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Litteratur

The Infant Mortality Decline in Iceland

Ólöf Garðarsdóttir, *Saving the Child. Regional, Cultural and Social Aspects of the Infant Mortality Decline in Iceland, 1770–1920*, Diss, Report no 19 from the Demographic Data Base, Umeå University, Umeå 2002. 286 pp.

Dramatic improvements in child health took place between 1850 and 1950 in all of Europe. This process has been considered an important stimulus for social change and, more generally, for the overall process of modernization in Europe. It is an issue that has given rise to many debates as to its underlying causes and implications and has yielded many quality publications. Garðarsdóttir's dissertation fits into this line of research and is the first comprehensive study of this subject to be carried out in Iceland. Over the past two decades in Europe, our understanding of the processes whereby infant and child health improved has grown enormously. During the 1980s, the broad outlines of the process were clear, at least for a fairly small number of European countries, though the timing and the mechanisms of change were still far from adequately understood. At that juncture far more was known about the decline in fertility than that of mortality, or at least there were far more data available regarding fertility. Mortality decline tended to be the poor cousin of fertility decline for historical demographers interested in the demographic transition, with researchers generally preferring to delve into the intricacies of fertility change. The intuitions of Thomas McKeown and a few others seemed to be sufficient. Only historians of medicine continued to explore issues of child health, though their overriding interest in the medical profession and in issues of public health gave their research a very distinct, often largely undemographic or non-demographic air. Child health was of interest because of how it reflected the work of medical practitioners and public health initiatives, but much less so in terms of its relationship to reproductive patterns, to family strategies or to social change.

In recent years, much of this has changed. The relatively disappointing results of the European Fertility Project and the structural limitations inherent in the study of fertility based on published aggregate data led to a decline in research on fertility. This change was due more to frustration with meager results than to any reduction in the importance of fertility behavior during the demographic transition. Mortality, on the other hand, was there beckoning to researchers. It was a relatively under- or rather unexplored subject, at least in comparison with fertility, and there were loads of excellent and mostly untapped sources available. One of the first products of this renewed interest could be seen at a meeting

organized by the Historical Demography Committee of the IUSSP in Annecy (France) in 1988.¹ Interest in mortality soon came to focus mostly on infant and child mortality. This was not surprising given the overwhelming importance of childhood mortality for life expectancy in high mortality historical populations. A number of national and international initiatives organized during the 1990s encouraged this line of research. High quality doctoral dissertations were written, research projects were coordinated and numerous publications appeared.

Thanks to this process, our understanding of pre-transitional patterns of infant and child health and of the dynamics of change are vastly greater than they were only 15 years ago. This transformation has been most visible in four areas of research. There has been an enormous growth in our knowledge of infant and child health in societies where heretofore little data had been available, at least in English. Some of the biggest success stories are those of certain European societies – mostly in the southern flank of the continent, but also elsewhere – where research on this issue has been abundant and often every bit as sophisticated as in countries where our knowledge was traditionally sound. Secondly, research has gone beyond the straightforward utilization of certain demographic parameters, often the mainstay of much traditional historical research, and has come to include cause of death information and other variables as structural components of any health analysis. Thirdly, analytical techniques have become far more refined and today multivariate longitudinal as well as micro and macro spatial approaches are not uncommon. Finally, there has been a considerable effort to make use of innovative perspectives in working on health during childhood, often leading to brilliant results.

Ólöf Garðarsdóttir's dissertation belongs to both the first and the last genre of research, making available to the field a vast array of heretofore unknown Icelandic data and using strikingly innovative approaches to her study of child health. While it has a strong demographic base, her study is basically one of human agency and the way it interacted with demographic and economic realities, with the health establishment and with scientific progress to bring about a dramatic decline in Icelandic infant mortality that, in many ways, was unique in Europe.

The case of Iceland is an intriguing one. Before the central decades of the nineteenth century it had exceptionally high levels of infant mortality, in some cases among the highest in Europe. Infant mortality decline began earlier than in many other European countries and was truly precipitous. During the 1830s IMRs were around 350 per thousand, by the 1870s they were below 200 per thousand and by the turn of the century near or below 100 per thousand. In a matter of 50 years, Iceland had gone from having one of the highest levels of infant

1. A selection of papers from that meeting was eventually published as a part of the Oxford University Press-IUSSP series (*The Decline of Mortality in Europe*, Roger Schofield, David Reher & Alain Bideau (eds), Oxford 1991).

mortality in Europe to having one of the lowest. It was a remarkable transformation. Pre-transitional infant mortality was characterized by extremely high levels of exogenous neonatal mortality and by very strong regional differences. IMRs were high, but within what might be considered 'normal' for the period in the North, the East and in the area around Reykjavik. On the other hand, it was extremely high in the West and the South. The demographic transition in Iceland brought with it a gradual decrease and the eventual disappearance of this regional configuration.

