Exposing Inaccuracies and Enhancing Revenues with Generative AI-Assisted Revenue Cycle Management in Radiology: A Quality Improvement Multiplatform Study

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Background

Radiology billing involves translating clinical services into standardized codes for accurate reimbursement, requiring thorough report reviews, and adherence to AMA's Current Procedure Terminology (CPT) codes.

- At our institution, embedded CPT codes in test orders instead of professional coders has resulted in inaccuracies, revenue loss, and compliance risks.
- There is increasing complexity of multimodality imaging and challenges of keeping CPT codes updated
- In this study, we explore the utility of Generative AI-assisted coding to enhance accuracy and increase revenue.



Methods

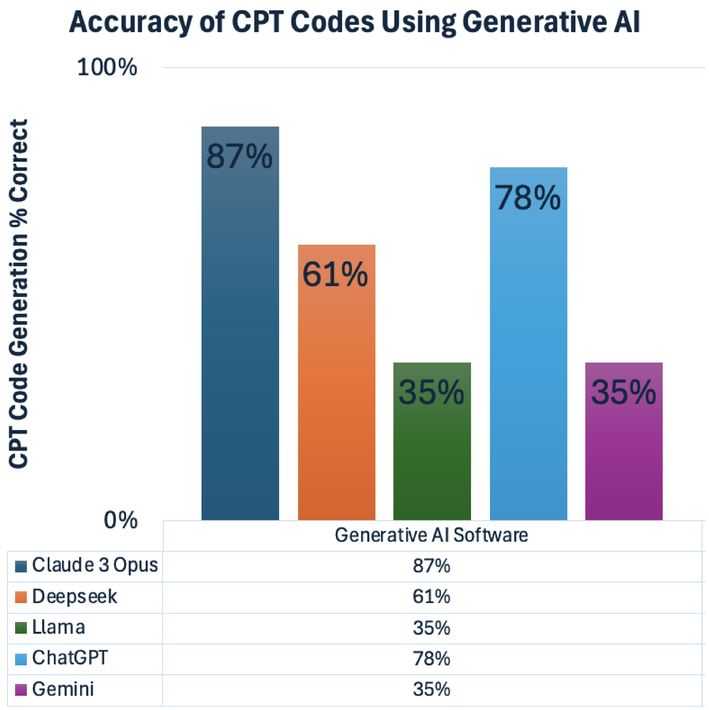
We retrospectively exported radiology reports for 15 different studies including US (11), CT (1), and MRI (3) modalities.

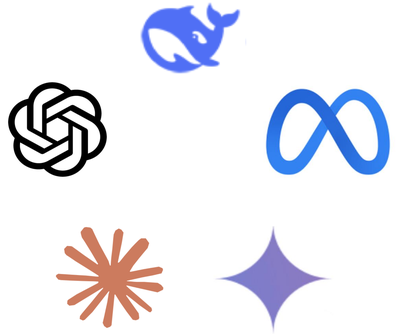
The report text with the study order, technique, modifier keyword details such as doppler, 3D reconstruction mentioned were processed with five popular Generative AI engines and compared to the *AMA Current Procedural Terminology, Professional Edition 2024* as the standard of reference.

Results

The accuracy of CPT codes generated by AI is depicted in the figure. Additionally, Generative AI produced three accurate CPT codes that were not billed for at our academic institution. These included the following:

- Addition of Doppler to scrotal US (93975)
- 3-D reconstructions on a separate workstation (76377)
- US Elastography (76981)





Summary

- In a small sample of 15 studies, Generative AI produced three accurate CPT codes not billed for at our academic institution.
- Accuracy was variable across AI engines, but as high as 87%
- This study suggests that AI may be a helpful tool for producing accurate CPT Codes.

References

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