

Development of a mobile app audit tool to support hospital prescribing quality indicators

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Background

The Scottish Government approved a national hospital antimicrobial prescribing quality indicator which was developed by the Scottish Antimicrobial Prescribing Group (SAPG) in collaboration with NHS board Antimicrobial Management Teams (AMTs).

The quality indicator is intended to support reduction in unnecessary hospital antibiotic use through promoting review of IV therapy within 72 hours and documentation of duration for oral therapy. It comprises a target for a 1% reduction in total antibiotic use and use of very broad spectrum antibiotics which will be monitored via national data and a local quality improvement element comprising measures focused on documentation of antibiotic duration and review, for which data will be collected in wards via the SAPG Antimicrobial Companion app (Figure 1).

Method

An audit tool function has been developed within the established SAPG Antimicrobial Companion app to enable data collection using a personal log-in and password. The measures collected are:

- documentation of the indication for antibiotic treatment
- compliance of the antibiotic treatment with the local prescribing protocol
- administration of all prescribed doses of antibiotics
- documentation of duration or stop date for oral antibiotics
- documentation of clinical review of IV antibiotics or combination therapy within 72 hours, and outcome of review, and
- prescription of carbapenems.

Data is collected from patients prescribed antibiotics, with each data submission relating to an individual infection episode (Figure 2). The audit should be completed in a minimum of three wards in each acute hospital and should include at least one Medical and one Surgical ward with a minimum of 10 infection episodes per month in each ward.

Results

The audit tool has been developed, piloted and launched, and information about its use was communicated to all health boards in August 2017. Results will be reviewed by SAPG at national level every 3 months and local Antimicrobial Management Teams can review their own data in real time via the web version of the app. Once reliable data collection is achieved and improvement in practice is observed in the initial wards, data collection will move to other wards to spread improvements. A long term aim of the tool is to enable clinical teams to collect and review their own data.

Conclusions

This bespoke national app provides a unique audit tool component to support improved practice through timely audit and feedback of key prescribing measures. An evaluation of its impact is planned using the outcomes chain model and contribution analysis.

Figure 1: App landing screen

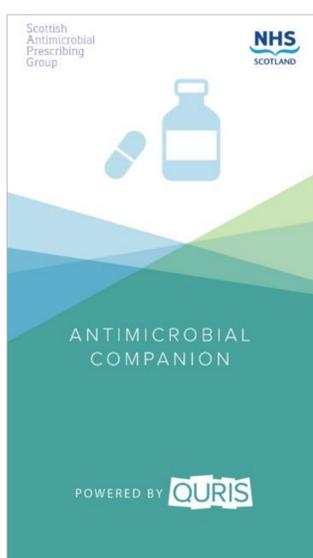


Figure 2: Audit data entry screen

Please make one submission per infection episode

	Yes	No
Indication documented in the medical notes?	<input checked="" type="radio"/>	<input type="radio"/>
Treatment compliant with policy?	<input checked="" type="radio"/>	<input type="radio"/>
Only oral antibiotics prescribed?	<input type="radio"/>	<input checked="" type="radio"/>
IV or combination (IV and oral) antibiotics prescribed?	<input checked="" type="radio"/>	<input type="radio"/>
Carbapenem prescribed?	<input checked="" type="radio"/>	<input type="radio"/>
All prescribed IV or combination doses administered?	<input checked="" type="radio"/>	<input type="radio"/>
Clinical review within 72 hours documented?	<input checked="" type="radio"/>	<input type="radio"/>
If yes, what was the documented outcome?	<input type="text" value="IV to oral switch"/>	
Comments	<input type="text"/>	