part of its evidence base to demonstrate that the proportion of adults and children who are not maintaining a healthy body weight is increasing.
- The MCS data showed that 22% of Welsh children aged three were overweight and just over 5% were obese

Impacts:

The research findings were used in The Welsh Government's All Wales Obesity Pathway in 2010 to help people achieve a healthy weight. The Pathway sets out a four-phase approach to manage and treat obesity in Wales which includes community-based prevention and early intervention services, specialist weight management services and bariatric surgery and is a tool to be used by Local Health Boards in Wales to review local policies, services and cross-departmental multi-agency working.

Future opportunities for further impact:

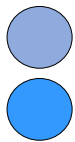
All Local Health Boards have prioritised obesity and continue to work with key partner organisations (public, voluntary and private) to drive this agenda. Implementation of the pathway has been driven by Local Health Boards, and delivery across Wales is being reviewed to assess current implementation. As such there have not been any formal annual updates or reviews published. Work is continuing with Local Health Boards to scope delivery and barriers.

Review of the Pathway will support the continued focus to develop this approach to tackle obesity. The Public Health (Wales) Act 2017 reinforces the Welsh Government's commitment to tackle obesity by producing a national strategy. Initial work on scoping the strategy has already begun, with a development board held on 23 October 2017, chaired by the Chief Medical Officer.

Findings could also be promoted to charities such as [Weight Concern](#) who carry out research into the causes, prevention and treatment of obesity and [Obesity.org](#) who work to better understand, prevent and treat obesity to improve the lives of those affected, through research, education and advocacy.

Further information / underpinning research

- [All Wales Obesity Pathway](#)
- <http://impact.ref.ac.uk/casestudies2/refservice.svc/GetCaseStudyPDF/44326>
- Speech by [Health Minister Mark Drakeford](#)
- Hansen, K. & Joshi, H. (eds). (2008) Millennium Cohort Study, Second Survey: A User's Guide to Initial Findings. London: CLS.



5. Understanding Society data essential to the DWP Implementation of Automatic Enrolment in Workplace Pensions, leading to increased total annual savings by £7.1 billion since 2012

Over the last 15 years, the Department for Work and Pensions (DWP) has developed and introduced the New State Pension and in doing so, has implemented Automatic Enrolment into workplace pensions. This has been achieved through the use of a dynamic micro-simulation model known as PenSim2, which in turn depends heavily on data from the British Household Panel Survey (now part of Understanding Society), specifically for the modules on partnership, fertility, labour market status, earnings and savings. By using large-scale datasets containing representative samples of individuals and households (either from administrative or household survey data) samples are 'grown' through time by simulating the relevant life events for each individual and each family.

Impacts:

- By 2020 over 10 million people are expected to be newly saving or saving more as a result of automatic enrolment.
- Since being initiated in 2012, more than 6.87 million workers have been automatically enrolled by 293,868 employers.
- Data collected up to April 2015 suggests that the number of eligible employees participating in a workplace pension increased to 15.1 million (75 per cent) up from 10.7 million (55 per cent) in 2012.
- The annual total amount saved by eligible employees across both sectors stands at £81.8 billion in 2015 which is an increase of £1.4 billion from 2014, and up £7.1bn since 2012.

"Without that high quality social survey data, our modelling of the impact of the reforms would have been very much weaker, and policy affecting virtually everybody in the country would have been much less well informed."

- Mike Daly, DWP Central Analysis Division

Future opportunities for further impact:

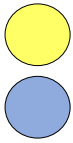
Looking to the future, it is expected that Understanding Society data will be used to update the model. Specific elements of the study that are expected to be of use to future iterations of the model (based on an audit of PenSim2 carried out in 2004) include:

- Housing Wealth
- Intergenerational Linkages
- Modelling of mortality and disability through incorporating a health module
- Pension tenures for younger individuals
- Capital Income data

Also suggested is the benefit that these improvements being made to PenSim2 would offer to other government departments including Department for Education, Department of Health and HM Revenue and Customs.

Further information / underpinning research:

- [Automatic Enrolment evaluation report 2016](#)
- [Automatic Enrolment evaluation report 2015](#)
- [An assessment of PenSim2, IFS, 2004](#)
- [Workplace Pensions: Update of analysis of Automatic Enrolment, 2016](#)



6. Longitudinal evidence supports welfare to work policy and changes common perceptions of mothers who return to work

Research using the birth cohorts (NCDS, BCS70 (and members' offspring), ALSPAC, MCS, BHPS and Children of NLSY (National Longitudinal Survey of Youth – a USA study) investigated the relationship between mother's employment and child outcomes, helping to change the prevailing presumption that children are affected from mothers going out to work, for which it found little evidence beyond the very early years, influencing the Welfare to Work policy:

"Welfare to work policy during the 2000s was very much focused on enabling mothers to enter or return to the labour market. The research, based on longitudinal studies found that, especially if complemented with access to childcare, maternal employment was not detrimental to child outcomes and was an important piece of underpinning evidence for this strategy". Jonathan Portes, Chief Economist DWP, 2002-2008

Findings:

- The research found a mother's employment, and her circumstance and characteristics to be linked prospectively to the child's outcomes at a later date.

