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Editorial Board

Copyright

Table of Contents

Volume 2, No. 1, 2001

Editorial

Articles

Introduction

Jan Sundin

We are proud to present the second volume of *Hygiea Internationalis*. Starting a journal in a medium that is not too well established within the humanities did not turn out to be self-perpetuating. On the one hand, we have had over 5,700 visits to the International Network for the History of Public Health (INHPH) homepage, most of them also taking a look at the first volume of the journal. We think this is a fairly good result compared with traditional ways of distributing ongoing research within the historical field. The spontaneously submitted contributions to the journal have, on the other hand, been fewer than we had hoped for. We believe that the major reason for this lack of activity from the researchers' side is that they are not used to the new medium or may feel that their results will be spread better through traditional channels. However, the last argument is most certainly wrong.

This volume contains three articles representing the great diversity of the interdisciplinary study of the history of public health. *Lucinda M. Beier* analyses interviews which give us a picture of the way public health activities were perceived by English working class families half a century ago. The results will no doubt provide food for reflection for those who are involved in public health interventions today. *Alec Ostry's* article presents the historical case of the organisation of health care in Saskatchewan, Canada, where a specific political culture was confronted with the interests and opinions of the medical profession. *Sam Willner* analyses the role of alcohol consumption as a very visible factor behind the mortality hump among middle-aged men in Sweden during the nineteenth and early twentieth centuries. The patterns he finds for pre-industrial Sweden are, in many ways, strikingly similar to developments in parts of Eastern Europe during recent decades.

In the future, we expect a steadier stream of interesting research reports from *Hygiea Internationalis*. We believe that one way of 'breaking the ice' will be to actively encourage thematic volumes, sometimes supported by a preparatory work-

shop. The first example will consist of a report from a comparative project on the history of infant and child mortality in the Nordic countries. We are also working together with Anne-Emanuelle Birn and Marco Cueto for a volume on the history of public health in Latin America. Other themes are under preparation. The next INHPH conference in Norrköping, 6–9 September 2001, *Occupational Health and Public Health. Lessons from the Past – Challenges for the Future*, will consist of almost 100 papers from all parts of the world. As far as we know, this event will be the largest meeting on this topic thus far, joining history, sociology, medicine and other disciplines in looking at the past and the future. Many contributions will no doubt provide interesting reading at full length in the journal afterwards. In the meantime, do not forget to look for the conference on the homepage

http://www.liu.se/tema/ohph/

and sign up, using the special form for registration. Abstracts and a detailed program will be available on the homepage by the middle of May 2001. The support of a number of Swedish and international funds and institutions shows that the topic has priority both among scholars and people who are engaged in the practical promotion of public health.

Please note that we are using a new server, and thus have a slightly different address: http://www.liu.se/tema/inhph/journal/.

Still hoping that the journal will become an intellectual meeting place for the more than 300 members of INHPH and others, we kindly invite you to submit articles to the editors. You are also welcome to suggest thematic volumes.

Best wishes

Jan Sundin
Co-editor, co-ordinator of the INHPH

Contagion, Policy, Class, Gender, and Mid-Twentieth-Century Lancashire Working-Class Health Culture

Lucinda M. Beier

Introduction

From earliest times, governments have been concerned about the threat posed by epidemics and have embraced policies and regulations intended to prevent or limit the impact of diseases identified as contagious.[1] However, the public health initiatives of nineteenth- and early twentieth-century England were more ambitious, inclusive, and sustained than any previous public attempts to control disease.[2] The sanitation reforms and preventive health services implemented from the 1840s onward had an enormous impact on the quality and duration of life experienced by English people. Indeed, in his challenge to the McKeown thesis, Simon Szreter argues, 'The public health movement working through local government, rather than nutritional improvements through rising living standards, should be seen as the true moving force behind the decline of mortality in this period.'[3]

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1 See, for example, Dorothy Porter, *Health, Civilization and the State: A History of Public Health from Ancient to Modern Times* (London and New York, 1999) and George Rosen, *The History of Public Health* (New York, 1958).

2 See, for example, Anthony S. Wohl, *Endangered Lives: Public Health in Victorian Britain* (Cambridge, Mass., 1983); Christopher Hamlin, *Public Health and Social Justice in the Age of Chadwick: Britain, 1800–1854*, (Cambridge, 1998); Ann Hardy, *The Epidemic Streets: Infectious Disease and the Rise of Preventive Medicine, 1856–1900* (Oxford, 1993); *Urban Disease and Mortality in Nineteenth-Century England,* eds. Robert Woods and John Woodward (New York, 1984).

3 Simon Szreter, 'The Importance of Social Intervention in Britain's Mortality Decline c. 1850–1914: A Re-interpretation of the Role of Public Health', *Social History of Medicine*, 1:1 (1988), 1 refers to T. McKeown's *The Modern Rise of Population* (London, 1976), which chal-

Yet, public health policies were also intrusive, interfering with individual decision-making and traditional health cultures in the name of the public good. In his review of the state's changing role in disease prevention in his *Eleventh Annual Report* (1868), John Simon, chief administrator of the Medical Department of the Privy Council, recognised the state's intrusion into relationships previously outside its purview:

> [The state] has interfered between parent and child, not only in imposing limitation on industrial uses of children, but also to the extent of requiring that children should not be left unvaccinated. It has interfered between employer and employed, to the extent of insisting, in the interest of the latter, that certain sanitary claims shall be fulfilled in all places of industrial occupation. It has interfered between vendor and purchaser; has put restrictions on the sale and purchase of poisons, has prohibited in certain cases certain commercial supplies of water, and has made it a public offence to sell adulterated food or drink or medicine, or to offer for sale any meat unfit for human food. Its care for the treatment of disease has not been unconditionally limited to treat at the public expense such sickness as may accompany destitution: it has provided that in any sort of epidemic emergency organized medical assistance, not particularly for paupers, may be required of local authorities; and in the same spirit it requires that vaccination at the public cost shall be given gratuitously to every claimant.[4]

Research on the history of public health in nineteenth- and twentieth-century England has focused largely on political, institutional, and professional issues; the impact of public health policies on the individuals, families, communities, and cultures upon which they were enforced has received comparatively little scholarly attention.[5] This is particularly true regarding working-class communities – the primary focus of public health concerns and policies, since statisticians, physicians, moral reformers, and policy-makers observed a strong relationship between infectious disease and poverty.[6] This paper will contribute to the scholarship by exploring the impact of both contagious diseases and public health policies on working-

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lenged then current orthodoxy that the rise of modern scientific medicine had brought about the mortality decline, arguing instead that improved diet solely accounted for that decline.

4 Quoted in Roy Porter, *The Greatest Benefit to Mankind* (London, 1997), 414–15.

5 There are, of course, exceptions to this generalisation. See, for example, F. B. Smith, *The People's Health 1830–1910* (New York, 1979) and Nadja Durbach, ' "They Might as well Brand Us": Working-Class Resistance to Compulsory Vaccination in Victorian England', *Social History of Medicine*, 13:1 (2000), 45–62. Excellent recent studies of US experience include Judith Walzer Leavitt, *Typhoid Mary: Captive to the Public's Health* (Boston, 1996) and Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge, Mass., 1998).

6 See, for example, Anthony S. Wohl, *Endangered Lives*, Chapter 3, 43–79. *Urbanising Britain: Essays on Class and Community in the Nineteenth-Century,* eds. Gerry Kearns and Charles W. J. Withers (Cambridge, 1991).

class experience three Lancashire communities during the first half of the twentieth-century.

The paper is largely based on information resulting from more than 200 semi-structured life history interviews conducted with residents of Barrow, Lancaster, and Preston by Dr. Elizabeth Roberts and myself during the 1970s and 1980s.[7] (See the Appendix for information about interviewees and interview questions.) Covering the first half of the twentieth-century, these interviews offer perspectives on working-class health culture and behaviour that are not available from other sources. For example, while annual returns of the Medical Officer of Health of each community supply data on the incidence and management of specific contagious diseases and occasionally offer descriptions or analyses of working-class experience, these documents are written from a point of view that is invariably different from that of local working-class residents.[8] Equally, the Friendly Society Records, mined so effectively by James C. Riley and others, are particularly revealing about the health, illness, and care of adult male workers, leaving in obscurity the experience of most women and children, who were excluded from coverage.[9] Evidence from the Lancashire oral history interviews, thus, balances and enhances the perspectives offered by documentary evidence. It also adds to the growing literature based on oral sources about popular experience of ill health and medical care in Britain.[10]

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7 Elizabeth Roberts interviewed approximately 160 people in the course of projects funded by the Social Science Research Council in 1974–6 and 1978–81. With support from the Economic and Social Research Council, Dr. Roberts and I interviewed an additional 98 respondents between 1987 and 1989. Interview transcripts are housed in the archive of the Centre for North-West Regional Studies at Lancaster University (Great Britain).

8 For example, Jane Lewis in her *What Price Community Medicine: The Philosophy, Practice and Politics of Public Health Since 1919* (Brighton, Sussex, 1986) criticises the Medical Officers of Health (MOH) of the 1930s for their 'optimistic' annual reports designed to reassure the public that national health was being looked after. Thus, both health needs, on the one hand, and traditional working-class self-help in dealing with matters of health and illness, on the other, do not find their way into MOH returns. (Lewis, 30). Reports of the Barrow, Lancaster, and Preston MO'sH tend to blame working-class families for their own health problems.

9 See, for example, James C. Riley, *Sick, Not Dead: The Health of British Workingmen During the Mortality Decline* (Baltimore, 1997) and David G. Green, *Working-Class Patients and the Medical Establishment: Self-Help in Britain from the Mid-nineteenth-Century to 1948* (New York, 1985).

10 For a discussion of sources see Paul Thompson, 'Oral History and the History of Medicine: A Review', *Social History of Medicine*, 4:2 (1991), 371–383. For twentieth-century working-class experience, see Pam Schweitzer and Joyce Holliday, *Can We Afford the Doctor?* (London 1985); and Elizabeth Roberts, 'Oral History Investigations of Disease and its Management by the Lancashire Working Class 1890–1939', in *Health, Disease and Medicine in Lancashire 1750–1950*, ed. John Pickstone, Occasional Publications No. 2, Department of History, Science and Technology, UMIST (Manchester, 1980), 33–51. Jocelyn Cornwell's *Hard-Earned Lives: Accounts of Health and Illness from East London* (London, 1984) explores 1980s working-class London health culture, but does not provide an historical perspective. Regarding

This paper makes the following arguments:

1. **Policy-driven local management of contagious disease was an important vehicle for the transition of power from informal, 'amateur', home-based, female, working-class authority in matters of health and medicine to formal, 'expert', institutional, male, middle class authority.** It is not my intention to argue that working-class communities would have been better off without the benefits of public health and medical intervention. However, it is undeniable that intrusions of the health bureaucracy into working-class life undermined traditional family and neighbourhood ways of managing ill-health and, by extension, the power, status, and confidence of working-class women.[11]
2. **This transition was slow in coming because it was resisted by the people in working-class communities with the most knowledge and influence regarding health matters – mothers, grannies, and 'handywomen' (informal neighbourhood health authorities).** Resistance was understandable because, as the evidence cited below indicates, official health care was often intrusive, frightening, and expensive, disrupting family life and violating traditional health care patterns sanctioned by working-class health culture.
3. **Finally, however, the transition was effective because of a combination of local delivery of information and services (in elementary schools and neighbourhood clinics), the power of the public health bureaucracy to enforce its decisions, and, ultimately, the establishment of the NHS and the introduction of antibiotics.**

twentieth-century experience of midwives and their working-class patients, see *The Midwife's Tale: An Oral History from Handywoman to Professional Midwife,* eds. Nicky Leap and Billie Hunter (London, 1993).

11 Elizabeth Roberts, *Women and Families: An Oral History, 1940–1970* (Oxford, 1995), 238. For additional information about the transition from informal, neighbourhood management of ill-health to dependence on formal health care providers, see Lucinda McCray Beier, ' "I used to take her to the doctor's and get the proper thing": Twentieth-Century Health Care Choices in Lancashire Working-Class Communities', in *Splendidly Victorian*, eds. M. Shirley and T. Larson (Aldershot, 2001).

Contagious Diseases

By the end of the nineteenth-century, mortality from most epidemic and endemic contagious diseases had already begun the rapid decline that continued in the twentieth-century.[12] Nonetheless, with the popularisation of the germ theory among the upper and middle classes, public concern about transmission of diseases among individuals grew, as did policy-driven activities directed at prevention, treatment, isolation, and education. The new local health bureaucracies increasingly enforced regulations including compulsory vaccination; notification of cases of a growing number of contagious diseases; isolation in either home quarantine or fever hospitals; fumigation of homes; inspection of school children; and other measures intended to protect the general population from the sick among them.[13] Furthermore, through the agency of state education and the School Medical Service, established in 1907, elite consensus about cause, prevention, and treatment of disease was introduced to a new audience – working-class children.[14] These public health activities both elicited resistance and, in the long run, produced change in working-class health culture.

Oral history respondents remembered the contagious diseases experienced within their childhood and adult households, making a clear distinction between 'ordinary childhood diseases', including measles, chicken pox, mumps, and whooping cough, and more serious life-threatening ailments such as diphtheria, scarlet fever, meningitis, polio, and tuberculosis. Measles was the illness most often mentioned, followed by chicken pox and mumps. Respondents displayed a high degree of indifference towards 'ordinary childhood diseases', despite complications including deafness and asthma after measles and a death from whooping cough.[15] Indeed,

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12 See, for example, Riley, *Sick, Not Dead*, Hardy, *Epidemic Streets*, and Szreter, 'The Importance of Social Intervention'.

13 See, for example, Porter, *Health, Civilization and the State*, 118 ff.; Hardy, *Epidemic Streets*, 267–280; Bernard Harris, *The Health of the Schoolchild: A History of the School Medical Service in England and Wales* (Buckingham, 1995); and Jane Lewis, *What Price Community Medicine: The Philosophy, Practice and Politics of Public Health since 1919* (Brighton, 1986).

14 Harris, *The Health of the Schoolchild*; John Woodward, 'The School Medical Officer Before the School Medical Service: England and Wales, 1850–1908', in *Coping with Sickness: Historical Aspects of Health Care in a European Perspective*, eds. John Woodward and Robert Jütte (Sheffield, 1995), 121–146.

15 Interviewees were promised anonymity; thus, names used in this narrative are fictitious. References to interview transcripts, housed by the Center for North-West Regional Studies, Lancaster University (Great Britain) are given by the respondent's code number and transcript page number. Barrow respondents are indicated by the suffix 'B', Lancaster respondents by the suffix 'L', and Preston respondents by the suffix 'P'. For representative comments regarding "ordinary childhood diseases", see Mr. G3L p. 46, Mrs. C8L, p. 6, and Mrs. P1P, pp. 14–15. The indifference toward many 'childhood' illnesses displayed by these Lancashire

families were so resigned to the inevitability of these diseases that children were deliberately exposed to active cases in order to 'get it over with', despite official recommendations to isolate sufferers. Passive response to 'ordinary childhood diseases' spanned generations. Mr. Kellett, born in Preston in 1930, was not unusual in remembering that 'If you used to get mumps or anything like that we used to be chucked together in one bed. We slept in one bed anyway, so we had to be near certain of all getting it whatever was going at the time.' Mr. Farrell, born in Lancaster in 1917, joked that, 'The only time I kissed our Roger [his brother] was to get measles off him'.[16] Respondents were much more alarmed by diphtheria, tuberculosis, and scarlet fever, which were not only considered more dangerous, but because of public health regulations disrupted traditional management of illness, withdrew the sufferer from ordinary life for a considerable period of time, inconvenienced family members, and cost money.

In the first half of the twentieth-century, virtually all illnesses – particularly those suffered by children – were dealt with at home by laywomen. Although a range of formal health services were available, mothers, grandmothers, and neighbourhood health authorities diagnosed, provided advice, prescribed and administered medicine (often home-made), attended births and deaths, and nursed the sick.[17] Women also visited ailing neighbours and helped with food preparation, childcare, shopping, and other housework.[18] Making health decisions and managing illness was an expected part of a woman's role, adding to both her responsibilities and her status. Mrs. Wallington, born in 1923, spoke for many when she remembered, 'If you had chicken pox, your mum knew what to do and what you had, and that was it'.[19] What mum was likely to do generally involved keeping the patient warm in bed, surrounded by family members and neighbours, and using a range of home-made or patent remedies to deal with symptoms. These approaches were different from

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respondents was not unusual. Ann Hardy discusses similar indifference observed among working-class London residents in the late nineteenth-century in Epidemic Streets, 270–71.

16 Mr. K2P, p. 83, Mr. F2L, p. 79.

17 Leap and Hunter's *The Midwife's Tale* provides an excellent discussion of the work of 'handywomen' – working-class neighbourhood health authorities – who remained active until the mid-twentieth-century. My own research on seventeenth-century English health culture, discussed in *Sufferers and Healers: The Experience of Illness in Seventeenth-Century England* (London, 1987) suggests that twentieth-century working-class health culture retained the tradition of women serving as health authorities and care-givers within their households and neighbourhoods. I discuss oral evidence for this survival in my paper, '"I used to take her to the doctor's and get the proper thing": Twentieth-Century Health Care Choices in Lancashire Working-Class Communities'.

18 Elizabeth Roberts, *A Woman's Place: An Oral History of Working-Class Women 1890–1940* (Oxford, 1986), 169–201; Elizabeth Roberts, *Women and Families*, 201–02.

19 Mrs. W4L, p. 33. See also, for example, Mr. B2B, pp. 38–39, Mrs. P6B, p. 117, Mrs. F1L, p. 49, Mrs. H5L, p. 58, Mrs. T2L, p. 77.

those used by physicians and the public health establishment, which emphasised isolation and avoidance of traditional remedies.

Although working-class families did consult physicians, it is arguable that men were more likely than women or children to do so because their care was more often paid for by Friendly Society coverage or, after 1911, the 'Lloyd George' National Insurance program.[20] Thus, in part, working-class women avoided using official medical care for themselves or their children because of its cost. Mrs. Allen, born in 1932, remembered, 'If she [mother] thought I was really ill, she would send for the doctor. She would try and probably cure me first herself, because then they'd to pay. And then, if it didn't work, she would send for the doctor'.[21] Some families were involved in pre-paid hospital or medical schemes; others paid off doctors' bills at the rate of a penny or two collected weekly by the doctor's 'man' on Friday (pay-day) evening.

An infectious disease often took the choice of whether or not to use official medicine out of the family's hands, since the law required certain illnesses to be reported and sufferers to be treated in isolation hospitals.[22] Mrs. Aubrey, born in 1907, spent four months in an isolation hospital being treated for scarlet fever when she was three years old. Although her hospital treatment was free, doctor's visits and medication were not. She said, 'I think m'mother paid that doctor's bill for years.... They used to have to pay it weekly. M'mother said that they just hadn't any money to pay it, they used to have to take so much every week to pay him off.'[23]

Families resisted having children confined in isolation hospitals for other reasons more often cited than expense. Any hospitalisation was upsetting because it represented a departure from the usual way of handling ill health. Mr. Goodwin, born in 1945, didn't like his hospitalisation for a tonsillectomy as a child because 'We was always home with the family, and to be away from the family was something strange.'[24] However, hospitals – and particularly isolation hospitals – were also

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20 In Riley, *Sick, Not Dead*, the author maintains that 'In Britain workingmen began regularly to consult formal medical practitioners between the late eighteenth and the mid-nineteenth centuries' (47) and that 'The friendly societies brought working-class males as a group into contact with formal medicine' (51). He recognises that 'although many children and women belonged, friendly societies served chiefly adult males' (30). See also Helen Jones, *Health and Society in Twentieth-Century Britain*, (London and New York, 1994), 20–27.

