

# Evaluation of CT-Simulation Delays As A Component of Quality Improvement Strategies to Decrease the Time to Treatment Initiation (TTI) for Radiotherapy Patients



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## BACKGROUND

Current radiation oncology practice is heavily based on image-based planning and delivery that requires acquisition and integration of multiple imaging modalities, including CT, PET and MRI.

The first step of the planning process is performance of a CT simulation (CTS), often with IV contrast media, to obtain volumetric information to delineate tumor target and organs to be spared. The use of media requires patient pre-screening for potential adverse reactions and medical conditions that might be contraindicated. It is important that this screening occur prior to the scheduled procedure to avoid CTS delays and postponements that contribute to delays in treatment initiation that negatively affect patient care.

## PROJECT AIM

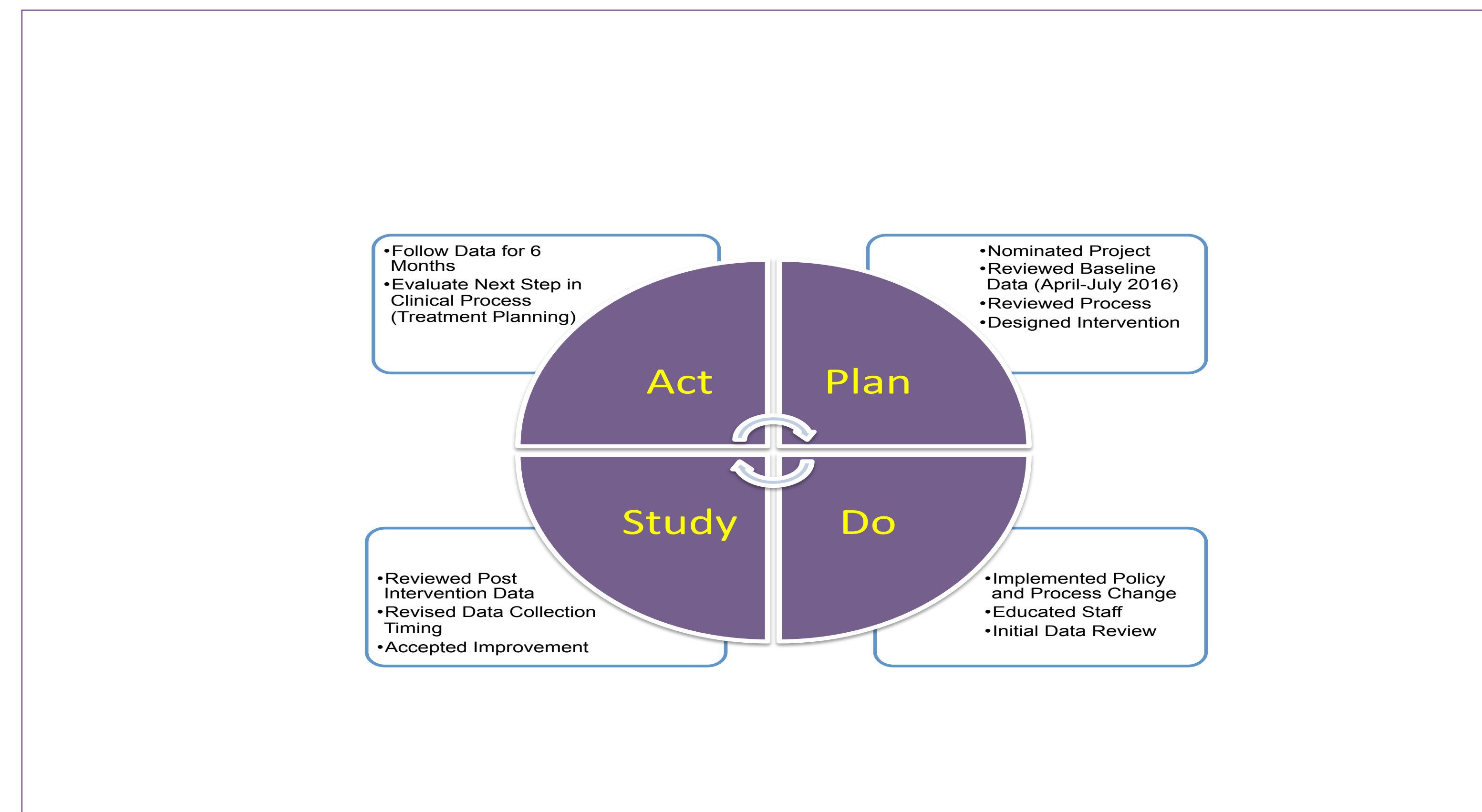
The purpose of this study was to examine the process, incidence of delays, root causes, and reduction strategies to minimize CTS delays as part of an overall plan to decrease the time to treatment initiation (TTI) for patients receiving radiation therapy at the Leo Jenkins Cancer Center.

