



The Great Irish Famine (1845–52) and the Irish asylum system: remembering, forgetting, and remembering again

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Abstract

The Great Irish Famine (1845–52) saw the Irish population fall by 20% as one million people died and another million emigrated. The Famine occurred at a time when the Irish asylums were growing rapidly anyway, so its precise effects on mental health are difficult although not impossible to study. Three groups merit consideration. First, for adults living through the Famine, starvation and poverty contributed to the continued rise in asylum presentations. Second, babies in utero during the Famine were reported to have accounted for an increase in first admissions when they reached the high-risk age for mental illness (1860–75). Third, the possibility of epigenetic effects (inherited changes in gene expression) as a result of Famine has been discussed as a possible mechanism whereby Famine survivors might have passed on experiences of physical and psychological trauma to their children and subsequent generations in a lasting, biological way. Intriguing as it is, this hypothesis requires further study, as does the distinctly uneven historiography of the Famine in relation to the Irish mental hospitals.

Keywords Asylums · Epigenetics · Historiography · History · Ireland · Mental illness

The Great Irish Famine (1845–52) saw the Irish population fall by 20% as one million people died and another million emigrated [1]. The Famine occurred at a time when asylums for the mentally ill were growing rapidly anyway, so its precise effects on mental health are difficult although by no means impossible to study [2].

In order to explore this historiographically neglected topic further, this paper examines the effects of the Famine on mental health in Ireland in relation to three distinct population groups: (a) adults who lived during the Famine, for whom starvation and poverty contributed to the continued rise in asylum presentations; (b) babies in utero during the Famine, who were reported to account for an increase in first admissions when they reached the high-risk age for mental illness (1860–75); and (c) subsequent generations, for whom the possibility of epigenetic effects (inherited changes in gene expression) as a result of Famine has been proposed as a mechanism whereby Famine survivors might have passed on experiences

of physical and psychological trauma to subsequent generations in a lasting, biological way.

Each group is considered in turn before relevant conclusions are drawn and useful directions for future research outlined.

Adults who lived during the Famine

The nineteenth century saw the emergence of considerable public concern about the challenges presented by the apparently increasing number of people with mental illness in Ireland [3–5] and elsewhere [6–8]. At the start of the century, prior to the asylum building of the 1800s, there was little by way of formal mental health care in Ireland. The avowedly humanitarian approach adopted by William Hallaran in Cork in the late eighteenth century [9–12] was consistent with the approaches of Philippe Pinel in France [13, 14] and William Tuke in England [15], but much greater reform was needed at national level in order to provide systematically for the destitute mentally ill in Ireland.

Throughout the 1700s and early 1800s, many people with mental illness or intellectual disability were admitted to workhouses and various charitable establishments, especially during times of social or economic difficulty [2, 16]. In 1708, the Dublin workhouse built six cells for people with mental

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illness, intellectual disability, or epilepsy [16, 17]. The number of places increased to approximately 40 by 1729, but conditions were very poor: the inmates were chained in foul, unglazed, underground cells with little light or freedom [18].

In 1787, the Prisons Act empowered grand juries (county administrative and judicial bodies) to open lunatic wards in houses of industry, and such wards were to be inspected by the inspector general of prisons [19]. The wards were to house insane persons or ‘idiots’ who had to be certified by at least two magistrates [20]. The initial response to the 1787 legislation was relatively modest, and lunatic wards were established only in Dublin, Cork, Waterford, and Limerick [21].

Against this background, the Dublin House of Industry became a major centre for admission of ‘lunatics’ from all over Ireland: between 1811 and 1815, 754 of its 1179 admissions came from outside Dublin [20]. An 1816 investigation ordered by Robert Peel recommended more extensive provision in Belfast and Cork. In 1858, the *Commission of Inquiry in the State of Lunatic Asylums in Ireland* found that the ‘wretched inmates’ in the Hardwicke Cells, connected with the Dublin House of Industry, were ‘in a most unsatisfactory state’ [17, 22, 23]. These inmates were removed from this ‘disgracefully conducted’ establishment to a ‘new establishment at Lucan’ which was ‘commodious, airy, and cheerful, and every care and attention appeared to be paid to the wants of the inmates, of whom there were ninety-eight at the period of our visit’.

