IIH Project Analysis Plan.

IIH in Wales

Defining cases

1. Get the cohort of people with IIH by finding all people with with READ codes X and ICD-10 codes between 2003 and 2018.
2. Using our uploaded set of probable and definite cases of IIH, calculate the sensitivity of this method.
3. If possible get lists of people with IIH codes from NHS IT and then get an estimate for specificity of using ICD-10 codes
4. Get an estimate for how many cases are incorrectly coded with idiopathic intracranial **hypo**tension – i.e. their hospital code is for idiopathic intracranial **hyper**tension
5. See what difference excluding potential secondary causes makes i.e. exclude people coded for IIH with an additional diagnosis of venous sinus thrombosis, hydrocephalus, brain tumours or sub arachnoid haemorrhage. (see Mollan et al 2019)

Characteristics of patients

For all patients, get a table showing breakdown of cases by:

1. Age
2. Sex
3. Deprivation
4. BMI

Drugs prescribed to patients:

1 Acetazolamide – time after diagnosis to initiate therapy, when discontinued, what proportion of patients stopped acetazolamide

1. 2nd choice disease modifying drugs: topiramate, zonisamide, diuretics. (what proportion of patients were prescribed these)
2. Antidepressants: SSRIs and SNRIs (not tricyclics)
3. Migraine/headache drugs: propranolol, sodium valproate, gabapentin, pregabalin, nortriptyline (and other tricyclics), candesartan, pizotifen
4. Perhaps chord diagrams showing different combinations comparing beginning to end of study.

Epidemiology

1. Get prevalence and incidence of IIH by sex and WIMD quintile for each year.
2. Graphs of the above, comparing with rates of obesity in Wales.
3. Get adjusted rate ratio for IIH and deprivation, correcting for obesity rates if possible.

Healthcare burden

1. Survival analysis with IIH surgery as an endpoint: [Ventricular-peritoneal (VP) shunt, lumboperitoneal (LP) shunt, optic nerve fenestration, venous sinus shunting).
2. Survival analysis with visual deterioration as an endpoint i.e. registered blind, visual impairment.
3. Annual hospital admission rate of people with IIH, ideally compare with matched control cohort.
4. How many had obesity surgery e.g. gastric banding? Did the people who had gastric banding go on to have shunts or not? I.e. does it help