## PROJECT DESIGN/STRATEGY

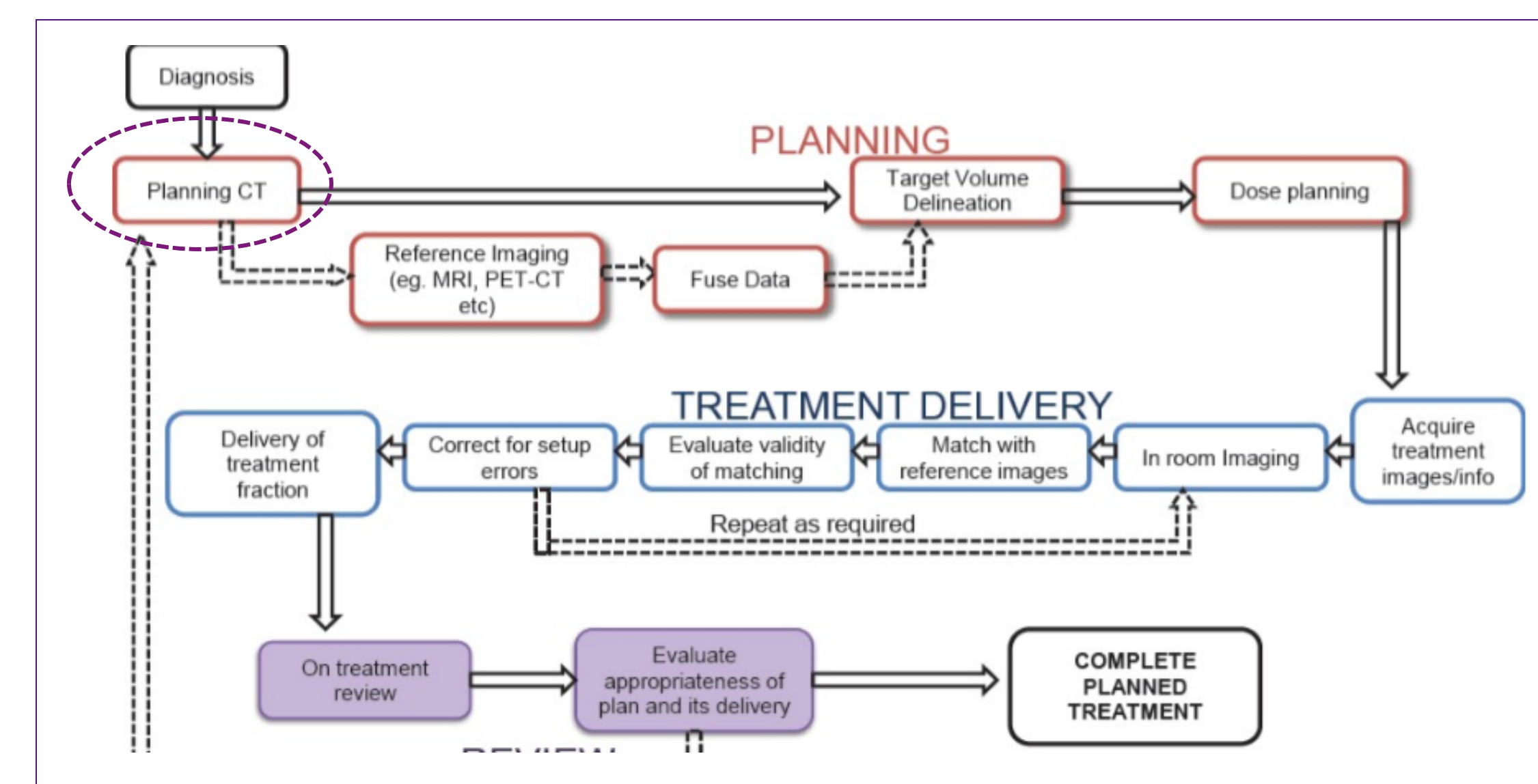
Baseline data were collected from April-June 2016 to determine the number of delayed or postponed CTS procedures. These data revealed that 7 out of 27 patients (25.9%) were delayed due to the absence or incomplete contrast screening forms.

An intervention was introduced in August 2016 that required: 1) nursing to complete an IV contrast risk assessment form at the time of initial patient evaluation 2) anticipated CTS procedures to be scheduled at the completion of the evaluation, 3) staff instructions that CTS procedures can only be scheduled with an accompanying risk assessment, and 4) requirement that patients for IV contrast have a scheduled nursing appointment 30 minutes prior to the CTS procedure to review IV risks. Post intervention review was performed with modifications to data collection from August-December 2016.

