

Nasogastric Tube Chest X-Ray Reporting at the Royal Surrey County Hospital

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INTRODUCTION

Correct placement of NG tubes when feeding is essential; A chest Xray is usually used to confirm the position if an aspirate cannot be obtained. Incorrect verification and documentation can lead to serious patient harm. This may include:

- A delay in initiating the feed.
- Aspiration pneumonia.
- Pulmonary hemorrhage
- Pneumothorax
- Death.

The issue of correct placement and documentation of NG tubes was initially raised by the national patient safety agency in 2005. This was in response to multiple incidents of patient harm resulting from incorrectly placed NG tubes used for feeding. Despite this warning a further 79 cases of patient harm were reported from incorrect NG tube placement between 2005 and 2013. Mis-interpretation of chest Xrays was the cause in 45 of those cases. As a result of this a further warning was issued by NHS England in 2013 and it remains on the list of never events for 2015-2016.

AIMS AND STANDARDS

This audit aims to study the documentation of NG tube verification against Local and National Guidelines. RSCH Guidelines (Red Book and Enteral policy) states that documentation should include the following:

1. The name of the person authorising the x-ray
2. Name of the two doctors confirming the position
3. Confirmation that any x-ray viewed was the most current x-ray available.
4. The rationale for confirming the position (Figure 1)
5. Documentation that the NG is safe for use

