

Historical demography

Strand organiser: Eric Schneider (LSE)

13:30 - 15:00 Monday 9 September: Historical demography 1: Historical fertility and migration

The First Demographic Transition in Britain – one or more?

Alice Reid - University of Cambridge, Hannaliis Jaadla - University of Cambridge, Eilidh Garrett - University of Edinburgh, Kevin Schurer - University of Cambridge

The broad trajectories of the fertility and mortality declines during the first demographic transition are well known for Scotland and for England and Wales, and regional patterns within each country have been explored. However, like-for-like comparisons between the three nations have never been done, nor has investigation of regional patterns across the whole of Britain. It is therefore unclear whether there were local demographic continuities across national borders, and if so whether they followed economic, occupational, cultural or linguistic lines. We use group-based multi-trajectory modelling to identify dynamic demographic regimes which can be used in further analysis. This will be the first holistic analysis of the interactions between the demographic components of fertility, mortality, nuptiality and migration in Britain, and how these interacted with economic and cultural processes to create one or more demographic systems and changed over the late nineteenth and early twentieth centuries.

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Women's work, marriage, and fertility in nineteenth-century Derbyshire

Emma Diduch - University of Cambridge

Using a linked dataset of census records, marriage indexes, and transcribed archival material, this paper will explore the connections between women's work in textile factories and the late nineteenth century fertility transition in Derbyshire. In addition to the information on pre-marital occupation and family background obtained by census linking, further details about wages, hours, and tasks can be obtained for the women who appear in the surviving wages books from the Strutt Mills in Belper. Together these data can show whether and how textile workers adopted fertility limitation in contrast with their peers by comparing age at marriage, age at first birth, age at last birth, and total number of children ever born, as reported in the 1911 Census. Were women motivated to limit their fertility by economic factors related to their employment or were these factory communities a conduit for the diffusion of contraceptive knowledge?

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Madrid migratory fields. Migrants' selection and urban localization in 1905

Diego Ramiro-Fariñas - Spanish National Research Council, Michel Oris - Spanish National Research Council, Melissa Barba - University Of Firenze, Dariya Ordanovich - Spanish National Research Council

Migration was the main engine of the transformation of a modest town that counted 279,370 inhabitants in 1860 into the dominant metropolis of a centralized state, a metropolis that approached one million inhabitants in 1930. Most of the newcomers were unskilled workers coming from the large surrounding Castilian Plateau, but also from the North of Spain.

With migratory fields we propose a discussion of the concept and its statistical estimation. The aim firstly is to identify areas that were specifically attracted by the Spanish capital but also those which were significantly under-attracted. Our second objective is to verify if the populations with a preferential link to Madrid have grouped together in specific neighborhoods within the city.

Analyzing a migratory field is more than a mere description of the migrants' places of birth. The theoretical foundations were elaborated by Ravenstein (1885,1899) and later considerably developed by Hagerstrand

(1957). The basic idea stresses the effect of distance. The further away you are from your destination, the fewer migrants there are. This relationship between the intensity of migrations to a point and distance to this point is moreover logarithmic, with an exponential decline from the nearest to the farthest areas. This relationship, however, does hold only if the absolute numbers of migrants from a given place are weighted by the population size of their locality of origin. Significant deviations above the regression line imply a preferential link with Madrid or, on the contrary, repulsion. Once the over- and the under-attracted regions are identified, explanations should be researched in their social and economic history.

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The Evolution of Interregional Migration Patterns in Russia from 1897 to 2021

Salavat Abylkalikov - Cara scholar at Northumbria University

This study represents an analysis of the evolution of interregional migration patterns in Russia from 1897 to 2021, based on census data. The aim is to identify long-term trends and patterns in migration processes within the context of historical, demographic, socio-economic, and political changes in the country.

The research question focuses on the key features and models of migration from the end of the 19th century to the present day, paying particular attention to the interplay between territorial characteristics, migration, demographic shifts, and processes of modernisation and urbanisation.

The methodology includes descriptive statistics, analysis of census and survey data, cartographic methods, and GIS. The data sources are censuses from 1897 to 2021, as well as micro-censuses of 1994 and 2015. However, there are certain limitations related to the absence of birthplace data in some censuses and data quality issues of the 2020 (2021) census.

Preliminary results demonstrate a close connection between migration flows and demographic processes. At the end of the 19th and beginning of the 20th century, there was mass migration from the central regions to the peripheries of the country, driven by relative agrarian overpopulation. In the second half of the 20th century, a turning point occurred, and the main vector of migration shifted towards the centre, to the large cities of the European part of Russia. In the post-Soviet period, centripetal migration intensified, with population attraction to Moscow and St. Petersburg, while many regions of Siberia and the Far East became 'donors' of migration.

