

**RO•ILS<sup>®</sup>**

RADIATION ONCOLOGY  
INCIDENT LEARNING SYSTEM

*Sponsored by ASTRO and AAPM*

**CLARITY**

**PSO**

**A Patient Safety Organization**

# AGGREGATE DATA REPORT

## Patient Safety Work Product

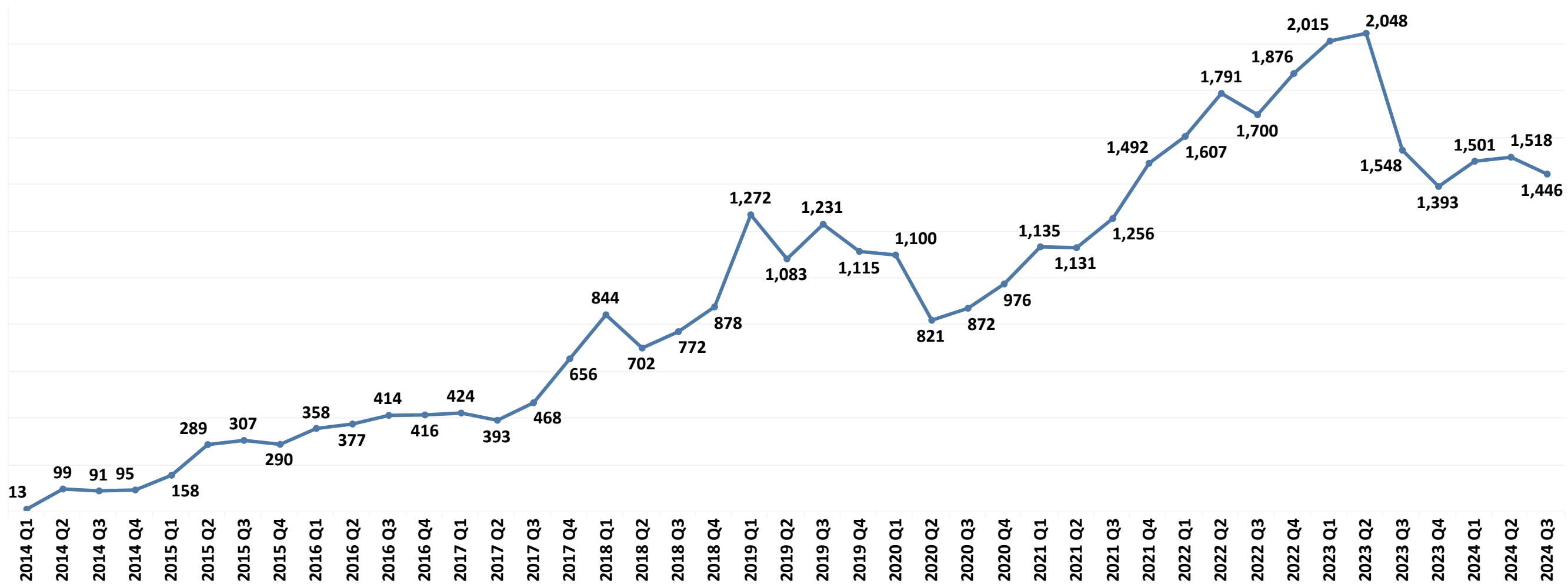
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# Aggregate Report Card

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.

