

Annual Highlights

Epidemiology is the study of the distribution of diseases across place and time. By examining where and when diseases occur, epidemiologists can define the *burden of diseases* in society and generate clues as to what *factors might cause disease*. In our second year of operation, the Niels Bohr Professorship in Psychiatric Epidemiology has made substantial progress.

Our team has previously discovered an association between neonatal vitamin D deficiency and an increased risk of schizophrenia. In 2018, we published an innovative study that combined both neonatal vitamin D concentrations and genetic information – we found that low vitamin D was associated with a 40% increased risk of schizophrenia, and that this risk was independent of genetic risk. The study attracted media attention in Denmark and internationally. Our team based at the Staten Serum Institut has recently developed an improved technique to measure vitamin D in archived neonatal samples. With this new method, we can now examine the association between neonatal vitamin D deficiency and risk of a wider range of mental disorders (e.g. autism). We have commenced the analysis of over 80,000 blood samples.

People with one type of mental disorder often have additional types of disorders (called comorbidity). Our team has developed new, comprehensive methods to describe comorbidity. Recently, we published our “foundation” paper for this program of research. This study has set a new benchmark for psychiatric epidemiology. It is the largest study of its kind (83.9 million person-years), with a detailed interactive website and educational videos. We believe that this study can guide future research and clinical practice. The study attracted attention in the Danish media, and from the international research community (it had over 12,000 views and 2000 full PDF downloads within two months of publication). Related projects are now well advanced.

In 2018 we published an editorial about the importance of accurate measurement of the burden of health problems. The title of this article was “If you can’t count it, it won’t count”. One of the major themes of our work is the topic of health metrics. We have studies underway that will look at better ways to measure premature mortality related to mental disorders. In addition, we will be measuring the costs of mental disorders in Denmark – this will be the largest and most comprehensive study of mental health economics ever undertaken.



In 2018 we held a successful symposium at Aarhus University. The conference was attended by over 100 delegates, from Denmark and 12 other nations. The meeting show-cased key themes from the Niels Bohr Professorship, including the work of our colleagues in the Global Burden of Disease (Harvey Whiteford), and modern genetics (Peter Visscher and Naomi Wray). Videos of the conference presentations have been viewed over 1900 times.

We have made key appointments in our new team that will combine genetic and environmental risk factors. In particular, we are delighted to welcome the respected statistical geneticist, Dr Bjarni Viljhmsson to lead a new team in our centre. His group will grow in the years ahead – the role of genetics in modern research is a fast-paced area. We expect that by investing in this field of research, Denmark can remain at the forefront of modern psychiatric epidemiology.