21 Mrs. A4L, p. 75. See also, for example, Mr. F1L, p. 29, Mrs. F1L, p. 47, Mr. H7L, p. 65.

22 Fever hospitals were built in England beginning in the late eighteenth-century. However, there was a 'new burst of building isolation hospitals' in the 1880s (Smith, *People's Health*, 241) associated with the same movement that stimulated passage of the Notification of Infectious Diseases Act of 1889. Barrow, Lancaster, and Preston each had isolation hospitals that were used during the first half of the twentieth-century for cases of diphtheria, scarlet fever, and typhoid. There were also sanitoria used exclusively by tuberculosis patients.

23 Mrs. A2L, p. 214.

24 Mr. G6P, p. 62. See also Mr. N2., p. 60.

regarded as dangerous. Mrs. Aubrey lost an eye due to an infection she picked up while hospitalised in 1910 for scarlet fever. When her own daughter had scarlet fever, Mrs Aubrey resisted having her hospitalised.[25] Mrs. Pierce, born in 1899, had a four-year-old son suffering from measles and year-old twins, who had whooping cough, removed from her home by 'the Welfare' and taken to the isolation hospital in Preston where one of the twins died. When her husband came home from work, 'He said that I had no business letting them [take the boys]. You can't go against them people, can you. I were demented, I didn't know what I were doing'.

Even when hospitalisation did not have disastrous results, it separated children from their families for a long time and imposed unfamiliar care routines. Mr. Goodwin, born in 1903, was in the Preston isolation hospital for six weeks in 1914:

> When you went in, you could have had scarlet fever for a week. It made no difference to them, they treated you the same. You went for three days and you were only on slops and they kept you laid down. They gradually built you up, but all the time you were in that hospital, you were hungry. . . Parents weren't allowed in. Later on they could come and look through the window.[26]

Mr. Hunter, born in 1928, spent three months in hospital with diphtheria in 1941.[27] People suffering from tuberculosis were confined in hospital for a much longer period of time – years, rather than months. Treatment was unpleasant, invariably including protracted exposure to the cold and often involving surgery.[28]

Hospitalisation interrupted family relationships and removed authority, control, and knowledge of what was happening to the sufferer from parents. It was terrifying. Mr. Simpkins, born in 1932, reflected general fear of the isolation hospital:

> The things that stand out in my memory are the illnesses that were taking place at that time, because I can remember we used to dread seeing the ... blue ambulance come on the [Lancaster Council housing] estate. Because diphtheria was widespread and we used to have a nasty little habit of spitting into the gutter and saying, 'no fever in our house.' You know... People died from diphtheria in those days, you know, and the isolation hospital... You see, and they were not going to go in that blue ambulance, no way, you know, you was never going to come back.[29]

Home quarantine also interrupted family and community life. In addition, it imposed on mothers new, officially sanctioned treatment routines involving a lot of extra work. However, families preferred quarantine to hospitalisation. Mr. Sharples,

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25 Mrs. A2L, p. 213.

26 Mr. G1P, p. 12. See also Mr. M13B, p. 56; Mr. R3B, p. 51; Mr. F1L, p. 27; Mr. H3P, pp. 10–12.

27 Mr. H3P, pp. 10–12.

28 Mrs. J1B, p. 4; Mr. W7B, p. 47; Mr. M1L, p. 9; Mr. W7P, p. 40.

29 Mr. S7L, pp. 8, 77.

born in 1915, described his mother's battle to keep him at home when he contracted scarlet fever:

> It was unheard of for anything other than that you went to an isolation hospital, but my mother managed to prevail upon the doctor and the health authority that because I was the only one, she was prepared to take extreme precautions with regard to infection and I was immured in the bedroom for a couple of months and no one was allowed in the room except my mother. I remember the blankets and things soaked in disinfectant, hanging outside the door.[30]

Mrs. Adderley, born in 1932, was also an only child who was quarantined for two months with scarlet fever. She remembered that children were quarantined for 'chicken pox, measles, and everything' and that a 'chap came around' to enforce the quarantine.[31] Mrs. Peel, born in 1921, also remembered home quarantine and that her father, a postman, had to stay at home if any of his children had an infectious illness.[32]

In additional to reporting cases of specific 'notifiable' diseases and isolating sufferers in hospitals or home quarantine, public health authorities were also responsible for fumigating ('stoving') infected premises after the sufferer had died or recovered. Mr. Goodwin remembered how this was managed in Preston in 1914:

> They had the Town Doctor and he used to come to the house and they would say as we had had scarlet fever and this house had to be stoved. They would ask where the child was and they would say in such a bedroom. I remember it was a three-bedroomed house and they came and they did all three bedrooms. They left the rest of the house. It was like sulphur in a round tin and they put one in each bedroom and they lit it. They sealed all the bedroom doors and windows up with sticky brown paper. They would do that in the morning and then at night they would come and take this brown paper off and open the doors and windows.[33]

Respondents also remembered houses being stoved for insect infestations.[34]

Public health authorities were also responsible for administering immunisations, beginning with smallpox vaccination (compulsory after 1853) and including immunisation against diphtheria, tetanus, whooping cough, tuberculosis, and polio by the mid-twentieth-century. Although many respondents remembered having 'everything', the experience of others revealed widespread working-class resistance

30 Mr. S4P, p. 4.
31 Mrs. A4L, p. 77.
32 Mrs. P6B, pp. 13, 118.
33 Mr. G1P, p. 11. See also, for example, Mr. F1L, p. 28 and Mr. M10L, p. 57.
34 Mrs. N3L, p. 32; Mrs. B11P, p. 19.

to vaccination and immunisation.[35] Mrs. Swallow, born in 1948, said that her mother did not believe in any type of immunisation because 'She thought that they were putting something in your body that shouldn't be there anyway'.[36] Mrs. Canter, born in 1942, thought that immunisations 'injected the germ' into children.[37] Mrs. Sykes, born in 1927, said her mother thought vaccination was a 'messy thing', while Mrs. Ruthven's (born 1936) father disapproved of vaccination on 'conscientious grounds' and Mr. Thornbarrow's (born 1949) parents obtained a doctor's signature to 'get out of it [vaccination].'[38] Nonetheless, many respondents remembered immunisations being done without parental permission, either at school, in the army, or by local health authorities during an epidemic.[39]

After establishment of the School Medical Service in 1907, schools became agents for inspection of children, disease prevention, and treatment of some health problems. Most respondents remembered being inspected for head lice at school. Mrs. Needham, born in 1919, remembered that 'every week you had a nurse come'. If lice or nits were found, the child would be 'sent to the clinic and kept away from school.' This shamed the child, 'Because it wasn't so nice if you got pulled up in front of all the other kids with nits. Because they took you to one side if you had got it, you see. . . And then it used to be, "Oh I'm not sitting next to her, she's nits", you know. So you didn't want them, did you?'[40]

Many respondents remembered being given 'emulsion' at school to prevent illness. Mr. Newberry, born in 1931, said,

> Well, we were given emulsion at school and we were given cod-liver oil capsules at school, but again this was during the war where... vitamins were in short supply anyway. And we didn't decide to have these things, it was decided for us... And we were all told we had got to bring our own spoon to school... And in order to identify a particular spoon it was suggested that we wrap a piece of coloured wool round it or raffia, so that you knew whose spoon was whose.[41]

Several respondents were sent to open air schools to 'build them up', either because they had been ill, or to prevent illness.[42] Most respondents also received treatments

35 See, for example, Nadja Durbach, ' "They Might as well Brand Us." Working-Class Resistance to Compulsory Vaccination in Victorian England', 45–62.

36 Mrs. S6L, p. 24.

37 Mrs. C8L, p. 18.

38 Mrs. S3B, p. 74, Mr. and Mrs. T4B, p. 75.

39 Mr. F1L, p. 32, Mrs. F1L, p. 62, Mr. N2L, p. 54, Mrs. S6L, p. 24.

40 Mrs. N3L, pp. 31–32.

41 Mr. N2L, pp. 52–3. See, also, for example, Mrs. A4L, p. 74 and Mr. N3L, pp. 128, 133–4.

42 See, for example, Mr. S4B, p. 65, Mr. BllP, pp. 4, 21.

from school dentists, who were often detested.[43] Schools made recommendations regarding diet and bed times.[44] Thus, schools were an important bridge between 'modern', 'scientific' medicine and working-class health culture. At school, children came into regular contact with health care professionals whose attention they were powerless to resist. They received treatment and information from authorities very different from mother, granny, and the neighbourhood handywoman. It is arguable that this experience had a long-term impact on working-class health culture, making adherence to traditional forms of prevention and treatment increasingly 'old-fashioned'.[45]

Child health clinics also contributed to increasing working-class acceptance of professional medicine and official health culture. Some respondents indicated distrust of clinics, one referring to them as a 'breeding ground for gossip' and another remembering that she stopped going to the clinic when a staff member told her her daughter would be bow-legged because of wearing nappies.[46] However, many took advantage of the cheap or free supplies offered by clinics and, particularly among younger respondents, took advice from clinic staff about health problems.[47]

Public health authorities wielded a great deal of power in working-class communities. This power was often exercised by men and women of a higher social class than the people affected by it. As in the case of the 'nit nurse' visiting elementary school classrooms, the unintended effects were at some times irritation and at other times shame. For example, Mrs. Jenkins, born in 1932, remembered that her mother-in-law would not let the health visitor into the house, calling her 'an interfering busybody.'[48] Mr. Boyle, born in 1936, recalled his experience with clinic services as a child:

> Now, on Harrison Hill, they classed theirselves as different families than what we were. We were scum to them. I'll give you an instance. Me, my brothers and sisters all got what they called at the time, impetigo, which is scabies. So you had to go to this place which is called Atkinson Street and it must have been a public house at one time and they had changed it, the Health must

43 Respondents complained of school dentists being heavy–handed and callous, preferring extraction to other treatments, using slow (foot-operated) drills without anaesthetic, and dealing with groups of school children in an assembly-line fashion. See, for example, Mrs. B2B, p. 54, Mrs. J1B, p. 67, Mr. M12B, p. 46, Mr. P5B, p. 49, Mrs. P5B, p. 43, Mr. R3B, p. 61, Mrs. S4B, p. 65, Mrs. T4B, p. 75, Mr. W7B, p. 44, Mr. G3L, pp. 31 and 48, Mrs. H5L, pp. 61–62, Mr. N2L, pp. 63–66, Mrs. L3P, pp. 120–149.

44 Mrs. B11P, p. 30

45 See, for example, Lucinda McCray Beier, ' "I used to take her to the doctor's and get the proper thing": Twentieth-Century Health Care Choices in Lancashire Working-Class Communities' and Elizabeth Roberts, *Women and Families*, 145–150.

46 Mrs. C8L, p. 17; Mrs. O1B, p. 41.

47 Mrs. B2B, p. 50, 53, Mrs. L5B, p. 44, Mr. W4B, p. 22, Mrs. W4L, p. 38.

48 Mrs. J1B, p. 64.

> have changed it. . . And you went there and there were big tin baths and you got in them baths of hot water, and this bloke used to come. . . and scrub these scabs. . . until he made them bleed. Then you got out of the bath and he filled you with this ointment. He had a name for it, it were thick yellow ointment. And then you could put your clothes back on, which you had a woollen vest and one thing and another, and then my Mam would walk us back down the street, and then you would see on the other side were these kids. . . 'Don't go up near [Boyles's], they've all got scabies, keep away from them, they've impetigo.' And it went on from that, you see. And that was just around the corner from me.[49]

The Medical Officer of Health (MOH), the general practitioner, the consultant, the health visitor, the licensed midwife – these state-sanctioned agents of official medicine were sometimes avoided by working-class families because of perceived class differences.[50] Women, traditional working-class health authorities, were at a particular disadvantage when dealing with MO'sH, physicians, and consultants, most of whom were middle-class males. And once in the hands of the health care system, working-class people were often unable to make decisions or participate in care. Mrs. Fleming, discussing her daughter's hospitalisation for osteomyelitis in the early 1950s, said that parents had very little say in the treatment of their sick children; 'Consultants were like gods.'[51]

Conclusions

By the mid-twentieth-century, several generations of working-class people had received health information and care through schools, clinics, and hospitals. If not embraced with huge enthusiasm, these experiences had at least become part of the normal, expected fabric of life, raising awareness of official health culture and familiarity with professional medicine. These experiences had also gone a long way toward rendering the use of professional medicine 'modern' and dependence on advice and care from lay, working-class women 'old-fashioned'.[52] This change was enormously advanced, however, by the advent of the NHS in 1948, which eliminated the cost factor, and to some extent the class barrier, in working-class utilisation of professional health care. Mr. Boswell, born in 1920, remembered:

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49 Mrs. B11P, p. 17.

50 See, for example, Mrs. J1B, p. 64, Mr. G3L, p. 48, Mr. N2L, p. 53; Elizabeth Roberts, *A Woman's Place*, 107; Elizabeth Roberts, *Women and Families*, 148.

51 Mrs. F1L, pp. 116–117.

52 See, for example, Mr. L3B, p. 47, Mr.. R3B, pp. 56–7, Mr. Y1P, p. 51.

> People wanted their teeth out... and wanted a set of dentures, they just could not afford to buy them, so they had aching teeth... Or somebody was ill, send for the doctor, you would get a bill. So they would go down to the chemist and make a bottle up or something like that, you know, and of course the result was that people snuffed it. They had diseases that could have been cured, but they went on too far, so the population was beset with illnesses... And they could not afford to get them treated, so it was the best thing since wearing boots when that [the NHS] came on.[53]

When asked whether there was 'any difference in the way you handled your own children's minor illnesses to the way your mum handled you', Mrs. Burrell, born in 1931, said 'Oh well, yes, I think; we always called a doctor in. I mean, it was National Health Service, so you didn't think twice about calling a doctor in. You didn't have to pay, so.'[54]

Another important factor in encourage working-class use of professional medicine was the introduction of antibiotics to the civilian population after World War II. At the same time as demonstrably effective drugs countered home-made poultices and over-the-counter nostrums, the threat of the isolation hospital and the nuisance of home quarantine vanished. According to Dr. Ackerman, a general practitioner who began practising in Lancaster in 1948,

> The things that previously had perhaps been put into isolation hospitals, like scarlet fever, sometimes they were still admitted and you swabbed their throat and after penicillin for forty-eight hours and they were negative, you used to get rid of them. Until it became a thing you just didn't put into isolation hospital. Measles, whooping cough, you still had youngsters with measles and whooping cough, but you wouldn't keep them very long. So the isolation in respect of what you call the minor infectious things were out.[55]

Physicians were gatekeepers for the antibiotics that promised a speedy miraculous cure of the contagious illnesses that in the past had hovered over working-class households and communities. Mrs. Owen's (born in 1916) only daughter was born in 1940. While continuing her close relationship with her mother, who lived nearby, Mrs. Owen transferred her reliance in medical matters to her GP. She said, 'If something happened to her [daughter], I used to take her to the doctor's and get the *proper* thing.' She tolerated her mother's home remedies, allowing:

> Mum to goose grease her if she had a bad chest. I used to say, 'That child's got a bad chest,' and out would come the jar of goose grease. An earthenware jar with a piece of brown paper with a rubber ring round, and she would come

53 Mr. B4B, p. 30.
54 Mrs. B2B, p. 53.
55 Dr. A5L, p. 9.

> down and rub her back and front. In the end, I took her [daughter] to the doctor, and he gave me some antibiotics, and it cleared up in no time.[56]

Thus, while even the youngest generation of respondents remembered the use of some traditional home and patent remedies, most also indicated growing reliance on formally-trained medical experts and decreasing recourse to informal health authorities. In the second half of the twentieth-century, the working class woman's role was increasingly confined to the decision about when to consult the doctor and the obligation to carry out his instructions.

56 Mrs. O1B, p. 58.

Appendix

Interviewees

Between 1987 and 1989, Elizabeth Roberts and I interviewed 98 residents of Barrow, Lancaster, and Preston, dividing interviewing responsibilities approximately equally. A deliberate effort was made to balance age, sex, and community of interviewees.

Life History Interviews

Date of Birth	**Town**		
	Barrow	**Lancaster**	**Preston**
1910–1919	2 men	1 man	–
	2 women	1 woman	1 woman
1920–1929	5 men	6 men	4 men
	4 women	5 women	4 women
1930–1939	6 men	5 men	4 men
	6 women	6 women	6 women
1940–1949	4 men	4 men	6 men
	4 women	7 women	4 women
1950–1959	–	–	1 woman
Totals	17 men	16 men	14 men
	16 women	19 women	16 women
Overall Total:	**47 men + 51 women = 98 respondents**		

Biographical information about people Elizabeth Roberts interviewed in the late 1970s and early 1980s appears in the Appendix of her book, *A Woman's Place: An Oral History of Working-Class Women 1890–1940* (Blackwell, 1984), 207–213. Transcripts of all interviews quoted in this paper are housed in the archives of the Center for North West Regional Studies, Lancaster University (Great Britain).

Roberts and I used an extensive interview instrument containing 237 questions, many of which were used twice – once for the interviewee's childhood and again for the interviewee's adult family experience. Use of the interview instrument was intended to provide comparative data for all interviewees. However, it was not a straight jacket. Interviews were semi-structured, with the interviewee exerting a

good deal of control over the direction of interviews. Thus, interviewees often digressed from question topics; much useful information about health, ill-health, and both formal and informal management of what might be called "health incidents" (illness, injury, childbirth, and death) was volunteered by interviewees, not elicited by direct questions. The interview instrument included the following questions associated with these matters:

Health, illness, medicine and death

187. Back to your own childhood: would you describe yourself as having been a healthy or a sickly child?
188. Did you have any serious illnesses or injuries when you were a child? Describe.
189. Was anyone in your household ever seriously or chronically ill? Describe.
190. When someone in the household became ill, who made the decisions about what should be done?
191. When you were a child, did you and your brothers and sisters take anything to prevent illness (vitamins, tonics, laxatives, enemas, etc.)? Wear special clothing to prevent illness?
192. Did you or other family members go to the doctor very often? Did the doctor ever make house calls?
193. Was the doctor's advice always taken? (If not, why not?)
194. Who decided when it was necessary to consult the doctor?
195. Were doctor bills ever a financial burden in your family? What kind(s) of medical insurance have you had?
196. Did you or other family members ever obtain medical treatment or advice from practitioners other than doctors?
197. Did your family use any home remedies? (If so) Describe.
198. When you or other family members were ill, did you stay in bed? Eat special foods?
199. Were people in the house treated differently or specially when they were ill?
200. Concerning childbirth: were you born at home or in the hospital? Do you know who delivered you? Who was present at the birth?
201. Where were your own children born? Who delivered them? Who was present at the birth?
202. Where were your grandchildren born? Who delivered them? Who was present at the birth?
203. Did your mother have any childbirth preparation education before you were born? Did you?
204. Comparing experiences, did you/your wife or your mother have an easier time with childbirth?

205. How long did your mother stay in bed after you were born? How long did you stay in bed after your children were born?