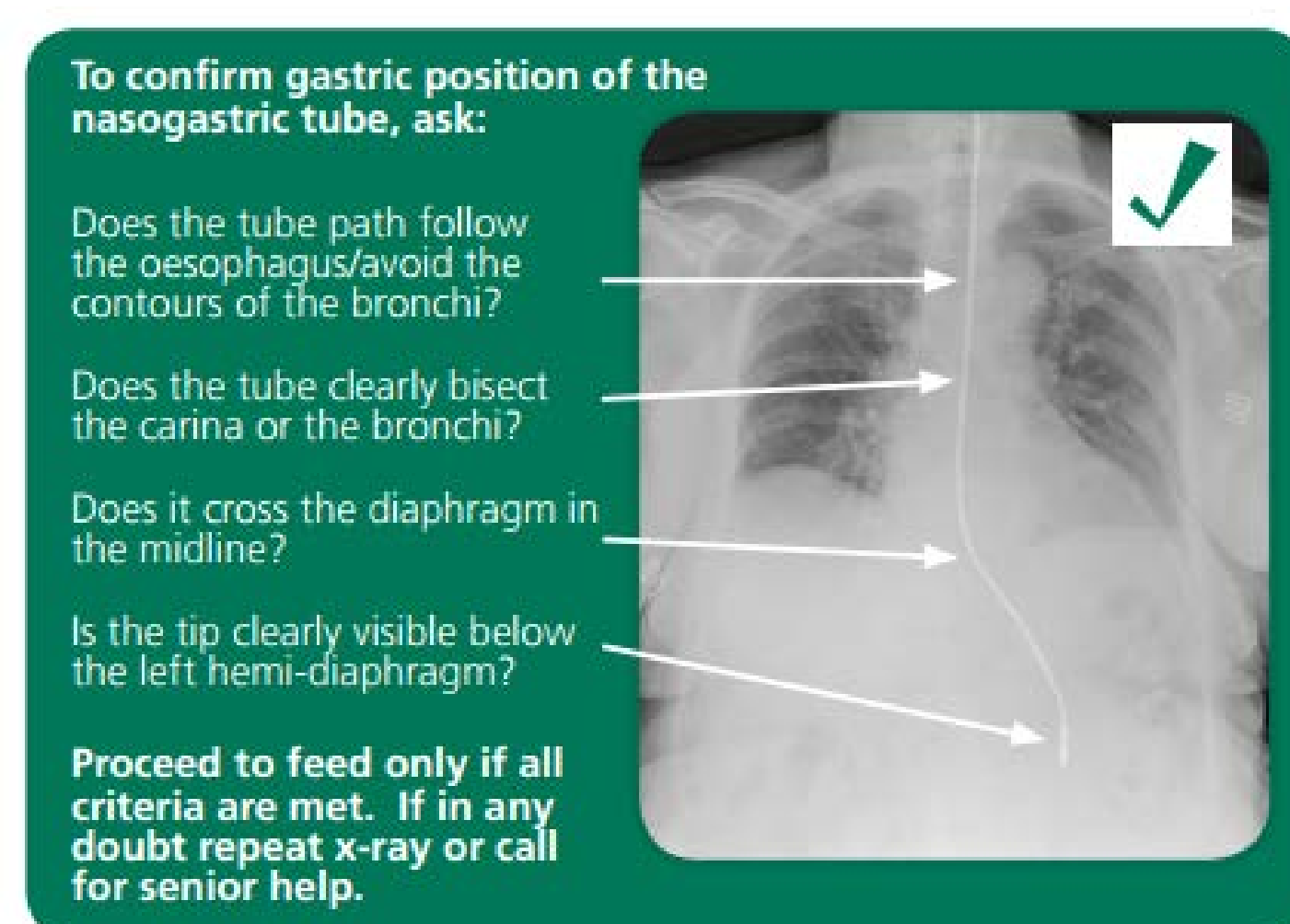


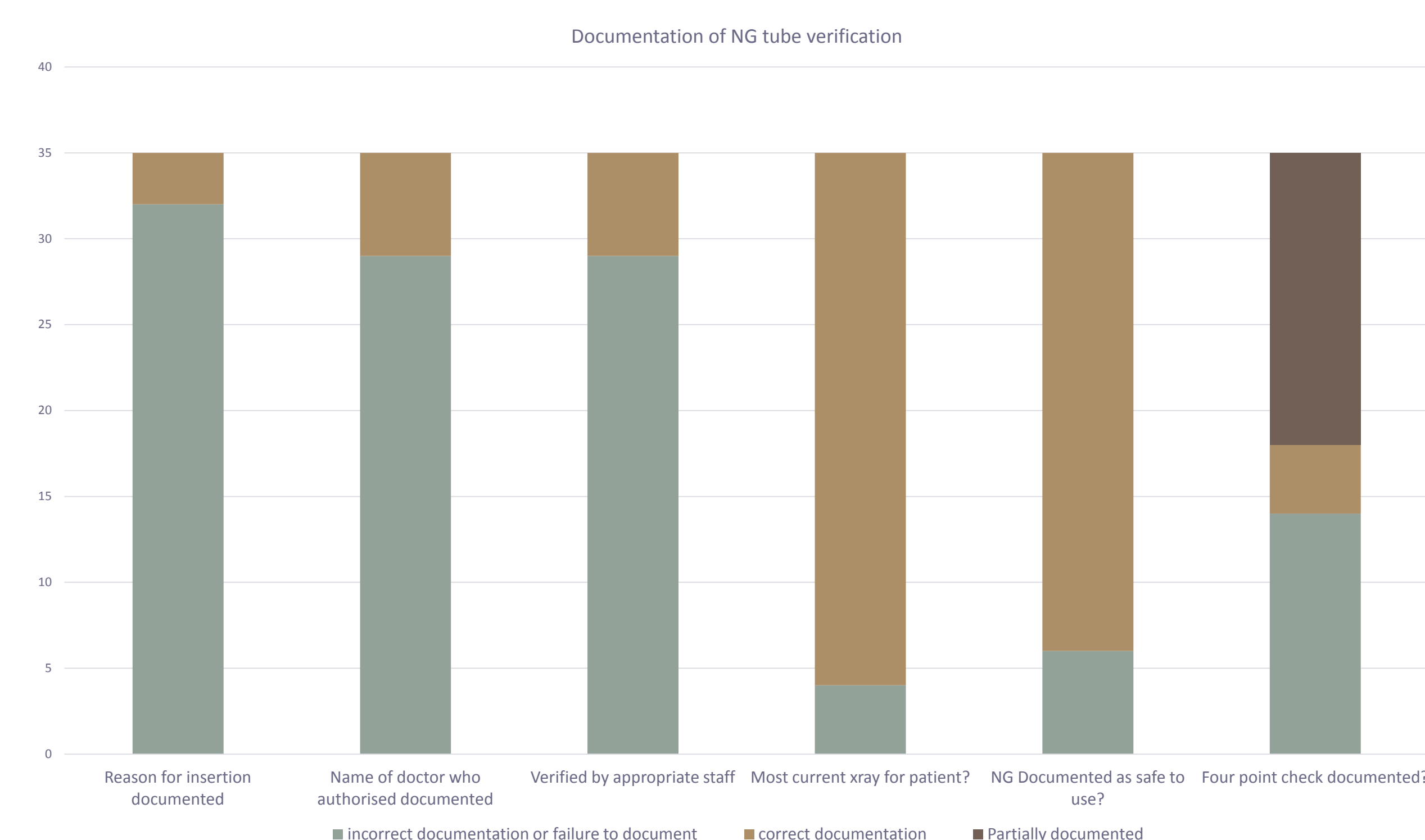
Figure 1

METHOD

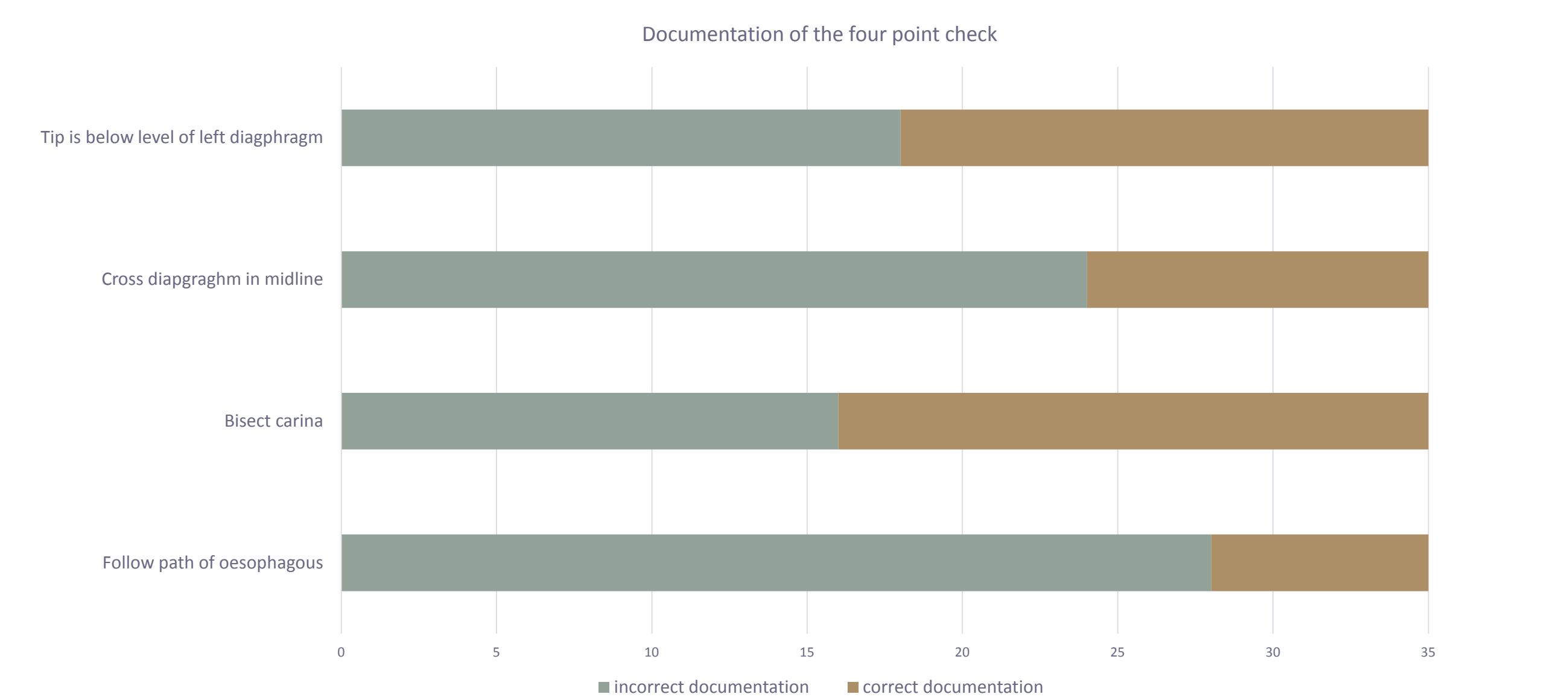
Patient notes (between April and May 2015) were retrospectively checked regarding documentation post chest X-ray for NG tube verification. 35 cases were identified, and these were scrutinised against the local guidelines.

