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# **Implementation of a referral tool for screening patients for pharmaceutical care by pharmacy technicians in a paediatric medical acute receiving unit – a pilot**

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## **Introduction**

The key target within paediatric care set by the Scottish Patient Safety Programme (SPSP) is a 30% reduction in avoidable harm by December 2015<sup>1</sup>. To achieve this, pharmacy departments have examined staff skill mix and efficient, safe systems of work. The Scottish Government strategy, Prescription for Excellence proposes that all patients receive a high level of pharmaceutical care using the skills of their pharmacists to their full potential<sup>2</sup>. In order to do that, the pharmacist must be able to prioritise patients and focus on high priority, complex patients with pharmacy technicians providing professional support by performing medication histories, assessment of patient's own drugs and addressing supply issues. One model of working includes screening patients by the pharmacy technician and referral to the pharmacist of patients who meet agreed criteria. This study aimed to test agreed referral criteria in a paediatric population.

## **Objectives**

- To evaluate a referral tool, agreed through focus group consensus, for safety and effectiveness in screening patients who should be targeted for pharmacist review and delivery of pharmaceutical care.
- Obtain feedback from pharmacist and technician users of the tool.

## **Method**

Approval was granted from the South East Scotland Research Ethics Committee. A referral tool used in a local adult population, which is fully validated and used extensively, formed the basis of a draft tool informed by reported medication incidents in the paediatric population. Referral criteria were discussed and agreed at a meeting of national paediatric pharmacists. A pharmacy technician (16 years qualified) was trained in the use of the agreed tool (22 criteria) which was piloted in 93 admissions to the medical acute receiving unit during two one week data collection periods. Patient recruitment was based solely on the date of their admission to the ward. Those who did not consent or had already been screened by a pharmacist were excluded from data collection. The pharmacy technician applied the tool to each patient and criteria met (one or more) were documented prior to notifying the pharmacist (2.75 years qualified) that a patient required clinical review. The patients were then reviewed by the pharmacist as per normal practice and the appropriateness of the referral evaluated using the code justified or unjustified and was dependent on the information available to the pharmacy technician.

The tool was further evaluated through sending four anonymised scenarios from the data collection to 5 technicians and 5 pharmacists with no prior experience or training of using the tool. Technicians were asked to apply the tool and state if they would refer the patients and pharmacists were asked if they would expect the patients to be referred. Responses were compared to the action the pharmacy technician actually took in the pilot. Verbal feedback about the tool was invited.

## **Results**

Of the 93 patients, 45 were referred to the pharmacist as they met one or more of the referral criteria. A total number of 109 referral criteria were triggered with five of the criteria accounting for 80.0% of referrals made to the pharmacist. Of the total number of patients referred, 40/45 (89.0%) were justified. Of those not referred 6/48 (12.5%) were unjustified. Non-referral was subsequently identified to be caused by the pharmacy technician not

comprehensively checking all sides of the medicines chart. Inclusion of the 6 unjustified non-referrals increased the sensitivity of the tool to 100% as shown in table 1.

Table 1 Showing the sensitivity and specificity of criteria

<b>Referral criteria</b>	<b>Sensitivity (%) (95% CI)</b>	<b>Specificity (%) (95% CI)</b>
<b>Top 5 criteria – 40 justified referrals</b>	94.4 ( 87.4-98.1)	85.0 (62.1-96.6)
<b>All 22 criteria – 40 justified referrals, 6 unjustified referrals</b>	87.0 (73.7-95.0)	89.4 (76.9-96.4)
<b>All 22 criteria – 46 justified referrals, 0 unjustified referrals</b>	100 (92.2-100)	89.4 (76.9-96.4)

Discussion of the four scenarios by both technicians and pharmacists raised similar issues such as clarity on course length of antibiotics and at what point should the patient be referred to the pharmacist and should patients be referred if they are prescribed oral steroids for longer than five days? Feedback received included clarity on special products and suggested amendments to the tool to make it more effective. Both groups documented that the tool was well laid out, clear and easy to follow and would be happy to use in their clinical areas.

## **Discussion**

The pilot of the referral tool showed that five criteria accounted for 80% of referrals when reviewing the other criteria it was decided that due to the high risk nature of the drugs included they should remain. The sensitivity and specificity of the referral tool was also increased when all criteria were applied rather than the top five, taking into account the unjustified non-referrals. Piloting of the referral tool suggests almost half of the admissions to the ward during the data collection periods require pharmacist review. Those patients not referred to the pharmacist did not have any pharmaceutical care issues which could not be dealt with by the pharmacy technician. Roles traditionally carried out by a clinical pharmacist were able to be delegated to a trained pharmacy technician such as assessing patient's own medication and patient counselling. The unjustified referrals highlighted the need for some further training to help avoid human error. Limitations of the pilot include only one technician and pharmacist piloted the tool, further pilots with other members of staff are required and in other clinical areas to fully validate tool. Under reporting of medication incidents will have affected the criteria chosen. The referral tool is only of use on admission, does not identify patient's who's pharmaceutical care needs change during inpatient stay.

The findings of this pilot is also confirmed by published research which showed the pharmacy technician at ward level reduces risks and can have a positive impact on the amount of clinical time the pharmacist spent on the ward<sup>3,4</sup>. Overall this pilot has shown that through the introduction of a pharmacy technician to the ward there is potential to direct clinical pharmacist resource to those who require intensive pharmaceutical care without compromising the overall level of care.

## **References**

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