206. Did your mother/you have any help (from relatives, hired nurses, etc.) after a baby was born?
207. What kind of postnatal care did your mother/you/wife receive?
208. Did your mother/you take babies to the doctor on a regular basis?
209. Did your mother breastfeed her babies? Why/why not? How long?
210. Did you/your wife breastfeed your children? Why/why not? How long?
211. If babies were bottle-fed, were any special precautions taken about the bottles?
212. When did the babies begin to have solid food (i.e., how old were they?)
213. Did you/your mother/your wife go back to work after having children? How soon after delivery?
214. Were you immunized as a child? (DPT, polio, smallpox)
215. Were your own children immunized?
216. Did any of your children ever have any serious health problems?
217. Who made the decisions in your adult household about what should be done when someone became ill?
218. Did you go to the dentist regularly as a child? Did your own children go to the dentist regularly?
219. When you were a child, did anyone close to you die?
220. Where? (Hospital, home, other)
221. Did you visit him/her during the final illness?
222. Was she/he taken to a funeral home?
223. Did you go to the funeral/memorial service? If not, why not?
224. Can you describe the funeral and any gathering after the funeral was over?
225. Do you know whether he/she believed in a life after death? How about you (then and now)?
226. Did you lose any close relatives or friends up to 1970?
227. Have you ever looked after a dying relative in your own home?
228. Can you describe the funeral, and any gathering after the funeral was over?
229. Did he/she make any special requests about the funeral? About cremation or burial?
230. Did she/he make a will?

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The Roots of North America's First Comprehensive Public Health Insurance System

Aleck Ostry

Introduction

Saskatchewan, sandwiched between Alberta and Manitoba, is one of three prairie provinces in Canada. The province consists mainly of dry prairie in the south (where it borders the states of Montana and North Dakota) and sub-Arctic forest, giving away to tundra along its border with the North West Territories. It was opened for European settlement after the building of the Canadian Pacific Railway at the end of the nineteenth-century and grew slowly, stabilizing at a population of between 900,000 and one million after the 1940s. Until the 1950s, this sparsely settled province was sustained by a one-crop wheat economy. Saskatchewan's population distribution reflected this, as most people lived in rural areas. There were only two medium-sized cities (Regina and Saskatoon) and six smaller ones 'which anchored a network of villages and towns that covered an expanse of agricultural land larger than France'.[1]

Although less than eight per cent of Canadians lived in Saskatchewan in the 1940s, this province has played a large role in the development of national social policy.[2] Western Canada, particularly Saskatchewan and Manitoba, was the crucible of the nation's Social Democratic movement which was based largely on the strong tradition of co-operative prairie wheat farming and marketing. Canada's first Social Democratic party, the Cooperative Commonwealth Federation (CCF), the forerunner of the New Democratic Party, was born during the Great Depression in Manitoba and Saskatchewan. The party came to power in the Saskatchewan pro-

1 Gerald Friesen, *The Canadian Prairies: A History* (Toronto, 1987), 282.
2 *Ibid*.

vincial elections of 1944, becoming the first Social Democratic party elected in North America.

The party remained in power until 1964. During this 20-year period the CCF crafted North America's first comprehensive public health insurance scheme. Province-wide public hospital insurance was started early in the CCF's mandate in 1946 and, after an acrimonious doctors' strike in 1962, followed by public insurance for physician remuneration (Medicare) in 1962. The federal government, under the leadership of the Liberal Party, followed Saskatchewan's lead, and adopted a public scheme for hospital insurance in 1957 and Medicare in 1968. Saskatchewan, from 1944 to 1964, pioneered the development of Canada's national public health insurance plan.

Many historians of public health insurance in Saskatchewan have focussed on the development of insurance for physician's services and in particular on the conflict between government and the medical profession, culminating in the 1962 doctors' strike.[3] This bitter conflict erupted when the Saskatchewan government attempted to introduce a salary plan for physicians as part of its Medicare plan. As a compromise, the salary plan was moderated to a fee-for-service payment system within the public sector, which induced Saskatchewan doctors to abandon their strike and accept Medicare.

While the government's victory over the doctors in 1962 was key to provincial, and later federal, acceptance of Medicare, it is also important to note that from 1946 to 1962 public hospital insurance operated in the province. At the same time the government and medical profession jostled for position in the growing battle over public versus private health insurance for physicians' services. The focus of this paper is an exploration of the roots of the public hospital insurance system in Saskatchewan and a description of the emerging conflict between government and doctors that played itself out in the period from 1946 to 1962.

In particular this paper attempts to answer the following questions. Why and how did North America's first public health insurance scheme develop in Saskatchewan? What were the unique features of Saskatchewan's economy, geography, and history that may have helped the development of public health insurance in this province? How did post-war economic and social development in general, and the operation of a public hospital insurance scheme in conjunction with private Medicare plans in particular, impact the subsequent development of Medicare in the province? In order to begin to answer these questions, a review of the history of public health insurance in Canada will be undertaken in the next section.

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3 The following two references are the best historical descriptions of the 1962 Saskatchewan doctor's strike. E. Tollefson, *Bitter Medicine: The Saskatchewan Medicare Feud (*Saskatoon, 1963) and Robin Badgley and Samuel Wolfe, *Doctors' Strike: Medical Care and Conflict in Saskatchewan* (Toronto, 1967).

The Evolution of Public Health Insurance in Canada until World War II

According to the Canadian Constitution, health care is the responsibility of provincial governments. It is for this reason that a provincial legislature (British Columbia's) passed Canada's first public health insurance bill. The legislation, passed by British Columbia's Liberal government in 1936, was followed by a detailed plan for its implementation. However, it was never put into action both because government coffers had been drained by the Great Depression and because of the sustained objection and public campaigning by the province's medical profession and manufacturers' association.[4]

In British Columbia, as the Great Depression loosened its grip, doctors were able to collect their bills more easily and so moved away from supporting public health insurance. However, in Saskatchewan, where the impact of the Great Depression was particularly severe due to its heavy dependence on wheat, the medical profession was less prosperous. As early as 1933 the Saskatchewan Medical Association had endorsed a system of public health insurance. Poverty, particularly among the province's rural doctors, acted to make them receptive to public health insurance. This poverty, and the widespread tradition of local government involvement in the delivery and payment for health services, made the notion of a province-wide public health insurance system quite appealing for both the public and the province's doctors.

On April 1, 1944, legislation for public health insurance was passed by Saskatchewan's Liberal government. The timing for this legislation was partly due to the upcoming provincial election. During the war the CCF had increased its popular appeal. One of its main campaign planks for the 1944 election was 'state medicine'. The Liberal government had passed its health insurance bill just prior to the election so that during the campaign health insurance was an uncontroversial issue championed by both the CCF and the Liberals. As historian John Archer explains:

> Skatchewan Liberals were also encouraged in championing a public health insurance bill because during the war the federal Liberal government developed plans to institute a nation-wide public health insurance scheme.

Although health care was a provincial responsibility, the federal government emerged from the Second World War with more power than ever before because the provinces had given up much of their taxation authority to central government

4 M. Andrews, 'The course of medical opinion on state health insurance in British Columbia, 1919–1939', *Histoire Sociale-Social History*. 14 (1983), 129–41.

in order to finance the war effort. During the war the federal government (with the support of the Canadian Medical Association) endorsed public health insurance as part of a general package of social legislation proposed for the immediate post-war reconstruction period. By 1945 the federal government had drafted a model bill for hospital insurance legislation for each of the provinces. Thus, by war's end the commitment of the federal government and organized medicine to public hospital and medical services was strong.

The attempted post-war move by the federal government into arenas of provincial constitutional authority was supported by some provinces, but not by others. The so-called 'have' provinces (that is, those provinces with a more viable personal and corporate tax base, such as Ontario and British Columbia) fought to regain tax fields they had temporarily given to the federal government during the war, while the 'have-not' provinces (for example, Saskatchewan) were happy for the Dominion to retain jurisdiction over income and corporate tax in return for federal grants. Thus, the social legislation proposed by the federal government was a powerful incentive for 'have-not' provinces to support the federal government's drive to entrench its tax base and strengthen central government.[5]

A federal/provincial conference was held in 1945 in order to formalise this wartime tax situation. The 'carrot' offered by the federal government was a package of social legislation, including public health insurance. The federal government tried to persuade the provinces to accept matching grants for health care services and, in return, to leave personal and corporate income tax fields under exclusive federal control. Because of opposition, mainly from Ontario, agreement was never reached. Instead federal funding for health services was postponed until 1948 when a less ambitious series of health grants was established that split the cost of building hospitals and developing health care infrastructure evenly with the provinces.[6] This scheme was extremely popular with the provinces, that used these 'fifty-cent dollars' to greatly expand their health care infrastructure.

Thus, the 1944 Saskatchewan provincial election was fought with the optimistic assumption that federal funding for public health insurance would be available in the very near future. However, the collapse of the federal/provincial conference in 1945 forced a focus instead on the piecemeal introduction of public health insurance. With no federal money available in 1945, the CCF focused on the development of regional health districts and the rapid implementation of public hospital insurance. For a decade the CCF ran its hospital insurance program with no hope of federal aid. When the federal government passed national hospital insurance legislation in 1957, the CCF finally had the resources to consider introducing Medi-

5 Malcolm Taylor, *Health Insurance and Canadian Public Policy*, 2nd ed, (Montreal, 1987).

6 *Ibid.*

care.[7] The ability of the CCF to introduce both medical and hospital insurance was severely compromised following the 1945 failure at provincial and federal co-operation. As we shall see in the next section, this failure widened the window of opportunity for Saskatchewan doctors, improving their strategic position in relation to the CCF government.

Rural Medicine in Saskatchewan before 1944

Organization of Rural Hospitals

Rural Saskatchewan possessed an unusually strong co-operative movement which initially developed in order to market wheat. In 1945, the average farmer belonged to four or five co-operatives[8]. Saskatchewan co-operative associations had a combined membership of at least 300,000, and it is likely that 'most of Saskatchewan families, especially in the rural areas belonged to some form of co-op'.[9] Co-operative institutions permeated rural life and underpinned local rural governments, giving them enormous strength and resiliency.

The Union Hospital Districts (UHD) were almost a natural organizational form within rural communities operating in a collective capacity. The provincial legislature facilitated the early development of 'hospital co-ops' in 1916 when it provided municipalities with the authority to band together to form Union Hospital Districts. A Union Hospital District was essentially a co-operative consisting of several rural municipalities which banded together in order to expand the tax base for the construction and operation of rural hospitals. By 1920 there were ten of these in the province and by 1944 there were twenty-three.[10]

The legislature gave the UHD's authority to tax local property owners to finance the construction and operation of hospitals. Until 1934, property owners were the tax base. However, in 1934 the Rural Municipality Act was amended so rural municipalities could assess non-property owners a flat hospital tax. Through the Municipal Medical and Hospital Services Act of 1939, municipalities raised taxes

7 Jack Granatstein, Canada 1957–1967: *The Years of Uncertainty and Innovation*, (Toronto, 1986), 172.

8 Seymour Lipsett, *Agrarian Socialism: The Cooperative Commonwealth Federation in Saskatchewan, A Study in Political Economy* (Toronto, 1950).

9 T. McLeod, *Tommy Douglas: The Road to Jerusalem* (Edmonton, 1987), 176.

10 Malcolm Taylor, 'The Saskatchewan Hospital Services Plan: A Study in Compulsory Health Insurance', Ph.D. diss., University of California Berkley, 1949), 83.

from both property and individuals. Thus, by the end of World War II, many rural municipalities had developed fairly sophisticated local infrastructures and expertise for the purpose of tax collection and the management and operation of hospitals.

Even with the passing of the Municipal Medical and Hospital Services Act, which gave rural municipalities an expanded tax base to fund their public health services, rural municipalities were still hard pressed to fund these appropriately. However, rural municipalities had a strong political voice in the province, as they had their own co-op, the Saskatchewan Association of Rural Municipalities (SARM). SARM was a strong political voice which pushed consistently, throughout the Great Depression years, for provincial and federal government funding for hospitals and medical care in order to relieve financial pressure on rural municipalities.

Physician Remuneration and Physician Manpower in Rural Districts

Residents of rural Saskatchewan also developed a cooperative solution to pay doctors. This became known as the Municipal Doctor System (MDS). The first MDS was established in 1914 when the municipality of Sarnia, which was about to lose its physician, offered him a $1,500 annual salary to stay. Sarnia offered the contract without provincial legislative approval. In 1916, the legislature gave municipal councils authority to levy a tax to pay for doctor services, and by 1931 fifty-two municipalities had contracts for service with physicians.[11] Thus, by the 1940s, local government in many rural regions of the province had made hospital care and doctors' services available at relatively low cost to most residents within their jurisdiction.

Another element in the evolution of health reform was, of course, the attitude of Saskatchewan's doctors, particularly towards the cooperative elements of the system in rural regions. The Great Depression hit Saskatchewan doctors very hard, forcing about 20 per cent of the province's doctors to leave.[12] Those who remained faced financial hardships that helped create a positive feeling for state intervention in medicine. The level of financial hardship was so severe for Saskatchewan doctors that 'in December 1932 the government placed many doctors on "relief"' by guaranteeing minimum monthly payments of $50 or $75 to those doctors working in the most severely affected drought areas'.[13]

Thus, during the Great Depression rural doctors saw 'government interference' in medical practice in an extremely positive light. This sentiment increased

11 Taylor, 1987, 72.
12 Badgley and Wolfe, 1967, 12.
13 *Ibid.*, 12.

throughout the Great Depression as Saskatchewan doctors became more dependent on provincial government supplements to rural municipalities and to the MDS to ensure steady incomes. It is not surprising that under the particularly severe conditions of the Great Depression in rural Saskatchewan in 1933, the provincial Medical Association enthusiastically endorsed a comprehensive publicly funded health insurance plan.[14]

The difficult economic situation facing Saskatchewan doctors during the Great Depression is reflected in a steep decline in physician manpower. During the Great Depression Saskatchewan had the lowest doctor to population ratio in Canada.[15] In 1921 the ratio of doctors to the Saskatchewan population was 1/1445. This ratio had declined to 1/1579 by 1931. The war probably accelerated the exodus of doctors, as in 1943 the total number of doctors in the province reached its lowest point at 408.[16] A shortage of nurses also occurred in the province, which in 1942 had one registered nurse per 696 persons, compared to a Canadian average of one per 461 persons.[17]

The Great Depression and the war emptied Saskatchewan of its doctors so that, when the CCF came to power in 1944, it faced acute-care and personnel shortages, particularly in the rural health care sector. Those doctors, especially from rural areas, who had remained in the province were used for state involvement in the provision of health care service. They had suffered more than most Canadian doctors during the Great Depression, and many had been placed on government relief. At the same time, the general population in the province had 'suffered more severely than that of any other province'.[18] While these conditions were particularly difficult in the countryside, what was happening in Saskatchewan's cities?

Urban Medicine in Saskatchewan before 1944

The Union Hospital Districts and Municipal Doctor Systems were features of rural Saskatchewan. They provided basic hospital and medical services within a region and were universal, so that everyone, including the most disenfranchised members of the community, was covered. In the cities, which were less impoverished than the countryside, direct fee-for-service medicine was the rule until private medical plans were introduced in the late 1930s.

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14 *Ibid.*, 12.
15 *Ibid.*, 12.
16 Taylor, 1987, 78.
17 Taylor, 1987, 79.
18 Badgley and Wolfe, 1967, 4.

These plans, made possible by the Mutual Medical and Hospital Benefit Association Act of 1938 and endorsed by the Canadian Medical Association (CMA), were voluntary and often physician-owned and managed. The plans covered physicians' services provided either at home or at the office. The physician billed the plan rather than the patient for his fee that in all plans was paid on a fee-for-service basis. Plans did not charge utilisation fees, and there was very little 'extra-billing' by physicians.

There were advantages and disadvantages to the voluntary plans newly available in the cities compared to the municipal doctor schemes of the rural regions. Voluntary plans gave the consumer some choice of doctors, unlike the MDS, which effectively limited patient choice to the municipally employed doctor or doctors. Also, MDS's did not usually pay for specialist services or surgery, whereas these were covered in many of the voluntary plans. Thus, the voluntary plans offered consumers more choice. However, unlike the MDS, voluntary plans excluded 'high risk' patients, so that the worst health insurance risks (the poor and the sick) were excluded from coverage.

Private plans were slow to establish themselves. In 1939 in Regina a group of laymen started a medical insurance plan and began to hire Regina doctors and pay them on a salary rather than fee-for-service basis. In response, Regina doctors set up their own medical insurance plan and exerted such pressure that local doctors refused to work in the laymen's salaried plan. Two years later the Saskatoon Mutual Medical and Hospital Benefit Association was organised. By 1945, there were four insurance plans in the province covering approximately 50,000 people.[19] Medical Services Incorporated (MSI) and Group Medical Services (GMS) were organised and controlled by the medical profession and became the largest plans in the province. They paid doctors on a fee-for-service basis and by the mid-1940s had enrolled approximately six per cent of the population.

19 Badgley and Wolfe, 1967, 24.

The Geography of Health Care Reform in Saskatchewan after 1944

The Health Planning Commission

When the CCF was formed in 1933, it declared in its founding document that 'every civilised community owed its citizens a properly organised public health care system'.[20] This commitment was reinforced by party leader Tommy Douglas's harrowing personal medical experiences. As a boy he developed a bone disease in his leg and because of his family's poverty, he languished in hospital for three years until one of the best bone surgeons in the region took an interest in his case and attended him properly (and without payment). Douglas felt strongly that poverty should not deprive others of good medical care. Accordingly, immediately on coming to power he took on the post of Minister of Health which he kept until 1949. Most of the innovations in health care financing and planning were put in place during his tenure.

One of the first things Douglas did upon taking office in 1944 was to establish the Health Planning Commission (HPC) in order to plan initially for the introduction of state-funded hospital insurance and the subsequent development of comprehensive public health insurance. This was an amazingly complex task because the civil service was hostile to CCF ideology and because no one had ever attempted to introduce public health insurance on this scale in North America.

The HPC was set up outside the existing civil service framework in part because the CCF had inherited a civil service structure and personnel built up under decades of Liberal government rule which was 'notorious for its appointment on the basis of loyalty and obligation to the Liberal Party'.[21] Outside experts were also brought in because no one in North America had attempted to implement a comprehensive public health insurance scheme and the expertise was simply not available in the province.

As Mombourquette has pointed out, the HPC moved quickly and radically, so that by 1947 many of the major CCF health reforms had been set in motion.[22] Within two years the HPC had surveyed all of the province's hospitals, devised a hospital insurance scheme, and set up the infrastructure to collect hospital taxes (using the municipal tax gathering system already in place over most rural regions

20 McLeod, 1987, 145.

21 Taylor, 1985, 87.

22 D. Mombourquette, 'An Inalienable Right: The CCF and Rapid Health Care Reform, 1944–1948', *Saskatchewan History*, 43:3 (1991), 101–116.

in the province) to sign up beneficiaries, and to pay the hospitals. The province also set up a system of capital grants (four years in advance of the 1948 federal grants) to encourage the building and upgrading of hospitals. At the same time, for administrative purposes the CCF established fourteen health regions in Saskatchewan.[23]

The Saskatchewan Hospital Insurance Plan

When the CCF took power they expected to obtain federal cash to establish a system of insured medical and hospital care simultaneously and within a few years. However, because of federal foot dragging in general and in particular the collapse of the 1945 federal/provincial constitutional conference, this did not happen, and, instead, the CCF could not afford to implement comprehensive public health insurance and settled to 'go it alone' with hospital insurance. Hospital insurance came into the province and operated without a system of state insured doctors' services at a time in the province's history when economic, demographic, and institutional power began to shift from countryside to the cities.

The operation of a system of hospital insurance on its own and the establishment of hospital construction grants resulted in an infusion of capital into the hospital infrastructure that was particularly beneficial to the hospitals in the city. Increasingly, as road networks were improved, city hospitals with their superior technologies were seen as centres in which rural patients could be serviced with more ease. The demographic shift and the provision of public hospital insurance increased the resources of urban hospitals and the catchment area for patients, therefore increasing the size of the urban medical market, which tended to strengthen fee-for-service medicine and private health insurance plans.