In 1838, the Poor Law Act aimed to relieve the distress of the ‘deserving’ poor in Ireland [1]. The system initially consisted of 130 Poor Law Unions intended to provide accommodation, food, and medical care to the local poor. Despite the establishment of several new asylums for the mentally ill during the 1800s [24], many people with mental illness or intellectual disability still had to enter the workhouses [21], which generated even greater dread than the asylums [18, 20].

By 1844, there were 957 ‘mentally ill’ persons in workhouses or poorhouses on the island of Ireland, and by 1851, towards the end of the Famine, this had risen to 2393 [25]. Conditions in the workhouses were generally very poor and designed to repel [16–18, 26–29], as was vividly outlined in the 1817 *Report from the Select Committee on the Lunatic Poor in Ireland* [30]. Illnesses such as cholera, typhus, and dysentery were common [31].

There was significant public and official concern about the plight of the mentally ill in the workhouses [16] where diagnoses of mental illness were made by medical doctors, many of whom also worked in local dispensaries or local asylums and also made the diagnoses there [31]. As the first Medical Act was only passed in 1858, it is difficult to estimate precisely how many doctors were practicing in Ireland during the Famine or how many were involved in meeting the needs of the mentally ill in the workhouses. What is clear, however, is that the Irish inspectors did not approve workhouses as being suitable for the mentally ill. Nonetheless, workhouses rapidly

became de facto elements of the system of ‘care’ for the mentally ill during the nineteenth century, as patients were routinely admitted from workhouses to asylums and discharged from asylums back to workhouses [18, 31, 32].

Against this background, the advent of the Great Irish Famine (1845–52) saw starvation and deprivation greatly increase social need among the mentally ill [33] and likely lead to worsening of psychiatric symptoms among people with preexisting mental illness, both of which increased pressure on asylums to admit people with starvation-related distress and intensified mental disorder [34].

Analogous evidence for the worsening of mental illness under famine conditions is available from studies of the ‘famine’ that occurred in French psychiatric hospitals between 1940 and 1944, when France was under Nazi rule and rations to French asylums were reduced to levels incompatible with life [35]. This resulted in increased mortality in French asylums and a dramatic intensification of all forms of mental disorder. The philosopher Simone Weil (1909–43), herself in an English hospital at the time, died of starvation attributable, in part, to her solidarity with the conditions endured by her compatriots in France [36]. This deterioration in mental health produced by lack of food in French asylums provides strong evidence that famine conditions have adverse effects on mental health, at least among those with preexisting mental illness.

But did this set of circumstances actually lead to an increase in presentations to Irish asylums during this period? Torrey and Miller suggest that the effect of the Famine on committal rates was minimal, as admissions simply continued to rise steadily during this period anyway [16]. Given the devastation wrought by the Famine and the fact that the asylum system had been firmly established by the late 1830s [37], the continued rise in admissions is unsurprising: in times of unprecedented difficulty and distress, the asylum, at the very least, offered food and shelter for those in need. In 1844, there were 2136 ‘mentally ill’ persons in public asylums on the island of Ireland, and by 1855, this had risen to 3522 [25]. This trend, however, continued well after the Famine: by 1900, the number had reached 16,404.

Therefore, it appears that while the Famine undoubtedly worsened the social and mental condition of the mentally ill in Ireland, it likely increased their rates of presentation primarily to workhouses, and although it also likely contributed to the continued increase in the asylum population, it did not accelerate the latter especially dramatically.

Babies in utero during the Famine

There is little doubt that the Great Irish Famine increased reliance on various forms of social support among the Irish population in general, including those with apparent mental illness, as was noted by doctors at the time [31, 33, 38]. But

did Famine increase the rate of mental illness among babies who were in utero during the Famine, once they grew up?

From a biological perspective, this is entirely possible. For example, certain cohorts of people who were in gestation during the Dutch Winter Hunger of 1944 and born shortly afterwards were found to have twice the risk of schizophrenia in later life compared to those not exposed to famine conditions during prebirth development [39, 40]. Similar results are reported from China following the Chinese famine of 1959–61 [41–44]. These effects are likely attributable to the effects of hunger and stress on the developing brain prior to birth, leading to altered patterns of brain development in childhood and adolescence, and increased risk of schizophrenia in young adulthood [45]. Did the Great Irish Famine have a similar effect?

Using data from the Annual Reports of the Irish Inspectors of Lunacy on the District, Criminal and Private Lunatic Asylums, Walsh found that while there was indeed an increase of 86% in first admission rates for apparent schizophrenia between 1860 and 1875 (when those in gestation during the Famine reached the high risk age for developing schizophrenia), admissions with other diagnoses (chiefly ‘melancholia’) also increased, and similar increases were evident in other jurisdictions over the same period, including France, Germany, the USA, and Canada [46].

