

Surveying radiologists to determine the value of AI-based automated measurements and reporting of organ volumes in the clinical workflow

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Purpose

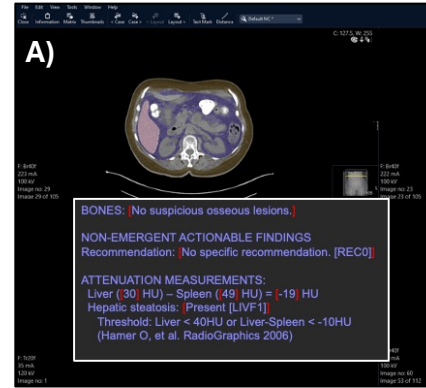
- Although there has been extensive work on AI algorithms, examples of clinical implementation are far fewer.
- Clinical AI applications must satisfy stakeholder needs given excitement and skepticism about their use.
- We developed a cloud-based platform for automatically analyzing abdominal CT using AI, reporting results in PACS.

Materials & Methods

- IRB approved.
- We deployed a Qualtrics online survey assessing the utility of automated measurements and the design of the AI.
- Radiologists participated in the online survey. Survey takers received an online link and were de-identified.
- Survey results analyzed using JMP Pro 16.
- Contingency analysis used to determine associations between categorical variables using the chi-square test.
- Question responses plotted on a Mosaic plot to identify response variations to target areas for further development.

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Results

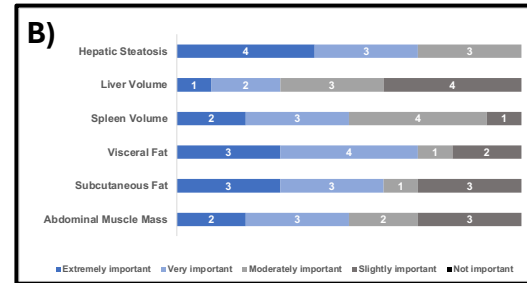


A) Screenshot of the in-house software platform showing AI-generated labels (top). The text box (bottom) shows the image-derived report generated by the AI platform for radiologist review. B) Radiologist assessment of the utility of several automated measurements. C-E) Radiologist assessment of the design of the AI system.

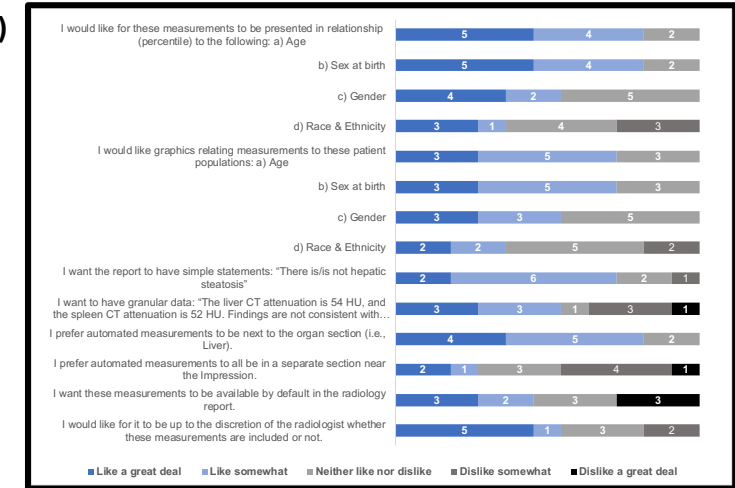
- Responders answered questions on a computer or mobile device.
- 3 of 5 responders desired additional education about how AI results would be used for patient care.
- An equal number were ambivalent or slightly negative about the inclusion of race/ethnicity in automated reports.
- All responders agreed that AI results would be useful for research and quality improvement.
- All responders agreed that there should be a mechanism for radiologists to provide feedback on AI results.

Conclusions

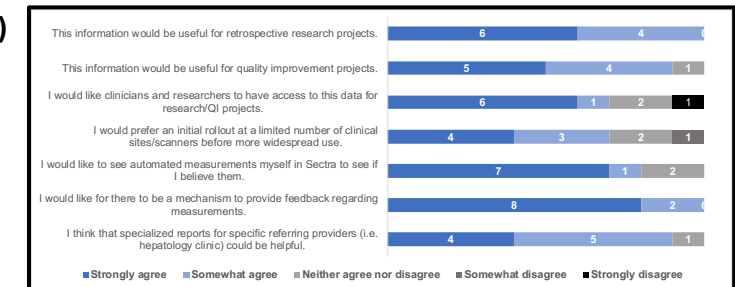
- Our software delivers the results of multiple AI algorithms, including an image overlay and quantitative measurements.
- We present survey results to assay the value of the AI platform in routine clinical workflow. This will be used to improve the platform.



C)



D)



E)

