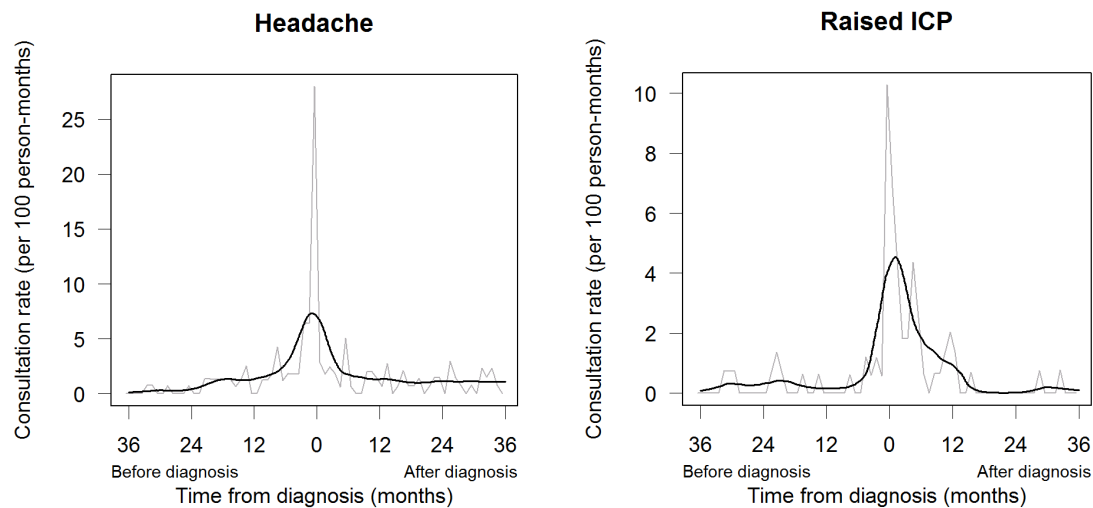


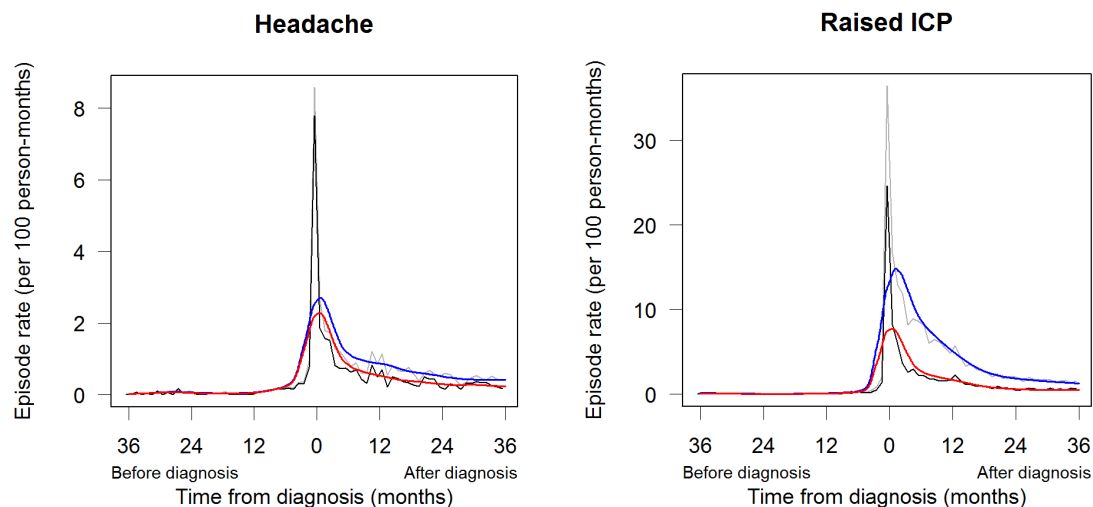
## Web supplement

- Graphs on the top row illustrate primary care presentations and those on the bottom row illustrate hospital presentations.
- Primary care presentations:
  - grey dotted line represents observed rates,
  - black solid line represents predicted rates after loess smoothing.
- Hospital presentations:
  - grey line represents observed rates of all admissions,
  - black line represents observed rates of emergency admissions only,
  - blue line represents predicted rates of all admissions after loess smoothing,
  - red lines represents predicted rates of emergency admissions after loess smoothing.
- While a common scale has been used for the x-axes, we have not used the same scale for the y-axes. We attempted to illustrate the temporal change, within each symptom group, in the presentation rate leading to the diagnosis of an intracranial tumour and afterwards.

