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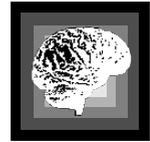
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Abstract

A history of psychiatry cannot step back from the question of psychiatric diseases, but the field has in general viewed psychiatric entities as manifestations of the human state rather than medical diseases. There is little acknowledgement that a true disease is likely to rise and fall in incidence. In outlining the North Wales History of Mental Illness project, this paper seeks to provide some evidence that psychiatric diseases do rise and fall in incidence, along with evidence as to how such ideas are received by other historians of psychiatry and by biological psychiatrists.

Keywords

Disease, historical epidemiology, medical progress, post-partum psychoses, schizophrenia

The twenty-fifth anniversary of the *History of Psychiatry* provides a wonderful opportunity to celebrate its editor who has had a huge influence on all aspects of the history outlined below.

From background to foreground

Influenced like many of my generation by the writings of Laing, Szasz, Illich, Jung and Freud, I studied medicine to do psychiatry. At the time, research was becoming mandatory for anyone hoping to engage with the field. I chose to work on the serotonin system. But this was working on the mind as much as the brain; the serotonin system brought into view by LSD rather than the one that Prozac would usher in; biology as a source of variation and individuality rather than standardization. This background made me acutely aware of an emerging biobabble, biomythologies, and the rhetoric in claims made by what later came to be called biological psychiatry.

I was newly perched at a laboratory bench when the controversy blew up about whether schizophrenia increased in frequency in the nineteenth century. Faced with a clear increase in hospitalizations for insanity, Torrey (1980) and Hare (1981) argued that an infectious or other trigger must have been at work. I instinctively took the opposite side. German Berrios's cautionary note (1981) about the changing meaning of mania rang true, and I have spent a great deal of my career since then dealing with the shifting meanings of terms like neurosis, psychosis, depression and mania.

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I have spent even more time supporting an argument put forward by Andrew Scull (1984) to account for the increase in hospitalizations, namely that health systems attend to our ailments to secure their own health.

However, even the biological psychiatrists who displaced social psychiatry in the 1980s were inclined to see schizophrenia as emblematic of the human condition rather than a disease that might rise and fall. Tim Crow (2000) argued that the genes responsible for language gave rise to schizophrenia. Geneticists and neuroscientists have not been inclined to think schizophrenia could have recently appeared and might as soon disappear.

The possibility that a disease might appear or disappear is the purview of some doctors and more historians who deal in questions about what diseases are. But even for a doctor and historian of medicine, the idea that a psychiatric disease might rise and fall in frequency can be difficult to accept. In the 1980s, prior to working on the history of psychopharmacology, I looked at annual reports from the superintendents of Irish asylums who, facing a tide of insanity that rose higher in Ireland than anywhere else in the world (Healy, 1991), for the most part dismissed claims that there was a real increase in insanity. Most Irish people knew what was happening – patients wintered in facilities put in place by the British. I readily accepted such suggestions. There had to be a mundane explanation like this to account for the fact that in the face of the highest rates of incarceration ever recorded, mental illness never featured in Irish literature, one of the richest in the world.

This profound bias on my part should have alerted me to the fact that others might not be sympathetic to the message from North Wales research in historical epidemiology pointing to a rise and fall in the rates of illnesses and a lack of therapeutic progress in many areas of psychiatry's heartlands. Against a background of difficulties of getting into print articles on the adverse effects of drugs, it is something to be able to say that I have never had reviews as openly vituperative as the reviews of some of these historical articles. History is clearly no ivory tower enterprise. Its practitioners are passionate and committed. One historian reviewing a paper whose data demonstrate a rising admission incidence for schizophrenia in the nineteenth century and a declining admission incidence latterly was adamant that nothing we could do would permit him to recommend publication. The paper would have been rejected had the editor not suggested disregarding this review.

Anonymous reviewers of another paper in one of medicine's most prestigious journals have argued that because some black males were incarcerated in US mental hospitals in the 1960s with a diagnosis of schizophrenia, we could never be sure that any historical diagnoses from case-records were correct. Or faced with an absence of suicide in schizophrenia a century ago, reviewers have suggested this can only have happened because patients were permanently strait-jacketed and secluded. Responding that all such patients demonstrably spent 99% of their time on hospital farms or in sewing rooms or kitchens has cut no ice with editors or reviewers.