In light of these generally increasing admission rates over the course of the 1800s, is there any other way of looking at existing data so as to elucidate further any possible links between the Famine and admission patterns? Although no part of Ireland fully escaped the effects of the Famine, not all counties were affected equally [2]. Counties in the west of Ireland, such as Galway, Mayo, and Roscommon, were particularly badly hit: the death rate in County Mayo between 1846 and 1851 was 60 per 1000, while that in Kildare and Wexford was under 5 per 1000 [47]. Western counties had a particular reliance on the potato crop, so when that failed from 1845 to 1849, western subsistence farmers were especially vulnerable.

Consistent with this, Grimsley-Smith notes a significant and sustained increase in admissions of 20- to 30-year-olds between 1857 and 1868 in Connaught (the area worst affected by the Famine) but not in Ulster, Leinster, and Munster [34]. She also draws attention to the 1914 report of the Inspectors of Lunatics who noted that there seemed to be ‘an exceptional number of insane and idiots derived from the population born during the decade 1841–51’ [31, 48, 49]. The Inspectors concluded that it was ‘probable that children born and partially reared amidst the horrors of the famine and the epidemics of disease that followed it were so handicapped in their nervous equipment as to be weak minded from the start or to fall victims to mental disease later’.

These observations support the idea that in the areas worst affected, the Famine altered early human development in such

a fashion as to increase risk of mental disorder later on, in young adulthood. Before a firm conclusion can be drawn, of course, account must be taken of potentially confounding factors such as changes in committal practices, rates of co-occurring physical illnesses, migration, changes in population structure, declining rates of marriage, and various other factors. There are, in addition, great challenges associated with interpreting diagnostic categories from the past and translating them into contemporary diagnostic categories, so diagnostic labels should not be seen as definitive [50–52].

Ascertainment bias owing to redefinition of diseases and redefinition of the threshold for caseness is another real issue, so it is wise to focus on general patterns and overall figures in their specific historical contexts, rather than changes in apparent rates of specific disorders over time, and even then to remain aware of the possibility of systematic biases resulting from the myriad diagnostic and historical factors relevant to many of these comparisons.

With a continued awareness of these caveats, then, it is reasonable tentatively to conclude that (a) there is a scientific rationale to support the idea of increased rates of mental illness among those who were in gestation or born during the Famine or shortly afterwards, and (b) there is evidence of increased admission rates in this cohort when they reached the age at which the illness now known as ‘schizophrenia’ most commonly develops. These facts raise at least the possibility, if not the probability, that famine conditions had a deleterious effect on the developing brains of these babies and children.

Further work is needed to elucidate in greater depth other factors that might have also acted to increase admission rates during this period, so as to better characterise the potential biological effects of the Famine in increasing risk of mental illness in this group. Further work is also needed to see if this effect, if it occurred, somehow persisted to the next generation; i.e. was the increased risk of mental illness transmitted to subsequent generations who did not themselves experience famine conditions but were still somehow affected by them?

The effect of the Famine on subsequent generations

There is now a moderate amount of evidence that the Great Irish Famine, like the Dutch Winter Hunger, increased risk of mental disorder among persons who were in gestation during the Famine and born during it or shortly afterwards. The key methodological problem in this area lies in using admission rates as approximate estimates of rates of illness, not least because myriad factors, such as family structure, family conflict, emigration, and legislative change also shaped committal practices in post-Famine Ireland [53]. It is against this background that the possibility of transgenerational effects on patterns of illness in subsequent generations has become a subject

of historical and scientific interest [54]. While more research is needed to clarify this further, there are now reasonable grounds for speculating about it.

The possibility of famine having transgenerational effects on health is raised most acutely by research following the Dutch famine of 1944–1945, which found that exposure to famine conditions in early gestation was associated with higher rates of coronary heart disease, raised lipids, altered clotting, and increased obesity in later life [55]. In the Irish context, Kelleher and colleagues examined US Census data from 1850 to 1970 (among other data sources) and concluded that the Irish had increased risk of cardiovascular disease across *at least two generations* following immigration after the Famine [56]. This link related initially to material deprivation and was likely aggravated by an adverse diet in the USA.