The potential application of the research findings encompasses the shaping of internal and external migration policy, regional policy, and urban planning.

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Kinship Networks and Persisting Outmigration Patterns: A Case Study of 19th and Early 20th Century

Guangdong, China

Tianning Zhu - LSE Economic History

Being networked to migrants has been argued to affect (1) people's propensity to migrate and (2) migrants' destination choices. This paper explores these issues using Chinese genealogical data, which provides evidence on the structure of extended families unavailable in other sources and in which migrants can be identified.

I reconstruct family trees for 8 branches in one genealogy, covering 2,071 male members born between the 17th and 20th centuries. Based on one's position on the family tree, I construct a connectedness score measuring how close he was to all the earlier male migrants in his paternal kinship network. I then use logistic regressions to see if this network measure matters in people's decisions to move, controlling for personal, family, and branch characteristics. The baseline result shows that this measure is significantly positively related to one's odds of migrating.

I also break down the connectedness score by migrant's destination and find the connectedness with Malaysian migrants is still positively related to one's odds of migrating even when the destination is inside the province. I then look at the sub-sample of migrants to see if the destination network affected where these migrants went. The connectedness with Malaysian migrants improves their odds of moving to Malaysia but decreases the odds of non-Malaysian migrants moving out of the province. It seems that the Malaysian

network made Malaysia more attractive to migrants by reducing the costs of long-distance migration.

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09:00 - 10:30 Tuesday 10 September: Historical demography 2: Historical epidemic diseases

Transport and the Transmission of Plague across Settlements in Early Modern England

Charlie Udale - LSE, Henry Yeomans, Eric Schneider - LSE

Plague was the most lethal infectious disease in early modern Europe, striking settlements in repeated waves that could lead to death rates of 50 per cent. However, despite extensive research on plague, there is limited large-scale quantitative evidence about how frequently settlements were infected with plague in early modern England and the factors that allowed plague to spread between settlements. This paper analyses a novel dataset containing aggregated monthly burial totals covering more than 4,000 of the c.10,000 English parishes between 1538 and 1667. We find that port cities and settlements close to ports were far more likely to experience plague epidemics than inland settlements. Likewise, settlements on navigable rivers and to a lesser extent settlements on principal roads had a greater risk of experiencing a plague outbreak. Finally, mapping the timing and location of outbreaks, we show that four of the seven national epidemics began outside of London, suggesting that new national outbreaks were likely imported from abroad rather than emerging from the London rat population as a reservoir. Our findings have several important consequences for the literature. First, the importance of navigable waterways relative to roads for plague transmission between settlements confirms the importance of rats in the spread of plague between settlements. Second, our confirmation that new national outbreaks of plague were imported from abroad strengthens Slack (1981)'s argument that the implementation of the cordon sanitaire across Europe at could explain the disappearance of plague from England after 1667.

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'Contours of death' revisited: the geography of health and mortality in early modern England.

Romola Davenport - University of Cambridge, Max Satchell - University of Cambridge, - , - ,

Before the late eighteenth century English mortality patterns were characterized at the national level by high and volatile mortality, relatively high mortality risk at all ages, and small or negligible survival advantages to wealth. An additional feature was the presence of very marked spatial differentials in mortality, a pattern that remains little explored. The most lethal environments were large towns and marsh areas, and these areas experienced the greatest improvements after the mid-eighteenth century. In this paper we revisit Mary Dobson's thesis regarding the contribution of malaria to mortality in marsh parishes. There is indeed compelling evidence for endemic malaria in northern Europe before the twentieth century. However our re-examination of burial patterns, anecdotal evidence and contemporary comment provides little support for the argument that malaria was a major driver of excess mortality in marshlands, or that drainage and land improvement contributed to the marked mortality improvements that occurred after the mid-eighteenth century. We discuss the implications of these findings for our understanding of the major changes in mortality patterns that occurred in north-western Europe in this period.

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A consequence of enclosure? Malaria and mortality in the Danish marshlands

Mathias Mølbaek Ingholt & Romola Davenport - University of Cambridge

Until the early twentieth century, malaria was an endemic disease throughout most of northern Europe, Denmark, and Britain. Before its disappearance, it is furthermore believed to have waned as a major demographic influence in the late eighteenth century. In her influential work on malaria in Kent, Sussex and Essex, Mary Dobson explained this decline with a complex combination of land improvements, a less transitory populations with increasing tolerance to the parasite, changes within the parasite, and different husbandry practices. In Denmark, the doctor Paul Horstmann in 1986 also attributed the lethality decline to

parasitic changes, and in 1994, historian Thorkild Kjærgaard argued that this decline took place due to a series of agrarian social reforms, where enclosure and subsequent land improvements led to more cattle, leading mosquitoes to become zoophilic. It is difficult to assess the role of parasitic changes, for which reason this paper's purpose is to explore the association between enclosure and malaria in Denmark. This paper has two objectives. The first is to explore the seasonality of mortality patterns in the Danish marsh parishes and compare them to adjacent upland parishes, focusing on the period before and after enclosure. Second, using a fixed-effects regression model, this paper explores whether baptism-burial ratios changed with the introduction of enclosure in the period 1770-1810, again comparing marsh parishes with a sample of upland parishes.