It would seem that a number of important nerves are being touched here. There are methodological issues to do with the use of clinical records. There is resistance to any undermining of the idea of progress. There is a fundamental disagreement about the nature of disease.

The North Wales Hospital records

The North Wales asylum made its way into my life by accident when the history department at Bangor secured a grant to look at the social impact of the Denbigh asylum. This enabled Pam Michael to sample the records. Among the striking features were the differences in the way people declared their madness a century ago – then they tore off their clothes and escaped through windows, now they never do this.

As an ancillary project, with colleagues I entered all the admissions from North West Wales for 1894–1896 and began to collect admissions from the corresponding district general hospital (DGH)

unit in 1996 (the Hergest Unit). My fascination with the meaning of behaviours like this gave way to an interest in quantifying them, and this led to two quite separate approaches to the material. Pam Michael (2003) wrote a wonderful history of the hospital. With colleagues, I began to quantify admissions – even as at the same time I was writing books on the malign effects of the informational reductionism found in much of the quantification now encroaching on clinical practice and healthcare. Contrary to expectation, we found 15 times more admissions per annum, and 3 times more compulsory detentions now than a century ago (Healy et al., 2001). This did not pose a serious intellectual challenge in that 85% of admissions were recurrences. The interest lay in the expansion of mental health systems to patients not admitted a century earlier and in how the system conceals its reach.

To explore this further, we entered all records from North West Wales between 1875 and 1924 and built a database from 1994 to 2010. We had a crash training in epidemiology from Ezra Susser of Columbia University, who made us aware that we were comparing admission incidence rather than disease incidences and that to compare outcomes would require tracking outcomes over 1, 3, 5 and 10 year periods in both contemporary and historical periods.

Methodological and meta-methodological issues

Although the work that has come out of this project now constitutes the largest body of historical epidemiology in existence, the research has never been grant-funded. History grant-giving bodies, it seems, have not been able to see the value in quantifying records or in having a contemporary comparator, and epidemiologists cannot see the value in our historical records. Both groups worry about diagnoses made on the basis of records from a century ago, even though the availability of an entire clinical history gives confidence that the retrospective diagnoses these records support are more accurate than the diagnoses given to patients at admission today, the diagnoses that end up in administrative databases, or the sampling of patients in communities by means of diagnostic interviews (Horwitz and Grob, 2011).

The reviews of our papers bring out some of the issues at play. One is the argument offered that when black men in the USA in the 1960s could be detained compulsorily and diagnosed as having schizophrenia, can we be certain that our records do not reflect comparable misdiagnoses? Other versions of this argument claim that women with unwanted pregnancies were incarcerated in mental asylums and diagnosed as schizophrenic.

Several points can be noted. By the 1950s, admission to mental hospitals had become a much looser affair than it had been in the period 1875–1924. There has furthermore been extensive work on case-records at this point (Andrews and Scull, 2002; Turner, 1992). While there have been several famous examples of individuals who have protested their incarceration, those working on historical records from this period have not suggested that admissions were inappropriate. In the North Wales records, we found that clinicians were sensitive to issues of whether this patient was ‘a knave or a fool’ and were very reluctant to admit knaves who, if admitted, were quickly discharged. There was not a single admission for unwanted pregnancy or ethnic factors, and in cases where there has been domestic or other abuse, these issues are clearly flagged up, making it possible to take such factors into account when making a retrospective diagnosis.

Second, our data are not based on either cross-sectional diagnosis or the diagnoses of clinicians at the time. The diagnoses have been based on the entire clinical record. A re-reading of these records might be expected to weed out any inappropriate admissions. Indeed it is precisely this ability to come to a different diagnosis based on the full case-record that has enabled modern historians to come to retrospective conclusions that in some cases there have been inappropriate admissions at different points in time.

As regards diagnoses, the question is whether it is possible to allocate patients on the basis of complete case-records into large diagnostic bins such as non-affective psychosis, affective disorders, dementing disorders, mental handicap and organic disorders. Claims that it is not possible to do this are quite extraordinary, and run in the face of the notion of a disease entity. Prior to the delineation of disease entities in the middle of the nineteenth century, patients with illnesses had complaints which their doctors managed according to the wisdom or the fashions of the time. But a disease entity is supposed to have a relative invariance. The disease may wax and wane in virulence, treatments may modify its course and associated conditions may also contribute to the outcome, so the clinical manifestations may differ, but the disease has a continuity that underpins a certain commonality of clinical presentations.