RESULTS

The results collected as part of this audit are represented in the graphs below



The results from the four point check is further broken down to highlight the areas that were frequently missed



DISCUSSION

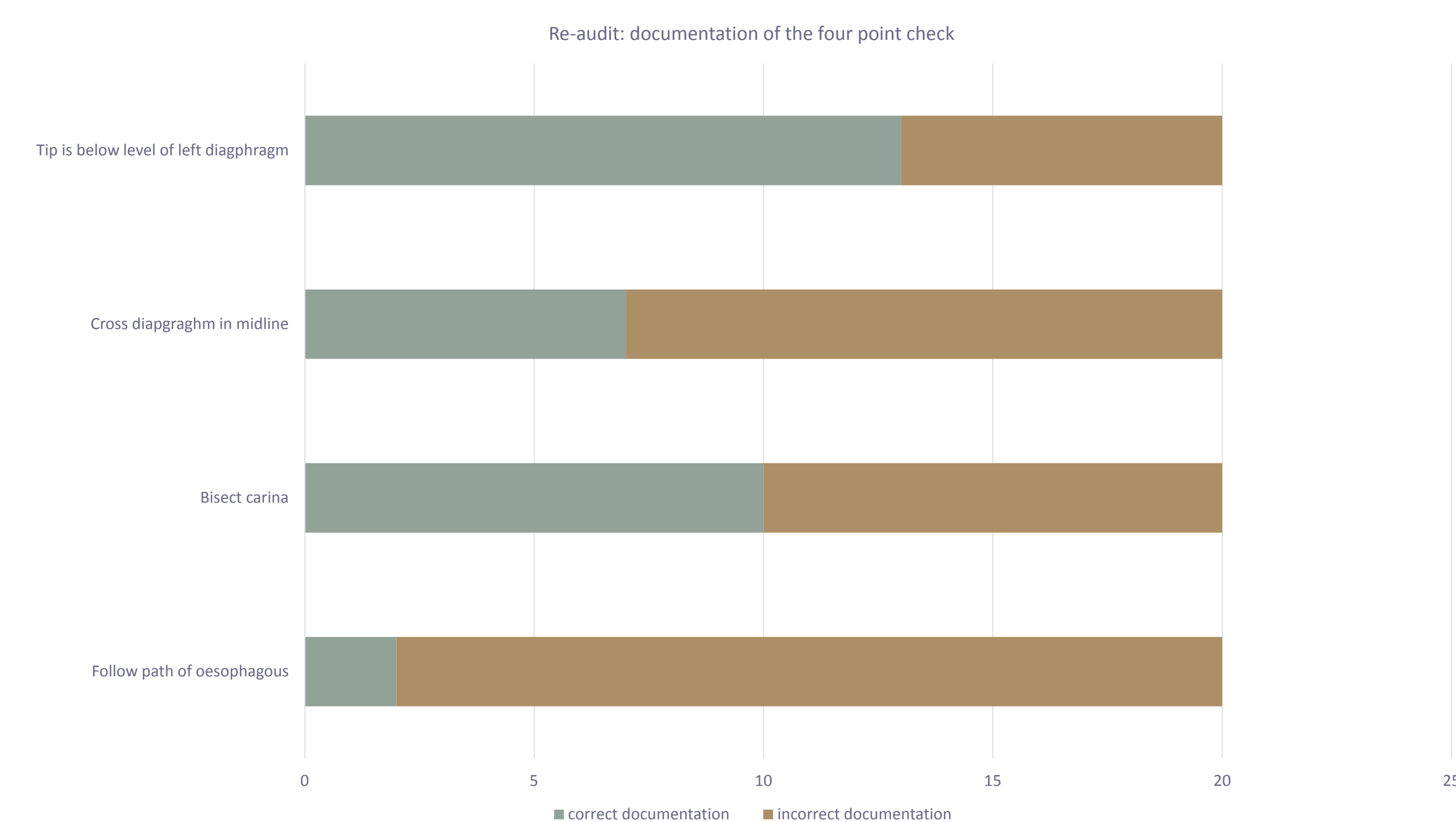
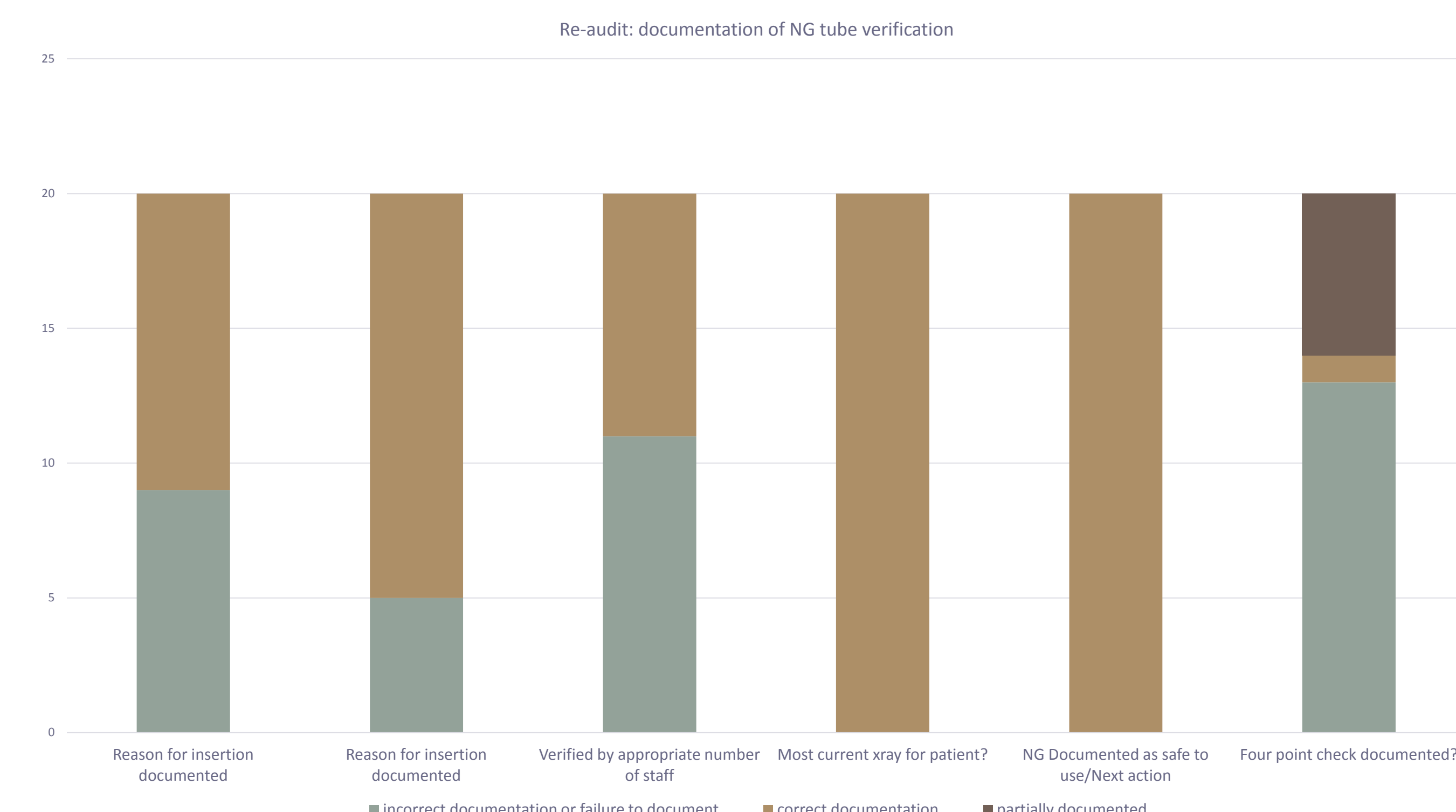
The results above show that despite warnings being issued by NHS England in 2013 relating to the dangers of misplacement of NG tubes, they continue to be inaccurately documented in notes.

In response to this a few planned interventions will be implemented at the royal surrey in the next year. New NG tubes with stickers outlining the full checklist are to be introduced into the trust. Posters in doctors' offices informing them how to correctly verify and document NG tube xrays will be introduced. The guidelines on how to verify NG tube placement on chest xray will be emailed to all new doctors at the trust.

NG tube documentation will be re-audited in the future, after these interventions are implemented.

RE-AUDIT

A re-audit was done between august and October of 2015. the results of the re-audit is shown in the graphs below.



OUTCOME

The re-audit results show a slight improvement in the documentation of NG tube verification on chest xrays. This suggests that our method of increasing awareness of the issue has had some positive impact.

To date the new NG tubes with stickers outlining the full checklist have still not been introduced at the trust. This is likely to have a significant impact on the results and a re-audit after its introduction will be conducted.

As NG tube verification tends to be done by the most junior member of the team. We suggest introducing formal teaching to all new FY1 and FY2 doctors during their induction week.