Reforms in Rural Regions

In 1946 in Health Region No. 1, located around the town of Swift Current (found in the south-east of the province near the American border and representing about five per cent of the province's population), the provincial government started North America's first comprehensive health insurance scheme funded by a combination of a local health tax and provincial sales tax.[24] As Feather has pointed

23 William Lougheed, *Underwriting Canadian Health: An Economic View of Welfare Programs* (Toronto, 1957).

24 Ostry, A. (1995) 'Prelude to Medicine: Institutional Change and Continuity in Saskatchewan, 1944–1962', *Praire Forum*, 20, 1, 87–106. This article outlines the political background, particularly the interplay between the federal and provincial government which limited

out, this was a demonstration project upon which the CCF hoped to build by expanding it to the remaining thirteen health regions.[25]

According to Tollefson, the major reason why this region was chosen to demonstrate comprehensive public health insurance was because it had suffered particularly badly during the Great Depression and the accounts of most of the general practitioners in the region were 'far in arrears'.[26] This meant that the GP's in the region were very receptive to the plan. The municipalities within the region were also interested in the new plan as the region would receive a health grant from the province, resulting in an injection of much needed provincial money.

After the election the CCF also encouraged the expansion of the MDS's and the UHD's using health grants to encourage training of personnel and upgrading of equipment. In the five years between 1944 and 1949, fifty-five additional UHD's were established so that by 1949 there were a total of seventy-eight covering one third of the province and providing about 40 per cent of Saskatchewan's hospital beds. Similarly, the MDS's were expanded and, by 1948, 107 municipalities, fifty-nine villages, and fourteen towns had contracts with a total of 180 doctors.[27]

The expansion of Union Hospital Districts, the establishment of health regions, and the successful start of the 'Swift Current' scheme were indications that the provincial government wanted to move quickly in spite of the federal government's fading resolve on state medicine. Rural Saskatchewan experienced an injection of expertise and capital as the government aggressively built on and expanded the co-operative health infrastructure and traditions already in place.

The major province-wide reform initiated by the CCF during this time was the establishment of the Saskatchewan Hospital Insurance Plan (SHIP). It is very important to note that, although the establishment of the HPC, the setting up of the Swift Current demonstration project, the creation of health regions, and the expansion of UHD's and MDS's all generated opposition among Saskatchewan's doctors, SHIP was greeted with relative silence by a profession which recognised that this portion of the CCF's reform would operate in its best interests.

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the ability of the CCF to introduce health reform as originally planned.

25 Joan Feather, 'Impact of the Swift Current Health Region: Experiment or Model?' *Prairie Forum*, 16: 2 (1991), 225–248; Joan Feather, 'From Concept to Reality: Formation of the Swift Current Health Region', *Prairie Forum*, 16:1 (1991), 59–80.

26 Tollefson, 1963, 40.

27 *Ibid.*, 41.

Physician Remuneration in Rural Regions

Resistance to reform proceeded down several parallel tracks. One of these was the avoidance of situations where doctors were salaried by governments or agencies of government. As long as Saskatchewan was depressed and doctors were poor, direct salary arrangements with the municipality were an economically viable option for rural practitioners. However, with the fading of the Great Depression, doctors began to pressure councils for payment on a fee-for-service rather than a salary basis. Thus, under the Liberal administration of 1941 provincial legislation was amended to allow payment of doctors within the MDS on a fee-for-service as well as a salary basis.[28]

This move away from direct salary arrangements with municipalities even penetrated the provincial government's pilot project in Swift Current. By 1949 the approximately forty doctors in the Swift Current Health Region had negotiated a fee-for-service payment scheme with the Regional Health Board. However, the board kept the doctors' fees at 75 per cent of the recommended fee schedule set by the Saskatchewan College of Physicians and Surgeons with a global cap on expenditures that effectively controlled the rate of increase in Swift Current doctors' incomes. The profession in the rest of the province witnessed this income squeeze with alarm and increasingly agitated against the spread of the Swift Current model to other rural health regions.[29]

Physician Remuneration in Urban Regions

The growth of private insurance plans was another track down which resistance to reform grew, particularly in the cities. This resistance grew as the plans expanded rapidly in the first half of the 1950s. Although the growth of these plans slowed somewhat toward the end of the 1950s, the annual rate of membership growth averaged twenty per cent per year throughout the decade.[30] (See Table 1.)

By the early 1950s urban physicians increasingly viewed expansion of either the Swift Current model or the MDS as a threat, because in a political sense their success encouraged the government along the road to state medicine, and also because this expansion represented a loss of market share for the private plans. Both the political and market threats were intertwined and formed the basis for the medical profession's increasingly strident opposition to ‘state medicine’.

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28 Taylor, 1949, 87.

29 Saskatchewan Government, *Public Health Annual Report* (Saskatoon, 1956), 93.

30 *Ibid.*, 98.

Table 1. *Growth in Membership for MSI and GMS Voluntary Insurance Plans from 1951 to 1960.*

Year	MSI	GMS	Total	% Annual Growth
1951	48352	17186	65538	
1952	74382	22281	96663	48
1953	92530	25157	117687	22
1954	107874	30906	138780	18
1955	122191	37070	159270	15
1956	150649	45000	195649	23
1957	175000	61730	236730	21
1958	192351	62822	255173	8
1959	211514	68201	279715	10
1960	214002	74816	288818	3

Source: Saskatchewan, *Public Health Annual Report* (1961), p. 93.

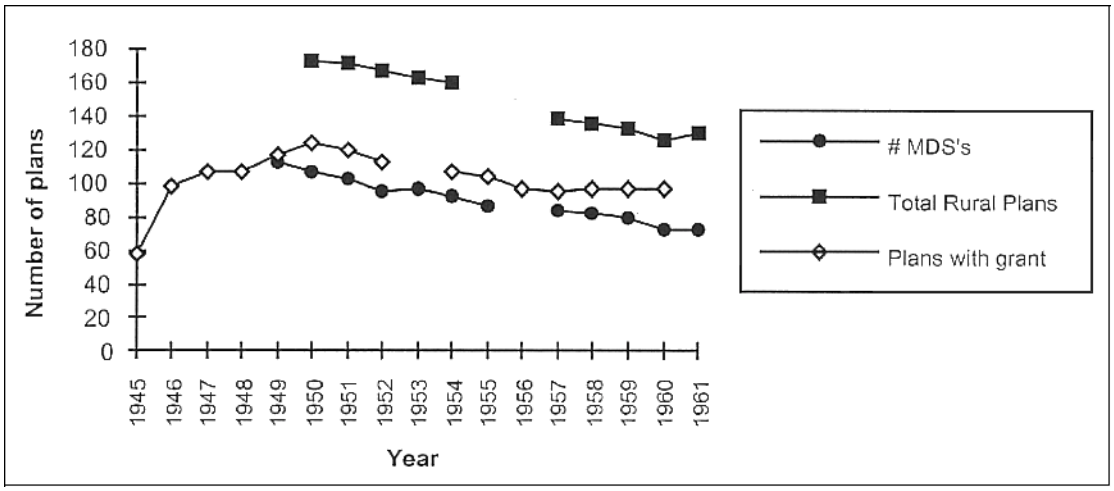
The key to understanding physician promotion of their private plans lies not just in the economic advantage that accrued to physician-owners and operators of the plans. Another reason was the increased autonomy that the plans provided. The managers of the plans (usually physicians) set the schedule of fees and offered consumers a range of plan options. That is, the private plans offered doctors an ability to negotiate the price of their services with themselves. This was very different from a situation where doctors were salaried by government agencies. With the latter arrangement, physicians became civil servants with less economic clout and a greater opportunity for government to interfere directly in the practice of medicine.

Expansion of Private Plans into the Rural Health Care Market

Although the growth of private plans occurred mainly in the cities, they made some inroads in rural areas as the insurance companies made a deliberate attempt to slow both the spread of the MDS and the Swift Current pilot project. They were quite successful in rural areas because, by 1955, the private plans had negotiated contracts with sixty out of approximately 180 rural municipalities, towns, and villages.[31] Thus, the early expansion in UHD's and MDS's following the CCF ascension to power began to slow and reverse itself after 1948. (See Figure 1.)

31 Saskatchewan Government, *Public Health Annual Report* (Saskatoon, 1955).

Figure 1. *Change in the number of rural municipal doctor plans between 1945 and 1961.*



The government was very aware of the threat posed by the spread of physician-controlled private health insurance plans in rural regions and viewed their expansion with alarm, as it feared they would cream off the paying section of the market leaving the state to pick up the tab for the destitute and the working poor. Also, if middle class patients were captured by these plans, the government would run into electoral resistance in its attempts to tax this class to pay for medical insurance for everyone in the province. This concern is apparent in the Saskatchewan Public Health Annual Report of 1956 which states:

> There is virtually no governmental supervision over the benefits, coverage, or costs of the voluntary medical care plans. Theoretically, municipalities require approval by the Minister of Public Health before entering into agreements for provision of medical care to local residents. In practice, however, such agreements are undertaken between municipal councils and the voluntary plans without ministerial approval. This presents a problem which remains to be solved. The real difficulty is that the voluntary plans leave unprotected some 25 per cent of persons in the municipality and their costs are very much higher than those plans providing prepaid medical care under official auspices.[32]

Some rural municipalities abandoned their MDS in favour of private plans partly because 'of the improvement of highways throughout the province and the corresponding desire of the people for the services of specialists who are located in the larger cities'.[33] Clearly such improvements had increased the expectations of rural residents. The private plans gave the municipality a way of meeting these higher expectations, as they could buy a range of specialist services not available under the

32 *Annual Public Health Report*, 1956, 97.
33 *Ibid.*, 25.

less flexible MDS. Of course, because the plans usually had exclusions and conditions, a municipality purchasing such a plan usually reduced the scope of coverage in the community.

In an attempt to slow the spread of private plans in rural Saskatchewan the government tried to interest other rural health regions in their Swift Current model. A relevant passage in the Saskatchewan Public Health Report of 1956 is worth quoting at some length.

> Because of the success of the regional medical care plan in the Swift Current area, several other health regions expressed interest during the year in launching new regional medical care plans. This reached the point of proposals in the Regina Rural Health Region and the Assiniboia Health Region, contemplating the establishment of prepaid plans covering the whole population of these regions. At the request of the regional boards, statistical data were compiled for calculation of the benefits and costs of medical care plans, fashioned after the Swift Current experience but modified to suit the wishes of the regional representatives. After favourable action by the regional boards, the regional health councils of both of these regions met in the summer of 1955 and voted overwhelmingly to favour such plans, but to submit the question to public referenda. During the late summer and fall months serious difficulties developed on the international wheat market and farmers became acutely short of cash. Meanwhile, the organized medical profession expressed considerable opposition to these regional proposals, favouring instead enrollment of the people into voluntary plans.[34]

The government was stopped in its efforts to expand the Swift Current model to the other thirteen health regions. There is no question that the medical profession organised effectively to stop the expansion of the Swift Current model in these two regions. But, it is also likely that local farmers (hit as they were by a downturn in the price of wheat) were not anxious to face the increased taxes needed to finance the regional plan. Also,

> as movement from the farms to the cities grew there was an increasing need for a portable type of health plan that would protect a man wherever he went rather than just within the confines of his municipality. This need began to be filled in the 1940s by voluntary health insurance companies.[35]

The portability and flexibility of the voluntary plans compared to the MDS made the latter increasingly unattractive.

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34 *Annual Public Health Report*, 1956, 112.

35 Badgley and Wolfe, 1967, 9.

The CCF continued to make half-hearted efforts to stop municipalities from opting out of the MDS by refusing to give a municipality its health grant (used to pay for its doctor) if council contracted with a private plan. Because the health grants were small, many rural councils ignored the government and went ahead without their approval to negotiate with the private plans. By 1955 the MDS system was in decline. The Swift Current demonstration project was effectively contained, although it continued to operate in the region until 1962 when it was integrated into the new provincial Medicare plan. Private plans were expanding rapidly and the momentum for change shifted away from the government.

Expansion of the Hospital Infrastructure and Physician Supply

After 1947 the injection of public money via the Saskatchewan Hospital Insurance Plan and government hospital construction grants led to an immediate and rapid expansion of the hospital infrastructure and utilisation across the province. 'Where Saskatchewan had the lowest number of hospital beds per capita of any province in 1944, it had the highest in 1954'.[36] This turn-around in infrastructure enhanced the ability of doctors to practice their craft. More hospitals, more beds, and more equipment meant greater publicly funded access to the tools of the doctor's trade. This expansion in infrastructure and financing of hospital care helped bring doctors back into the province. The expansion of hospital capacity and public hospital insurance, the 1950s return of doctors to the province, and the increased vigour of the private plans were inextricably linked together, producing by the end of the 1950s a larger and economically more secure medical profession and a more rapid expansion of urban compared to rural medical markets.

Saskatchewan doctors had, by the mid-1950s, access to good hospital facilities and relatively high incomes. With these conditions, there was a substantial migration of doctors into the province. Although the population of Saskatchewan increased by only 11 per cent between 1949 and the eve of the doctors' strike in 1962, the number of doctors practising in the province increased by 43 per cent, from 614 to 881. (See Table 2 and Figure 2.) Although a medical school was in operation in the province by the mid-1950s, the bulk of new doctors practising in the province in the mid-1950s consisted of post-war immigrants, mainly from Britain.

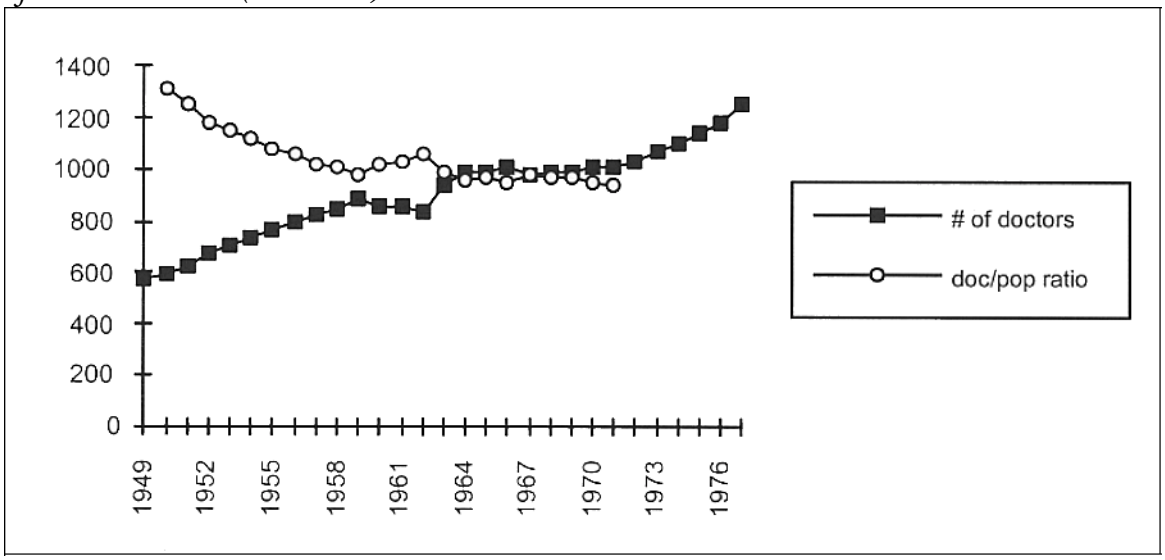
36 McLeod, 1987, 149.

Table 2. *Number of Registered Physicians in Saskatchewan by Year (1949–62).*

Year	Number of Physicians	Year	Number of Physicians
1949	614	1956	835
1950	633	1957	864
1951	662	1858	886
1952	713	1959	925
1953	750	1960	895
1954	776	1961	900
1955	811	1962	881

Source: *Saskatchewan College of Physicians and Surgeons Brief to the Saskatchewan Government's Advisory Planning Committee on Medical Care* (1962), p. 39.

Figure 2. *Number of Registered Physicians and their Ratio to the Total Population of Saskatchewan (1949–77).*



By 1961, 54 per cent of doctors in Saskatchewan practised in the two major cities of Saskatoon and Regina, although these cities contained only 22 per cent of the provincial population. Also, by the early 1960s, 50 per cent of doctors in the province had been in practice for less than a decade.[37] This was due to the influx of immigrant doctors to Saskatchewan in the 1950s and the ageing, retirement, and deaths of Saskatchewan's 'country' doctors. The doctors who had weathered the Great Depression, who had staffed the Municipal Doctor Systems in rural Saskatchewan, and who had viewed government involvement in the provision of rural health services favourably were, by the late 1950s, older men nearing the end of their careers.

37 Badgley and Wolfe, 1967, 28.

In contrast many of the immigrant doctors were from Britain; they had fled the 1945 nationalisation of their health services and had relocated in Saskatchewan cities.[38] Ideologically, this meant that many of the new doctors were opposed to CCF plans for Medicare. In other words, on the eve of the doctors strike in 1962, the demography of the medical profession had shifted from rural to urban location and from 'home-grown' to immigrant in composition.

The capitalisation and expansion of the hospital infrastructure in terms of plant and personnel were unparalleled in Saskatchewan compared to any other province between 1944 and 1962, as both hospital construction grants and SHIP funnelled public money into the hospital system. In 1947 the number of rated beds per 1,000 people in the province was 5.1. This figure peaked at 6.7 in 1951, an increase of 31 per cent. The total availability of beds shot up in this five year period and the intensity with which patients who were in these beds were serviced also increased dramatically, from 1,678 to 2,209 days of patient care per one thousand beneficiaries (an increase of 31 %). This increase in utilisation of hospital services may have been due to the unmet need within the population which had, relative to other parts of Canada, experienced such huge deprivation due to the Great Depression and the war.

These numbers illustrate that, relative to other parts of Canada, the hospital infrastructure and the rate at which it was utilised expanded dramatically following the introduction of hospital construction grants and SHIP, and that these high utilisation rates continued throughout the 1950s. This means that doctors were admitting patients into the province's hospitals in numbers and at rates far greater than pre-SHIP averages and much higher than national averages. This injection of public funds enhanced the doctors' ability to deliver services and their potential for increasing the range of services provided. It also enhanced the attractiveness of their private health insurance plans. It is no wonder that, by 1958, Saskatchewan doctors were the best paid in the country.[39]

Conclusion

North America's first comprehensive health insurance system was built on the back of a rural tradition of co-operative economic and institutional development which evolved in the first half of the twentieth-century in the province of Saskatchewan. These institutions and traditions were unique in Canada and go some way towards explaining why public health insurance system evolved in this province.

38 Tollefson, 1963.

39 Granatstein, 1986, 171.

The strength of these rural traditions and institutions was rapidly eroded by the demographic shift from country to city in the fifteen years following the end of World War Two, as well as by the increasing post-war prosperity derived mainly from the non-agricultural economy. Yet, it was the election of a Social Democratic government (as well as the fact it managed to remain in power for a sustained period of 16 years) committed to public health care insurance that provided the political will and continuity to ensure survival of these older rural traditions in the new public health insurance scheme.

Post-war economic development in Saskatchewan brought unprecedented prosperity to the provinces. Increasing prosperity against the background of a comprehensive hospital insurance plan and the expansion of medical facilities such as hospitals increased doctors incomes and their scope of practice. As the private Medicare plans grew, the medical insurance industry and the medical profession were opposed mainly by the political commitment of the CCF and public opinion. However, by the mid-1950s 'the government was becoming less skilled in managing health policy moves, Health Ministers changed, bureaucrats came and went. Meanwhile the Saskatchewan Medical Association was gearing up for battle'.[40]

The expansion of private medical plans as well as federal government foot dragging over the financing of public hospital insurance and Medicare both limited the CCF's ability to introduce health reform according to its original timetable. Although the CCF moved quickly to implement hospital insurance, they did not aggressively expand the scope of existing municipal doctor plans. The government seemingly was unable to commit all its efforts to supporting and expanding UHD's and MDS's and yet, at the same time, it half-heartedly moved to stop the profession from expanding its own insurance companies.