We have adopted the assumption that there are disease entities within the psychiatric domain. It has been a surprise then that the most vehement responses have come from those with some affiliation to biological psychiatry who have argued that it is simply not possible to compare patients of a hundred years ago with now. This seems to be a case of biological psychiatrists putting forward an argument that threatens the very basis for biological psychiatry. What they are probably responding to is the fact that our records do not demonstrate progress.

Some readers who do not have access to our historical and contemporary databases may legitimately wonder whether our results stem from diagnostic leakage or some biased use of a diagnostic cookie cutter on the dough of society. In fact the findings reported below hold, whether we utilize the entire sample of both affective and non-affective psychotic disorders, or if we go for fine-grained diagnoses, as in the case of post-partum psychoses or schizophrenia.

One of the biggest sources of difficulties lies in the fact that the outcome data we report do not demonstrate progress. The hope had been that delineating clear-cut disease entities was an important step in the delivery of better outcomes. It would seem for some that if the data do not support this, then the data must be wrong. This point is elaborated below.

The main findings

Moral treatment

In line with 1960s thinking that saw psychosis as a meaningful expression of human conflict, we have demonstrated in the 1875–1924 records that certain schizophreniform psychoses can be precipitated by social dislocation and that these acute and transient psychoses have a good prognosis (Linden et al., 2010).

We have mapped out the clinical course of melancholia, which accounted for 25% of admissions (Harris et al., 2011; Harris et al., 2013), and the post-partum psychoses, which accounted for 1 in 10 admissions from women of child-bearing years (Tschinkel et al., 2007). We have shown that with the right moral and hygienic input in asylums these disorders along with the acute and transient psychoses remit. If schizophrenia was uncommon in the early to mid-nineteenth century, then our data suggest that building asylums in the expectation that their moral economy would lead to recoveries in most of the patients then being admitted made eminent sense.

Diagnosis counts

The post-partum psychoses study brought a major surprise. When comparing modern and historical databases, it is clear that classic post-partum psychoses – that is, disorders that arise *de novo* in women with no prior history of mental illness and that often have a cycloid clinical presentation – have vanished (Tschinkel et al., 2007). The data were strikingly clear, and we also had an external

validation. The Hergest Unit opened in 1993. Based on the best available data at the time for rates of post-partum psychosis, this and two other DGH units that opened in North Wales in the wake of the closure of the asylum had mother-and-baby units linked to them. All 3 mother-and-baby units have now closed.

Post-partum psychosis cannot be managed in the community – it is too severe. De novo onset disorders cannot be pre-treated. There is no continuity between post-partum psychoses and post-natal depression whose rates are rising. There is therefore no ready explanation for the disappearance of this condition.

The residual post-partum psychoses, those that involve post-partum episodes of a pre-existing disorder, have been co-opted by the spreading bipolar disorder hegemony. Given that bipolar diagnoses are being made increasingly often, this conceals the disappearance of classic post-partum psychosis. Those who do not know the story will find many statements to the effect that post-partum psychoses are a subset of bipolar disorder and, as bipolar disorder is more commonly diagnosed than ever, they will miss the fact that post-partum psychosis has disappeared.

As intriguing as this disappearance is, the response to a draft of the article by Tschinkel et al. entitled 'Post-partum psychosis: a vanishing disorder?' was equally interesting. The experts in post-partum psychosis were not amused. We have not had a single reprint request for the published article, and have only once been asked to present the data at a meeting.

No one, it seems, wants illnesses to disappear. Where are the discussions in the history of psychiatry about the disappearance of catatonia? Our database brings out its disappearance and moreover makes it all but certain that it is the coincidental use of barbiturates and later benzodiazepines that have brought this about (Chalassani, Healy and Morriss, 2005).

The history of psychopharmacology is a new field. It should begin with the barbiturates rather than chlorpromazine. Is the conventional story the result of an accidental scotoma or indicative of a social bias in the history of psychiatry? Many recent books about the benzodiazepines and related drugs have gone along with a portrayal of these drugs as instruments for the repression of suburban housewives in the 1960s, even though they were advertised in the 1960s as of benefit to salesmen. None of these histories considers whether the disinhibiting effects of the benzodiazepines (they undo conflict avoidance and conditioned fear) that can be expected to help salesmen might have also helped women to fling off the conditioning of patriarchy. In contrast, the major tranquillizers now the biggest sellers in mental health will condition their takers into an acceptance of the status quo.