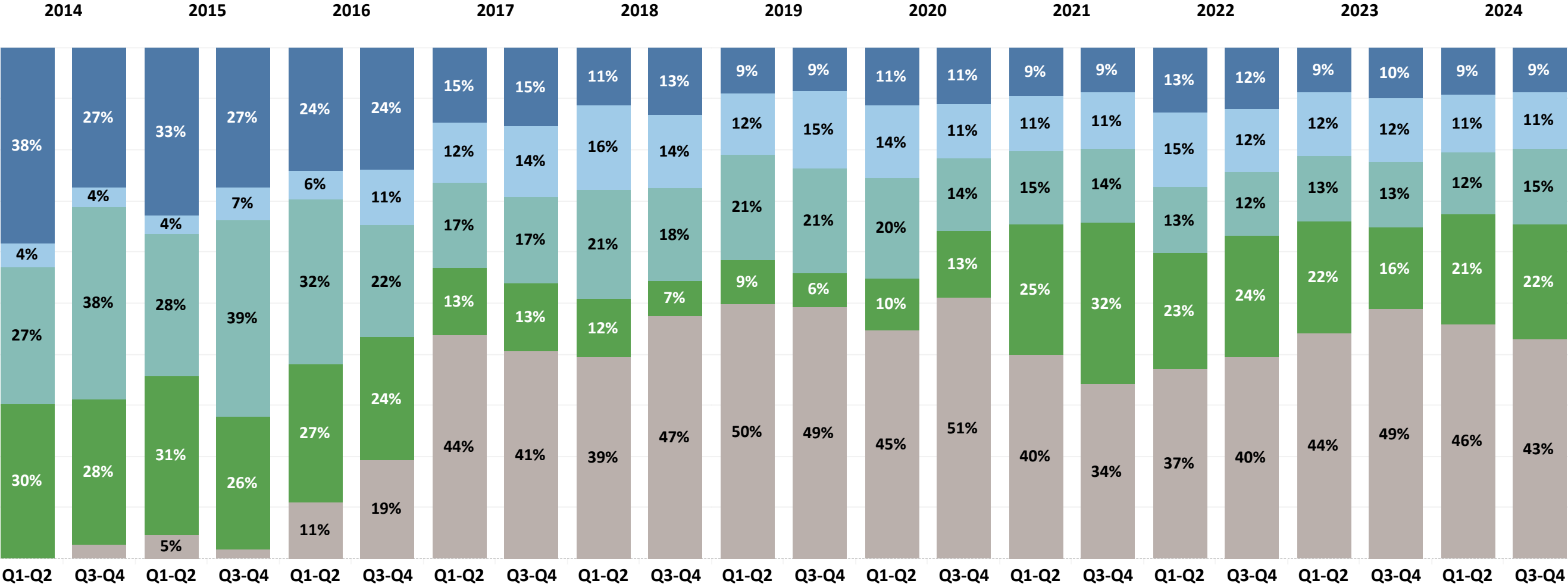
METRIC	Q2 2024	Q3 2024	AGGREGATE HISTORICAL SUM
<b>Total Number Of Events</b>	<b>1518</b>	<b>1446</b>	<b>39971</b>
Therapeutic Radiation Incident	141	126	4656
Other Safety Incident	164	159	4898
Near Miss	193	216	6532
Unsafe Condition	337	325	7524
Operational/Process Improvement	683	620	16361
<b>Most Commonly Identified Workflow Step Where Event Occurred</b>	<b>Treatment Delivery Including Imaging</b> 31% (469/1518)	<b>Treatment Delivery Including Imaging</b> 30% (436/1446)	<b>Treatment Delivery Including Imaging</b> 29% (11745/39971)
<b>Most Commonly Identified Workflow Step Where Event was Discovered</b>	<b>Treatment Delivery Including Imaging</b> 31% (472/1518)	<b>Treatment Delivery Including Imaging</b> 26% (369/1446)	<b>Treatment Delivery Including Imaging</b> 29% (11591/39971)
<b>Most Commonly Identified Treatment Technique</b>	<b>IMRT/VMAT</b> 40% (607/1518)	<b>IMRT/VMAT</b> 41% (587/1446)	<b>IMRT/VMAT</b> 37% (14706/39971)
<b>Most Commonly Identified Dose Deviation for Therapeutic Radiation Incidents that Did Not Effect Multiple Patients</b>	<b>≤ 5% Maximum Dose Deviation to Target</b> 83% (59/71)	<b>≤ 5% Maximum Dose Deviation to Target</b> 90% (53/59)	<b>≤ 5% Maximum Dose Deviation to Target</b> 81% (1772/2198)