These ambivalent tactics on the part of CCF health planners and the defeat of their regionalisation policy by 1955 – due in part to the successful expansion of urban-based voluntary insurance plans for physician services – led to an abandonment of the ideologically based HPC health planning model and the substitution of a model acceptable to the Saskatchewan Medical Association. As Shillington points out, a key factor in the movement towards a 'medical model' in health planning was the profession's successful provision of an alternative to the state funding of medical care in the form of the private health insurance plans.[41]

The decisive battle between third party payers was fought in the mid-1950s in rural regions. The government's inability to expand the Swift Current model to the other thirteen health regions and build on the MDS tradition in the face of aggressive expansion of urban-based private insurance plans into rural Saskatchewan

40 Anne Crichton, 'Evolution of Health Services in Canada' (Unpublished book manuscript cited with permission of the author, 1993), 301.

41 H. Shillington, *The Road to Medicare in Canada* (Toronto, 1972), 181.

health markets was a measure of the profession's new power relative to government. This new strength was based in the cities of Saskatchewan, as by the early 1960s the rural tradition of co-operative medicine had been virtually swept away.

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The Impact of Alcohol Consumption on Excess Male Mortality in Nineteenth- and Early Twentieth-Century Sweden

Sam Willner

Introduction

Sweden has the lowest per capita consumption of alcohol in Western Europe together with the Nordic sister nations Norway and Iceland, according to recent official statistics.[1] Alcohol-related deaths are consequently low in a European perspective.[2] This level is ascribed to the Swedish policy based on far-reaching administrative restrictions and on the high taxes imposed on alcohol sale. However, ideological influences that encourage conscientiousness and temperance have also been exercised historically by strong popular movements: the absolutist temperance societies, working class organisations and the non-conformist free churches (outside the Swedish Lutheran Church). Many of those who defend this system with a low consumption policy today foresee great risks regarding the social and health-related consequences if the European Union efforts to liberalise the restrictive Swedish policy in order to 'harmonise' trade in alcoholic beverages are carried through.[3] The great interest in alcohol in the contemporary debate on public health issues in Sweden motivates a closer examination of the historical experiences with alcohol policies and traditions regarding consumption levels and health effects.

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1 Folkhälsoinstitutet/Centralförbundet för alkohol och narkotikaupplysning, *Drogutvecklingen i Sverige, Rapport 2000* (Stockholm, 2000), table 60. In this report sales data are used as proxies for ranking consumption levels.

2 See, for example, national rates of diagnosis *chronic liver disease and cirrhosis* (ICD 9: 571) in UN *Demographic Yearbook*.

3 See, for example, *Svenska alkoholvanor i förändring. Om utvecklingen fram till EU-medlemskapet,* eds. E. Kühlhorn and J. Björ (Stockholm, 1998).

Previous Findings

Some years ago, Gunnar Fridlizius suggested that excessive drinking of liquor largely contributed to the marked male 'mortality hump' among adults in early nineteenth century.[4] Alcohol consumption was also a common explanation of excess male death rates among late nineteenth century observers, and this hypothesis has even been proposed by more recent scholars.[5]

In a lecture for the Swedish Medical Society in 1879 the Swedish physician Gerhard Westfelt claimed that excessive drinking played an important role in the unfavourable death rates of urban men. The simultaneous peaks of alcohol consumption and excess male mortality around the middle of the 1870s supported this view.[6]

In Denmark alcohol consumption was radically reduced from about ten litres per capita (ages 15+) in the years preceding the First World War to two litres in 1918, a reduction primarily caused by considerable increases in the prices of alcoholic beverages and legal restrictions motivated by the wartime crisis. The consumption level then stabilised on a level of three to four litres per capita and year during the following decades with a permanent policy of high alcohol prices. The simultaneous fall in excess male mortality in Danish towns was attributed to the declining alcohol consumption.[7]

On the basis of the evidence from graphical presentations of historical data series from some European countries, Sully Ledermann has claimed that the per capita consumption of alcohol had a clear effect on excess male mortality levels.[8] The Swedish sociologist Thor Norström made a more sophisticated analysis of this type of data, using modern time-series analysis (Box and Jenkins technique). The results

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4 G. Fridlizius, 'Sex-Differential Mortality and Socio Economic Change. Sweden 1750–1910', in *Society, Health and Population during the Demographic Transition*, eds. A. Brändström and L-G. Tedebrand (Stockholm, 1988).

5 S. Ledermann, *Alcool, Alcoolisme, Alcoolisation. Vol. 2. Mortalité, morbidité, accidents du travail* (Paris, 1964); T. Norström, 'Per capita alcohol consumption and total mortality: an analysis of historical data', *Addiction,* 91:3 (1996), 339–344.

6 G. Westfelt, 'Om dryckenskapens tillstånd och fysiska följder i Sverige under åren 1861–77 enligt statistikens vittnesbörd. Föredrag vid nedläggandet af Ordförandeskapet i Svenska Läkare-Sällskapet d. 7 oktober 1879', *Svenska Läkare-Sällskapet Nya Handlingar,* Ser. II, del VII. 2 (Stockholm, 1880).

7 M. Hindhede, 'Nogle Sider af Alkoholsporgsmaalet', in *Betaenkning afgiven af den af indenrigesministeriet under 16. Juki 1914 nedsatte 2. Aedrueligheds kommission*, II afsnit (Copenhagen, 1927); T.Thorsen, *Hundrede Års Alkoholmisbrug. Alkoholforbrug og alkoholproblemer i Danmark* (Copenhagen, 1990).

8 This data was originally analysed by Rudolf Bandel in studies around 1930. S. Ledermann, *Alcool, Alcoolisme, Alcoolisation. Vol. 2. Mortalité, morbidité, accidents du travail* (Paris, 1964).

suggest that an increase of consumption by one litre per capita among adults entails an increase in male mortality by around one per cent.[9] Similar results have been reported from a time-series analysis of Swedish data for the period 1861–1913.[10]

Time-series analyses for the post-war period in Sweden suggest that variations in alcohol consumption had a relatively strong impact on subsequent changes in excess male mortality.[11] According to official Swedish statistics, about 30 per cent of the total excess male mortality in the early 1990s could be attributed to some alcohol-related diagnoses (underlying or contributing causes) as identified by the International Classification of Diseases (ICD).[12]

Alcohol consumption is certainly not the only factor affecting the sex differences in mortality in present time and in the past. There are also genetic/biological factors as well as gender related differences in behaviour and occupational roles.[13] Factors such as a labour market that discriminated against men in pre-industrial towns,[14] increased exposure to infectious diseases (smallpox) for men because of greater mobility,[15] health risks connected to typical male work and a less orderly life-style[16] have been suggested as causes of the excess male death rates in nineteenth-century. The sex differences were of course also affected by factors disadvantageous to the health of women, for example, potential nutritional discrimination,[17] risks of expo-

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9 Per capita consumption of alcohol and excess male mortality (ages 40–49) in Prussia, 1887–1918, and male mortality (ages 35–59) in France, 1885–1958. T. Norström, 'Per capita alcohol consumption and total mortality: an analysis of historical data', *Addiction*, 91:3 (1996), 339–344.

10 T. Norström, 'Real wages, alcohol consumption and mortality in Sweden, 1861–1913', *European Journal of Population*, 4 (1988), 183–196.

11 Ö. Hemström, 'Explaining Differential Rates of Mortality Decline for Swedish Men and Women: A Time-Series Analysis, 1945–1992', *Social Science and Medicine*, 48:12 (1999), 1759–1777.

12 ICD 9: 291, 303, 305.0, 357.5, 425.3, 571.0–571.3, E860 and E980+980. *Dödsorsaker 1991–95*, Statistiska Centralbyrån (SCB).

13 I. Waldron, 'What do we know about causes of sex differences in mortality? A review of the literature', *Population Bulletin of the United Nations*, 18 (1985); L. Verbrugge, 'Gender and Health: An Update on Hypotheses and Evidence', *Journal of Health and Social Behaviour*, 26 (1985); S. R. Johansson, 'Welfare, Mortality and Gender. Continuity and Change in Explanations for Male/Female Mortality over Three Centuries', *Continuity and Change*, 6:2 (1991), 135–177.

14 J. Söderberg et al., *A Stagnating Metropolis: The Economy and Demography of Stockholm, 1750–1850* (Cambridge, 1991).

15 P. Sköld, *The Two Faces of Smallpox. A Disease and its Prevention in Eighteenth- and Nineteenth-Century Sweden* (Umeå, 1996).

16 J. A. Leyonmarck, 'Angående Svenska Tabellverket, och om Folkmängden m. m. i Riket under de ifrån 1815 sistförflutne 25 åren', *Kungl. Vetenskapsakademiens Handlingar* (1845).

17 S. R. Johansson, 'Deferred Infanticide: Excess Female Mortality during Childhood', in *Infanticide: Comparative and Evolutionary Perspectives,* G. Hausfater and S. B. Hrdy, (New York, 1984); S. Nicholas and D. Oxley, 'The Living Standards of Women during the Industrial

sure to tuberculosis in household work,[18] and hazards connected to pregnancies and deliveries.[19] However, the evidence supporting the idea of alcohol consumption being an important factor in the development of excess male mortality in nineteenth-century Sweden motivates further analyses of this question.

The Purpose

This article discusses the importance of alcohol for gender differences in mortality, particularly among middle-aged adults, on the basis of Swedish evidence during the pre-industrial or transitional period, c.1800–1860, and the industrial breakthrough, c. 1860–1930.[20] Administrative measures, socio-economic and cultural factors affecting drinking habits and the consumption levels of alcoholic beverages will be tentatively discussed. Compared to previous studies a more systematic approach is used to further test the common hypothesis of an alcohol boom during the first half of the nineteenth-century. A preliminary discussion is introduced on the impact of drinking habits on mortality differences among certain categories of males, classified on the basis of marital status, social class and urban-rural residence.

Sex Differential Mortality in Sweden 1751–1930

During the old demographic regime crude death rates fluctuated strongly. Sharp rises in mortality often occurred in times of war and crop failures, as was the case 1772–73, 1789 and around 1809. The two latter tops were largely a product of epidemics connected to wartime conditions, which particularly struck men in military service, resulting in the marked peaks we can observe for the sex ratio of mortality among younger adults (Figure 1). From about 1810 onward a permanent reduction

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Revolution 1795–1820', *Economic History Review*, XLVI:4 (1993), 723–749; S. Klasen, 'Marriage, Bargaining, and Intrahousehold Resource Allocation: Excess Female Mortality among Adults during Early German Development, 1740–1860', *Journal of Economic History*, 58:2 (1998), 423–467.

18 G. Fridlizius, 'Sex-Differential Mortality and Socio Economic Change, Sweden 1750–1810', in *Society, Health and Population during the Demographic Transition*, eds. A. Brändström and L-G. Tedebrand (Stockholm, 1988).

19 U. Högberg, *Maternal Mortality in Sweden* (Umeå, 1985). For a general discussion on gender differences in mortality in nineteenth-century Sweden, see S. Willner, *Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige* (Linköping, 1999).

20 The analysis of the nineteenth-century is primarily based on my dissertation: S. Willner, *Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige* (Linköping, 1999), while some new results are presented for the early twentieth-century.

of death rates is evident among children, youths and women in active ages, while adult males exhibit relatively unchanged or even increasing levels, which led to marked excess male mortality in the ages 25–60 during the first half of the century. The contemporary explanation of 'peace, vaccine and potatoes' captures some important factors leading to decreasing crude death rates, but cannot explain why this was not the case among adult men. A dramatic growth of property-less people, largely resulting from downward social mobility among the rural population characterised the period.[21] In spite of the rapid growth of the rural proletarians, there are indications of improvements in the general nutritional standard during the period. The impact on mortality from harvest fluctuations decreased compared to the previous century, and the trend in heights was clearly upward.[22] The 'hump' in excess male mortality in the 1820s to 1840s was most accentuated in ages 25–60, and has been attributed to the great increase in *bränvin* (Swedish liquor distilled from grain or potatoes) consumption during this period.

During the last decades of the nineteenth and the early twentieth centuries a rapidly decreasing trend in the sex ratio in mortality is observable, but it was temporarily broken around the turn of the century. In younger ages the peak around 1918–19 was a product of the Great Influenza Epidemic, which had a larger impact on male mortality levels. In the age group 40–59 years a sharp fall in the ratio occurs after 1915. The period of industrial breakthrough was also characterised by a general decline in adult mortality, particularly in urban areas. Public health measures, such as the construction of effective systems for water supply and sewage, contributed to significant improvements in sanitary conditions in the growing towns, and they were accompanied by diminishing excess mortality in urban areas compared to the countryside. In the initial phase of industrialisation some peaks in mortality, however, can be attributed to the effects of overcrowding and poor housing conditions. These developments were associated with intensified movement to cities and industrial centres in times of industrial booms and improved opportunities on the labour market, the clearest example of which can be found during the prosperous years of mid-1870s. Males were more affected than females, probably because a majority of those urban immigrants were men.[23]

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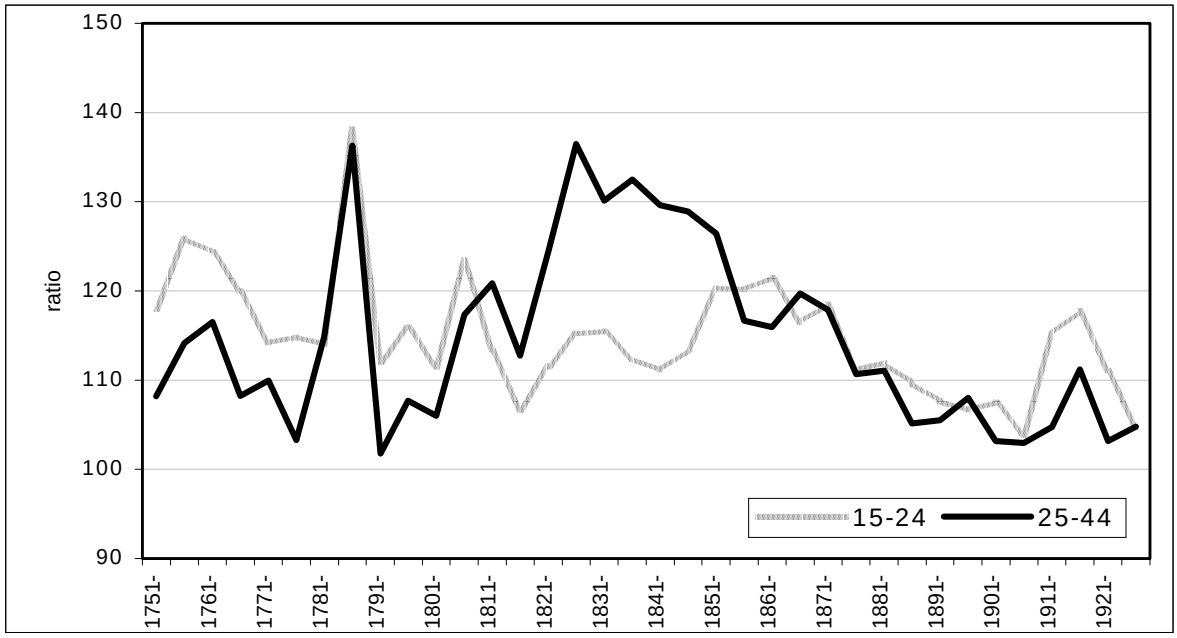
21 C. Winberg, *Folkökning och proletarisering* (Göteborg, 1975).

22 T. Bengtsson and R. Ohlsson, *Levnadsstandard och mortalitet i Sverige 1750–1860* (Lund, 1984); L. G. Sandberg and R. H. Steckel, 'Was Industrialization Hazardous to Your Health? Not in Sweden!', in *Health and Welfare during Industrialization*, eds. R. H. Steckel and R. Floud (Chicago, 1997).

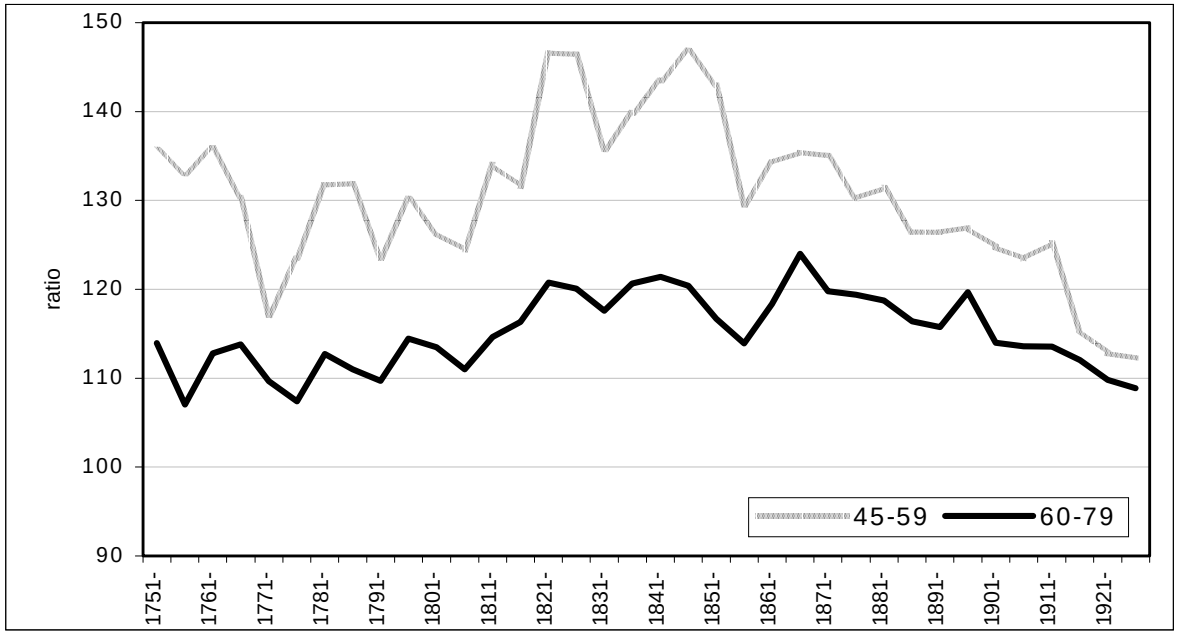
23 D. S. Thomas, *Social and Economic Aspects of Swedish Population Movements, 1750–1933* (New York, 1941), 107.

Figure 1. Sex ratio of mortality rates in ages 15–79 (females=100). Sweden 1751–1930. Five year averages.

a) 15–24/24–44 years.



b) *45–59/60–79 years*.



Sources: G. Sundbärg, 'Fortsatta bidrag till en svensk befolkningsstatistik för åren 1750–1900', *Statistisk Tidskrift* (1909); *Statistics Sweden*.

Alcohol Consumption and Mortality in Transitional Sweden, c. 1800–1860

Alcohol consumption

Gunnar Fridlizius has named several factors as facilitating the production and sale of liquor in the early nineteenth-century: very liberal legislation on household distilling, introduced in 1810; the introduction of potatoes as raw material in liquor production; and the possibility of large scale production in the new steam distilleries.[24]

Public opinion regarding the use of alcohol was also an important factor. Although physicians of the time claimed that excessive drinking could be devastating for one's health, the attitudes to alcohol found in broader social groups were in general positive and it was described as

> the only pleasure the Swedish peasant can prepare at home for his refreshment during hard work, for encouragement of his servants, to the delight of his guests and for the preparation of his medicine.[25]

This passage from the minutes of the Estate of the Peasantry recorded during the parliamentary sessions of 1778–79 probably expressed a widespread opinion of the time. *Brännvin* was used in the daily diet as well as for festivities. It was considered to be important for enduring heavy work, and it was a common part of the wages paid servants and other employees. Alcohol was also an essential ingredient in folk medicine.[26]

The cultural acceptance of drinking was much more restricted for women than men, and, according to the literature of the day, heavy drinking was a predominantly male phenomenon.[27] Contemporary statistics on alcohol-related deaths and on arrests for the offence of drunkenness strongly support this view.[28] For example, the proportion of females among the registered cases of deaths attributed to alcohol

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24 See also, T. Larsson, *Reformen i brännvinslagstiftningen 1853–1854. Förhistorien* (Stockholm, 1945).