In the face of the many challenges to its legitimacy, one might imagine psychiatry would want to point to the elimination of a severe disorder, albeit for unknown reasons, and the astonishingly effective treatment of another that used to be among the most dreaded of mental illnesses. One might have imagined the supporters of DSM-V would want to be able to say to the public: 'see, diagnosis counts'. Can the history of psychiatry afford to shun questions of diagnosis and treatment? While genetic predispositions and social dislocations will probably always be with us, their interplay, as in tuberculosis which has a greater heritability than schizophrenia, gives rise to diseases that come and go.

The rise and fall of schizophrenia

No one argues with claims that the first descriptions of the mental states characteristic of schizophrenia do not go back beyond 1810, or that the first descriptions of the distinctive clinical course of this disorder emerged in the middle of the nineteenth century. Nevertheless the possibility that schizophrenia might have emerged in the nineteenth century and might equally disappear has not seriously engaged the imagination of the field.

Ironically, because of a study funded by Fuller Torrey to search for viral markers in new onset psychoses, I embarked on weekly ward visits in the Hergest Unit to log new admissions. These visits led to a strong impression that there were far fewer new patients with schizophrenia than expected. All staff noticed the change but none could explain it. Initially the standard joke that patients disappear when a study starts was as good as any explanation. When the lack of patients extended into a second year, we interrogated our databases more closely and found that the drop in the incidence of first admissions was historically unprecedented. We had fallen below levels last seen in 1876. Since then, close to 50% of the beds in the contemporary DGH unit have closed.

We have collected more data, rigorously standardized our populations and sifted the findings in a number of ways. The contemporary results are clear cut; schizophrenia first admissions seem to be vanishing. There is no administrative or clinical explanation why this should be happening. This disappearance is complemented by data from our historical cohort pointing to a rising admission incidence for schizophrenia in the nineteenth century; admissions for melancholia, acute and transient psychoses, post-partum psychoses or manic-depressive illness did not increase during this period, other than pro rata with changes in the population.

The nineteenth-century rise in incidence and twenty-first-century drop are independently important. The nineteenth-century rise needs scrutiny as this database is unlikely to be replicated, and the data are likely to stand as a brute fact for some time. It is possible to argue that the twenty-first-century drop, although historically unprecedented, has only lasted for 10 years to date, but this ignores the bed closure and a shared sense of change. It also ignores the fact that somewhere in the twentieth century in an ethnically homogenous and geographically confined population in North Wales there was a change in the gender ratio found in schizophrenia from an equal incidence in both sexes, attested to by textbooks from Kraepelin onwards, to double the incidence in males compared with females, a finding supported by all modern epidemiology.

The disappearance of a disease should root it in history. Our discomfort with diseases disappearing may stem in part from a concern with loss of livelihood, but there are suggestions from the way psychosis has been viewed that we think of it as our ancestors once thought of epilepsy or other disorders – as meaningful (a manifestation of sin). Alternatively, when faced with these data some people seem to hear a message that insanity is disappearing and this seems as self-evidently wrong to them as claims that respiratory disorders in general rather than a specific disorder such as tuberculosis might disappear.

While troublesome in some ways, the disappearance of schizophrenia opens up possibilities for the history of psychiatry. One lies in asking questions about what social, environmental or other factors might have driven these changes. A rising incidence at one point, falling incidence at another and changing gender ratios in between constrain the answers we might give to this question.

A second lies in how we imagine asylums and credit the intentions of the original asylum builders. If the most devastating of psychiatric illnesses only emerged in the nineteenth century, have we done enough to convey how this impacted on sufferers, carers, society and the medical profession? Simply asking this question appears to demonstrate that our current histories have a bias in the portrait they paint. The data suggest that, rather like the appearance of AIDS in the 1980s, the mid-nineteenth century saw the emergence of a terrifying new spectre – schizophrenia – an insanity that did not resolve.

Feeding the historical imagination

Even thinking about what might account for these changes opens up perspectives for future histories. The median age at first admission among our contemporary cohort of patients was 27 years of

age. If the propensity to schizophrenia arises in utero, infancy, or early childhood, as is commonly suggested, this age of admission suggests looking for factors that might have been changing between 1975 and 1985.