Looking at possible transgenerational effects of the Dutch famine of 1944–1945, Painter and colleagues did not find transgenerational effects of prenatal exposure to famine in relation to birthweight, cardiovascular disease, or metabolic disease, but did report that being the child of a person exposed to famine in utero was associated with increased neonatal adiposity and poor health in later life [57]. This suggests that the increase in chronic disease after famine exposure in utero is not limited to the first generation but persists into the second, at least to a certain extent.

Might there be a similar effect in relation to mental illness, whereby the children of those exposed to famine in utero have increased rates of mental illness despite not being exposed to famine in utero themselves? In other words, if the Famine produced an altered risk pattern for mental illness among those exposed to famine conditions in utero, was this altered risk pattern passed on to a second generation?

Again, the key challenge to investigating this issue centres on diagnosis and determining who had mental illness in the late 1800s and early 1900s and who did not. Admission rates in the Irish mental hospitals rose in the early 1900s and declined from the early 1960s onwards [25]. But these trends were subject to so many societal influences other than rates of illness that they cannot be regarded as reflecting epidemiological changes in the incidence of mental illness [2]. Are there other ways to investigate this issue?

Epigenetics is the study of how genes are expressed over time and how changes in the expression of certain genes can be inherited. While genes themselves might not change, alterations to the ‘methyl groups’ attached to them can result from diet, lifestyle, and other environmental influences, and these changes can alter gene expression. Some of these changes, if they occur, might be passed on to future generations. Yehuda and colleagues have presented preliminary evidence of this kind of epigenetic inheritance in their study of Holocaust exposure-induced intergenerational effects on methylation, suggesting the possibility of lasting epigenetic inheritance following trauma [58].

A great deal more research is needed to confirm and characterise the biology of this effect, if it truly exists. Nonetheless, even at this point, it is worth asking if it is possible that the Great Irish Famine produced similar, identifiable changes in gene expression, and, if so, whether such changes are still evident many generations after the Famine and somehow affect risk of mental illness today? In other words, did survivors of the Great Hunger pass on their experiences of physical and psychological trauma to their children and to subsequent generations in some lasting, *biological* way?

Walsh eloquently raises this possibility in the context of mental illness in Ireland and, citing several studies of analogous effects, suggests that epigenetics merit greater attention when studying the effects of the Famine in Ireland [59, 60]. This development is greatly to be welcomed not least because it moves the discussion away from some of the impossibly vague speculation about postulated psychological effects of the Famine on subsequent generations and articulates a biological mechanism that is potentially scientifically testable. While further research is needed to clarify this, there can be no doubt that the biological and medical effects of the Famine on the Irish population have been historically under-studied to date and that more level-headed, pragmatic attention is needed in this area.

Conclusions

The relationship between the Great Irish Famine and the emerging asylums of the 1800s has generally not received the focused attention it deserves in the historiography of Irish psychiatry; it is remembered, forgotten, and then remembered again. While the Inspectors of Lunatics noted the apparent effects of the Famine in increasing the number of people in asylums in 1914 [48], the possible effects of the Famine on asylum usage were largely forgotten until more recent scholarship devoted renewed attention to the matter. It still remains unclear, however, whether historical, sociological, or biological approaches are best suited to exploring this field, or which combinations of these approaches will likely generate the best understandings.

Overall, it is clear that while the Famine undoubtedly worsened the social and mental condition of the mentally ill in Ireland, it likely increased their rates of presentation to workhouses primarily, and although it also supported the continued increase in the asylum population, it did not accelerate the latter especially dramatically. For those who were in gestation during the Famine, there is a moderate amount of evidence that the Great Irish Famine, like the Dutch Winter Hunger, increased risk of mental disorder, but a key methodological problem lies in using admission rates as approximate estimates rates of illness, not least because myriad factors other than mental illness shaped committal practices in post-Famine

Ireland. Interpreting diagnoses from the past and identifying ascertainment bias are other especially challenging aspects of this work.

It is also possible, but as yet unproven, that the Famine had transgenerational effects on patterns of illness many decades later, possibly through changes in the ways genes are expressed rather than changes in genes themselves (epigenetic change). This possible impact of the Famine on mental illness both requires and merits further study, just as the Famine's possible (although likely quite different) impact on the epidemiology of cardiovascular disease has been similarly raised in recent years. These areas require closer study if the true effects of the Famine on physical and mental health in Ireland are to be established.

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Compliance with ethical standards

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