Primary care:

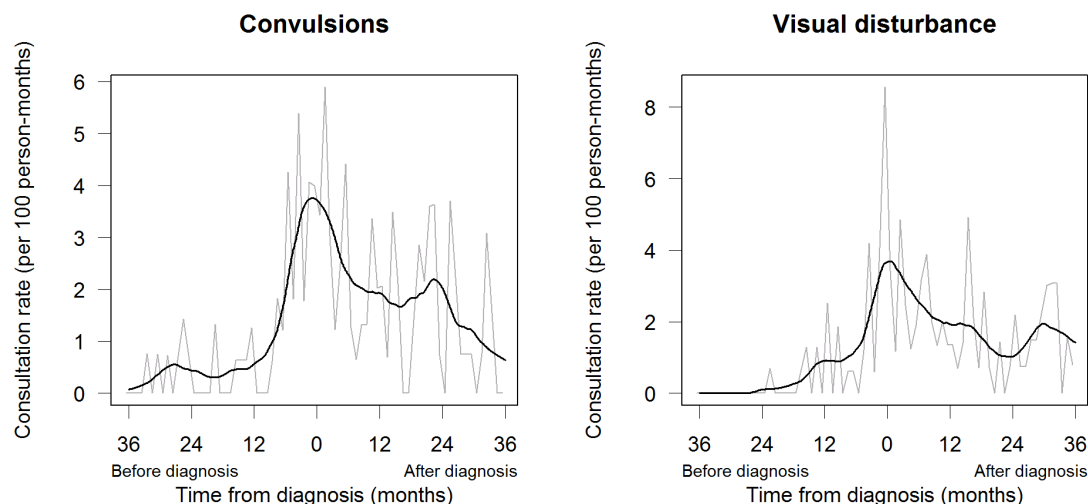


Secondary care:

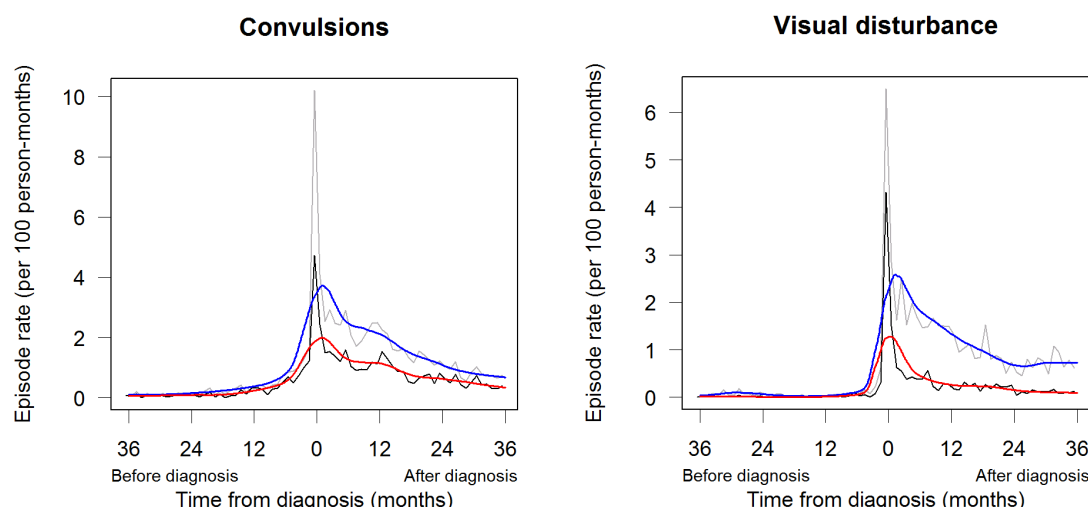


- The consultation rate for headache in primary care began to increase 24 months before the diagnosis of an intracranial tumour, whereas the hospital admission rate for headache did not increase until six months before diagnosis. The red and blue lines are very close to each other because a high proportion of presentations with headache were admitted via one of the emergency routes.
- The rate of presentation of features of raised intracranial pressure (except headache) did not begin to increase until about six months before diagnosis in both primary and secondary care, suggesting the tumour has been growing undetected giving rise to complications.