The late 1970s to mid-1980s was a time of growing awareness of the risks of neonatal asphyxiation. During this period, Caesarean section rates rose from less than 5% of births to over 10%; the use of rotational forceps declined rapidly and breech births and mid-cavity deliveries became rare. A decade later there was a rise in the use of epidural procedures for Caesarean sections that may have also have reduced risks for both post-partum psychosis for mothers and schizophrenia for their children.

This explanation has links to the introduction of anaesthesia in the 1840s and its rapid extension to obstetrical practice which led to an increasing use of forceps and related procedures in the second half of the nineteenth century. While ensuring more babies were born alive, this change in practice led to an heroic ethic in obstetrics with mid-cavity deliveries of poorly oxygenated babies.

Another possibility lies in changing levels of lead. Lead has long been recognized as neurotoxic. Children are affected at much lower levels than adults, with the developmental effects most likely for exposure under two years of age. Investigations of the role of prenatal exposure to lead in the development of adult onset psychiatric disorders also provides support for the hypothesis that disruption to the developing central nervous system might be linked with schizophrenia.

Comparing the admission incidence of schizophrenia in North West Wales alongside a nineteenth/twentieth-century lead exposure timeline shows schizophrenia incidence tracking lead exposure. While lead occurs naturally, exposure to lead increased significantly in the nineteenth century. Rapidly increasing urban populations demanded piped water supplies, and lead was commonly used. In 1813 the first food canning factory was established and the cans were sealed with lead solder. As mechanization of the process improved and costs reduced, Victorian Britain demanded increasing quantities of canned food. Lead was added to nineteenth-century cheese, confectionery, wine, beer, mustard, snuff and some medicines. It was added to paint from the mid-nineteenth century in ever-increasing amounts through to 1955. Finally, in the 1920s lead was added to petrol/gasoline. The harmful effects of exposure to lead were recognized after 1950. In 1970 the use of lead piping was prohibited in new homes; its use in household paints was prohibited in the USA in 1977 and in Europe in 1992. Unleaded petrol was introduced in 1980, and by 1995 leaded fuel accounted for only 0.6% of total sales.

North Wales was a centre of British lead production and had heavy concentrations of lead in land samples. Studies of blood-lead levels in Wales during the 1970s and early 1980s showed falls of 3% to 5% per year, a finding mirrored by other research in the UK and other countries. Finally, several studies from the USA point to increased lead loading in patients with chronic psychoses and several suggestions have been made about possible mechanisms (Guillarte, 2009; Opler et al., 2008).

There are other possibilities. The role of lead inevitably brings to mind the association between treatments with mercury and dementia paralytica – was the treatment an integral part of the clinical presentation? Another factor that rose and fell roughly in the right time-frame was smallpox vaccination. At a time when vaccinations are becoming far more common, this point is of some considerable interest.

The disappearance of a disease can therefore feed the historical imagination in novel ways. Our data suggest that what we have called schizophrenia refers to a final common pathway for a number of disorders during this period – chronic psychosis. Ironically, if this is the case, the disappearance of schizophrenia brings into view a series of remitting schizophreniform and paranoid psychoses that seem more likely than schizophrenia to bear a meaningful relationship with either personality or social factors.

History and data

From our data we are able to demonstrate conclusively that patients in the early years of treatment for schizophrenia are more likely to die today than they were historically (Healy et al., 2012a, 2012b). Today they die specifically from suicide. Faced with these data and the implication that suicide is not inherent in schizophrenia, biological psychiatrists have insisted this can only be because, historically, patients were strait-jacketed. It has proved impossible to overcome this pre-judgement by pointing out that almost all patients with schizophrenia spent the vast majority of their time on the asylum farm or in the sewing rooms, or that hospitalized melancholic patients did commit suicide in the same asylums where patients with schizophrenia did not.

When people 'do history', even if they do not have comparative data, they always make interpretations in reference to some contemporary state, if only to make sense of what they report for their readers. What they find will often contrast with the views of some who use 'history' to buttress a contemporary view. The example discussed in this article brings home the fact that what happened in history counts and perhaps also shows the need for historians to speak up.

In medicine, the bedrock data are patients. Data of the kind being dealt with here are abstractions. These abstractions need to be taken and worked back into living images of nineteenth- and twentieth-century patients with mental disorders that can inform policy, culture and art. The wrong images of our past will compromise our future.

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