**Title**

Automated extraction of the indication for antibiotic prescribing is a barrier to implementing antimicrobial stewardship strategies using current general practice software systems

**Author and affiliations**

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**Background**

Australia is a world leader in antimicrobial stewardship (AMS) within the hospital setting, where around 25% of antimicrobial prescribing is assessed as inappropriate. Conversely, there have only been a few AMS strategies in general practice, where approximately 40% of antimicrobial prescribing is deemed inappropriate. Due to the complexities of data collection in general practice, the factors driving this inappropriate prescribing are difficult to determine without effective audit and review processes.

**Aims**

To assess the feasibility of using passive electronic data extraction methods to determine the clinical indication for antibiotic prescriptions, and allow subsequent assessments of prescribing appropriateness.

**Method**

An audit was conducted in eleven general practices across four Australian states utilising four different electronic patient management systems. Relevant data required to assess prescribing appropriateness was collected, including the indication for antimicrobial therapy, clinical notes and investigation results. The adequacy of the information and location within the electronic patient record was recorded.

**Results**

A total of 550 patient encounters were audited where at least one antibiotic was prescribed. Using the entire electronic patient record the auditor could manually ascertain the indication for prescribing in 93% of encounters, and appropriateness in 95% of cases. However, the indication was documented in a field that was not extracted by current electronic auditing software in 39% of encounters.

**Conclusion**

The implementation of AMS programs within the general practice setting will require innovative solutions, as audit and review requiring manual data collection and analysis are prohibitively time-consuming. One strategy could be to use current general practice software programs for passive surveillance of infection management, and provide integrated prescribing decision support to practitioners. As current data extraction could miss the indication in approximately one-third of patient encounters, the software would need to prompt for mandatory indication documentation to support AMS initiatives.

**References** (If applicable)