### Primary care:



### Secondary care:

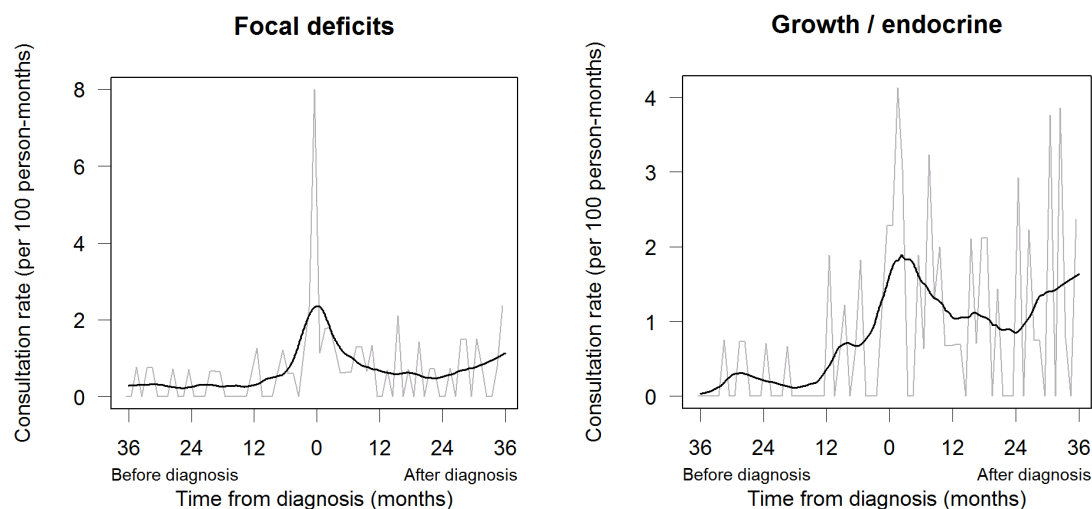


- Convulsions and visual disturbance were not common in primary care. Fluctuations in the observed monthly consultation rates were large (grey line), and the underlying trend became obvious after smoothing (black line).
- The consultation frequency for convulsions and visual disturbance in primary care began to increase over 12 months before the intracranial tumour was diagnosed (black line), at a point that was earlier than when the frequency of hospital admission for those symptoms began to rise.
- Difference between primary and secondary care presentation for visual disturbance was more pronounced: cranial nerves II, III, IV, VI palsies were detected in primary

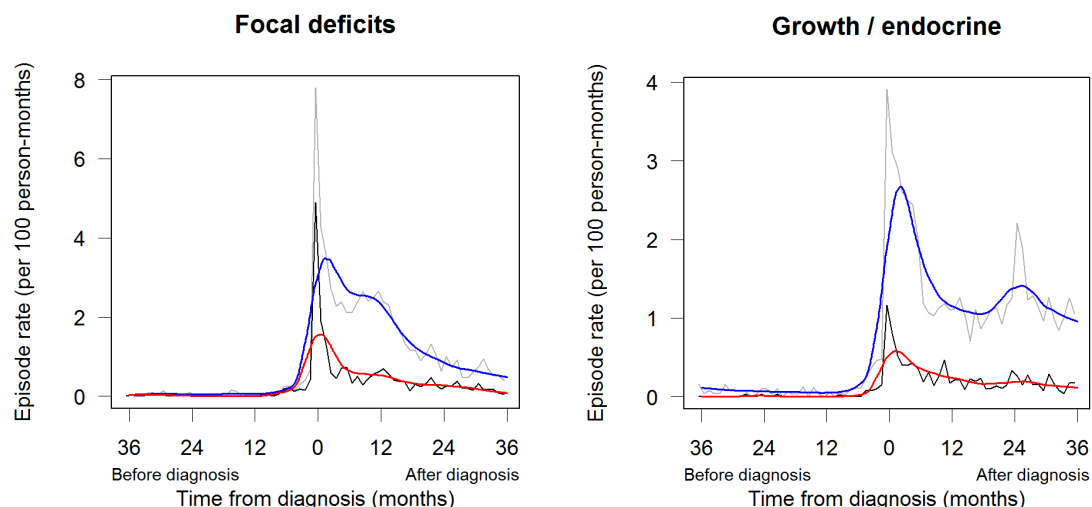
Chu TPC, Shah A, Walker D, Coleman MP. Pattern of symptoms and signs of primary intracranial tumours: a record linkage study.

care with increasing frequency 24 months before diagnosis, long before they began to present in hospitals 3–6 months before diagnosis.

