Explaining the rise in antidepressant prescribing: a descriptive study using the general practice research database

Michael Moore, Tony Kendrick, Ho Ming Yuen, Nick Dunn, Mark A Mullee, and Joe Maskell

Detailed methods

Anonymised data were extracted from the comprehensive records held by general practitioners and collated in the General Practice Research Database (GPRD). All available depression codes were used to identify the cohort.

Data were supplied to us in three main parts by the GPRD: clinical data, therapy data, and referral data. Clinical data consisted of diagnosis information recorded during each consultation. Therapy data included the treatment and prescription information given to patients. Referral data included the referral information and was similar to the clinical data.

Clinical and referral data were filtered with the given 138 depression codes so that the observations within this dataset were all depression related. Therapy data were filtered with the given 303 antidepressant codes so that the observations in this file were antidepressant related. The filtered referral data were then appended to the filtered clinical data and these were then merged onto the filtered therapy data using the unique patient ID with respect to the corresponding clinical and therapy event date.

Patient years at risk

For calculation of incident depression rates, the population denominator was adjusted for patient years at risk, which starts at the date of registration and ends at the date of first diagnosis of depression. For instance, someone who was registered for an entire year and obtained first diagnosis of depression at month seven would contribute only 0.5 to the denominator. This patient may remain registered in the GPRD for several years but would never contribute to the denominator of subsequent incidence rates because he or she was no longer at risk for developing incident depression.

For calculation of rates within the cohort, the denominator was again adjusted for years at risk. This was calculated for those patients who stayed in the cohort and comprised the difference between the date of first diagnosis of depression and the date of being transferred out or the end of study period.

Prescribing events were derived as episodes of antidepressant prescribing regardless of prescription duration. Duration of prescription was calculated by dividing the number of tablets prescribed in each therapy event by the prescribed frequency of dosing per day. Sometimes dose frequency per day will in reality be agreed verbally between patient and doctor and not recorded on the prescription issued. For this analysis we excluded prescriptions that were indicated as more than three tablets three times a day for 30 days, i.e. we limited the number of tablets prescribed in each prescription to between one and 270 units and the prescribed frequency of dosing per day to between one and nine. As a result of this approach, 4.02% of the prescription duration information was classified as missing data. In some records, additional therapy duration data were provided. We added back in this information in order to maximise the available information wherever the calculated duration was missing and when supplementary duration data were provided. In summary, 3.6% of the prescription duration information was classified as missing out of all 2 108 311 duration events.