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PURPOSE

During the COVID-19 pandemic, stage migration has led to patients presenting later with more advanced cancers requiring complex treatment. Hypofractionation of radiation therapy treatments was also implemented as a strategy to reduce the number of patient visits to Cancer Centres. This initiative reports a Regional Cancer Centre's experience of how radiation therapy activity has changed since the COVID-19 pandemic.

MATERIALS AND METHODS

The number of CT simulations, treatment plans, and fractions were extracted from the MosaiQ oncology information system for:

- Fiscal year (FY)s 2019-20 to FY2022-23.
 - FY2019-20 represents pre-pandemic activity
 - FY2020-21 represents the first pandemic year.
 - FY2022-23 represents recovery after the pandemic
- The trend by type of treatment plan was also evaluated.

RESULTS

For FY2020-21, fractions, CT simulations, and treatment plans decreased by 20.6%, 4.6%, and 4.3% respectively, compared to FY2019-20. Activity volumes continued to recover and in FY2022-23, fractions was 9.5% below pre-pandemic activity. However, CT simulations, and treatment plans were 9.2% and 7.6% higher respectively, compared to FY2019-20 (Fig. 1).

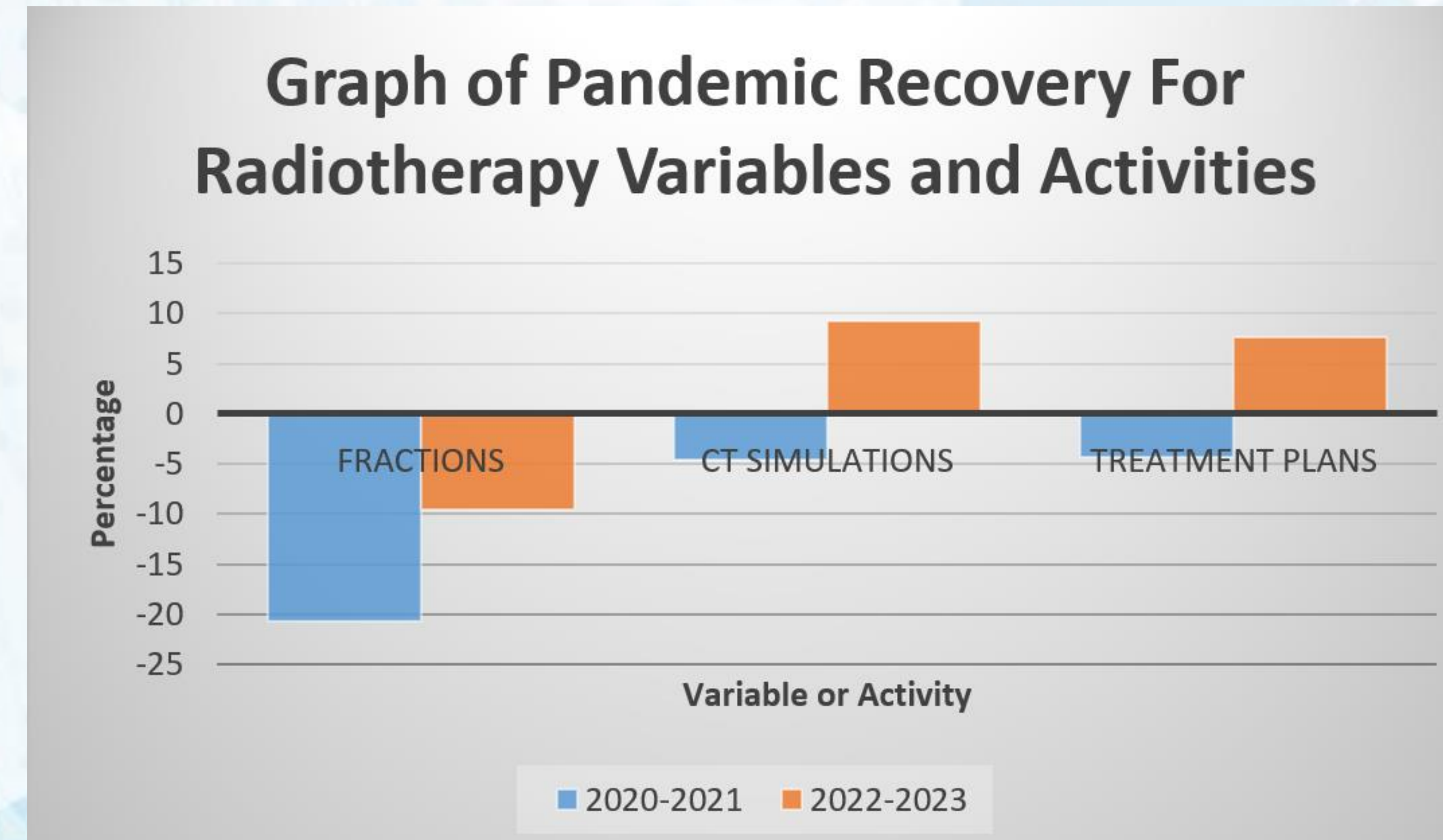


Figure 1: Graph of Pandemic Recovery in FY 2022-23.

