RO-ILS®
RADIATION ONCOLOGY
INCIDENT LEARNING SYSTEM
Sponsored by ASTRO and AAPM

CLARITY PSO
A Patient Safety Organization

AGGREGATE DATA REPORT

Quarter 3, 2021

July 1 - September 30, 2021

Patient Safety Work Product

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Aggregate Report Card

The timeframes utilized throughout this report are based on the timepoint of event submission (i.e., when the event was initially entered into the RO-ILS Portal, when the "Submit Event" form was completed). The national aggregate database only includes events that have been reviewed and reported to the PSO, which occurs after submission. All information in this report represent data in the national database. For this reason, the amounts provided for previous timeframes may change as older events are reviewed and reported to the PSO.

METRIC	Q2 2021	Q3 2021	AGGREGATE HISTORICAL SUM
Total Number Of Events	**1052**	**920**	**19661**
Therapeutic Radiation Incident Other Safety Incident Near Miss Unsafe Condition Operational/Process Improvement	104 93 136 318 401	74 74 114 369 289	2596 2361 3883 3055 7766
Most Commonly Identified Workflow Step Where Event Occurred	**Treatment Delivery Including Imaging** 41% (430/1052)	**Treatment Delivery Including Imaging** 50% (457/920)	**Treatment Planning** 31% (6015/19661)
Most Commonly Identified Workflow Step Where Event was Discovered	**On-Treatment QA** 32% (337/1052)	**On-Treatment QA** 40% (364/920)	**Treatment Delivery Including Imaging** 30% (5851/19661)
Most Commonly Identified Treatment Technique	**IMRT/VMAT** 37% (388/1052)	**IMRT/VMAT** 38% (346/920)	**IMRT/VMAT** 31% (6186/19661)
Most Commonly Identified Dose Deviation for Therapeutic Radiation Incidents that Did Not Effect Multiple Patients	**≤ 5% maximum dose deviation to target** 81% (38/47)	**≤ 5% maximum dose deviation to target** 91% (42/46)	**≤ 5% maximum dose deviation to target** 85% (1124/1317)

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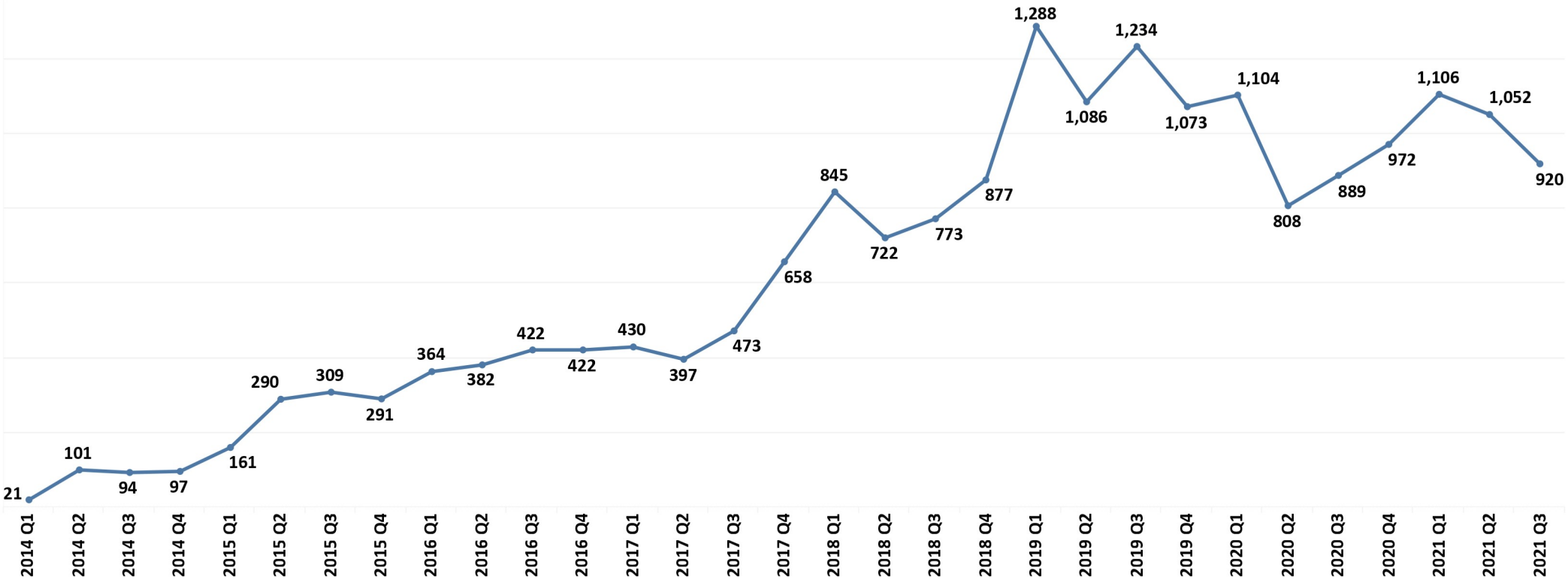
Aggregate: Total Number of Events Reported to PSO by Quarter Submitted



