

## Introduction & Background

Co-creation, as described by Bovill, is a type of 'learning and teaching that occurs when staff and students work collaboratively with one another to create components of curricula and/or pedagogical approaches'. (Bovill et al, 2016)

This type of learning and teaching method is well-used, as it has been shown that students have expressed interest in taking on a more involved role as collaborators in their higher education journey (Campbell et al., 2023) (Doyle et al., 2020).

Conducting a paediatric-orthodontic audit as undergraduate dental students, through this type of educational methodology not only provides insight into a particular topic as shown in this poster, it is also beneficial as it allows for deeper understanding into other areas of dentistry. This also actively helps to promote meaningful reflective practice, which is encouraged by the General Dental Council (GDC).

This poster presentation demonstrates a joint paediatric-orthodontic audit that adopted a co-creation approach. This audit focused on referral letters composed by various clinicians within the Dundee Dental School for patients indicating the need for extractions. In accordance with guidelines, the British Orthodontic Society (BOS) recommends specific notation in referral letters for effective communication between clinicians. (British Orthodontic Society, 2016).

This quality improvement project investigated the compliance rates with the BOS guidelines and troubleshooted the possible reasons behind non-compliance. Conducting this quality improvement project using co-creation, enabled students to partake in a practical learning experience outside of a conventional classroom setting, where the importance of adherence to guidelines for dental students' future practice was demonstrated in a practical environment.

## References

Bovill, C., Cook-Sather, A., Felten, P., Millard, L., & Moore-Cherry, N. (2016). Addressing potential challenges in co-creating learning and teaching: Overcoming resistance, navigating institutional norms and ensuring inclusivity in student-staff partnerships. *Higher Education*, 71(2), 195-208.

British Orthodontic Society, Orthodontic extractions risk management guidelines, Clinical Governance Directorate of the British Orthodontic Society, 2014.

Campbell, F. et al. (2023) 'Co-creation to develop interventions to facilitate deep reflection for dental students', *Perspectives on Medical Education*, 12(1), pp. 76-85. doi:10.5334/pme.16.

Doyle, E., Buckley, P. and McCarthy, B. (2020) 'The impact of content co-creation on academic achievement', *Assessment & Evaluation in Higher Education*, 46(3), pp. 494-507. doi:10.1080/02602938.2020.1782832.

## Aims and Objectives

### Aims

- Use Co-creation to promote undergraduate dental student involvement in quality improvement process by assessing adherence to establish BOS guidelines.

### Objectives

- Collect letters for patients being referred for extractions
- Formulate a Microsoft Excel document and collate data
- Compare data from previous audit cycles and assess improvements
- Liaise with leading clinicians to discuss results and quality improvement recommendations
- Discussing possible intervention with the audit results aiming to improve the quality of orthodontic referrals for extractions

## Methods

This quality improvement project was carried out in the Dundee Dental Hospital. This project was conducted by gathering referral letters for patients that were being referred for removal of teeth, a majority of which were paediatric patients.

Various levels of referrer were recorded and were as follows: consultant, specialist, specialist trainee registrar (STR), core trainees (CT).

This data was collected from 10/10/23 to 10/01/24 and was considered to be one cycle. These results were analysed using Microsoft Excel and were compared with first cycle conducted by the previous final year dental students.

Using the methods of co-creation, all findings of the audit were liaised to contributing clinicians via e-mail and at departmental meetings, where discussions on improvement and importance of adherence to clinical guidelines were carried out.

## Discussion

Over the course of this quality improvement project, a 9% decrease in compliance was seen compared to the previous cycle. However, compliance varied among different cohorts. Specialists met the compliance standard, maintaining 100%, STRs demonstrated an improvement of 6%, and consultants remained at 88%. Despite the overall compliance decrease shown, the clear improvements within individual co-hort groups demonstrates the efficacy within this project.

The compliance among Core Trainees (CTs) in this project stands at 37.5%, considerably lower than other cohorts assessed. This suggests a need for targeted intervention towards this group. It also raises questions about CTs' familiarity with the British Orthodontic Society (BOS) guidelines concerning extraction referrals. Offering support, identifying underlying issues, and disseminating BOS guidance are crucial steps to enhance CTs' compliance. Possible strategies include developing referral letter templates and incorporating project findings into their induction process at Dundee Dental School to address any uncertainties regarding extraction referrals. Future steps are to move forward with another intervention.

