

Primary Care Providers' Perspectives on Antibiotic Use for Acute Respiratory Tract Infections

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Background

- Acute respiratory tract infections (ARIs) are common infections managed in the primary care setting.
- These infections are predominantly viral in etiology and generally do not necessitate antibiotics. Unnecessary antibiotic use can increase the risk of serious adverse outcomes including *C. difficile* infections, allergic reactions, drug interactions, and antibiotic resistance.
- In 2010-2011, 50% of all antibiotics prescribed for ARIs in the outpatient setting were inappropriate; this added up to a total of 34 million prescriptions in the United States (U.S).¹
- Antimicrobial stewardship is less well established in outpatient settings such as primary care clinics, where antibiotic prescribing patterns are also more variable.
- Outpatient antibiotic prescribing patterns at our institution are unknown and in the absence of these data, implementation of stewardship interventions cannot occur.
- Antibiotic stewardship in the outpatient setting is critical to reducing inappropriate antibiotic prescribing and combating antibiotic resistance.

Methods

- This was a qualitative study conducted at UCSF primary care clinics between April-May 2020. Primary care providers were recruited via email to participate in 45-minute semi-structured interviews.
- Providers in internal medicine, family medicine, and gerontology were included. Providers in other specialties were excluded
- The interviews consisted of a patient case and providers were asked about their perceptions on clinical management, prescribing practice, antibiotic knowledge and use, as well as resistance concerns (Figure 3).
- Interviews were audio recorded using Zoom® (San Jose, CA) and interviews were transcribed using Otter.ai® (Los Altos, CA).
- Study investigators independently coded the interviews and identified major themes using Braun and Clarke's 6 Phases of Thematic Analysis² (Figure 1).
- This study was approved by the UCSF Institutional Review Board.



Results

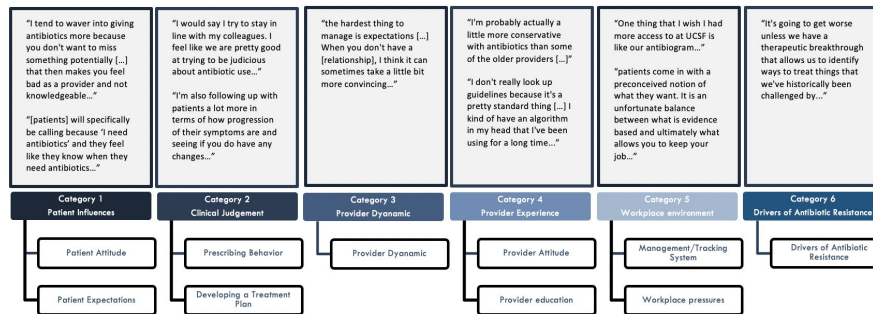


Figure 2: Categories and Emerging Key Themes

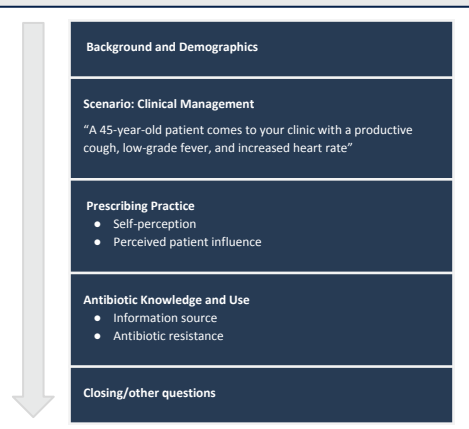


Figure 3: Interview Guide

Table 1: Provider Demographics

| CHARACTERISTIC | TOTAL PROVIDERS (N=10) | PERCENTAGE |
|--------------------------------|------------------------|------------|
| Female | 8 | 80% |
| TOTAL YEARS IN PRACTICE | | |
| <5 years | 5 | 50% |
| 5-9 years | 0 | 0% |
| 10-19 years | 2 | 20% |
| ≥20 years | 3 | 30% |
| OCCUPATION | | |
| Physician | 9 | 90% |
| Nurse Practitioner | 1 | 10% |
| MAIN SPECIALTY | | |
| Family Medicine | 4 | 40% |
| Internal Medicine | 4 | 40% |
| Geriatric Medicine | 2 | 20% |

Discussion

- When asked about any uncertainty in their diagnosis, or assessment of infection severity, majority of providers employed strategies such as "delayed prescribing," "return precautions," and/or "follow-up." They believed these approaches help reduce inappropriate antibiotic use.
- A comparable study on perceptions on prescriptions for acute bronchitis found that 12 out of 13 primary care clinicians cited patient demand as a reason for prescribing antibiotics.³
- Previous studies outside of the U.S. found similar perceptions with regards to the influence of patient pressure on antibiotic prescribing.^{4,5}
- Limitations included a small sample size and the ongoing COVID pandemic. The pandemic may have affected the availability of providers to participate in our research. Also, providers often asked to clarify if interview questions pertained to the ongoing pandemic.
- Interviews are being conducted until thematic saturation is reached.
- Preliminary data can be used to determine potential areas for antimicrobial stewardship efforts in outpatient ambulatory care clinics.

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