

Supplementary File S1

Follow up time

Follow up time per resident = last cease date of any medication – first start date of any medication

Number of resident days per 1000 resident days and year

$$\text{Numer of resident days in year 1} = \frac{\Sigma \text{Follow up time in year 1}}{1000}$$

Monthly prevalence of antibiotic use

$$\text{Monthly prevalence of antibiotic use} = \frac{\Sigma \text{ residents on } \geq 1 \text{ antibiotic or more in that month}}{\Sigma \text{ number of residents present in LTC in that month}} \times 1000$$

Duration of antibiotic use per resident

Duration of use = last date of antibiotic episode – first date of antibiotic episode

Duration per three months per calendar year

$$\text{Average number of days of antibiotic therapy per 100 days in year 1} = \frac{\Sigma \text{ duration of use in year 1}}{\Sigma \text{ Follow up time in year 1}}$$

Percentage of antibiotic users per antibiotic duration of use category

5 duration levels: ≤ 5 days; 6-14 days; 15 – 30 days; 31 – 90 days; 91 – 365 days and > 365 days over the total study period. Formula given for 5 or less than 5 days of duration.

$$\begin{aligned} \% \text{ Duration of use for } \leq 5 \text{ days} \\ = \frac{\Sigma \text{ Number of antibiotic episodes with durations } \leq 5 \text{ days}}{\Sigma \text{ Total number of antibiotic episodes in dataset}} \times 100 \end{aligned}$$