Heléne E.K. Sundelin, a neuropediatrician currently working at the University Hospital in Linköping. After obtaining her medical degree in 1991 from Friedrich-Alexander-Universität, Erlangen-Nürnberg, Germany, she did her internship in Pediatrics at the University Hospital in Linköping, Sweden. From 1998 she worked at St. Olav’s University Hospital in Trondheim, Norway until 2011 when she returned to Sweden. First, she was employed at the University Hospital in Örebro and 2015 she moved to Linköping. Heléne’s special interests are epilepsy, neuropsychiatry and stroke.

The pathogenesis of neurological diseases, and the functions executed by the brain, are dependent on the networks within it. An injury or dysfunction in the brain will have influence on these networks, and thereby consequences for numerous of its functions and further implications for the whole body. Also, diseases not directly involving the brain will influence its development, especially those limiting motor functions, like for example Ehlers-Danlos Syndrome, which has consequences for neurodevelopment and many of the same comorbidities as autism, cerebral palsy and epilepsy.

This thesis explores the impact of comorbidity and complications in neurological diseases and Ehlers-Danlos Syndrome. The studies are all historical observational population-based cohort studies with prospectively collected data from national registers. This thesis found proofs of a bidirectional association between epilepsy and autism, an increased risk of autism in individuals with epilepsy and their relatives and that epilepsy is a risk factor for traffic accidents. Further findings are an increased risk of moderately preterm birth and pre-eclampsia in maternal autism, of preterm birth in maternal cerebral palsy and no increased risk of adverse pregnancy outcome in women with Ehlers-Danlos Syndrome.