This graph displays how many events were submitted, reviewed, and reported to the PSO per quarter based on the date of submission.

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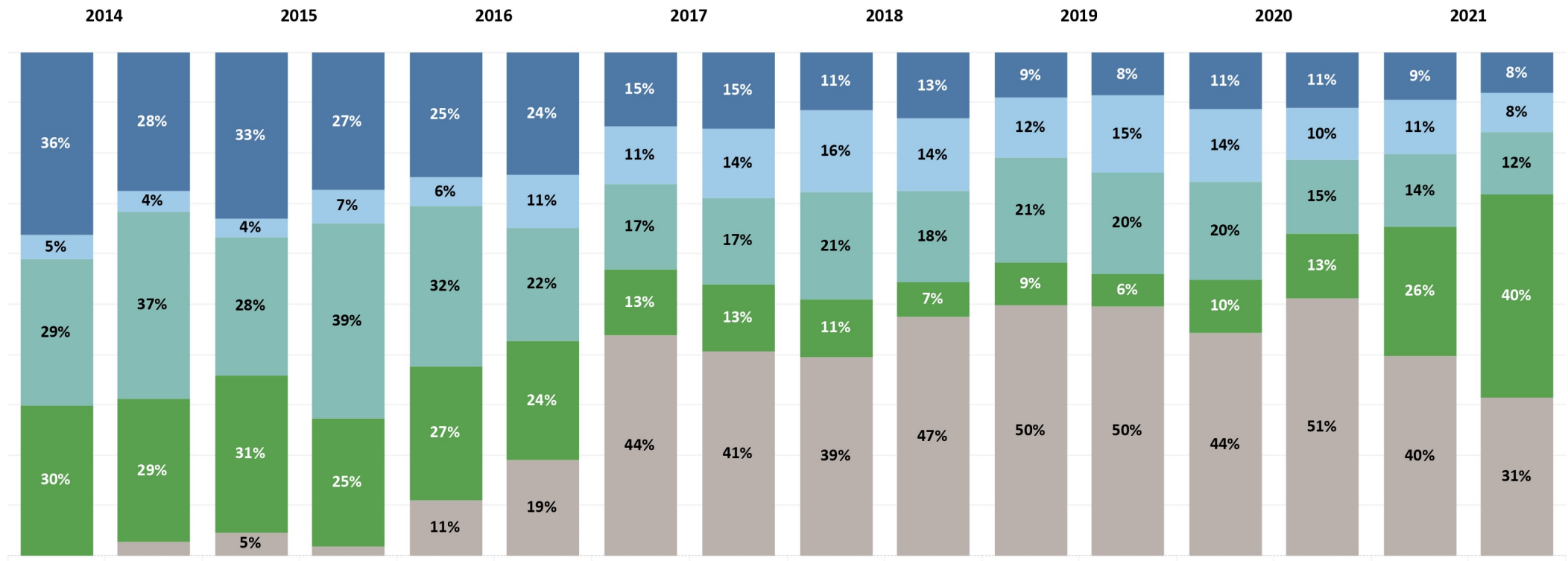
Aggregate: Event Classification



This graph depicts the distribution of data for data element #104 (*Event_Classification*) on a bi-annual basis. The "Operational/Process Improvement" answer option became available in the Q3 2016 data element update.