When looking for the causes for the improvements in child health, the author has very little difficulty in pointing to two key aspects that were to play a vital role. One of the reasons for the very high mortality was the fact that there was very little breastfeeding in Iceland before the nineteenth century. Moreover, regional differences in the implementation of this practice explain much of the regional mortality patterns she is able to observe. In many areas, giving children solid foods and undiluted milk from the outset of life was one of the major reasons for the high death rates. Garðarsdóttir is able to document how breastfeeding became more widespread during the second half of the nineteenth century and how this led to a drastic reduction in mortality during the first year of life. By implication, then, mothers and the way they took care of their young children become a vital part of the picture Garðarsdóttir is painting.

The major link between the behavior of mothers and the public health establishment in Iceland were the midwives. Educated in Copenhagen from the beginning of the nineteenth century, these midwives became the true agents of change because they had closer access to mothers, especially during the key early stages of children's lives, and were those best situated to convince them of the importance of breastfeeding and the proper mechanisms of child care. For Garðarsdóttir, everyone else, even factors traditionally considered to be of importance for the improvement of child health, took a back seat to mothers and to midwives in this process.

Garðarsdóttir's study is structured in three parts. It starts off with a very thorough review of the key issues and the current debates on the transition in child health taking place not only in historic Europe, but in developing societies as well. The second part consists of a regional and national analysis of infant mortality based mainly on demographic data. The final part – in my opinion, the one of greatest interest – contains detailed accounts of special issues and aspects of the general process of mortality reduction. It is here, for example, that we are able to see the true role played by midwives in this process. The author uses a wide range of sources for her study. The basic demographic data is taken from published national statistics as well as from a number of local samples. This information is supported by the intelligent use of national surveys, by medical and health reports and finally by ethnographic material. Most of the statistical work

is straightforward and relatively uncomplicated. One of the most salient aspects of this book is the way in which the author attempts to link data from different sources, often with fascinating results. This is particularly the case when she is able to link the health outcomes of the same children and mothers who are present in midwives' reports. From a methodological standpoint this is one of the most innovative aspects of her research. On the whole, this is an imaginative and insightful study. It is well written and a pleasure to read. Congratulations are in order for both the author and for her dissertation advisor, Anders Brändström of Umeå University.

One of the most attractive aspects of this rich study is that it raises a number of issues central to the transition of childhood health everywhere. Yet it is difficult not to wonder whether all of the main issues affecting improving childhood health have been addressed in the dissertation. There is no doubt that the author's insistence on the importance of breastfeeding is well placed. It is a necessary explanation for health improvement, but is it a sufficient one? In most of Europe, breastfeeding was the norm for at least a part, and at times a sizable part, of the first year of a child's life. Still mortality continued to be high and it ended up decreasing dramatically. What role did breastfeeding play in those societies? While there is a chance that researchers have not explored the issue nearly so thoroughly as Garðarsdóttir, it is also likely that breastfeeding was only part of the story. In Iceland, IMRs underwent a dramatic decline beginning in the central decades of the mid nineteenth century. Nobody can doubt that this was indeed an enormous change for the better in the quality of life of Icelanders infants. Yet it is legitimate to ask what part of this decline was due exclusively or mainly to breastfeeding. And what, then, about the rest? After, say, 1900, Icelandic IMRs were similar or lower to those in much of the rest of Europe. What happened then? I cannot help but think that there is more to the story. For Garðarsdóttir's study to be more directly useful for those of us who do our research in other contexts, we need to see the similarities between our own areas of interest and the Icelandic experience. Where are the common points? Weren't overall nutritional levels or prevention of certain types of gastro-intestinal infections or public health initiatives also important? In all likelihood they had a bearing on the Icelandic case as well. Should that be the case, they deserve to be addressed more fully.

Breastfeeding emerges as the key explanatory variable in this study. Yet it raises many questions. Why was breastfeeding nearly absent from traditional Icelandic society? It must have been much more than ignorance as to its benefits for child health. It cannot be fully explained by socioeconomic factors and may have deep-seeded cultural roots. Regarding the benefits of breastfeeding, its role in the reduction in the prevalence of certain types of disease is indisputable. Yet there may be more. By reducing the prevalence of disease (morbidity), breast-

feeding is contributing indirectly to improved nutritional status because there is a synergy between the prevalence of infectious disease and nutritional status. In this way, breastfeeding affects the physical well-being of children in two complementary ways. In fact, the entire debate regarding improvements in child health touches on both key aspects, since mortality decline can be achieved either via the reduction in morbidity or by means of the reduction in case fatality rates. This dissertation only deals with one of these (prevalence) and even then only in passing. Admittedly it is very difficult to get at both of these aspects with available empirical data, but it is absolutely necessary for it to be the cornerstone of any theoretical conceptualization of the process.

