Quality Initiative to Improve the Transcription Process of Image Requisition Documentation

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Introduction

Inaccurate and incomplete information remains a persistent and serious problem in multiple radiology settings [1-2]. Accurate study indications and clinical histories have been shown to improve interpretive accuracy and efficiency, can potentially affect patient safety, and carry billing implications [1-5]. Prior studies have revealed that as many as 30% of requisitions lacked adequate clinical indications for the study, and 24% lacked clinical information vital to proper image interpretation [3,5]. Registration clerks are an important source of errors, both grammatical and clinical information vital to proper image interpretation. Clerks play a critical role in choosing which information to transfer from the clinical provider’s order to the radiology imaging requisition [1]. The purpose of our study was to improve the transcription process of image requisition documentation involving the radiology information system (RIS) (Figure 1).

![Image 1. Information pathway.](image1.png)

Materials & Methods

- Five hundred radiographic examinations were chosen randomly from the Picture Archiving and Communication System and categorized according to their degree and quality of concordance of the study indication with their corresponding clinical order.
- A root-cause analysis was performed (Figure 2). Cause and Effect Analysis
  Date: August 2016
  Cause: Inaccurate
documentation
  Effect: Clinical	Order

- Lack of Knowledge
- Lack of Medical Terminology
- Lack of Grammar/Spelling Check
- Lack of Reminders
- Manual Data Entry

Problem:

Inaccurate Documentation On RIS

- Human Error
- Unaware of Importance

People

Environment

Methods

- An intervention was performed focusing on education of staff responsible for the transcription process, which included a team meeting and reminder poster placed at each workstation.
- A second sample was obtained one month following the intervention and a comparison was made using the Chi-square test (P<0.05 was considered statistically significant).

![Image 2. Root-cause analysis.](image2.png)

Results

<table>
<thead>
<tr>
<th>Degree of Concordance</th>
<th>Pre-intervention(%)</th>
<th>Post-intervention(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Discordant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partially Discordant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concordant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Image 3. The degree of concordance between information appearing on clinical order compared to information transcribed to RIS before and after intervention.](image3.png)

<table>
<thead>
<tr>
<th>Quality of Concordance</th>
<th>Post-intervention(%)</th>
<th>Pre-intervention(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low - Low indication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest</td>
<td></td>
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</tbody>
</table>

![Image 4. The quality of the concordance between information appearing on clinical order compared to information transcribed to RIS before and after intervention.](image4.png)

![Figure 3.](image3.png)

![Figure 4.](image4.png)

![Diagram 1. Information pathway.](image1.png)

Conclusion

Evaluating staff members responsible for transcription of study indication and clinical history, along with a reminder poster placed at each workstation, significantly improved the concordance and quality of the information presented to radiologists on the RIS document.

Future Directions

- While a statistically significant improvement was seen, the longevity of these improvements is unclear. A future study would be beneficial to explore the long-term effects of the intervention, and whether periodic repeated interventions could extend the longevity of the positive effects.
- Technology can serve as a source of improvement, such as implementation of a spell check function.
- Computerized Physician Order Entry implementation may eventually eliminate the need for transcription.

References