Moving Towards Timely Delivery of Radiation Therapy
Treatment Plans to Ensure Quality Check Prior to Treatment Delivery

**Singapore Healthcare Management 2015**

**Mission Statement:**
To reduce the percentage of delayed delivery of treatment plans by planning to Quality Improvement team for quality checks 24 hours (1 Day) before treatment starts from 30% to 20% in 6 months.

This project is of great importance because:
- It is in alignment with one of NCCS & SingHealth Priority: Safety First
- To increase efficiency and productivity of the planning department
- To enhance staff job satisfaction

**Background:**
Current practice requires all Radiation therapy treatment plans from planning team, to be delivered to Quality Improvement team (QI) who are the radiation therapists, for checks at least one day before the start of patient’s radiation therapy as per department benchmark.

**Intervention 1 - PDSA**
Arrange 4 ROs’ patients CT schedule according to their non-clinic days so that they can delineate the planning volumes on their non-clinic days.

**Intervention 2 - PDSA**
Plan approved on Eclipse Planning system by RO & Paperless printout in Mosaiq for Planners

**Intervention 3 - PDSA**
Introduction of RT planners to increase manpower in planning department

**Intervention 4 - PDSA**
To reduce the number of pages for printing breast field border measurement and write up for breast cases during 1 check

**Results of number of late cases to QI:**
From June to September after different interventions

**Chart 1: Baseline (Delayed cases to QI from March to September 2014)**
- After the intervention, the median is still quite high
- The delay in delineation was due to the ROs having ad-hoc meetings or CT scan procedure was booked when they were on leave or conference
- This intervention will be on hold for the time being, while we work with Mosaiq staff to come up with an automated scheduling system to include RO’s leave schedule

**Chart 2: Volume of cases from May to September 2014**
- There is a drop in the median percentage (50% to 17%) of cases that were started late weekly after the intervention
- By creating more Radiation therapists into planning, the total numbers of planners increase and thus more plans can be started promptly and delivered to QI on time

**Chart 3: Time taken to complete 1st check**
- By getting the ROs to approve the plan on the planning system for virtual simulated plans has significantly reduced the time for dosimetrists to check by 50%
- We are looking into spreading this paperless approved workflow to AVR (intensity modulated radiation planning) planning treatment technique

**Chart 4: Percentage of cases that were started late by Dosimetrists after volume delineation by RO**
- Radiation therapists are rotated into planning to be trained as RT planners
- Much faster to print
- Radiation therapists are rotated into planning to be trained as RT planners
- To reduce the number of pages for printing breast field border measurement and write up for breast cases during 1 check

**Chart 5: Delayed cases to QI from March to September 2014**
- There is a drop in the median percentage (30% to 10%) of cases that were started late weekly after the intervention

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