25 *Bondeståndets riksdagsprotokoll 1778–1779*, ed. Sten Landahl (Stockholm, 1986).

26 See E. Rasch, 'Brännvinsbruket i 1800-talets skånska bondesamhälle', *Skånes hembygdsförbunds årsbok* (1974); M. Hellspong and O. Löfgren, *Land och stad* (Malmö, 1994), 168; M. Huss, *Om Sveriges endemiska sjukdomar* (Stockholm, 1852), 126; C. H. Tillhagen, *Folklig läkekonst* (Stockholm, 1962).

27 For example, M. Huss, *Alcoholismus Chronicus eller Chronisk Alkoholsjukdom II* (Stockholm, 1851), 171.

28 S. Willner, *Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige* (Linköping, 1999), 168.

intoxication did not exceed 12 per cent for any five-year period during the first half of the nineteenth-century.[29]

The great socio-economic and cultural transformations of the time, which gave uncertain prospects for the future among the rapidly growing proletarian groups – reduced hope for employment and building a family – probably contributed to a climate which stimulated excessive alcohol consumption, as did a weakening of informal social control.[30] As heavy drinking was a predominantly male behaviour, it is likely that the negative health effects would be particularly accentuated among men. This has also been observed in the transitional societies of Russia and other eastern European countries during recent decades. Heavy alcohol consumption has been suggested as a major factor in the dramatic decline in life expectancy, particularly for males, in post-communist Russia.[31]

According to several studies, social drinking at taverns was a fundamental part in the culture of certain groups of craftsmen and workers and for maintaining important social networks in pre-industrial towns.[32] This probably also contributed to excessive drinking.

A growing discussion about *the social question* and a concern for socio-economic or moral problems connected to excessive drinking among the proletarians gradually gained ground in the propertied classes, including land-owning peasants, during the first half of the century.[33] There are even examples of violent actions against the distilleries among working class groups in the mid-nineteenth-century, because the large scale production of *brännvin* strongly contributed to increasing prices for

29 G. Westfelt, 'Om dryckenskapens tillstånd och fysiska följder i Sverige under åren 1861–77 enligt statistikens vittnesbörd. Föredrag vid nedläggandet af Ordförandeskapet i Svenska Läkare-Sällskapet d. 7 oktober 1879', *Svenska Läkare-Sällskapet Nya Handlingar,* Ser. II, del VII. 2 (Stockholm, 1880), 43.

30 For a short description on the agrarian-to-industrial transitional period in Sweden, see J. Sundin, 'Worlds we have lost and worlds we may regain. Two centuries of changes in the life course in Sweden', *The History of the Family*, 4:1 (1999), 93–112.

31 For example, P. Carlsson and D. Vågerö, 'The social pattern of heavy drinking in Russia during transition: Evidence from Taganrog 1993', *European Journal of Public Health*, 8 (1998), 280–285; P. Walberg et al., 'Economic change, crime, and mortality crisis in Russia: regional analysis', *British Medical Journal*, 317 (1998), 312–318; W. C. Cockerham, *Health and Social Change in Russia and Eastern Europe* (New York, 1999). It has, however, been argued that the evidence so far presented is not sufficient for accepting the alcohol hypothesis. See, for example, M. Bobak and M. Marmot, 'Alcohol and mortality in Russia: is it different than elsewhere?', *Annals of Epidemiology*, 9:6 (1999), 339–340.

32 For example, L. Magnusson, *Den bråkiga kulturen. Förläggare och Smideshantverkare i Eskilstuna 1800–1850* (Stockholm, 1988).

33 See B. Petersson, *'Den farliga underklassen.' Studier i fattigdom och brottslighet i 1800-talets Sverige* (Umeå, 1983); J. Sundin, 'Control, punishment and reconciliation. A case study of parish justice in Sweden before 1850', in *Tradition and Transition. Studies in micro-demography and social change*, eds. A. Brändström and J. Sundin (Umeå, 1981).

grain and potatoes.[34] The pioneering work by Magnus Huss, *Alcoholismus Chronicus*, published around 1850, gave weight to medical concerns about excessive drinking. In the light of this, the more restrictive legislation in mid-nineteenth-century is logical. But there were also underlying economic motives regarding the control of profits from the production and trade of liquor.[35]

Contemporary estimates of the Swedish consumption (or production) of liquor during the period from about 1820–1850 roughly amount to about 10–15 litres (100% alcohol) per capita annually, while corresponding figures for the late eighteenth and early nineteenth-century were approximately five litres or less (based on total population). The latter is roughly the same level that was registered in the official statistics of the latter part of the nineteenth-century.[36] The estimations preceding the introduction of official alcohol statistics, usually based on calculations of production capacity or the quantity of grain used for distilling liquor, are certainly very unreliable. The great differences in estimated levels between different periods, however, suggest that consumption culminated between the 1820s and 1840s or early 1850s.

According to the Swedish physician Magnus Huss, a 'moderate' consumer of liquor, representing male workers of Stockholm in mid-nineteenth-century, drank about 40–45 centilitres of *bränvin* (c. 45% alcohol) each working day and often the double amount on Sundays, that is at least 150 litres per year. Roughly the same levels of consumption were noted by contemporary observers for other groups of male workers, for example, miners in Norberg in the province of Västmanland and adult males in Eskilstuna, a town dominated by iron working and production of metal tools and implements.[37] Similar levels, about one-half litre of *bränvin* daily, were reported for *heavy* drinkers among male workers in Stockholm around the turn of the century 1900,[38] indicating a general decrease in consumption during the last half of the nineteenth-century.

The reports of the county governors agreed that the alcohol legislation of 1855 caused a considerable and secular decline in alcohol consumption all over the country, at least in rural areas.[39] In addition, the growth of recorded offences of

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34 R. Karlbom, *Hungerupplopp och strejker 1793–1867. En studie i den svenska arbetarrörelsens uppkomst* (Lund, 1967), 112.

35 P. Frånberg, 'Den svenska supen', in *Den svenska supen. En historia om bränvin, Bratt och byråkrati*, eds. K. Bruun and P. Frånberg (Stockholm, 1985).

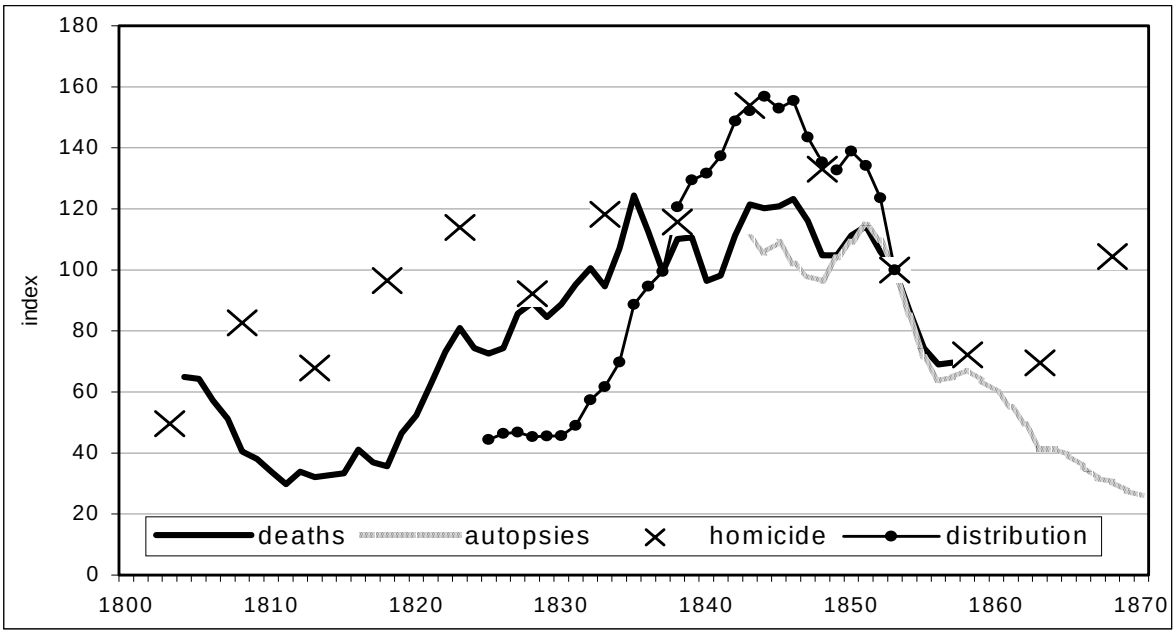
36 S. Willner, *Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige* (Linköping, 1999), 178.

37 M. Huss, *Om Sveriges endemiska sjukdomar* (Stockholm, 1852), 93; L. Magnusson, *Den bråkiga kulturen. Förläggare och Smideshantverkare i Eskilstuna 1800–1850* (Stockholm, 1988), 45 (quoting hospital doctor P. C. Malm of Eskilstuna, 1851).

38 C. T. Scholander, 'Några iakttagelser angående alkoholismen bland arbetsklassen i Stockholm', *Hygiea* (1903:II).

39 S. Willner, *Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige* (Linköping,

Figure 2. *Indices of alcohol-related deaths and autopsies, domestic distribution of liquor, and homicides per capita. 1800–1870. (1853=100).*



Sources: *Sundhets-Collegii Underdåniga Berättelse om Medicinalverket i Riket* 1851 (deaths, autopsies 1802–51), *Bidrag till Sveriges Officiella Statistik A, Befolkningsstatistik*, 1851–60 (deaths 1852–60), *Bidrag till Sveriges Officiella Statistik K, Helso- och sjukvården*, 1852–70 (autopsies 1852–70). P. A. Siljeström, 'Om mord och sjelfmord i Sverige under tidskiftet 1750–1870', *Statistisk Tidskrift*, 1875 (homicide).

Comments: Deaths and autopsies concern acute alcohol intoxication. Data on homicide is based on official statistics on causes of deaths. The distribution series concerns the quantity of *bränvin* shipped out from ports of the county of Malmöhus to other parts of Sweden. All series are deflated by annual national population.

conflict and disorderly conduct observed in some local communities during the early nineteenth-century may also to some extent be attributed to more excessive drinking than before, although this phenomenon primarily appears to have been a consequence of social tension and tightening up of formal social control.[40]

Although there are no reliable statistics on consumption levels during this period, some data series can be used as indicators of the major trends (Figure 2). The reason for including homicide among the indicators is the empirical evidence of a positive correlation between alcohol consumption and the homicide rate in early nineteenth- as well as in twentieth-century Sweden.[41]

On the basis of evidence from these statistical series and to some extent from contemporary estimaties of alcohol consumption, in combination with narrative

1999), 188.

40 J. Sundin, *För Gud, Staten och Folket* (Lund, 1992), 295.

41 See, for example, H. v Hofer, *Brott och straff i Sverige. Historisk kriminalstatistik 1750–1984. Diagram, tabeller och kommentarer* (Stockholm, 1985); L. L. Lenke, *Alcohol and Criminal Violence; Time series analyses in a comparative perspective* (Stockholm, 1989).

sources, such as the reports of the county governors, it is plausible to make some claims. Per capita consumption probably increased substantially during the early nineteenth-century and culminated around the middle of the 1840s, while an abrupt fall occurred in the middle of the 1850s subsequent to the new legislation on alcohol trade and production.

Alcohol-Related Mortality

We find few cases of explicit alcohol-related mortality in the official statistics from this period. According to the registration of deaths caused by acute alcohol intoxication, there were less than 50 cases per year on average during the first half of the nineteenth-century.[42] Certainly, the mortality impact of alcohol consumption was much larger. In addition to direct physiological effects, heavy drinking may influence health-related behaviour and living conditions, for instance diet and housing, and can thus lead to increased risks of fatal accidents and susceptibility to infections.

The problems connected with the use of historical data on causes of death are well-known, for example due to changes in the official nomenclature and the vagueness and inaccuracy of many diagnoses. Thus the following conclusions should be regarded as highly tentative.[43]

Diagnoses like lung consumption (a proxy for lung tuberculosis), stroke and external causes (primarily accidents and suicides) made a large contribution to the disadvantageous development of male mortality on both the local and national levels (Table 1). According to modern medicine as well as to the opinion of nineteenth-century physicians, all these causes of death may be related to physiological or behavioural effects of excessive alcohol consumption,[44] but certainly also to several other background factors.

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42 *Bidrag till Sveriges Officiella Statistisk. Tabell-kommissionens underdåniga berättelse för åren 1851 med 1855*. Första afdelningen (Stockholm, 1857).

43 It should also be noted that the national figures only refer to a few years: 1776–1780 and 1826–1830.

44 According to modern medicine excessive alcohol use is related to physical disabilities and premature death in several ways, for instance by increased risks of brain and liver damage, gastro-intestinal problems, hypertension, stroke and violent deaths (such as suicide, homicide, falling and drowning accidents). See, for example, C. S. Lieber, *Medical Disorders of Alcoholism. Pathogenesis and Treatment* (Philadelphia, 1982); *Alcohol: Our Favourite Drug. New Report on Alcohol and Alcohol-Related Problems from a Special Committee of the Royal College of Psychiatrists* (London, 1986). Physicians of the nineteenth-century claimed that mortality in stroke, pneumonia and violent deaths was affected by excessive drinking. See, for example, G. Westfelt, 'Om dryckenskapens tillstånd och fysiska följder i Sverige under åren 1861–77 enligt statistikens vittnesbörd. Föredrag vid nedläggandet af Ordförandeskapet i Svenska Läkare-Sällskapet d. 7 oktober 1879', *Svenska Läkare-Sällskapet Nya Handlingar*, Ser. II, del VII. 2 (Stockholm, 1880), 87.

Table 1. *Sex specific mortality rates and excess male mortality for different causes of death in ages 25–49. Linköping area (1780–1849) and Sweden (1776–1780/1826–1830). Per 10,000.*

Linköping Area	1780–1814			1815–1849		
	male	female	*difference*	male	female	*difference*
Lung consumption	28	25	*3.1*	39	28	*10.8*
Other infections	82	67	*14.9*	57	42	*14.8*
Stroke/sudden death	9	6	*3.0*	18	10	*7.3*
Maternal mortality	-	19	*-18.5*	-	11	*-11.0*
External causes	7	1	*6.0*	12	2	*9.7*
Other causes	26	26	*0.4*	24	23	*0.3*
All causes	152	143	*9.0*	149	117	*32.1*
n	1474	1576		1426	1323	

Sweden	1776–1780			1826–1830		
	male	female	*difference*	male	female	*difference*
Lung consumption	22	18	*4.6*	37	27	*9.8*
Other infections	22	44	*10.5*	59	42	*18.3*
Stroke/sudden death	5	4	*1.1*	13	6	*6.7*
Maternal mortality	-	16	*-16.1*	-	12	*-11.6*
External causes	8	2	*6.0*	18	2	*15.6*
Other causes	28	26	*1.7*	33	26	*5.9*
All causes	118	110	*7.8*	160	115	*44.7*
n	19023	19556		35004	27417	

Sources: *The Historical Database of Linköping* and *Befolkningsstatistiska tabeller* from parish archives (Linköping area). *Stiftstabeller* and *Rikstabeller* from the archives of the Table Commission (Sweden).

Comments: The Linköping area consists of the town of Linköping and fourteen surrounding rural parishes. Lung consumption = *lungsot* (consumption of lungs) and *tvinsot* (wasting-away disease). Other infections = primarily 'fevers' such as *bröstfeber* (breast-), *hetsig feber* (fever fits), *nervfeber* (nerve-), etc. Stroke = *slag/bråd död*. The descriptions of symptoms of stroke from medical handbooks of the time largely resemble modern ones. The diagnosis probably includes diseases such as cerebral hemorrhage and heart infarct for adults. Maternal mortality = *barnsbörd*. External causes = accidents, suicides and homicides. Other = *kräfta* (cancer), *värk* (pain), *gikt* (gout), *venerisk sjukdom* (veneral disease), *vattusot* (dropsy), etc.

For further information, see S. Willner, Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige, Linköping, 1999.

Considering the hazards connected to working conditions, the considerable rise in the incidence of fatal accidents among men may to some extent have been an effect of the agrarian revolution and large public projects such as the construction of canals. As a consequence of land reclamation and enclosure reforms, certain types of work were intensified, such as clearing the land of stones and trees, digging

ditches, etc. There was probably also an increase in transportation works connected to the expanding market for agricultural products.[45]

In reproductive ages deaths caused by pregnancies and deliveries certainly affected sex differential mortality. Declining maternal mortality contributed substantially to the widening of sex differences in mortality in the early nineteenth-century, but it explains neither the growth of excess male mortality in several infectious diagnoses or external causes, nor the increased sex differential in pre-reproductive ages.[46]

It has been suggested that the heavy male excess mortality in early nineteenth-century Stockholm was affected by the local labour market that favoured young women (working as maid-servants), while the male labour market was characterised by causal jobs and frequent unemployment. This interpretation is further supported by the fact that the poverty ratio (the proportion exempted from taxes) was higher among men than women in active ages.[47] The poverty ratios in the Swedish countryside and the town of Linköping, however, point towards a more difficult economic situation for women than for men.[48] And as women were socio-economically disadvantaged, for example, by lower wages and restrictions that prevented women from engaging in most occupations, it does not seem likely that the excess male mortality in general was caused by economic conditions that discriminated against men. But it is probable that excessive drinking could affect health-related living conditions with regard to nutritional situation, housing conditions, etc.

45 C-J. Gadd, *Järn och potatis. Jordbruk, teknik och social omvandling i Skaraborgs län 1750–1860* (Göteborg, 1983), Chapter VI.

46 S. Willner, *Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige* (Linköping, 1999), 47. See also, Ulf Högberg, *Maternal Mortality in Sweden* (Umeå, 1985).

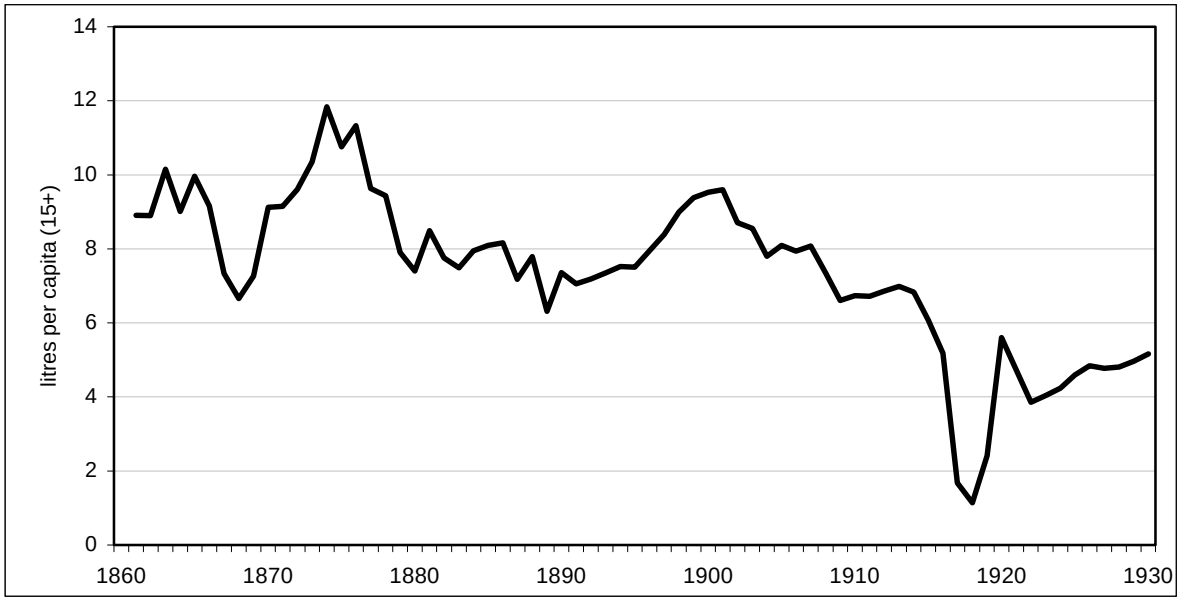
47 J. Söderberg, et al., *A Stagnating Metropolis: The Economy and Demography of Stockholm, 1750–1850* (Cambridge, 1991), 157.