Impacts:

The research has been influential in challenging assumptions and to changing government thinking, including research carried out by Heather Joshi in collaboration with Harriet Harman MP. This went on to support the development of policy on maternity and parental leave resulting in a report by the Smith Institute, for the government, being published 2000. The findings were cited by the Department of Trade and Industry Green Paper, [Work and Parents: Competitiveness and Choice \(2000, Cm 5005\)](#) in support of policies on flexible employment and leave for parents which continued to evolve into the 2010s.

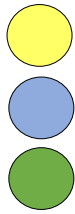
The extent to which longitudinal evidence has contributed was documented by the Cabinet Office in the [Independent Review on Poverty and Life Chances](#):

"Research has generally found small effects of early maternal employment and negative effects are insignificant if the mother goes back to work after the child is 18 months old, works part-time or flexibly and where the child is in high quality childcare during her working hours".

- Frank Field MP (2010) para 3.29

Further information/ underpinning research

- [Equality in Work and Education: A series of five seminars](#)



7. Research using National Child Development Study (NCDS) data influenced establishment of world's first universal children's savings scheme totalling £4.8 billion

Research using NCDS data carried out by [Bynner and Despotidou \(2000\)](#) discovered that having even very modest savings at age 23 had a wide range of beneficial economic, social and health effects 10 years later. HM Treasury used these findings to create the Child Trust Fund which will benefit approximately 6 million UK children born between 2002 and 2011 to ensure that every young person had some savings at age 18.

Findings:

- People with savings have better life chances and are happier than those without.
- Men with less than £200 (based on 1981 figures) in savings were more likely to experience unemployment than those with more savings.
- Having even very modest savings at age 23 had a very wide range of beneficial economic, social and health effects 10 years later.

Impacts:

- Findings influenced HM Treasury papers presenting options for policies designed to increase rates of saving and asset-ownership, both among lower-income households, and in generations of families in the future, such as the [Saving and Assets for All: The Modernisation of Britain's Tax and Benefit System](#).
- It was also discussed on numerous radio programmes, where key politicians highlighted the significance of the research in underpinning thinking on asset-based savings.
- Policy-makers and think tanks from countries including the USA, France, Germany, New Zealand and Brazil have shown interest in learning from the UK's baby bonds 'experience'.

Further information/ underpinning research

- [Radio 4 transcript](#): discussion between Bynner, Blunkett and others discussing the research and Child Trust Funds.
- [REF impact case study: includes references to the research.](#)
- The Institute of Education: [Case Study on the Impact of IoE Research that Underpinned the Child Trust Fund.](#)



8. Welsh Government uses Understanding Society data to measure mental well-being among children and young people

One in four people will experience a mental health problem with the cost of mental ill health to the economy, the NHS and society as a whole at [£105 billion a year](#) (including an estimated £54 billion cost to individuals' quality of life). Left untreated, mental health conditions can result in unemployment, homelessness, the break-up of relationships and suicide. The 'Together for Mental Health' Welsh cross-government strategy launched in 2012 is a 10-year strategy which covers people of all ages, rather than through separate strategies. The most recent Delivery Plan covers the period 2016-19.

Impacts:

- Performance measures from **Understanding Society data** are being used to monitor:
 - The increased percentage of mental well-being among children and young people.
 - The mean mental well-being score for people.
- Understanding Society data will contribute to achieving the following priority areas:
 - "People in Wales are more resilient and better able to tackle poor mental well-being when it occurs".
 - "All children and young people are more resilient and better able to tackle poor mental well-being when it occurs".

Delivering the proposed actions with key stakeholders will make a positive contribution to the Welsh Government's equality objectives through a commitment to identify and meet the needs of all groups in relation to mental health. Implementation is assured through Partnership Boards at national and local levels, and progress is reported publicly through annual reports produced by the Welsh Government, and Integrated Medium Term Plans (IMTPs) of the local health boards and NHS Trusts.

Further information / underpinning research

- ['Together for Mental Health Delivery Plan' \(2016-2019\)](#)
- [Together for Mental Health: A strategy for Mental Health and Wellbeing in Wales](#)
- New Investment in Mental Health Services: <https://www.gov.uk/government/news/new-investment-in-mental-health-services>



9. Age UK uses Understanding Society to create an Index of Well-being in Later Life

At a time when ageing presents one of the biggest challenges facing the UK, Age UK has created an Index of Wellbeing in Later Life which provides new and authoritative evidence about what matters for the well-being of older people. Age UK wanted to address several related issues: what was important in later life, the level of well-being amongst different groups of older people, possible reasons for low well-being and what changes in policy or practice would improve older people's lives. This Index is the first time that an overall measure of the well-being of older people has been created.

