The use of a student-led patient safety group to improve oxygen prescribing

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INTRODUCTION

• BTS Emergency Oxygen Guidelines state that all patients started on oxygen therapy should have a prescription of oxygen, which specifies initial rate, target saturations and method of delivery\(^1\).
• An adverse clinical incident involving oxygen administration occurred in 2013 in the Department of Acute and General Medicine (AGM) at a Teaching Hospital (John Radcliffe Hospital, Oxford).
• A subsequent audit of AGM patients identified low oxygen prescribing rates, a patient safety issue, and a need for improvement to address this.
• The World Health Organisation notes the need for incorporation of patient safety teaching into the medical school curricula, together with the importance of involvement in ‘real life’ projects in achieving learning objectives\(^2\).

METHOD

1. Standard Setting and Stakeholder involvement

• Discussions with Medical and Nursing leads were initiated to set standards and ensure buy-in and multidisciplinary senior support.
• Prescribing rates were compared to the most recent national audit on oxygen prescribing \(^3\).
• A realistic target was agreed upon to achieve above national average (>70%) for patients receiving oxygen with a documented oxygen prescription. Long term aims of 100% with a prescription would be addressed following achievement of this primary aim.

2. Qualitative survey – identifying barriers

• Student members of OSQE surveyed doctors and nurses on AGM to ascertain their views on prescribing oxygen.

The figure below displays answers to the question: “Why do you think oxygen isn’t always prescribed?”

Using the results of the survey and discussion, barriers were identified:

• Prevailing culture being ‘permissive’ of nonprescription, where nonprescription was an accepted event without feedback that good clinical practice had not been achieved.
• Difficulty of communication between nursing and medical staff after oxygen initiation.

3. Interventions addressing barriers to correct prescription

• Posters reminding doctors and nurses of the Trust guidelines and informing them that oxygen prescription rates were being audited.
• Reminder stickers for nurses to put in patient medical notes when administering oxygen. The stickers were intended to prompt doctors to prescribe oxygen.
• Personalised feedback was given to medical firms and wards on oxygen prescription rates with comparison to national and local results.

4. Student-led regular audit cycles, and interventions

• Regular point prevalence audits of oxygen prescription were performed on medical wards by drug chart review.
• Audits were co-ordinated by a student-led patient safety group active within the medical school (Oxford Safety and Quality Enhancement\(^3\)) by medical student volunteers, under the supervision and mentorship of a Medical Registrar within the Trust.

RESULTS

Oxygen prescription rates improved to 80%, and were sustained at this level.

DISCUSSION

• We have demonstrated how a dedicated student led group can successfully coordinate surveys and regular cycles of audit and feedback, leading to a sustained improvement in oxygen prescription rates over a period of four months (from 25% to above 80%).
• Systematic reviews of the effectiveness of audit cycles note the importance of regular and directed feedback\(^4\) in behaviour change and quality improvement.
• Whilst senior doctors can identify important projects, the significant time commitment required for this can be an unrealistic demand for constantly changing firms of Doctors in time-pressured clinical environments.
• Medical students are often able to commit time, but regularly change firms between audit cycles, which can compromise successful completion.
• A co-ordinated student group addresses this issue, providing both continuity and the time required for long-term data collection.
• Furthermore, involvement in a successful audit and service improvement serves to educate students in the area of clinical governance, safety and service improvement, a key learning objective in developing future clinicians with the ability to deliver high quality care.

CONCLUSION

• Student led groups can be an essential part of quality and safety improvement projects.
• We suggest that such student led projects should be trialled amongst medical schools both nationally and internationally with assessment of educational outcomes, to assess whether this initiative can be successfully implemented in other settings to achieve the dual aim of improving education to students, and quality of care to patients.

REFERENCES

1. BTS Guideline for Emergency Oxygen Use in Adults, 2013
2. WHO Patient Safety Curriculum Guide for Medical Schools
3. BTS Emergency Oxygen Audit 2012
5. Audit and feedback: effects on professional practice and health care outcomes, Jamtvedt et al, Cochrane Database of Systematic Reviews 2006