



Notes on interpreting the HSE PCRS/AMRIC quarterly report on antibiotic prescribing. These notes are located on the green red page on www.antibioticprescribing.ie or short link: www.bit.ly/2ZnyDbx

1. Background on quartiles for reading the “red-green” pie charts

The following is for illustration purposes only. It does not relate to actual antibiotic prescribing data.

Let us take as a fictional example that we have antibiotic prescribing data for 100 GMS lists.

The highest percentage of “green” antibiotic prescriptions in this sample data is 80%.
The lowest percentage of “green” antibiotic prescriptions in this sample date is 41%.

25 GMS of our hypothetical lists are in the range 71% to 80%.
25 GMS of our hypothetical lists are in the range 61-70%.
25 GMS of our hypothetical lists are in the range 51-60%.
25 GMS of our hypothetical lists are in the range 41-50%.

GMS lists in the range 71% to 80% are in the top quartile.
GMS lists in the range 51-70% are in the middle half of the range (sometimes called the interquartile range).
GMS lists in the range 41-50% are in the lowest quartile.

The top quartile/bottom quartile cut-offs are only a general indicator of how prescribing compares to other GMS lists. Inevitably, some lists are just above or just below the cut-off so the report also includes the actual % of “green” antibiotic prescribing to provide a more exact indicator.

2. Reading the tables regarding prescription of 4 individual “red” antibiotics – available in reports to June 2021

In Figure 1 on page 2 of these notes the number marked in “green” tells you that in the first Quarter of 2018 (January to March inclusive) 6% of the patients over 65 on this GMS list received one or more prescriptions for co-amoxiclav.

The figure marked in “red” tells you, for comparison, that in in the first Quarter of 2018 (January to March inclusive) of 2018 9% of all patients over 65 on the GMS system received one or more prescriptions for co-amoxiclav.

The tables provide data for the most recent 4 quarters. The data is provided separately for 3 age groups those aged less than 16 years, those aged 16 to 64 years those aged 65 years and older.



Figure 1: A screen shot of the table displaying the prescription numbers for the 4 individual “red” antibiotics

Age Group	Number & Percentage	My patients	All patients
		Q1 2018	Q1 2018
< 16	No.	0	23583
	%	0	4
16-64	No.	6	57964
	%	3	7
>= 65	No.	20	46086
	%	6	9

3. Red/green antibiotic agents

As advised previously we have categorised antibiotics as “green” (generally preferred narrow spectrum agents) or “red” (broad spectrum agents generally best used very selectively). Generally, patients who need an antibiotic are safer getting “green” antibiotics rather than “red” antibiotics unless there is a valid clinical indication for the “red” antibiotic. Of course, some patients do need “red” antibiotics. Individual patient needs can influence the balance between the use of “green” or “red” antibiotics for a GMS list.

In addition to the overall “green/red” breakdown, the report includes some information on the use of certain specific “red” antibiotics relative to the national average. The four “red” antibiotics are co-amoxiclav, clarithromycin, azithromycin and fluoroquinolones (ciprofloxacin, ofloxacin and levofloxacin). To further increase use of “green” antibiotics we suggest focusing on what conditions you prescribe these 4 “red” antibiotics for and see if there is a safer “green” option. The preferred antibiotics for common conditions seen in general practice can be found on www.antibioticprescribing.ie.

4. Rate of antibiotic prescribing – available in reports relating to data for quarter ending September 2021 and onwards

This is the number of antibiotic prescriptions per 100 GMS patients for a rolling 12 month period. The trend for your GMS list over time will indicate whether more or less antibiotic prescriptions are being issued for your GMS list. The rate for all GMS patients is provided to give a general indication as to how prescribing for your GMS list compares with the national picture. The rate is also provided for 4 age groups 0-6, 7-16, 17-64 and 65 and older. Even allowing for the age related breakdown it is important that we recognise the limitations of any such simple comparisons. Deprivation levels and other demographic variables may also influence antibiotic prescribing. There is no correction for these factors in the rates provided. If you are aware of colleagues who have a GMS practice list that is similar in terms of demographic profile to your own and you wish to compare data with them that may be more relevant than comparison with the national rate.

Table 1 below provides a worked example of an overall rate calculation so you can see how the overall rate in the rate graph in your report is calculated.



Table 1: A worked example of an overall rate calculation to inform the rate graph in your report

	Your GMS Patient Cohort	The National GMS Patient Cohort
Total number of antibiotic prescriptions for patients in 12 months to end Sept. 2021 (number of items):	1252	1,832,310
Total GMS patients, average panel count for 12 months to end Sept. 2021 (column 1 = your patient panel, column 2 = national panel):	984	2,143,974
	My Patients	All Patients
The calculation using the number of antibiotic prescriptions, the panel count and expressing it per 100 GMS patients	$(1252 \div 984) \times 100$ = 127	$(1,832,310 \div 2,143,974) \times 100$ = 85
Rate expressed as number of antibiotic prescriptions per 100 GMS patients for the rolling 12 months to end Sept. 2021	127	85

5. Data limitations

As outlined in previous correspondence, we acknowledge doctors other than you prescribe for patients on your GMS list so that the data may not represent your personal prescribing practice. For the data analysis only the number of patients on the GMS list are included. Patients with GP Doctor Visit Cards only are not included as prescribing for this group is not captured in the GMS database.