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09:00 - 10:30 Wednesday 11 September: Historical demography 3: Historical mortality

The 'Sanitary Revolution' reconsidered: public health investments and mortality change in British towns 1870–1911

Hannaliis Jaadla - University of Cambridge, Romola Davenport - University of Cambridge, Toke Aidt - University of Cambridge, Bernard Harris - University of Strathclyde, Alex Wakelam, University of Cambridge

The 'Sanitary Revolution', the provision of modern water supplies and sewerage, is widely hailed as an historical watershed in public health. However the evidence linking public investment in water supply and sewerage to health improvements is surprisingly equivocal. Here we quantify public health investments by local governments in England and Wales and test the extent to which investments in water supplies and sewerage were associated with reductions in mortality from faecal-oral diseases (typhoid and diarrhoea) and infant mortality. This study extends previous work because it uses annual mortality rates and cumulative annual investment estimates for all urban authorities in England and Wales and so permits closer identification of the lagged impacts of sanitary provision. We also provide an initial test of the contribution of private investments in urban water supplies. Private investment has been omitted from previous measures of the impact of sanitary improvements, despite the predominance of private waterworks before the 1870s. Here we construct estimates of private investments in waterworks for the largest towns (80 county boroughs, excluding London) and compare the effects of public and private ownership on mortality outcomes in these towns.

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Explaining change over time in socioeconomic inequalities in infant mortality in Amsterdam, 1856-1920

J. Jona Schellekens - Hebrew University of Jerusalem, Tim Riswick - Radboud University, Angélique Janssens - Radboud University

This paper asks what happened to socioeconomic (SES) inequalities during the mortality decline as a result of the introduction of new technologies. For example, privileged groups may have gained access to clean water earlier. We used individual-level cause of death data from Amsterdam in the years 1856-1920. We focused on one cause of death: water- or foodborne disease. To explain change over time in SES inequalities, we used two macro-level variables: clean water supply and living standards, as measured by GDP per capita. Unfortunately, infants who survived were missing. To solve this problem, we changed the omitted or reference category and redefined the dependent variable. In spite of this problem, we insisted on using data from Amsterdam, because of the availability of independent variables, such as the annual supply of clean water. The dependent variable is the probability of an infant dying of water- or foodborne disease given that it died from water- or foodborne disease or from airborne disease. We used counterfactuals to show what would have happened to socio-economic inequalities without the supply of clean water. Our results show that the supply of clean water explains the convergence between classes in the first two decades of the twentieth century. The rise in GDP per capita contributed little to change in SES inequalities.

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The geography of maternal mortality in Italy at the end of the 19th century

Lucia Pozzi - University of Sassari, Stanislao Mazzoni - Spanish National Research Council, Michail Raftakis - University of Bologna

Limited research has been directed towards analysing maternal mortality in Southern Europe in the past. While recent studies have emerged, there remains a significant gap in understanding the temporal evolution of childbirth mortality and the underlying causes of significant territorial disparities, particularly in Italy, the most extensively documented case.

Previous research in Italy has predominantly focused on macro-regional areas or single communities at the individual level, revealing territorial variations primarily linked to diverse forms of professional assistance to women during pregnancy, childbirth, and the postnatal period. The scarcity of professional midwives and the prevalent reliance on traditional birth attendants have been identified as key factors contributing to elevated risks of childbirth mortality in certain areas. However, this interpretation faces critical issues and requires stronger empirical validation. Additionally, other crucial aspects of reproductive health, such as variations in fertility behaviours, female general health and survival conditions, and women's nutritional and occupational statuses, have been largely overlooked.

This paper presents a comprehensive analysis of the geography of childbirth mortality in Italy during the initial phase of the health transition, employing a wide array of explanatory variables. Our objective is to illustrate the variability of the phenomenon at the provincial level and identify its potential determinants. Utilising official quantitative sources (including causes of death statistics, health surveys, archival documents) alongside an in-depth exploration of qualitative historical and anthropological evidence on motherhood and childbirth assistance, this contribution aims to deepen our understanding of the factors influencing childbirth mortality in Italy in the past.

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