Using co-creation over the duration of this project demonstrated the importance of understanding the reasons behind compliance issues and optimizing referral methods to aid others in enhancing their referral letter practices. Clear and accurate dental notation is necessary to avoid miscommunication and potential delays or errors in treatment.

Co-creation emerges as a valuable teaching and learning tool, fostering deeper understanding among students by positioning clinicians as partners. Key principles of co-creation include effective facilitation, fostering a healthy environment for equitable participation, embracing diversity within the team, sharing a common vision and values, setting individual goals within the collective objective, and evaluating the process for continuous improvement.

## Conclusion

Co-creation is an effective strategy for fostering quality improvement competencies among future dental professionals. The collaborative approach encourages open communication, mutual learning and shared decision making which empowers students being active participants in their learning journey. Moving forward, the continued integration of quality improvement opportunities into the dental curriculum can further enhance student learning and promote culture of excellence in patient care.

## Results

This quality improvement project had a standard set which was at 100% compliance with BOS guidance for two annotations of teeth in extraction correspondence.

### The first cycle, conducted by the previous final year dental students in 2023 showed the following:

- Overall compliance at 84%
- Specialists were shown to have met the standard at 100% but had the smallest sample size out of all the groups
- STRs had a compliance rate of 74%

These results were presented internationally and delivered to the department as an intervention by the previous 5<sup>th</sup> years in 2023

### As a result of this intervention (second cycle), the impact of evaluation for this quality improvement audit to date is as shown below:

- Reduced overall compliance with a decrease from 84% to 74%
- Specialists were shown to be unchanged at 100% compliance
- Consultants demonstrated no changes from 88%
- STRs showed improvement from 74% to 80%
- The new cohort introduced to the study: CTs were shown to only be 37.5% compliant
- The lack of compliance was shown to have stemmed from a lack of written longhand notation