## CHANGES MADE (PDSA CYCLES)



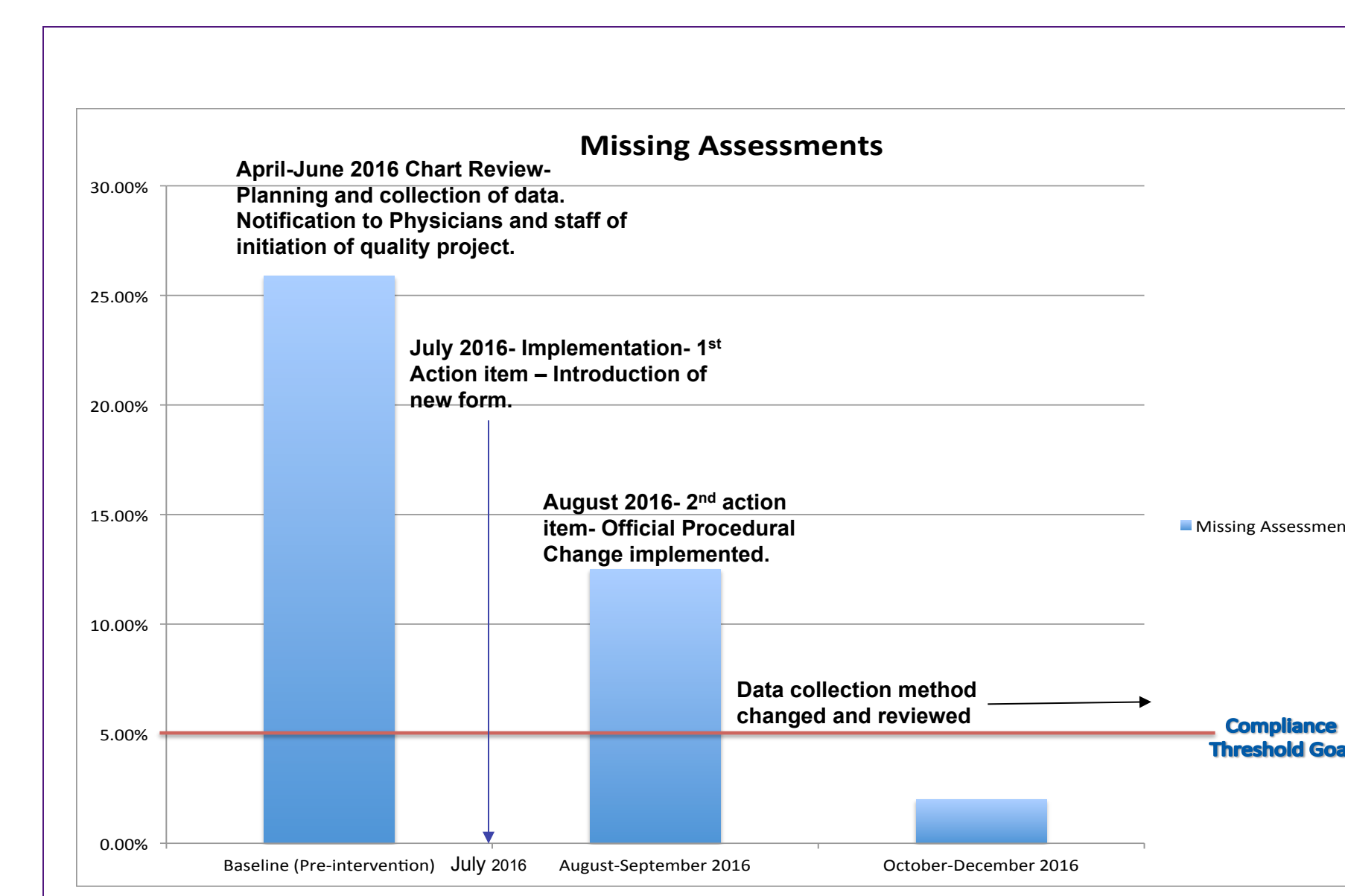
## CLINICAL PROCESS MAP



## RESULTS/OUTCOMES

Review of data in the 2 months following the intervention (August-September 2016) showed incremental compliance improvement. During this period, 5 of 32 patients (12.5%) were missing IV assessment documentation, compared to 25.9% prior to the intervention.

For the last quarter (October-December 2016) only 1 of 48 patients (2%) had missing documentation.



## LESSONS LEARNED

Provision of optimal oncology care requires departmental operations that minimize delayed or cancelled appointments that contribute to prolonged TTI. The overall improvement noted as a result of this project was a combination of: 1) process improvement, 2) enhanced compliance, and 3) revisions in data collection timing relative to scheduled procedure. Intervention efforts over the course of the project were adjusted as we learned root causes of contributing factors. This project is one minor aspect of the TTI process, and provided a framework to investigate other processes that impact the total TTI.

## NEXT STEPS

Data will be collected as an ongoing quality monitor and reported at the monthly department quality committee meeting until a 95% compliance rate is attained for six consecutive reporting periods. Interventions and policies will be amended, as necessary, to maintain threshold. Subsequent CQI projects will examine performance of serial processes "downstream" from the CTS procedure to evaluate overall improvements in TTI.

## ACKNOWLEDGEMENTS

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