48 S. Willner, *Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige* (Linköping, 1999), 72–74.

Alcohol Consumption and Mortality during the Industrial Breakthrough, c. 1860–1930

Alcohol consumption

Figure 3. Per capita consumption of alcohol (ages 15+) in litres per year. Sweden 1861–1930.



Sources: *Bidrag till Sveriges Officiella Statistik V*, Bränvins tillverkning och försäljning (1861–1869). L. Lenke, *Alcohol, and Criminal Violence; Time Series Analyses in a Comparative Perspective*, Stockholm, 1989 (1870–1930).

From the 1860s onward more reliable data are available on total alcohol consumption. Per capita consumption (ages 15+) fell in the long term from about nine litres per year in the early 1860s to four to five litres in the 1920s (Figure 3). A temporary drop in the late 1860s was connected to crop failures and declining real wages, while the peaks in mid-1870s and around the turn of the century coincided with economically more prosperous years. Modern time series analyses have confirmed that consumption level was positively related to changes in real wages in the late nineteenth-century.[49]

The dramatic decline during the last years of the First World War is an effect of restrictions motivated by the wartime crisis. Administrative control measures based on individual purchase restrictions were introduced in a number of towns in the early twentieth-century. Between 1919 and 1955 a compulsory system with indi-

49 T. Norström, 'Real wages, alcohol consumption and mortality in Sweden, 1861–1913', *European Journal of Population*, 4 (1988), 183–196.

vidual liquor rationing and control (*Brattsystemet*) caused a levelling off of the annual alcohol consumption to about four to five litres per capita (ages 15+).

Although there is a positive correlation between annual fluctuations of real wages and alcohol consumption, in the long run the trends were in opposition to one another: wages increased while consumption levels fell. The latter was partly a product of a successively more restrictive attitude towards unrestrained drinking among people in general. This can be related to the increased discipline and control induced by the demands of the modern factory system, but also to the burgeoning ideal of conscientiousness among the working class,[50] which also found expression in the expansion of the temperance movement during the late nineteenth-century.[51] Although the referendum did not pass, the fact that almost one half of the Swedish voters (and nearly 60 per cent of the female voters) voted in favour of prohibition of alcohol in 1922 illustrates the great attraction of temperance ideals.

Several factors point to a considerable reduction in alcohol consumption in the countryside subsequent to the new alcohol legislation in mid-1850s. A large proportion of the rural inhabitants of Sweden came to live in dry areas. It was probably only towards the last decades of the century that a more significant reduction got underway in urban settings. One important factor was an increasing praxis from local governments to assign licenses to particular non-profit companies for the sale of spirits with the requirement that they operate in the public interest. This system became compulsory in 1905.

Alcohol-related mortality during late nineteenth-century

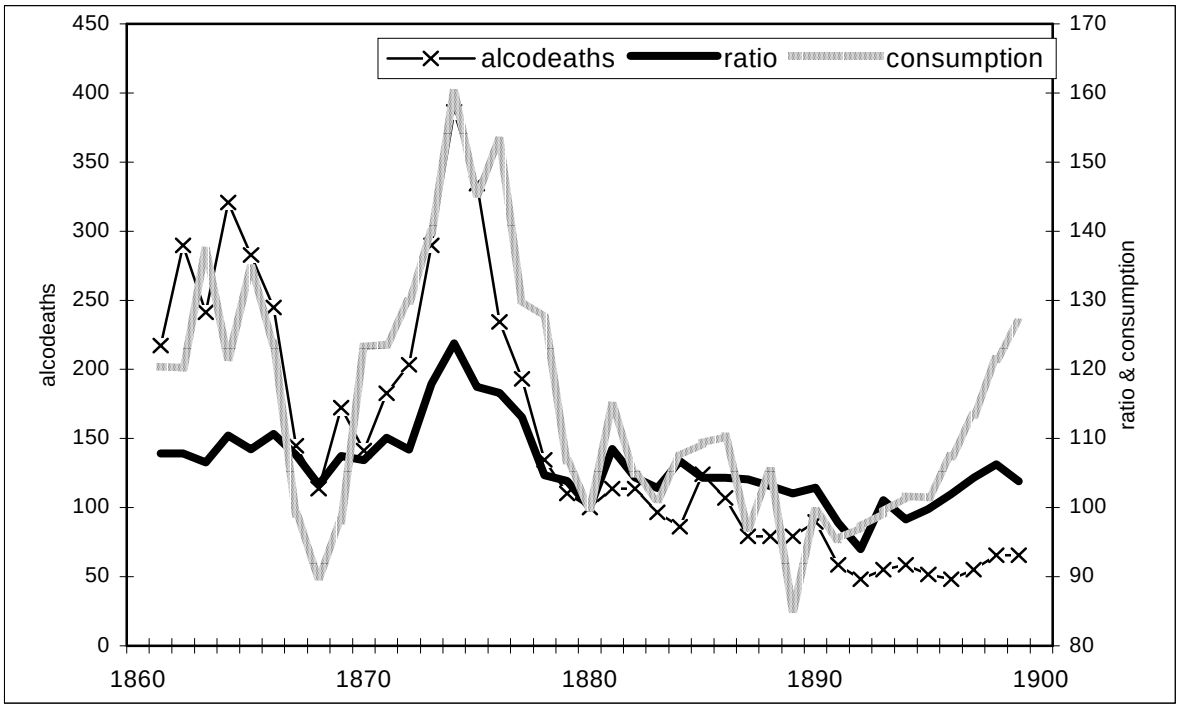
During this period terms such as *chronic alcoholism* and *delirium tremens*, that reflected the long term effects of excessive drinking, were introduced and recorded in the official nomenclature of causes of deaths for Swedish towns. These deaths followed the fluctuations of per capita consumption on the national level relatively well until the late 1880s, and to some extent, so did the sex ratio of mortality (Figure 4).[52] However, the increasing consumption in the last decade of the century did not affect the mortality levels, according to the same data. This may have been a result of more restrictive policies and attitudes towards excessive alcohol consumption in the towns, and also because of changes in drinking patterns. The share

50 See, for example, B. Horgby, *Den disciplinerade arbetaren* (Stockholm, 1986); R. Ambjörnsson, *Den skötsamme arbetaren* (Stockholm, 1988).

51 J. Bergman, *Den svenska nykterhetsrörelsens historia* (Stockholm, 1913), 174.

52 Unfortunately there are no reliable data on causes of death outside the administrative towns during this period.

Figure 4. Indices of alcohol consumption, alcohol-related deaths and sex ratio of mortality rates among adults in Swedish towns. 1880=100.



Sources: Alcohol consumption: see Figure 3. Alcohol-related deaths: *BiSOS A*, *Befolkningsstatistik* (1861–1863), *BiSOS K, Helso- och sjukvården* (1864–1870/1875–1899), G. Westfelt (1880) (1871–1874). Sex ratio of mortality: *BiSOS A*.
Comments: Alcohol consumption =litres 100% alcohol per capita (15+) on national level. Alcohol-related deaths =death rates in 'chronic alcoholism' and 'delirium tremens' among men (15+) in towns. Sex ratio of mortality =urban population (20+); females=100.

of stronger alcoholic beverages decreased, while beer drinking became clearly more popular during the last decades of the century.[53]

The simultaneous peaks of alcohol consumption, alcohol-related deaths and the sex ratio of mortality in the mid-1870s clearly indicated the importance of alcohol consumption for excess male mortality, according to contemporary observers like Gerhard Westfelt. Certainly, intensified drinking, stimulated by the economic upswing, contributed to this pattern, but we also know that times of industrial prosperity during the early phases of industrialisation led to increased migration into urban areas, causing growing problems of overcrowding, bad sanitation and transmission of infectious diseases. A majority of the migrants during the industrial booms were men. At least in Stockholm, a large part of those living in overcrowded and extremely unsanitary habitations, such as lodging houses and hostels, were single males.[54] These miserable living conditions certainly constituted a hotbed for

53 S. Willner, *Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige* (Linköping, 1999), 191.

54 See, for example, K. A. Tengdahl, *Material till bedömande af hamnarbetarnes i Stockholm lefnadsförhållanden* (Stockholm, 1897).

Table 2. Excess male mortality in ages 40–59 in Swedish towns 1875/79 and 1895/99. Per 10,000.

	1875–1879			1895–1899		
	male	female	*difference*	male	female	*difference*
Lung tuberculosis	67	36	*31.2*	38	24	*14.2*
Other infections	11	7	*4.7*	2	1	*0.3*
Respiratory diseases	51	21	*30.2*	27	12	*14.8*
Cancer	15	19	*-3.4*	17	17	*0.1*
Diseases of the circulatory system	15	9	*6.4*	21	14	*7.0*
Diseases of the brain and the nerve system	26	10	*16.0*	14	7	*7.1*
Diseases of the digestive system	17	12	*5.0*	9	6	*3.3*
Diseases of the genito-urinary system	16	10	*6.1*	11	6	*4.5*
Alcoholism	9	0	*8.7*	3	0	*2.7*
Accidents	11	1	*9.3*	9	1	*7.8*
Suicide	6	1	*5.2*	7	1	*6.4*
Other causes	11	7	*4.7*	12	8	*4.1*
Unknown	17	9	*8.0*	17	5	*11.3*
All causes	273	141	*132.1*	185	102	*83.6*
n	7766	5514		8126	5940	

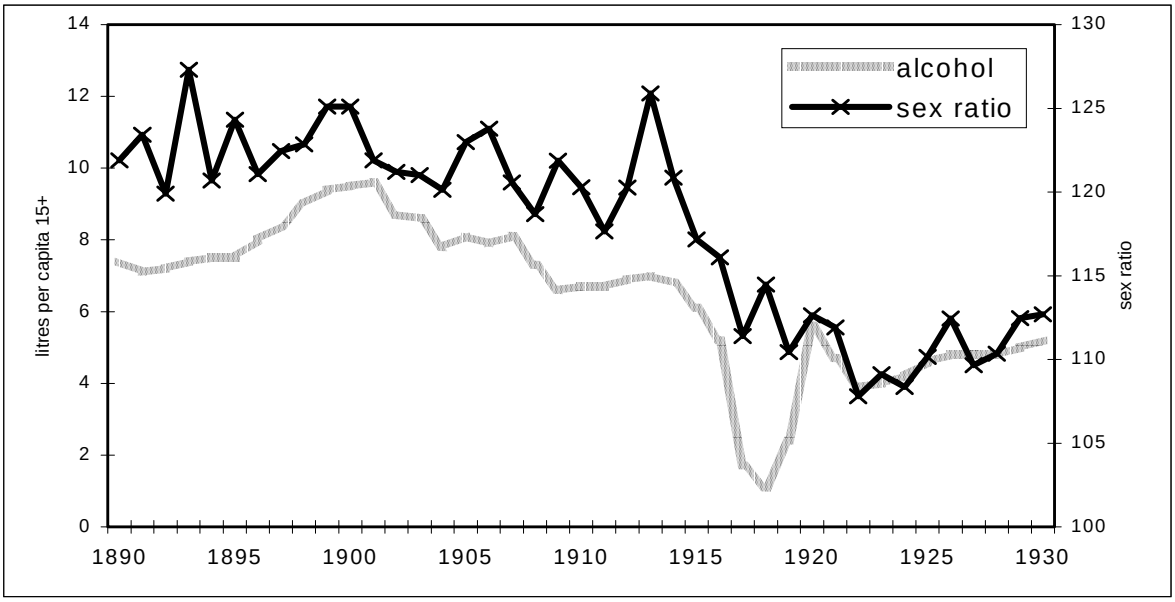
Sources: BiSOS K, Helso- och sjukvården. Sundhets-collegii underdåniga berättelse 1875–79, 1895–99.

the spread of infectious diseases, such as the 1870s typhus epidemics in Stockholm, which struck adult males in particular.[55] Such quarters probably also promoted excessive drinking habits.

In late nineteenth-century, the explicit alcohol-related diagnoses (*chronic alcoholism* and *delirium tremens*) only amounted to a small percentage of total male mortality in urban Sweden (Table 2). The decline from 9 deaths/10,000 in 1875–79 to 3/10,000 twenty years later in ages 40–59, however, indicates a substantial reduction of the unfavourable effects of alcohol on male health. The relatively more advantageous development of mortality for males than females in causes of deaths such as *lung tuberculosis* and *brain diseases* (including stroke or cerebral haemorrhage) could also to some extent be attributed to more moderate drinking habits. The decline in fatal *accidents,* in spite of increasing work hazards connected to the industrialisation process, may have been an effect of the same development.

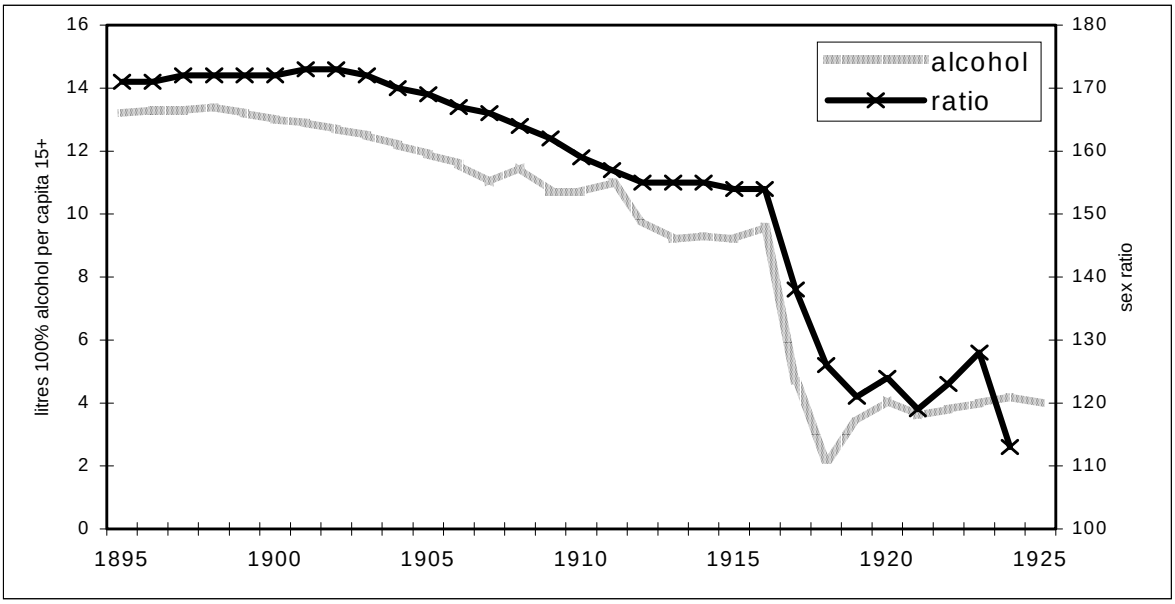
55 K. Linroth, *Dödsorsakerna och dödligheten i Stockholm 1871–1890* (Stockholm, 1892), 26.

Figure 5. Alcohol consumption per capita (ages 15+) and sex ratio of mortality (females=100) for ages 40–59 in Sweden 1890–1930.



Sources: Alcohol consumption; see Figure 3. Sex ratio of mortality: *BiSOS A and SOS. Befolkningsrörelsen*.

Figure 6. National alcohol consumption per capita (ages 15+) and sex ratio of mortality (females=100) for ages 25–65 in Copenhagen, Denmark, 1895–1925.



Sources: Alcohol consumption; T. Thorsen, Hundrede års alkoholmisbrug (Copenhagen, 1990), Tables 3.1 and 7.1. Sex ratio of mortality; Betænkning afgiven af den af indenrigesministeriet under 16. Juli 1914 nedsatte 2. Ædruelighedskommission, II afsnit, (Copenhagen, 1927), 707.
Comments: Interpolated figures for alcohol consumption 1895–1905 and sex ratio 1895–1916. Other years annual data.

Table 3. Sex specific death rates and excess male mortality in ages 40–59 in Sweden 1911/20 and 1921/30. Per 10,000.

	1911–1916			1917–1920			1921–1930		
	male	female	*difference*	male	female	*difference*	male	female	*difference*
Tuberculosis	20	20	*0.1*	17	17	*-0.3*	13	13	*0.5*
Influenza	0	0	*0.1*	12	11	*1.2*	1	1	*0*
Other infections	3	2	*1.2*	4	2	*1.3*	4	3	*0.8*
Respiratory diseases	14	9	*4.3*	13	9	*3.7*	9	7	*2.3*
Cancer	17	19	*-1.1*	16	19	*-3.0*	16	19	*-3.2*
Diseases of the circulatory system	13	13	*0.4*	12	13	*-0.7*	13	13	*0.1*
Diseases of the brain and nervous system	8	7	*1.1*	7	6	*0.5*	6	6	*0.0*
Diseases of the digestive system	7	6	*0.8*	7	6	*1.3*	7	6	*0.8*
Diseases of the genito-urinary system	6	5	*0.9*	6	5	*0.9*	5	5	*0.3*
Alcoholism	1	0	*0.8*	0	0	*0.2*	0	0	*0.2*
Accidents	7	1	*6.4*	6	1	*5.2*	5	1	*4.4*
Suicide	6	1	*4.4*	4	1	*2.7*	5	1	*3.9*
Unknown causes	3	4	*-0.2*	3	3	*-0.1*	2	2	*0.2*
Other causes	5	6	*-1.2*	5	5	*-0.7*	4	6	*-1.5*
All causes	111	93	*18.1*	111	99	*12.1*	91	82	*8.6*
number	33522	31472		23710	23268		53240	51949	

Sources: SOS. *Dödsorsaker*.

The dramatic decline in alcohol consumption during the First World War was followed by an instant fall in excess male mortality levels in Sweden as well as in the Danish capital (Figures 5 and 6). A clear reduction of mortality in causes of death such as *alcoholism*, *liver cirrhosis*, *pneumonia*, *kidney diseases*, *stroke* and *external causes* was observed among adult males (25–65 years) in Copenhagen, while mortality levels for those diagnoses remained more or less unchanged among females.[56]

A more advantageous development of similar diagnoses among males than among females can also be observed in Sweden (Table 3). *Cerebral haemorrhage* (in the category *diseases of the brain and nerve system*) was reduced by about 25 per cent among males, but by less than 10 per cent among females when 'the low consumption period', 1921–1930, as compared to the 'high consumption period', 1911–1916. *Chronic inflammation of the liver* (in the group *diseases of the digestive system*)

56 Those diagnoses were reduced by 50% among men (25–65 years of age) but only by 15% among women in the period 1918/22 compared to 1910/14, according to an official Danish report in 1927: *Betænkning afgiven af den af indenrigesministeriet under 16. Juli 1914 nedsatte 2. Ædruelighedskommission*, II afsnit (Copenhagen, 1927), 712.

declined by 40 per cent for males and by 10 per cent for females, while fatal *accidents* fell by 30 per cent among men and less than 15 per cent among women. The diagnosis *alcoholism* dropped by 80 per cent among men, while the female death rate was insignificant during both periods: less than one case per 100,000. In the case of the dominating infectious cause of death, *tuberculosis*, however, the relative decline was similar for both sexes, c. 35 per cent. These effects are to some extent visible even in the intermediate period, 1917–20, when consumption figures reached the lowest level. The picture is, however, somewhat complicated because of the extraordinary impact on death rates caused by the Great Influenza Epidemic, 1918–19. The epidemic particularly struck young males, thus counteracting effects of the fall in alcohol consumption and resulting in a pronounced peak of the sex ratio of mortality (Figure 1).