# Primary care:

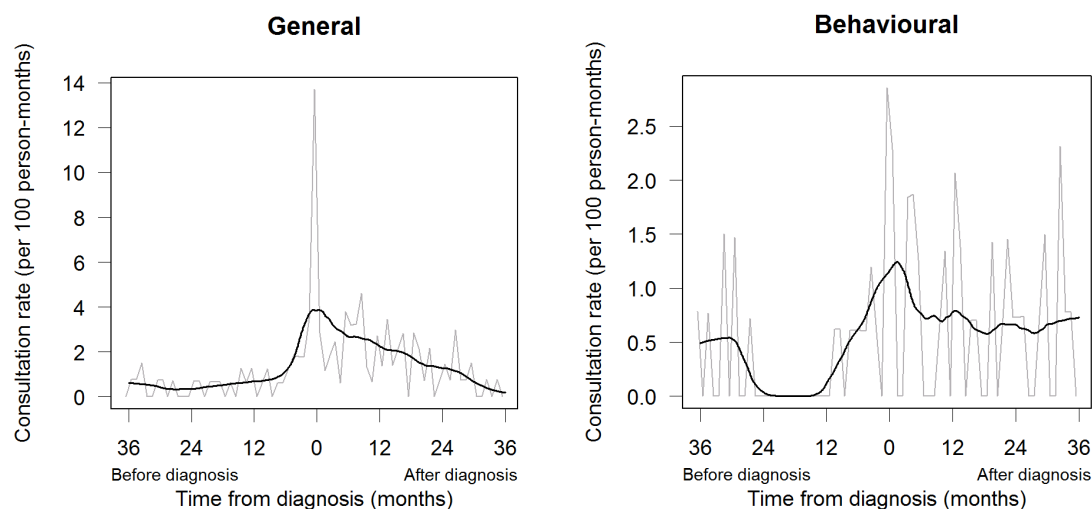


# Secondary care:

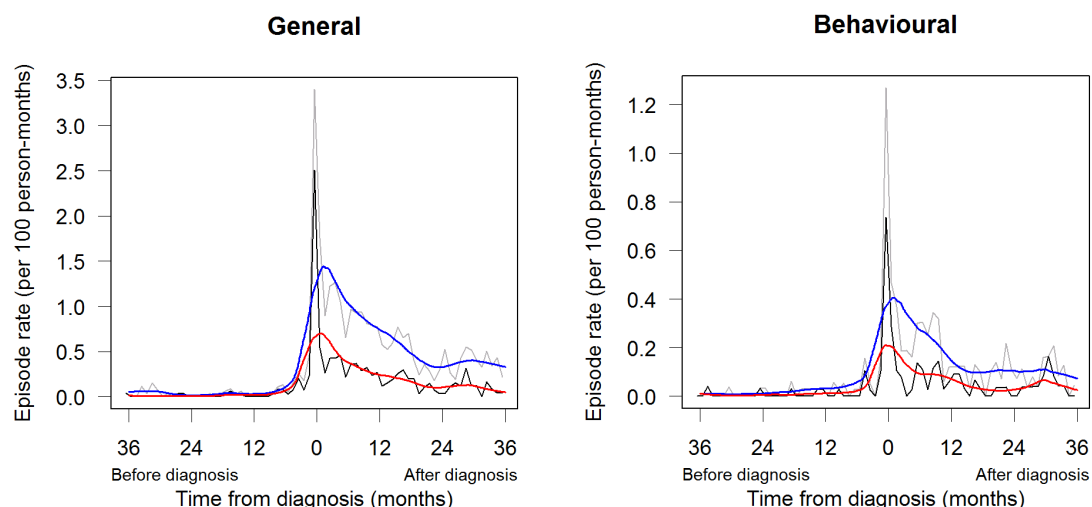


- Focal neurological deficits were uncommon in both primary and secondary care until the last 3–6 months before the diagnosis of an intracranial tumour.
- Changes in the consultation frequency for growth or endocrine disorders occurred much earlier in primary care: over 24 months before the intracranial tumour was diagnosed. They were less frequently presented in hospital admissions, and were not commonly detected in emergency admissions.

## Primary care:



## Secondary care:



- Consultations for general or non-specific symptoms such as lethargy, appetite loss in primary care gradually increased in frequency 6–12 months before diagnosis. The increase then became steeper with a corresponding increase in hospital admissions with those symptoms.
- Behavioural problems were seldom recorded in primary or secondary care. The increase in presentation rates was likely to be driven by the increase in frequency at which other more common symptoms and signs presented.