

# **MAKING MEDICAL IMAGES MEANINGFUL: PATIENT-ORIENTED REPORTING USING STRUCTURED TEXTUAL AND GRAPHICAL IMAGING TOOLS**

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## **Background**

Medical imaging is the foundation of radiology and used in the diagnosis and treatment of disease. A patient-provider understanding of imaging findings is essential for shared decision making. Medical images depict complex information about internal anatomy and the impact of images are limited if not presented in a meaningful way. Radiologists communicate interpreted results via text reports. Reports are made available to patients but are difficult to comprehend because radiologists communicate on many findings. Reports contain technical language related to diagnostic accuracy and are not standardized.

## **Objective**

Creating tools for patients to better understand their medical imaging information will empower patients to become more informed partners in their own care. Our goal is to create and validate tools for sharing radiological information with patients. We hypothesize that structured textual and graphical representations of radiological information will facilitate a better understanding among patients than standard reports. We will use prostate cancer cases to test this hypothesis because (1) treatment options weigh a variety of patient preferences, (2) radiological imaging is essential to stage the disease and evaluate treatment options, and (3) the time-course of the disease allows time to deliberate treatment options.

## **Methods**

Aim 1: Create information models of prostate cancer.

Aim 2: Create structured textual image reports (STIR) tools and graphical image reports (GIR) tools for communicating medical imaging information.

Aim 3: Determine the most effective presentation method for imaging information.

## **Results**

Study is still under progress however we are expected to have a patient-structured system that contains both textual and graphical terms to describe the imaging of prostate cancer and also an understanding of the efficiency and usability of patient-orientated STIR and GIR tools for conveying medical imaging information.

## **Conclusion**

This project will demonstrate how to effectively communicate medical imaging information to patients. Tools can be incorporated into decision aids to facilitate patient-provider communication and shared decision making.

