Huntington's disease greatly underestimated in the UK

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The prevalence of Huntington's disease (HD) is substantially underestimated in the UK, with significant implications for those affected, the healthcare system, and research. New estimates of prevalence, and their implications, are discussed in a Comment published Online First and in an upcoming *Lancet*, written by Professor Sir Michael Rawlins, who is the Chairman of the UK National Institute for Health and Clinical Excellence (NICE), but writes in his capacity as an Honorary Professor of the London School of Hygiene and Tropical Medicine, UK.

HD is a progressive neurodegenerative disorder, which affects muscle coordination and leads to cognitive decline and dementia. Symptoms typically become noticeable in the fourth decade of life. HD is the most common genetic cause of involuntary writhing movements (called chorea), and is more common in people of Western European decent than in those from Asia or Africa. The disease is caused by a dominant mutation of either of a person's two copies of the Huntingtin gene, which means any child of an affected parent has a 50% chance of inheriting the disease. In rare situations where both parents have an affected gene, or either parent has two affected copies, this risk is greatly increased.

Previous studies based on 15 locations in the UK produced an estimated prevalence of 6.7 cases per 100,000 population. However, Professor Rawlins points out that the Huntington's Disease Association (HDA)—a not-for-profit organisation that provides services for patients with the disease and their families in England and Wales—currently cares for

6702 people with symptoms. Professor Rawlins says: "Specialist neurologists have referred all of them, so their diagnoses can hardly be in doubt. From these numbers alone, the minimum prevalence in England and Wales must therefore be at least 12•4 per 100 000."

Since the HDA does not cover all areas of England and Wales, Professor Rawlins says even this 12•4 per 100 000 estimate must be an underestimate. He believes there are several factors underlying the difficulty in reaching a true estimate. First, until a genetic test (discovered by Nancy Wexler and colleagues) recently became available, the diagnosis was based entirely on clinical features. Second, and probably most importantly, those affected might try to hide the true nature of this familial trait, even from their own family doctor. Professor Rawlins says: "As well as having profound implications for the families with a member who has Huntington's disease, the stigma has negatively affected research, particularly studies that have sought to investigate epidemiology and, most especially, prevalence... Huntington's disease is the only genetic condition for which the insurance industry loads those at risk. The stigma—to the insurance industry's eternal shame—is not only societal but also actuarial."

Professor Rawlins says there are two reasons why reliable estimates are needed: "First, the UK National Health Service (NHS) needs to ensure that there are appropriate services available now—and in the future—to care for those living with the disease and
for their families. Second, combining those individuals with symptomatic Huntington's disease with those at risk emphasises the importance of encouraging research that will ultimately lead to treatments that will arrest progression. Such treatments, even if only partly effective, would need to be started long before the appearance of symptomatic disease. By the time symptoms appear, there are already substantial neuropsychiatric changes, and prophylactic therapy in those at risk, and who carry the genetic abnormality,

would be essential even though at present we do not know when treatment might best be started."

He concludes: "To promote greater understanding and awareness of Huntington's disease, an All Party Parliamentary Group is being formed, under the chairmanship of Lord Walton of Detchant. With the organisational skills of the former NBC news and war reporter Charles Sabine—who is not only himself at risk but who also carries the abnormal
gene—this Group aims to eradicate stigma, promote research, and chivvy the NHS to provide the best possible care."

In a linked Art of Medicine feature, Alice Wexler, sister of Nancy mentioned above, discusses the history of prejudice against HD, and refers to various narratives which undoubtedly played a part in strengthening hostile perceptions of families with HD, within medicine as well as outside it. Wexler currently works at the UCLA Center for the Study of Women, Public Affairs, Los Angeles, USA. She says: "[Those narratives] helped legitimise the notion that certain classes of people were undesirable as citizens. They bolstered stereotypes of individuals with disabilities as aggressive, violent, criminal, and dangerous, while adding to the stigmas associated with alcoholism, mental illness, and cognitive impairment. They gave a rationale for doctors to endorse sterilisation or even celibacy for people at risk of Huntington's, and encouraged medical indifference toward the care of those with the disease."

She adds: "Prejudicial representations of Huntington's disease also encouraged flawed biomedical research, such as the 1951 study published in Science claiming (falsely) that those with the mutant Huntington's gene had vastly more children than their siblings without it. Only in the civil rights era of the 1960s and 1970s, with the repudiation of eugenics and the advent of the first lay associations of families

affected by Huntington's disease in North America and in Europe, did research priorities and representations begin to change."

She concludes: "Medical histories matter. Whatever the truths of the 17th century, it is clear that some 20th-century scientists and clinicians created historical narratives that
deepened the stigmatisation of people with Huntington's disease in their own time—and of other psychiatric and neurological conditions as well. Confronting the eugenic origins and harmful psychological and social legacies of these narratives cannot undo the past, but I believe it can help us change the conditions that perpetuate stigma and shame in the present."

A linked News item in The Lancet Neurology, written by freelance journalist Laura Spinney, discusses the prevalence figures in the context of whether or not HD would be a rare disease in various countries, and how this affects manufacture of possible treatments. She concludes: "In the European Union, a rare disease is defined as one that is life-threatening or chronically debilitating, with a prevalence of 50 or fewer cases per 100 000. Therefore, even if the revised prevalence of Huntington's disease in the UK is twice as high as that with which the UK government is currently working, the disease will continue to be defined as rare. Patients could now begin to see a difference, however, as the new All Party Parliamentary Group strives to ensure that they have access to the health care and political representation that is due to them."

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