Using a Mobile Application to evaluate and support improved antimicrobial stewardship practice

**BACKGROUND**

- The use of mobile applications “apps” in healthcare is increasingly common.
- In 2017 the Scottish Antimicrobial Prescribing Group (SAPG) implemented a decision support app to aid clinical antimicrobial decision-making, including gentamicin and vancomycin calculators, and prescribing guidance.
- The app also incorporates an audit tool for collecting prescribing quality indicator data for local improvement and national reporting.
- The few studies in the literature of using mobile technology for clinical audit reported enhanced data completion and quality although none were in relation to antimicrobial stewardship.

**METHODS**

- The Antimicrobial Stewardship Team (AST) were shadowed collecting quality indicator data and entering them into the app, from a sample across 4 wards, two medical and two surgical, in NHST from August 2017 – October 2017.
- An anonymous SurveyMonkey questionnaire was sent via email to all 177 FY doctors in NHST.
- It contained seven short questions about junior doctors’ willingness to participate in quality improvement projects, their preferred method of data collection, and an estimation of how much time they could commit to data collection.

**RESULTS**

- Only the AST currently use the SAPG app for audit in NHST.
- This was reported as being due to the need for users to have training and registration, and for quality assurance purposes.
- The frequent movement of FY doctors between units may prevent junior doctors from becoming involved.

Of 110 patients sampled for data collection, the compliance with quality indicators was:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Compliance</th>
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<tbody>
<tr>
<td>Indication for prescription recorded</td>
<td>98%</td>
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<tr>
<td>Oral Prescriptions: Duration/stop date recorded</td>
<td>49%</td>
</tr>
<tr>
<td>IV/combinations: 72hr review recorded</td>
<td>92%</td>
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**CONCLUSIONS**

- Participation in SAPG quality indicator collection using the app could be done throughout FY rotations using transferable skills.
- FY doctors in NHS Tayside already use mobile technology to support their antimicrobial prescribing practice.
- They are willing to engage in audit and quality improvement, and prefer technological to paper methods.
- The use of a mobile application for data collection and audit is a novel approach in Antimicrobial Stewardship.

This has potential to be a sustainable and scalable approach to audit and quality improvement for antimicrobial stewardship.

**REFERENCES**


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