Data from Waves 1-4 of Understanding Society were used to create the Index, which is a summary measure of objective and subjective indicators grouped into domains of well-being. Age UK identified 40 indicators in five domains: personal, social, health, resources and local services.

Impacts:

Age UK is using the Index to inform their policy and practical work:

- Local Age UK branches are using early insights to think about how to target their support services at people at risk of low well-being. The Index has already been used successfully to inform a funding bid for services to offer creative and cultural activities to older people in Oxfordshire.
- The charity has engaged members of the House of Lords keen to champion evidence-based actions to target resources and effort effectively.
- There is interest from local councils who want to understand well-being among older people in their area.

"Understanding Society was chosen for the Index mainly for the number of people included in the sample, its representativeness, range of questions, UK-wide focus, and longitudinal nature. In addition, the longitudinal design of the Study means that the index can be updated to track well-being over time."

- Marcus Green, Senior Research Manager, Age UK

Further information / underpinning research

- [Age UK's Wellbeing research pages](#)

Methods and issues in identifying and developing case studies

Approach

Given the remit to identify case studies where research using data from ESRC's longitudinal investments has been *influential in policy*, each investment and its publications were reviewed via online searches and keyword searches in specialist tools. In addition, ESRC investments themselves identified some case studies and included them in information provided for the 2017 Longitudinal Studies Review.

An initial sift identified 20 potential case studies. After office and trusted-friends review, these were further shortlisted and researched for substantial evidence of impact. As an extra review stage, they were discussed with ESRC Communications team which has significant experience in developing top-level case studies.

Challenges in developing Case Studies

The following sections show the challenges of both demonstrating policy impact and showing instrumental, conceptual and capacity impacts. These barriers are well known within the social science community.

Misunderstanding of what impact means

Many REF (Research Excellence Framework) case studies that claim instrumental impact use only the author's work as evidence. ESRC could do more to communicate a clear definition of its expectations, providing better training and more support to award-holders during their funding period. Nonetheless, strong, policy-relevant research may not influence policy, for reasons unrelated to the evidence. ESRC may need to reassess how impact is defined for data infrastructure investments in particular.

Changing political agendas

Gathering evidence during policy debate is vitally important, particularly in the case of testimonial evidence, because as time passes attribution becomes problematic and recall fades. Policy commentators can track a debate's direction, but should that direction change, retrospectively proving the link between that change of direction and the research findings can be virtually impossible. Frequent change within government and high turnover of departmental contacts are additional challenges.

Social science is not understood: social policy is contested

Impacts from social science are more about process than product. Research findings are often seen as common-sense knowledge, struggling to gain traction in policy making and recognition for achieving and demonstrating policy impacts. 'Specialist' or 'technical' research such as in medicine or environmental science do not face such problems, at least to the same extent: people don't assume their own knowledge or understanding is adequate, and instead look to an expert for evidence. Social problems can be complex and hard to track; policy debates are often politicised and ideological. Interventions in people's private social and economic lives are often seen as contentious. In comparison, debates in 'hard' science and medicine are typically less contentious, problems are more amenable to relatively simple technical solutions/fix-its, and interventions are not seen as intrusive. In addition, while most scientific, technical and medical innovations can potentially benefit everyone, much social science research is focussed on, and could benefit, disadvantaged groups. Furthermore, many medical and technical advances potentially benefit most or all of the population, while many social science findings are focused on minority groups. These barriers and challenges make getting social science research evidence heard difficult, and tracking, achieving and demonstrating policy impacts even more so.

Researchers' practice in impact tracking

Many researchers do not actively monitor indicators of impact, are unaware of how government departments use commissioned work or do not actively enquire about impact arising. Many who do try to track and evidence their own impact are attuned mainly to the national agenda, perhaps due to institutional encouragement and support for this purpose. Additionally, much social policy (broadly construed) has been decentralised to the devolved administrations, local authorities, schools etc. which makes it much more difficult to track the use of research findings.

Resource burdens

Longitudinal Studies are not funded to collect impact evidence and so requests to supply impact testimonials or track research using studies data must be limited, well-considered and proportionate. There is an opportunity to work with investments to make this process more efficient.

Information systems

Research information systems are not consistently linked to impact evidence held by funders (e.g. ResearchFish, REF impact case studies, RCUK Pathways to Impact, ORCID), nor to data on publications or outputs. How well ResearchFish is used depends on the inputter's understanding of impact. There is no box specific to the needs of explicitly capturing instrumental impacts. Guidance could be improved.

Broken links

This review found many web links consulted to be broken, making following up on policy documents and citation references in the REF case studies difficult.

Inside knowledge

'Inside knowledge' made a substantial contribution to the case studies' development; for instance, advice the ESRC office received on its association of the 'Back to Sleep' campaign with ALSPAC research allowed a serious error to be avoided.