

Call for Papers

International Conference on

**Longevity: Early-life Conditions, Social Mobility and Other Factors
that Influence Survival to Old Age**

Organized by the IUSSP Scientific Committee on Historical Demography in collaboration
with the Research Group in Economic Demography, Lund University

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The importance of conditions in early life for health and mortality in later life is well-known from the existing literature on developing countries (Schrimshaw 1995) but also from studies in historical demography. Epidemiologists and demographers studying the mortality decline in the 1920s and 1930s were well aware of the connection between early-life conditions and mortality later in life (e.g. Derrick 1927; Kermack et al. 1934). Analyzing aggregated data they noticed that mortality for infants and children went down much earlier than for adults. Each generation seems to experience the same relative mortality from childhood to old age. Preston and van de Walle (1978) for urban France and Fridlitzius (1989) for Sweden also emphasize the importance of cohort factors in explaining the mortality decline. Wilmoth (1988) and Kannisto (1994), however, question cohort factors as main causes if the changes in mortality that occur over time. Their results implies that those factors that vary over the life course, such as income and improvements in public health and medicine, are more important than conditions in childhood. While the studies cited above all made use of aggregated data, more and more studies, both within medicine and historical demography today are done at individual level and the area is expanded rapidly.

Within medical research the work by Barker, inspired by a study of Forsdahl (1977), has been of major importance. In his 1994 book *Mothers, Babies and Disease in Later Life*, Barker summarizes the medical evidence regarding the connection between nutrition during infancy as well as during the fetal stage and adult health outcomes. It is not only chronic malnutrition during early life that can be of importance for health later in life. Temporary disturbances in nutrition, in particular during some periods in the fetal stage, may also have long-term effects on health, since later improvements cannot always compensate for prior loss (Barker 1994). The relevance of Barker's findings has, however, been much debated within medicine during the last years as this field of research has turned into a big industry (Leon et al. 1998, Lundberg 1993, Östberg and Vågerö 1991, Preston et al. 1998, Vågerö and Leon 1994, Vaupel et al. 1998, Whincup and Cook 1997; Jarvelin et al. 1998; Stanner et al. 1997, Ben-Shlomo and Smith 1991, for an early overview see Elo and Preston 1996).

Fogel (1993) has stressed the importance of early-life conditions on adult mortality in historical research. He has used final heights as a measure of net nutrition and health during infancy and early childhood drawing on findings by Waaler (1984). Other important work on health and heights have been done by Steckel (1995) and Komlos (1993). If individuals are well nourished and healthy during childhood, their cells and organs develop better and they reach higher heights and live longer. It is net nutrition (intake minus claims), rather than gross nutrition that is of importance. Thus, improvement in health and height may either be the result of better nutrition (better diet) or less claims due to e.g. lower prevalence of diseases.

When looking only at heights, it is difficult to separate the nutrition effect from the disease effect. It is therefore important to include indicators of conditions early in life into the analysis, not only heights and longevity.

While Barker focuses on conditions in utero, other researchers highlight conditions in early childhood. Bengtsson and Lindstrom (2000, 2003) emphasize exposure to disease in infancy. They found that the level of infant mortality in the year of birth predicted mortality at older ages, while food prices did not, consistent with the early findings based on macro data.

Kuh and Ben-Sholomo (1997) expand the links between early- life and later morbidity and mortality even further to include the accumulation of risk through the life course. According to Ben-Sholomo and Kuh (2002), the aim of life course epidemiology goes beyond intrauterine and childhood circumstances to build and test theoretical models that postulate pathways linking later life health outcomes with exposures across the whole life course including both intra and intergenerational periods. For the Public Health field a new array of concepts and terms are appearing (Kuh et al 2003) that refer to the causal pathway in relation to time (see accumulation, chain of risk, trajectory), concepts about the timing of causal actions (birth cohorts, critical and sensitive periods, induction and latency periods), and concepts referring to different types of mechanisms (see embodiment, mediating and modifying factors, resilience, susceptibility and vulnerability). Lynch and Smith (2005) underscore that a life course approach offers a way to conceptualize how underlying socio-environmental determinants of health, experienced at different life course stages, can differentially influence the development of chronic diseases, as mediated through proximal specific biological processes. The final aim is to translate the new knowledge produced by life course epidemiology into interventions and policy advices designed to improve the long term health of individuals, social groups, and societies (Kuh et al. 2003).

Besides the factors discussed so far, genetic factors most likely have an impact on human longevity, even if other variables are more important in determining the final outcome. Genetic factors, for example, set limits to the final height achieved by an individual, which in turn has been seen as an important factor behind adult mortality risks (e.g. Elo and Preston 1992:194).

The factors influencing adult- and old age mortality could be summarized under four broad headings: early-life conditions, life course transitions (e.g. social mobility), prevailing living conditions and genetic factors. We believe that only by taking all these variables into consideration simultaneously, one can correctly assess their relative importance on health and mortality. This in turn has strong implications not only for research concerning the importance of early-life conditions on mortality later in life, but also for the long-term mortality development in general. The research questions posed are clearly multi-disciplinary, linking social sciences and history with epidemiology and social medicine. Hence, the workshop organized by the IUSSP Committee on Historical Demography will include researchers from demography, economic history, economics, epidemiology, genetics, medicine and social medicine working on historical as well as contemporary populations.

The vitality of the field is also a result of the availability of longitudinal individual level demographic data for a variety of fields. Longitudinal panel data and historical individual level data have been central to recent research efforts in such fields as genetics, medicine, and public health and historical demography. These efforts using the Utah Population Database

have produced such recent spectacular successes as the identification of Breast Cancer One and Breast Cancer Two. For an account of this process of discovery, see Davies and White (1995). The Umeå Demographic Database has similarly been used to detect certain genetic eye diseases. Ongoing efforts in Iceland are linking genealogical data to medical information and have produced a successful approach to study the human genetics of disease (Gulcher et al 2001, Amundadottir et al 2004). This conference will explore the potentials of using historical databases for other research agendas than historical demography and to promote research on the mortality decline and the increase on longevity.

The IUSSP Scientific Committee on Historical Demography invites researchers in the field to submit a 200-word abstract and curriculum vitae before September 30, 2005 to Tommy Bengtsson (Tommy.Bengtsson@ekh.lu.se) with a copy to Madeleine Jarl (Madeleine.Jarl@ekh.lu.se). Participants are encouraged to seek their own funding for travel. The organizers will pay for expenses at the meeting location for all participants, and will have very limited funds to pay for air fares. Those who apply for financial assistance for travel should indicate their intention clearly in the cover letter of their application papers at the time of submission.

The conference will be limited to a maximum of 20 contributed papers. Proceedings, an edited volume or a special journal issue will be produced after the seminar.

Scientific Committee:

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