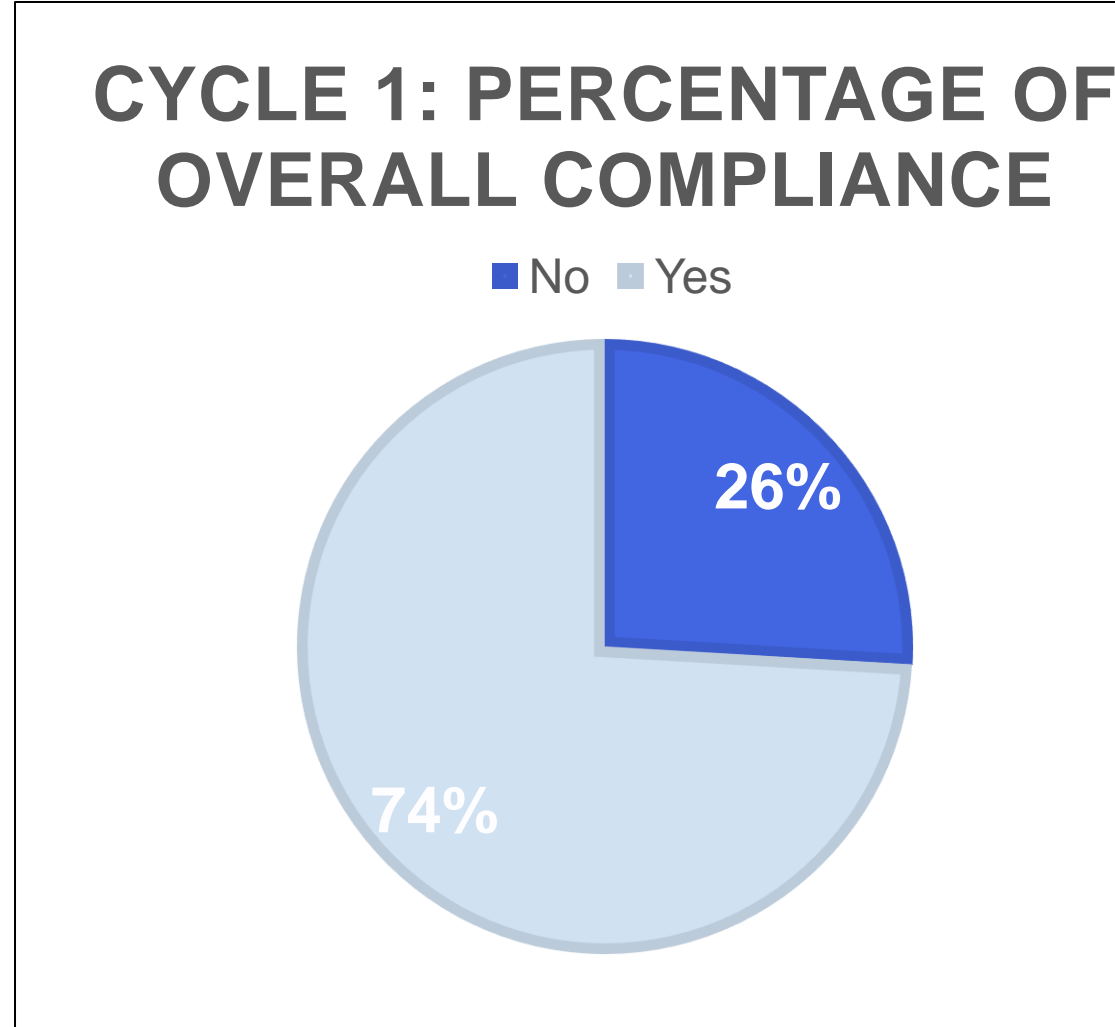


Figure 1: Cycle 1 results overall compliance % for entire cohort

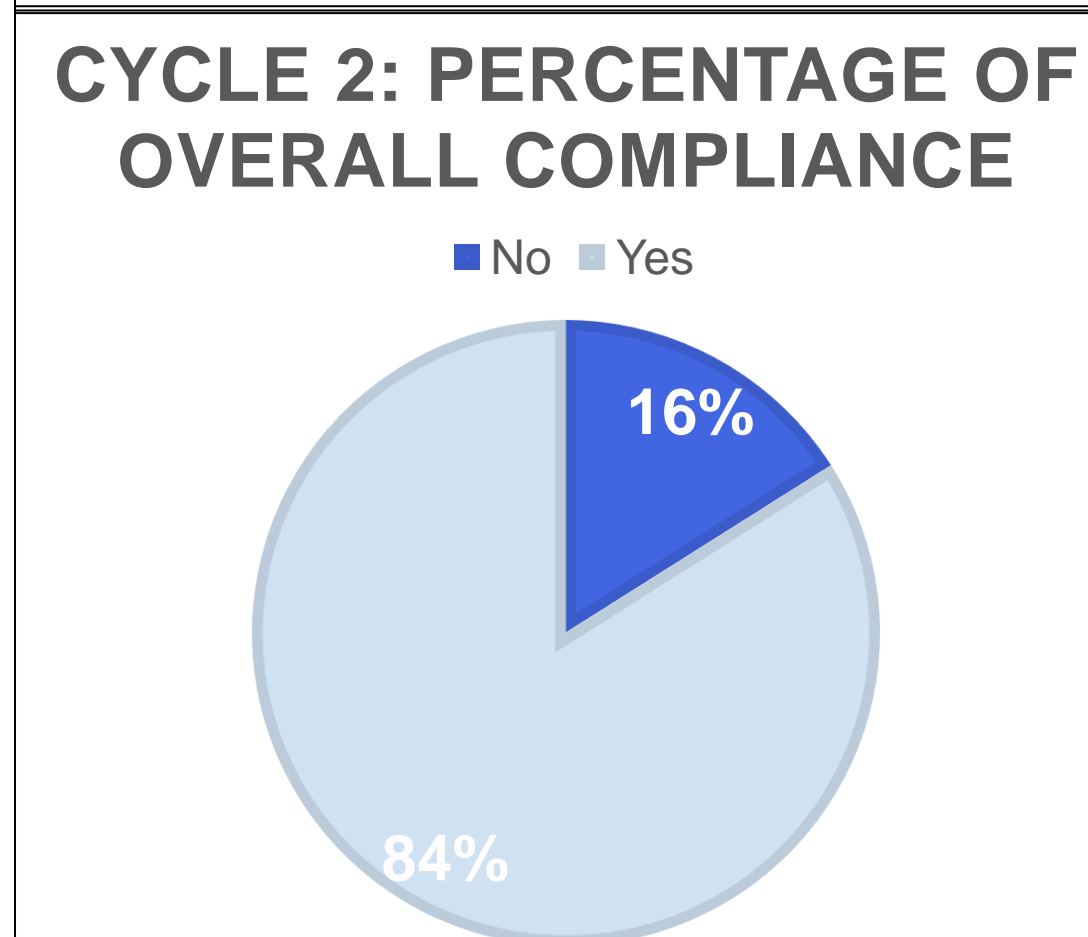


Figure 2: Cycle 2 results overall compliance % for entire cohort