Therapeutic Radiation Incident | **Other Safety Incident** | **Near-miss** | **Unsafe condition** | **Operational/Process Improvement**

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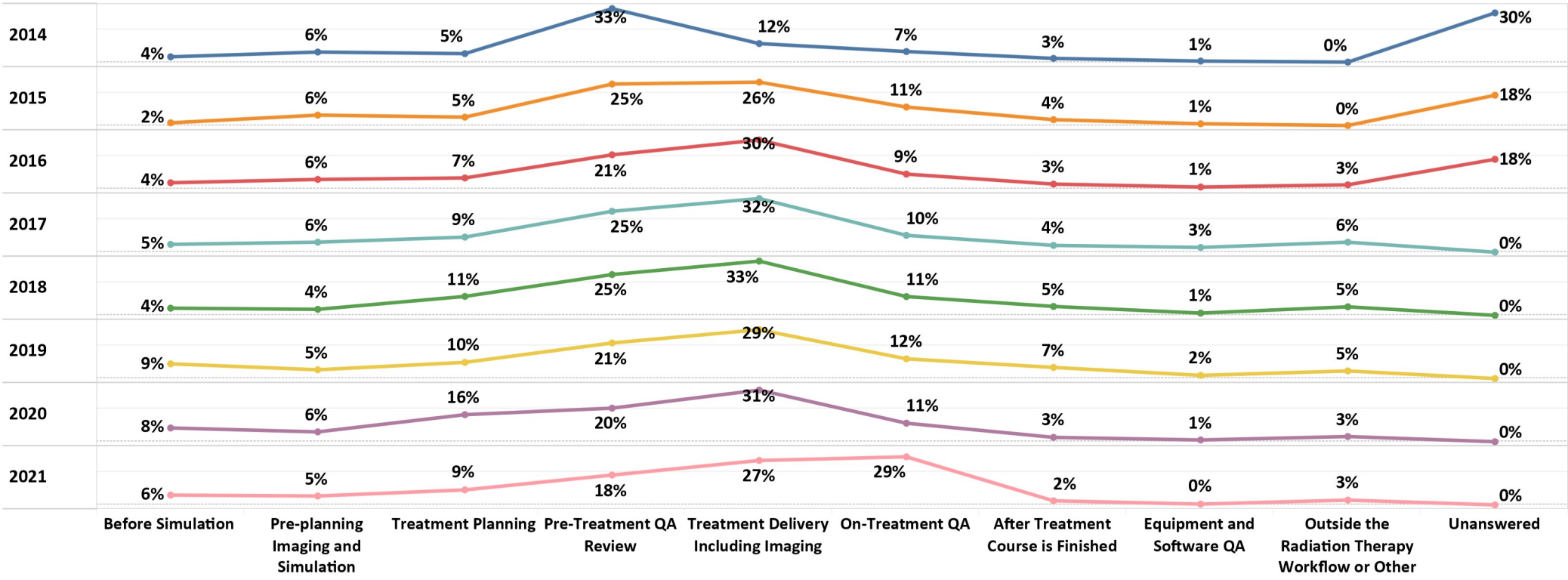
Aggregate: Workflow Step Where Event Discovered



This data is based on data element #207 (*Discovered_Workflow*), presented in yearly increments. As a part of the Q3 2016 data element update, this question became required and an answer option of "Outside the Radiation therapy Workflow or Other" was added.