Related to this last point is the way the author portrays the mortality transition debate. In her study, Thomas McKeown receives rather little credit, unlike Simon Szreter many of whose ideas are widely accepted by *Garðarsdóttir*. I cannot help but wonder if belittling the ideas of McKeown does much to further our understanding of the issues involved. It is difficult to deny that nutritional status played a central role for the improvement of mortality rates even in Iceland. Even though empirical data are lacking, there is ample room here for reasonable speculation. Was there an increase in birth weights between, say, 1850 and 1920? While we do not know this for sure, the increasing heights of mothers after the first half of the nineteenth century suggest that it is a distinct possibility. Should that be the case, then we would have to admit that nutritional status, as manifested in birth weights, might well have played an important role in the childhood health transformation during the period. The increasing incidence of breastfeeding among Icelandic mothers certainly led to a decrease in the incidence of childhood infectious disease and this had implications for nutritional status. In other words, breastfeeding affected nutritional status in two ways, one directly (via nutritional intake) and the other through its influence on infection. I for one would be hesitant to discount the importance of changes in nutritional status for improvements in child health during the period. This dissertation, with its emphasis on breastfeeding, is about nutrition and nutritional status, about prevention of and resistance to infectious disease, about the education of mothers and, only possibly in the final analysis, about Szreter's institutional mobilization. Any useful framework for understanding this process of change must necessarily be a holistic one.

As the author proudly proclaims, this study is about human agency and midwives are clearly those agents. It is difficult not to be convinced and impressed by the emphasis of the author, and it is on this point that her study is most innovative. Nevertheless, I could not help but ask myself just how much influence midwives had once breastfeeding had been introduced or during the months after the birth of the child. The visitations the author mentions were clearly one way of prolonging their influence on child-rearing customs of mothers. Yet plausibly, the

further from childbirth the mother was, the less important the advice of the midwife became. Were they able to influence the way children were weaned or the duration of breastfeeding itself? Perhaps they were, but this question is left largely unanswered in this study. A key change in child-feeding practices was the introduction of diluted instead of undiluted milk, or the use of liquids instead of solid foods. This change was also a key part of the improvements in health taking place during the period. Where were the midwives at this stage of development, often far into the life of a child? Is their influence sufficient to explain all the changes we have observed, or is there more at work here?

This study contains other major findings that are an excellent contribution to our understanding of how child health improved in Europe. One of the most remarkable chapters deals with the importance of neonatal tetanus as a key cause of death in some areas of Iceland, particularly in the South where it accounts for a large percentage of infant deaths. Yet this cause of death practically disappears by the 1850s. In order to explain this, *Garðarsdóttir* undertakes a riveting micro analysis of the situation on the island of Vestmannaeyjar, where the midwife *Sólveig Pálsdóttir* and the physician Peter A Schleisner are the ones who taught mothers how to avoid this crippling disease.

Ultimately the transformation of child health in Iceland was a matter of education. Not surprisingly, formal education was not an important issue, except possibly in the case of midwives. More important was the permeability of mothers to the new ideas regarding child health and the ability of midwives, and more generally of the public health establishment, to communicate this to mothers, transforming traditional deleterious practices into much healthier ones. The main emphasis in the dissertation is on human agency and the way in which midwives were able to implement the necessary reforms in child care. Midwives are educating agents. In fact, stimulating innovations in the way mothers cared for their children is ultimately a matter of education. Education, in this sense, may be extremely difficult to achieve, but ultimately is very inexpensive to implement.

The child health transition is really an issue of social change, especially so when major gains are achieved with very low levels of technology. The key question here is the ability of a society to bridge the gap between scientific discovery and individual behavior. How and when this happens and how long it takes are important questions. The permeability of different societies and social groups to new ideas and techniques may well differ substantially. The way in which social groups react to innovation is a central question for social research everywhere. The author attempts this type of analysis when looking at midwives during the early part of the twentieth century, though she is only able to relate their permeability to their age. Age may be important, but there must be other factors as well, equally or more important. Are some societies or social groups more permeable

than others? The results given in this book related to socio-economic categories or to urban/rural differentials would suggest that they are. It would be interesting to attempt to estimate the permeability of any given society to new ideas. Is it licit to speak of traditional versus permeable societies? Perhaps it is.

The author speaks of the fatalistic view of the midwife Sólveig Pálsdóttir. This is another way of stating the parental indifference hypothesis. Parents (and midwives) expected large numbers of children to die, and they died. Unquestionably the investments in parental (maternal) time and energy on children who were not expected to survive were never very high. Eventually this sort of fatalism changed and parents came to expect their children to survive. In a sense, death went from being an unfortunate but inevitable outcome, to being an intolerable and unexpected one. This may have been the key change affecting children's health, far more than medical or public health interventions. How and when did these attitudes change? Looking at this issue is certainly not easy, but it is a necessary backdrop for understanding the entire transformation in children's health in high mortality societies. Ultimately child health and survival was a matter of attitudes, education and a few very rudimentary techniques.

Seen in this way, during the demographic transition mothers assume a central role both for the improvements in childhood health as well as for the decline in fertility. In this way they are the key figures for the entire transition, itself a central component for the modernization of society. In this sense, these changes can be seen as a noteworthy chapter in the empowerment of women. Even though our understanding of the demographic transition continues to be far from adequate, the necessary renovation of research will end up addressing subjects such as these and, in so doing, will follow up on the leads and intuitions set out in this innovative study.

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