Evaluation by plan type also identified an increased of more complex treatment planning using VMAT which was 45.8% higher while the increase in all plans were 7.6% higher (Fig. 2).

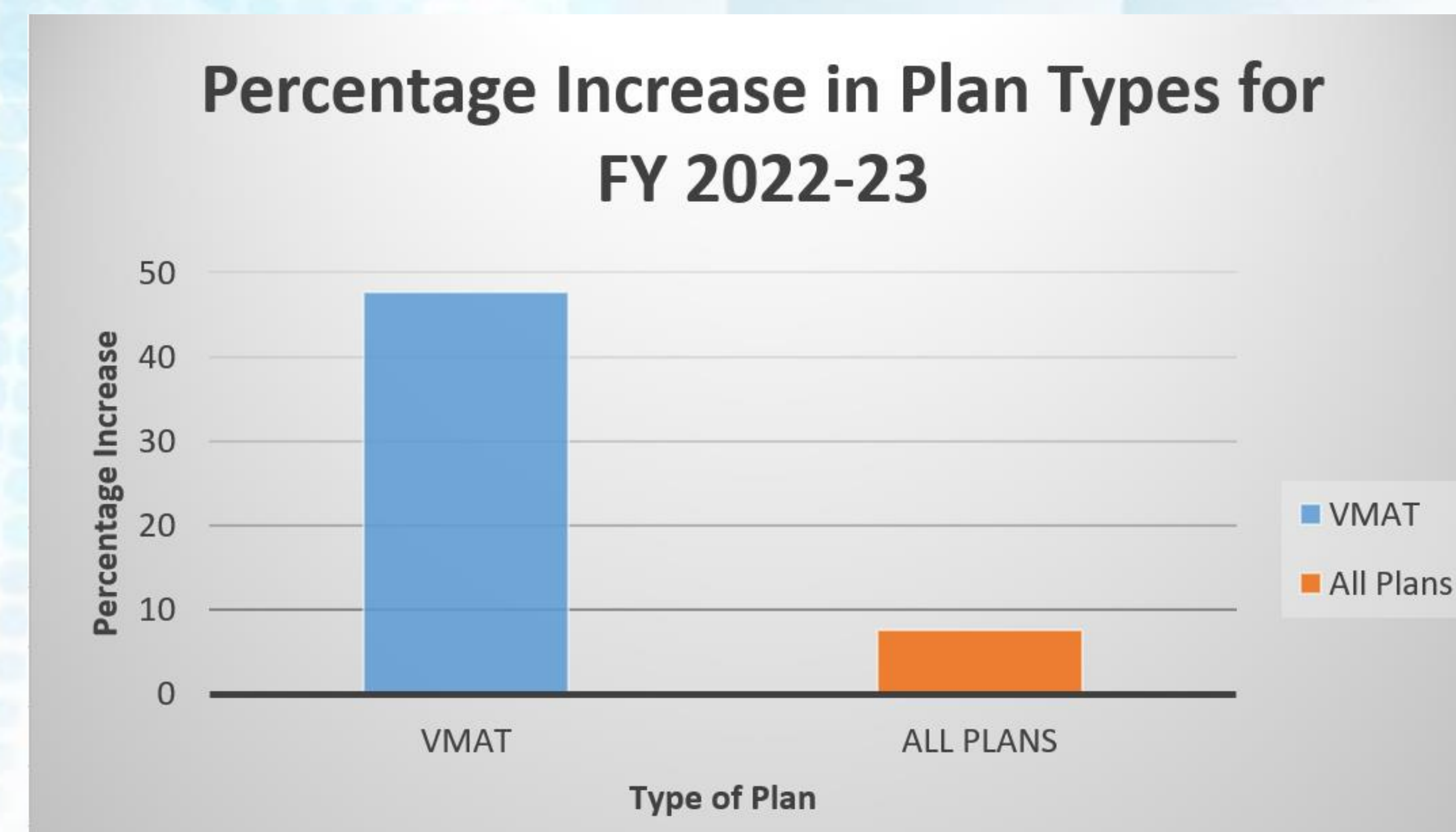


Figure 2: Graph of Percentage Increase in Plan Types.