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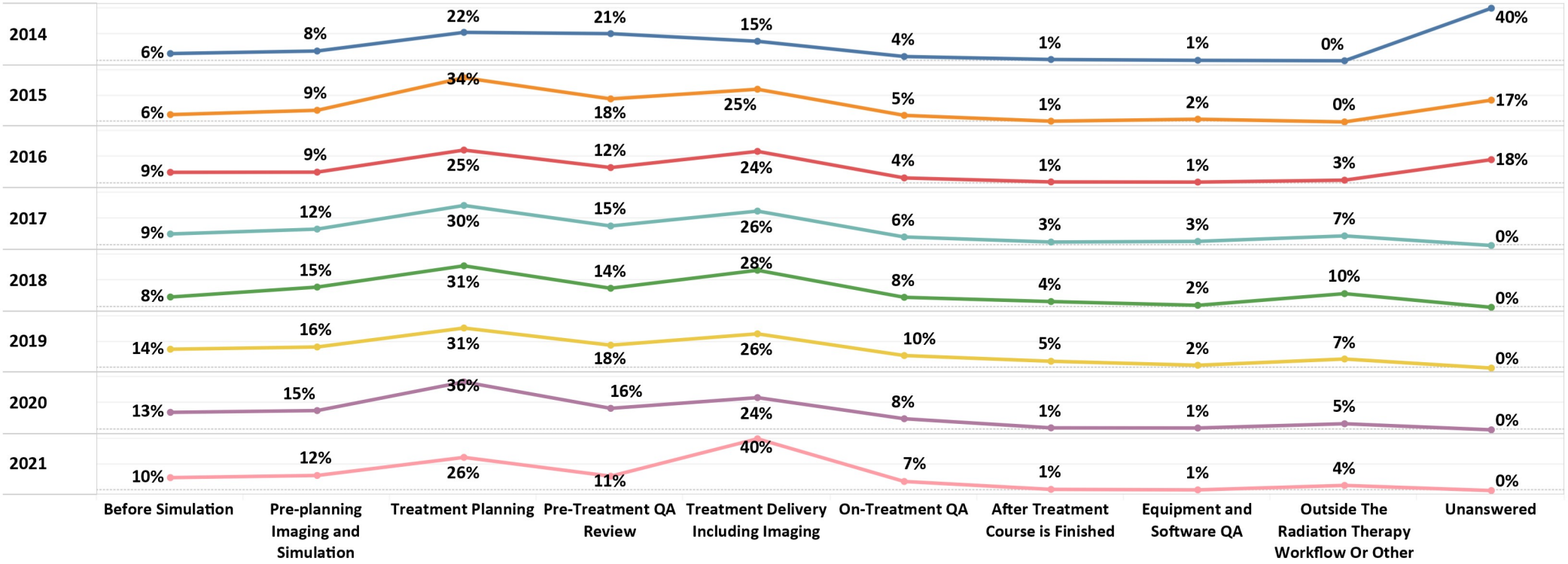
Aggregate: Workflow Step(s) Where Event Occurred



This graph depicts the frequency of answer options for data element #208 (*Occurred_Workflow*) based on the calendar year it was submitted. Users have the option to select more than one answer option, therefore, there is a potential for each year's total percentage to be greater than 100%. As a part of the Q3 2016 data element update, this question became required and an answer option of "Outside the Radiation therapy Workflow or Other" was added.

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Aggregate: Workflow Step Where Event Occurred & Event Discovered

Quarter	Discovered Workflow	Occurred Workflow: Before Simulation	Pre-planning Imaging and Simulation	Treatment Planning	Pre-Treatment QA Review	Treatment Delivery Including Imaging	On-Treatment QA	After Treatment Course is Finished	Equipment and Software QA	Outside The Radiation Therapy Workflow Or Other	Grand Total
2021 Q3	Before Simulation	98%	2%								100%
	Pre-planning Imaging and Simulation	44%	54%	2%							100%
	Treatment Planning	10%	21%	60%	3%	3%				3%	100%
	Pre-Treatment QA Review	6%	8%	41%	37%	3%	2%	1%		1%	100%
	Treatment Delivery Including Imaging	1%	5%	21%	10%	57%	3%			3%	100%
	On-Treatment QA	0%	1%	2%	4%	81%	12%	1%		0%	100%
	After Treatment Course is Finished		3%	21%	3%	32%	12%	26%		3%	100%
	Equipment and Software QA	25%							50%	25%	100%
	Outside the Radiation Therapy Workflow or Other			11%	6%	11%				72%	100%

This graph displays the overlap of where in the workflow events occurred (*208. Occurred_Workflow*) and where it was discovered (*207. Discovered_Workflow*) for the most recent quarter. The percentage is based on the total number of events that were discovered in that workflow step (e.g., of events that were discovered "before simulation", X% occurred "before simulation").

