

Understanding Antibiotic Prescribing Behaviour in Primary Care: A Qualitative Study

Gayathri Janardanan,¹ Lynsey Morton,¹ Sarah E. Allen,^{2,3} Declan T. Bradley^{1,4}



1. Centre for Public Health; School of Medicine, Dentistry and Biomedical Sciences; Queen's University Belfast, UK.
2. Public Sector Innovation Lab, Department of Finance, Belfast, UK
3. Northern Ireland Statistics and Research Agency, Belfast, UK
4. Public Health Agency, Belfast, UK.

Background

Inappropriate antibiotic use promotes antimicrobial resistance.

Approximately 85% of antibiotics used for human healthcare are prescribed in primary care. Northern Ireland has high (though falling) antibiotic use. Developing interventions to improve stewardship requires a deep understanding of prescribing decisions. This study aims to explore non-clinical factors influencing primary care prescribing.

Methods

We undertook a qualitative study. Research ethics approval was from QUB. Ten general practitioners were recruited. Semi-structured telephonic interviews were conducted by S.E.A. in May and June 2019, audio-recorded and transcribed. Thematic analysis was performed using the Braun and Clarke six-phase framework: Transcripts were coded by two researchers, discussed and harmonised, and grouped into themes.

Table 1. Themes and illustrative quotation

Themes	Illustrative Quotation
Expectations	[T]hey've got 30 years of getting an antibiotic for every chest infection that they've had and it's got it better every time then it's hard to change the mindset with those patients even with patient literature and decision aids
Patient characteristics	...[C]ertain socioeconomic areas, their co-morbidities are much higher actually so you're not really looking at the same cohort of people, they don't tend to be as healthy, they tend to be smokers... their risks are much, much higher in their life in general.
Communication	I suppose if the patient is looking for an antibiotic and you go against that desire then that has an impact on your working relationship with that patient
Risk-weighing	[O]ther people have told me they're scared to do that because they're scared of what might happen, they're scared about getting complaints or breakdowns of relationships
Time-pressure	It would be an overwhelming job to see them all, it just wouldn't be feasible, you know, the NHS is a very limited resource... it just would not be possible to see everybody before prescribing antibiotics
GP's knowledge and experience	... [T]he Centor criteria I would use quite a bit for the likes of tonsillitis which is very useful because at least then you could say to the patients, you've clear guidance, here is the criteria, you are not meeting the criteria therefore, I'm not giving you an antibiotic
Social norms	practices in my experience tend to be like that, high prescribers where everybody prescribes a lot or low prescribers where nobody prescribes a lot

Results

Seven themes were identified (Table 1). Prescribers believed that some patients consulted them in the **expectation** of an antibiotic prescription, rather than for an assessment, partly due to historical prescribing by GPs.

Patient characteristics like age, vulnerability, socioeconomic status, access to services and upcoming life events, such as weddings and holidays, were influential.

Most participants felt that **communicating** effectively with patients/family can reduce inappropriate prescribing.

Tests, evidence, and delayed prescriptions can reassure patients.

The desire to *do the right thing* was **weighed against risks** to patients from infection and risks to the prescribers' reputation.

Feeling under **time-pressure** to meet overwhelming demand reduced capacity to assess patients and explain options.

GP's knowledge and experience influenced confidence in their clinical judgement, which affected prescribing decisions. Availability of clear criteria and guidance increased confidence.

Social norms within the practice and between prescribers influenced decisions. Prescribing reports and feedback were motivating.

Conclusion

Our results illustrate the social, psychological and practical factors which combine to influence prescribing decisions. These results can help guide the design of behavioural interventions to support prescribers and policymakers to improve antimicrobial stewardship.