

INTRODUCTION

Cancer waits for nobody; the sooner a patient can be treated the likelihood for malignancies and tumor size will be more maintainable. Therefore, its pertinent that clinics are efficient in their task to provide the best care possible. However, with the multiple staff members involved, tasks can become quite challenging to track, and tasks can slow down due to the chaos of the system. Thus, by developing a system that provides feedback can reduce bottlenecks and provide insight into the planning process. The purpose of this study is to develop an integrated system that allows for real-time clinical status of patient plans and alerts clinical staff to delays.

AIM

Reduce the overall time required for treatment planning while trying to improve quality. Ultimately enhance the clinic's efficiency and gain greater insight into clinical deficiencies.

METHOD

Using the Python language, a set of scripts were designed to read the MOSAIQ database information for currently active patients. These scripts were set to update information at regular intervals unless manually requested. Information was assimilated based on treatment type, attending, and required tasks. Based on task generation and due times, a set of stoplight colors is assigned to each active task that changes over time. Time calculations for each task item were limited only to the working hours of the clinic. Information was then displayed using python's flask package as an interactive webpage. Items displayed hold comments on a task when available, and colors are changed based on how long the task has been open. Multiple webpages are generated based on clinical needs and requirements. Also, the system also will send out encrypted emails to staff about important past due items or upcoming items.

RESULTS



Figure 1: The main dashboard holds all currently active patients on it with open tasks being displayed as large green, yellow, and red circles. When a task has been completed, a small blue circle will appear in the larger circles place. The page displays each patient with their attending and dosimetrist assigned to the plan. A running total of clinical time can be found unfound since sim and validation times appear once the patient has been fully scheduled into our system. The dashboard is fully sortable by clicking on a specific task or can be filtered by attending or dosimetrist with a drop list. Users can also open tasks to review any comments that were generated within MOSAIQ.

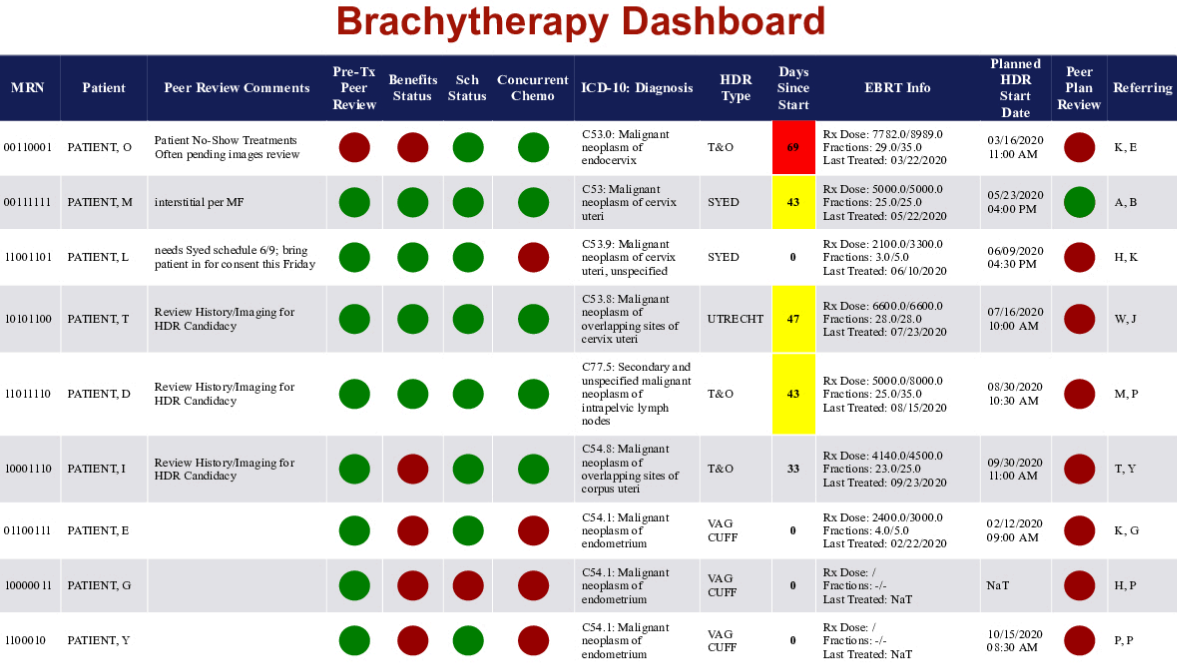
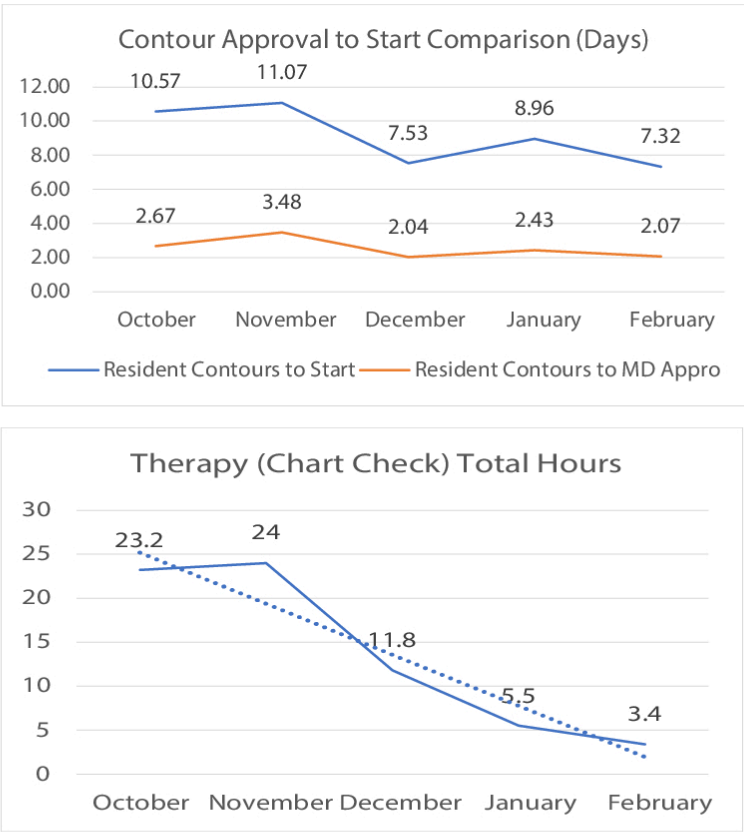


Figure 2: Multiple dashboards were created based on the tasks required in the department. Figure 2 shows how the current page for tracking all Brachytreapy patients in the clinic looks. Similarly to Figure 1, task colors change depending on the time spent. In addition, this chart also shows the type of HDR treatment, current days into treatment, and the amount of radiation planned. Using all this information has made the physician's job of keeping track of patients for HDR much easier and generating a physician's schedule with HDR patients.

CONCLUSION

The whiteboard tool is relatively new and has room for improvement and functional improvements, however, it has already shown to be a good implementation into the clinic with a 7% reduction in overall treatment planning time. We hope to further improve our clinical efficiency by introducing more ways to visualize all the clinical activites better while also changing task timing and how notifications work.

TRACKING TRENDS



The whiteboard system has been active clinically for six months now and shown an overall average of 7% in time reduction for the overall treatment planning process. While the patient load has increased, each task set and department within radiation oncology was shown to have reduced their time to complete tasks over this period. Statistics for each task have been reported monthly to the administration and has allowed them to generate better policies and practices to alleviate more common issues.