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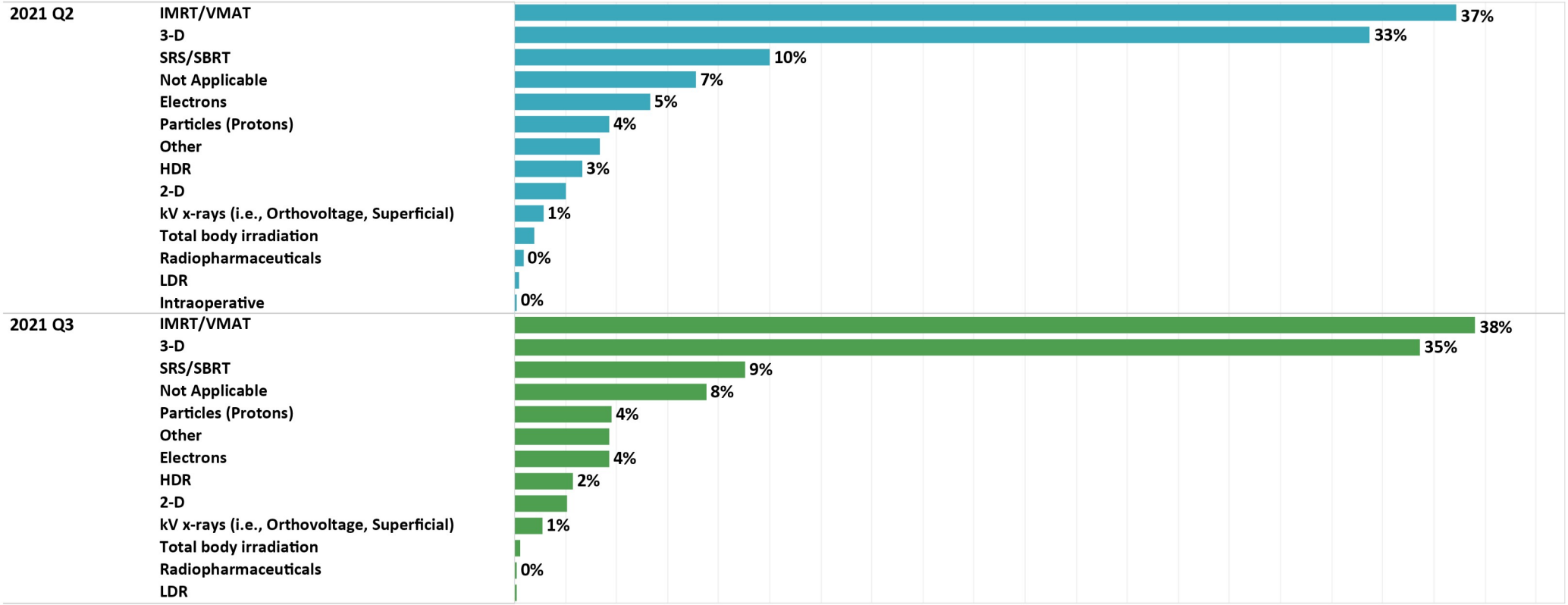
Aggregate: Treatment Technique(s)



This graph demonstrates the distribution of answers for data element #106 (*Tx_Technique*) per quarter for the last two quarters. Users may be select more than one technique if pertinent to the event and thus the quarterly percentage total may be greater than 100%.