To conclude, it is certainly difficult to separate the effect of alcohol from other potential background factors when discussing most causes of death, but, on the other hand, it is hard to find any other factor that so convincingly explains the clear decline of the sex differential ratio during the First World War, observed both in Sweden and Denmark, than the simultaneous fall in per capita alcohol consumption.

If we extend the period of examination beyond the inter-war period and the Second World War, we find a clear upswing of alcohol consumption in 1956, the first year following the abolition of the individual ration system (*Brattsystemet,* 1919–1955). As a result, a policy of high taxes on alcoholic beverages was introduced in order to reduce demand. However, the subsequent development was characterised by a successive upward trend in per capita consumption (ages 15+) from approximately five litres in early 1950s to about eight litres in mid-1970s, according to official statistics. Previous studies suggest that the increased use of alcohol and tobacco during the post-war period, associated with rising welfare and real wages, has been important for the simultaneous increase in excess male mortality.[57]

57 Ö. Hemström, 'Explaining Differential Rates of Mortality Decline for Swedish Men and Women: A Time-Series Analysis, 1945–1992', *Social Science and Medicine*, 48:12 (1999), 1795–1777.

Differences in the Effect of Alcohol among Different Categories of Men

Urban-rural and marital status differences

Urban environments generally produced higher mortality levels than rural ones. This was especially marked among single men, while the urban-rural differential as well as marital status differences in mortality were much smaller among females. This general 'urban penalty' for men as well as the extremely high death rates of bachelors are attributed to excessive drinking by contemporary observers.[58]

Some local Swedish mortality data for the late nineteenth-century, specified for marital status and causes of death, indicate higher levels of alcohol-related deaths for unmarried men than for those married.[59] A statistical investigation from the Norwegian capital at the turn of the century 1900,[60] as well as Swedish data on persons arrested for the offence of drunkenness, provide further evidence supporting the idea of higher consumption levels among single men. Unmarried men were clearly over-represented among those arrested for drunkenness. According to official statistics, the rate of arrested bachelors was more than five times higher than that of married men in ages over 40 in 1917, which clearly indicates that heavy drinking was more common among single men.[61] Whether this was primarily a result of *selective mechanisms* on the marriage market or *protective effects* of marriage remains an open question. Probably it was a combination of both factors.

The development of death rates, specified for marital status and urban-rural living, support the idea that the mortality response to variations in alcohol consumption levels was strongest among urban bachelors (Figure 7). The peaking of the mortality-index in mid-1870s, as well as the increase in late nineteenth-century and the marked fall during the First World War, clearly follow the fluctuations in consumption previously described. But it is also likely that other factors contributed to

58 M. Huss, *Alcoholismus chronicus eller Chronisk Alkoholsjukdom*, II (Stockholm, 1851), 166–167; R. Tigerstedt, *Spriten och människan* (Stockholm, 1896).

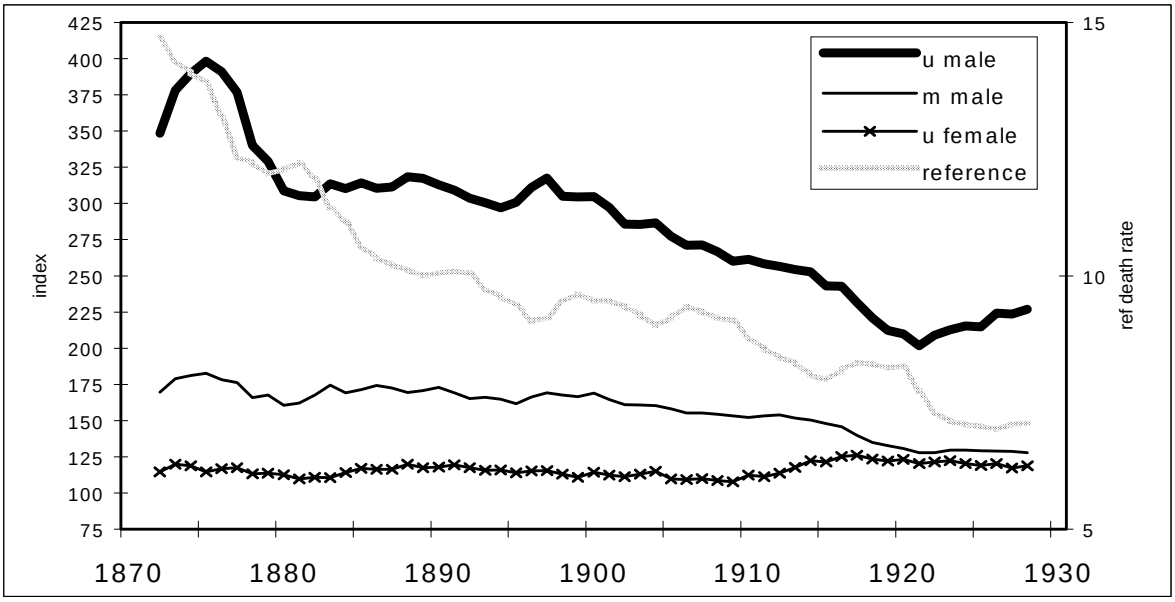
59 Death rates for the town of Linköping 1861–1891: S. Willner, 'Gender and mortality in 19th century Sweden', paper presented at 13th Nordic Demographic Symposium in Umeå (1999).

60 A. N. Kiær, *Statistiske undersogelser vedkommende ædruelighedsforhold og forbrug af alkoholholdige drikke i Kristiania 1900* (Kristiania, 1909).

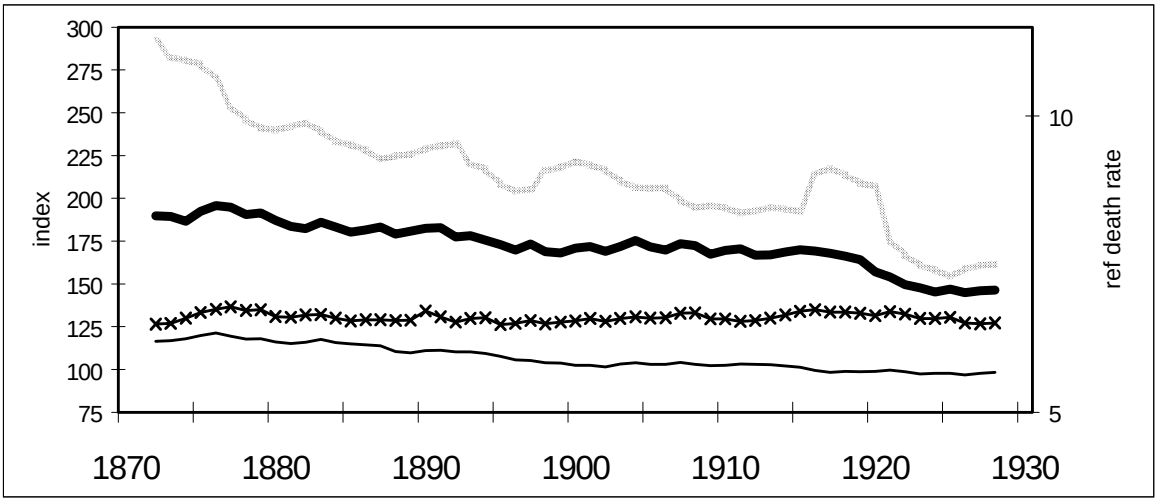
61 Calculated from data found in *Sveriges Officiella Statistik; Undersökningar angående alkoholens sociala skadeverkningar* (Kungl. Socialstyrelsen, 1921), and *SOS, Befolkningsrörelsen 1917* (population figures). According to this report a majority (circa 56%) of the arrested bachelors and a good third of the arrested (circa 36%) of married men in age group 40–49 were alcoholics.

Figure 7. Mortality specified for sex and marital status for ages 40–59. Index: married female=100. Death rates per 1,000 for married females. Moving 5-year averages.

a) Urban Sweden



b) Rural Sweden



Sources: *BiSOS A and SOS. Befolkningsrörelsen*.
Commentaries: u = unmarried, m = married, reference = married females.

this pattern. The worsening of health problems connected to increased migration, overcrowding and bad sanitation during economic upswings (for example in the 1870s and the 1890s) struck harder among unmarried men, who often lived under more miserable conditions than their married brothers.

Social Differences in Mortality

Our knowledge of social differences in adult mortality in nineteenth-century Sweden is limited to a few local studies. During the pre-industrial or transitional period of the early nineteenth-century the 'expected' differences have been found for adult males both in the town of Linköping and in the rural surroundings of Sundsvall. The highest mortality was found among the workers and property-less and the lowest levels in higher social classes. There were no clear, or very small, differences among women.[62] According to contemporary observers, excessive drinking was much more widespread among the lower social classes, and this may have been one background factor for the marked social differentials in mortality for men. It also seems reasonable to suggest that behavioural effects, e. g. an increased disposition for heavy drinking resulting from socio-economic stress in a transitional society, were more pronounced among the non-propertied classes. Probably differences in work hazards and socio-economic conditions also contributed to mortality differences among social classes as well as between men and women. However, a puzzling mystery is why clear social differences in mortality are not discernible among the female population, as particularly married men and women to a large extent shared the same living conditions. This rather supports the idea that factors primarily affecting male health, e. g. excessive drinking or certain work hazards, were of great importance for producing social differences in mortality, alternatively (or even in addition), that men were more susceptible to socio-economic stress effects.

In contrast to the results from the early nineteenth-century, evidence from the towns of Sundsvall and Linköping during the later part of the nineteenth-century rather points to higher alcohol-related death rates among middle class men than male among workers, with no significant social differential in total mortality.[63] The absence of clear differences between social classes does not, however, eliminate the possibility of differences between specific occupational groups. It is well known from the literature that collective drinking was highly integrated in certain groups of male workers, such as craftsmen, sailors and dockers.[64] According to contempo-

62 Linköping 1805–1848: J. Sundin, 'Gender and Mortality in Sweden 1750–1900: Results from an Ongoing Project', in *New Countries and Old Medicine* eds. L. Bryder and A. Dow, (Auckland, 1995); Rural Sundsvall 1803–1859: S. Willner, 'Sex and class differentials in mortality in Sweden during the two last centuries', paper presented at the Social Science History Association Annual Meeting in Pittsburgh (2000).

63 Sundsvall: S. Edvinsson, *Den osunda staden. Sociala skillnader i dödlighet i 1800-talets Sundsvall* (Umeå, 1992); Linköping: S. Willner, *Det svaga könet? Kön och vuxendödlighet i 1800-talets Sverige* (Linköping, 1999), 204.

64 L. Magnusson, *Den bråkiga kulturen. Förläggare och smideshantverkare i Eskilstuna 1800–1850* (Stockholm, 1988); M. Huss, *Alcoholismus Chronicus eller Chronisk Alkoholsjukdom*, II (Stockholm, 1851), 172–173; K. A. Tengdahl, *Material till bedömande af hamnarbetarnes i*

rary data from Danish towns and the annual reports of the Registrar General in England, alcohol-related deaths, as well as total mortality, were clearly higher among working class men in general and for certain occupational groups in particular: for example, unqualified workers and occupations handling alcoholic beverages.[65]

In the light of this international evidence and with regard to the scarcity of Swedish data regarding social differentials in mortality, we have to be cautious with more definite conclusions. On the basis of our present knowledge, a reasonable conclusion is that clear social differences in mortality among adult males probably existed in early nineteenth Sweden, meaning higher death rates for lower social classes than for higher. Excessive drinking, presumably stimulated by socio-economic stress among the proletarians, contributed to this pattern. During the industrial breakthrough in late nineteenth-century (compared to the pre-industrial period) there were relatively small or non-significant social differences in male mortality in general or in alcohol-related deaths. The growth of an ideal of conscientiousness and temperance among large groups of the working class, as well as the improved standard of living in the long term, are some factors that may explain the absence of pronounced social differences in male mortality in contrast to the pre-industrial period.

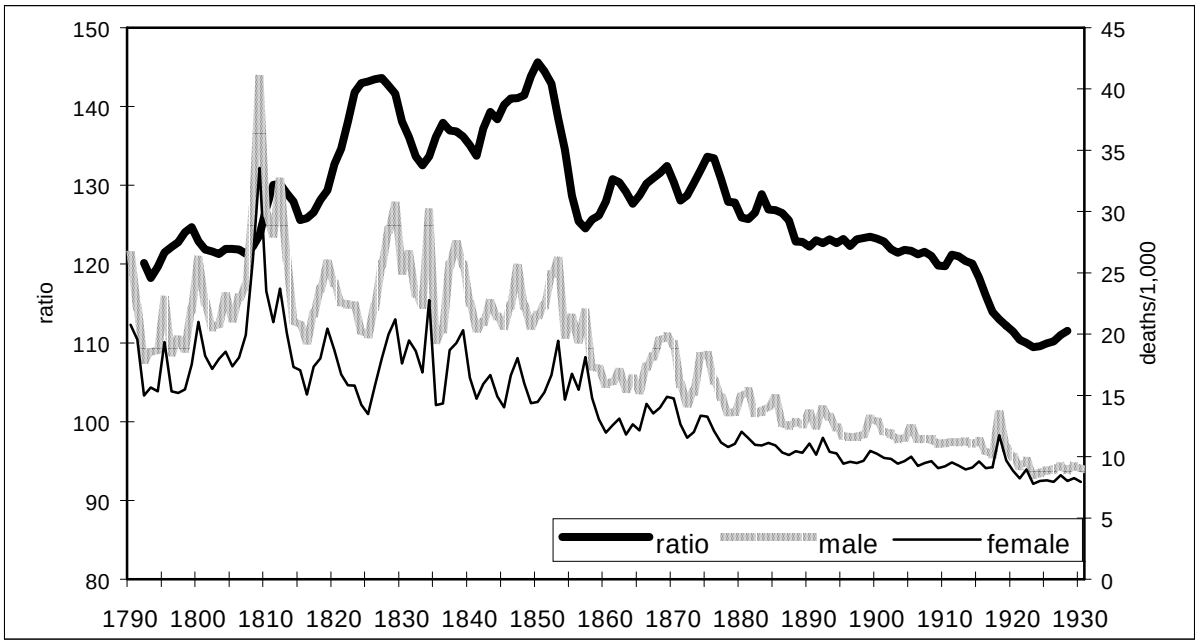
Conclusions

The analyses corroborate the hypothesis of an alcohol boom during the period from 1820 to the 1840s or early 1850s. Results from previous studies suggest that annual fluctuations in per capita consumption of alcohol had a certain impact on adult male mortality in late nineteenth-century Sweden. According to evidence presented here, more substantial changes in aggregated alcohol consumption levels had a clear impact on the male/female mortality ratio in eighteenth and early nineteenth-century Sweden (Figure 8). Increasing consumption led to more pronounced excess male mortality, while falling consumption coincided with a levelling out of sex differentials in death rates. This could be observed during the upswing and fall of the alcohol boom in early nineteenth-century and in conjunction with the reductions of consumption during the First World War.

Stockholm lefnadsförhållanden (Stockholm, 1897).

65 T. Sørensen, *De økonomiske Forholds og Beskjæftigelsens Inflydelse paa Dødeligheden* (Copenhagen, 1884–85).

Figure 8. Sex specific mortality rates and ratio (females=100) for ages 40–59. Sweden 1790–1930. Ratio = moving five-year averages.



Sources: G. Sundbärg, 'Döde efter kön, ålder och civilstånd i Sverige åren 1751–1900 samt Medelfolkmängden efter kön och ålder under femårsperioderna för samma tid', *Statistisk Tidskrift* (1905); *BiSOS A*; *SOS. Befolkningsrörelsen*.

Some evidence from the late nineteenth-century was found supporting the hypothesis that alcohol consumption might also be a central factor in producing differential mortality between certain categories of men, with regard to marital status, social class or urban-rural residence. Men living in urban areas, where the great availability of licensed premises and urban life style factors probably promoted drinking, generally experienced clearly higher death rates than their rural brothers. Unmarried men, presumably on average more prone to drinking than their married counterparts, had substantially higher mortality than married men. In addition, the mortality response to variations in per capita alcohol consumption was particularly strong among urban bachelors. This result supports the idea that alcohol was an important factor in male mortality.

Evidence of social differences in mortality as well as in alcohol consumption is scarce. However, some indications have been found of the heavy drinking among the proletarian groups in the transitional society of early nineteenth-century which in all likelihood contributed to more disadvantageous death rates for working class men than for higher social classes. Improvements in the standard of living and the influence of temperance ideals during the industrial breakthrough may have helped diminish social differences in male mortality.

But what then caused alcohol consumption to increase or decline? The more substantial changes can obviously be attributed to radical administrative measures: the restrictions imposed on production and trade of liquor in 1855 and the intro-

duction of a compulsory individual ration system (*Brattsystemet*) in 1919, preceded by local initiatives and temporary restrictions during the First World War. Concerns regarding the social and medical effects of excessive drinking motivated these legislative reforms, although certainly economic interests also played an important role for the reforms of the 1850s.

The more gradual changes or long term trends in consumption may have been affected by common conceptions and knowledge of the effects of alcohol consumption and general attitudes towards drinking, that to a large extent were influenced and limited by socio-economic conditions and legal regulations. For instance, did the importance of social drinking in certain male occupational cultures and common beliefs about the positive effects of alcohol for coping with hard work and poor living conditions promote high consumption levels in pre-industrial society? The process of proletarianisation and socio-economic stress in the early nineteenth-century, in combination with improvements in liquor production, gave further stimulus to excessive drinking. A growing concern regarding the negative socio-economic and medical effects of excessive drinking, influenced by the propaganda of the new absolutist temperance movement and other branches of the expanding popular movements (the labour movement and the free churches) and the demands of industrial production, contributed to the development of sober and disciplined working class men.

According to previous studies, short-term variations in aggregate consumption levels were clearly correlated with economic fluctuations. Times of crop failures or falling real wages were followed by shrinking alcohol consumption, while prosperous years tended to increase the levels. In the long term, however, the trends during the industrial breakthrough were the opposite; wages increased, while consumption levels declined.

These results provide further strong support for the idea that alcohol consumption had a considerable impact on sex differences in mortality in nineteenth and early twentieth-century Sweden, particularly for middle-aged males. Thus, gender related life style factors appear to have played an important role for sex differentials in mortality in the transitional and industrial society of the past. This is also largely true in late twentieth-century Sweden, in spite of huge differences in socio-economic and cultural conditions as well as in the major causes of death.

The interaction of socio-economic and cultural factors has to a large extent affected both short-term fluctuations and as more long-term trends of alcohol consumption in nineteenth and twentieth-century Sweden. The results of the analyses further suggest that administrative measures, whether by rationing or other regulations of availability or by fiscal policy, have been very effective in regulating consumption levels and consequently have affected excess male mortality.

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