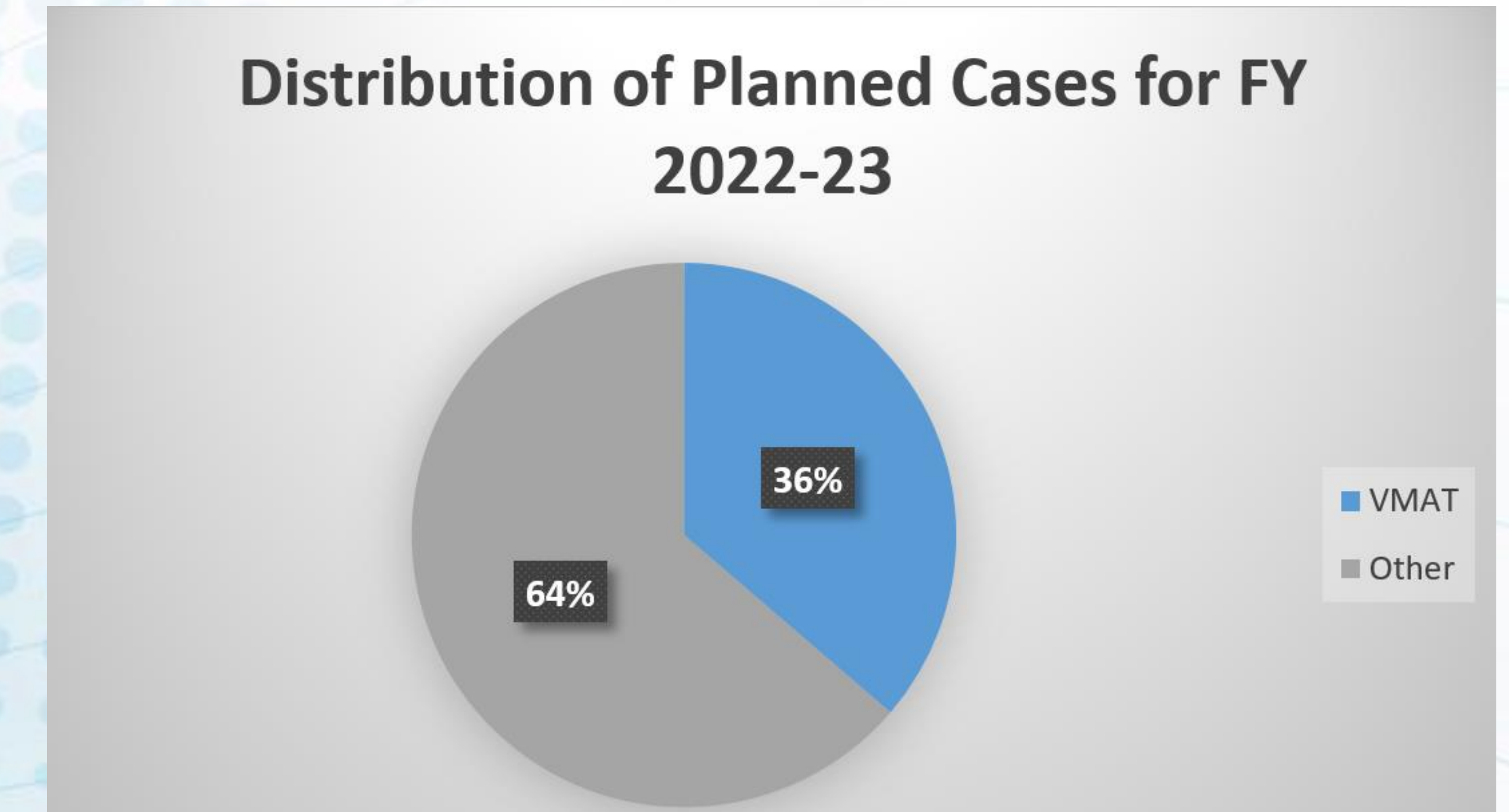


Figure 3: Distribution of Plan Types for FY 2022-23.

For FY2022-23, VMAT plans represented 36.3% of the total treatment plans (Fig.3).

CONCLUSION

Radiation therapy activity has shifted upstream compared to pre-pandemic activity. The increased use of more complex treatment plans can be partly explained by increased patient complexity. However, future research is needed to further understand the impact of stage migration and complexity of treatment planning. In planning for the future, the trend observed has implications for how radiation therapy health human resources are allocated to better align with the distribution of activity. Specifically, this generates greater intensity of activity in treatment planning, including quality review to ensure safe delivery and optimal patient experience. This trend might also have implication for provincial cancer agencies in capital infrastructure planning.