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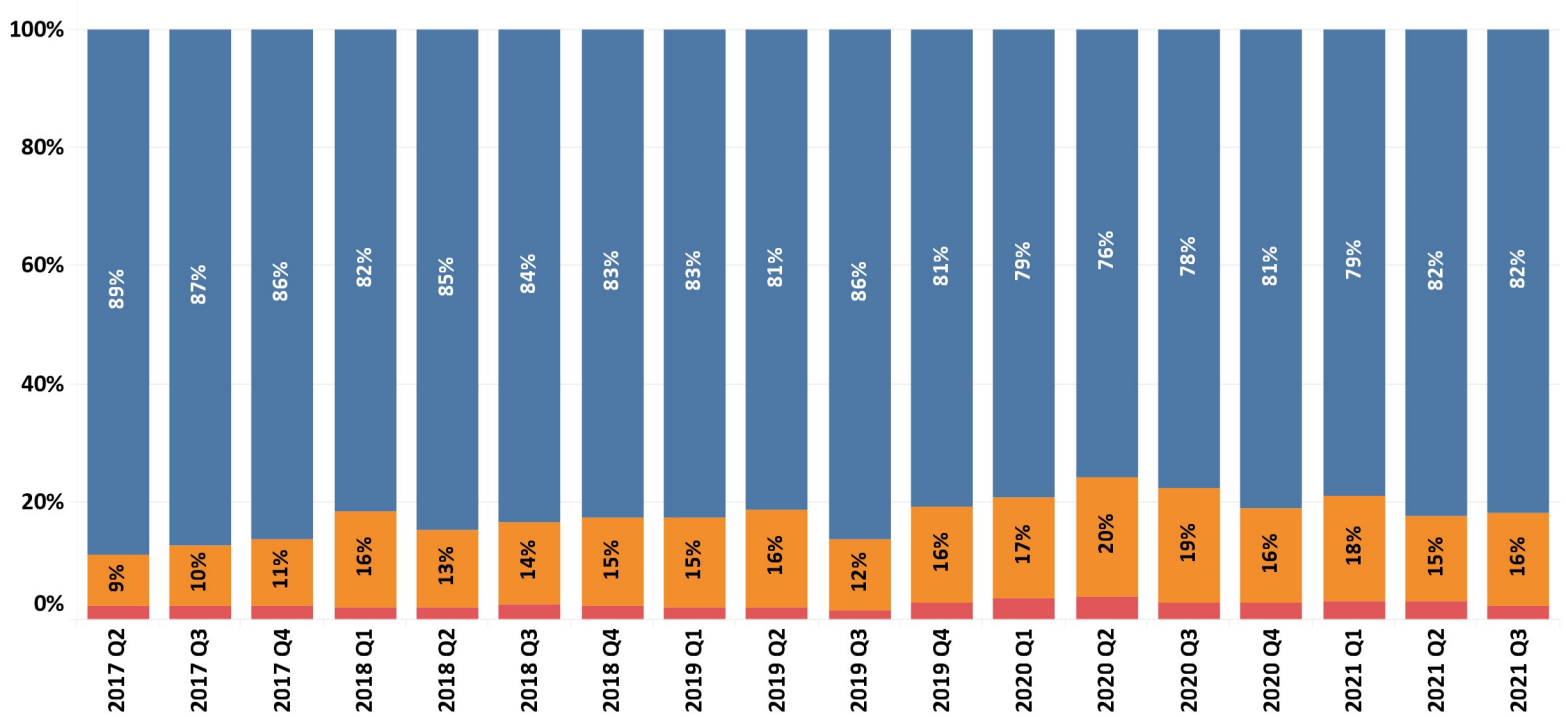
Aggregate: Significance Scale



Quarter	Mild	Moderate	Severe
2017 Q2	89%	9%	2%
2017 Q3	87%	10%	2%
2017 Q4	86%	11%	2%
2018 Q1	82%	16%	2%
2018 Q2	85%	13%	2%
2018 Q3	84%	14%	3%
2018 Q4	83%	15%	2%
2019 Q1	83%	15%	2%
2019 Q2	81%	16%	2%
2019 Q3	86%	12%	2%
2019 Q4	81%	16%	3%
2020 Q1	79%	17%	4%
2020 Q2	76%	20%	4%
2020 Q3	78%	19%	3%
2020 Q4	81%	16%	3%
2021 Q1	79%	18%	3%
2021 Q2	82%	15%	3%
2021 Q3	82%	16%	2%

This graph shows the frequency of answers for data element #225 (*Significance_Scale*) which asks, "In terms of risk to patient safety, how significant was this event?" This question was introduced in Q3 2016. The graph and table provide the severity percentages per quarter since 2017.