## 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.

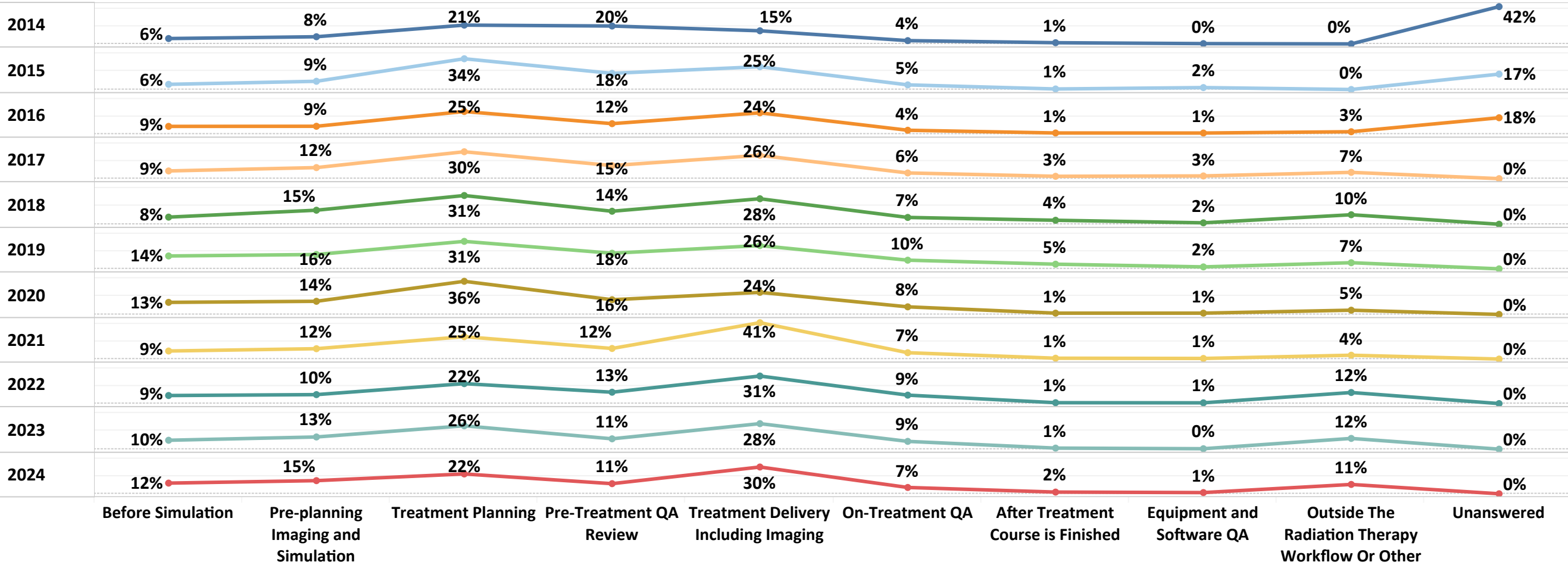
# Aggregate: Event Classification



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.

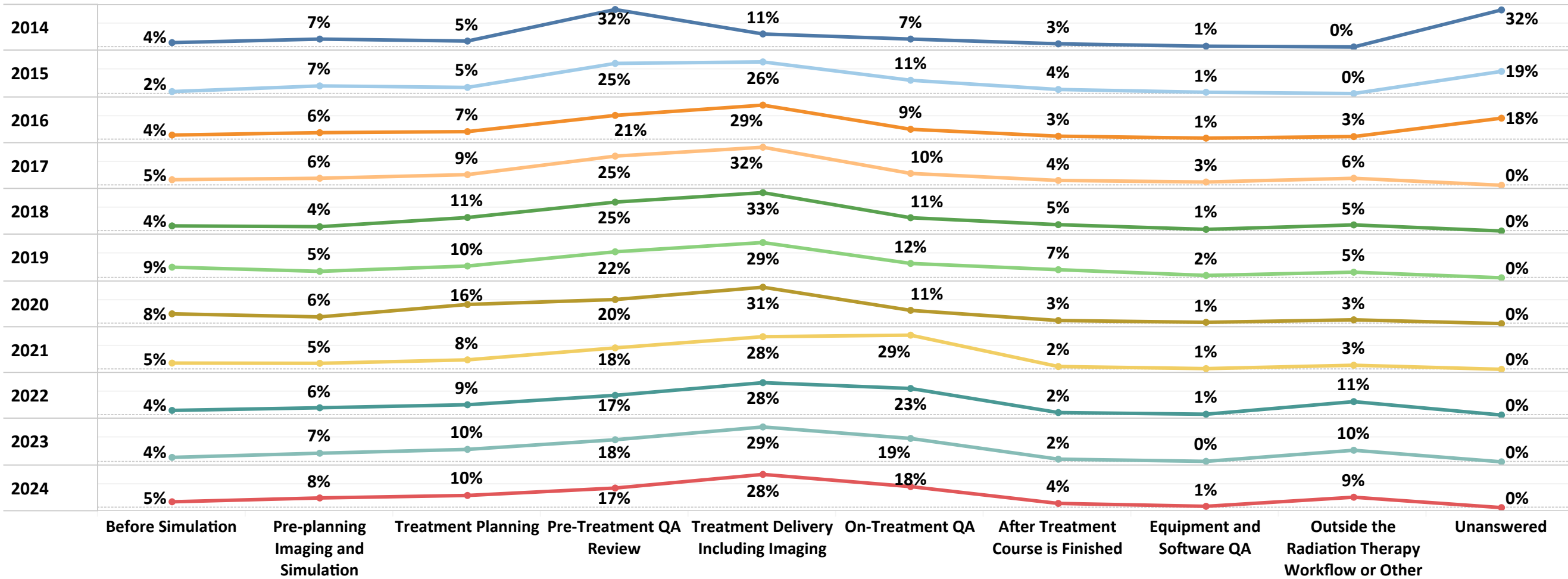
■ Therapeutic Radiation Incident    
 ■ Other Safety Incident    
 ■ Near-miss    
 ■ Unsafe condition    
 ■ Operational/Process Improvement

## 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.

## Aggregate: Workflow Step Where Event Discovered



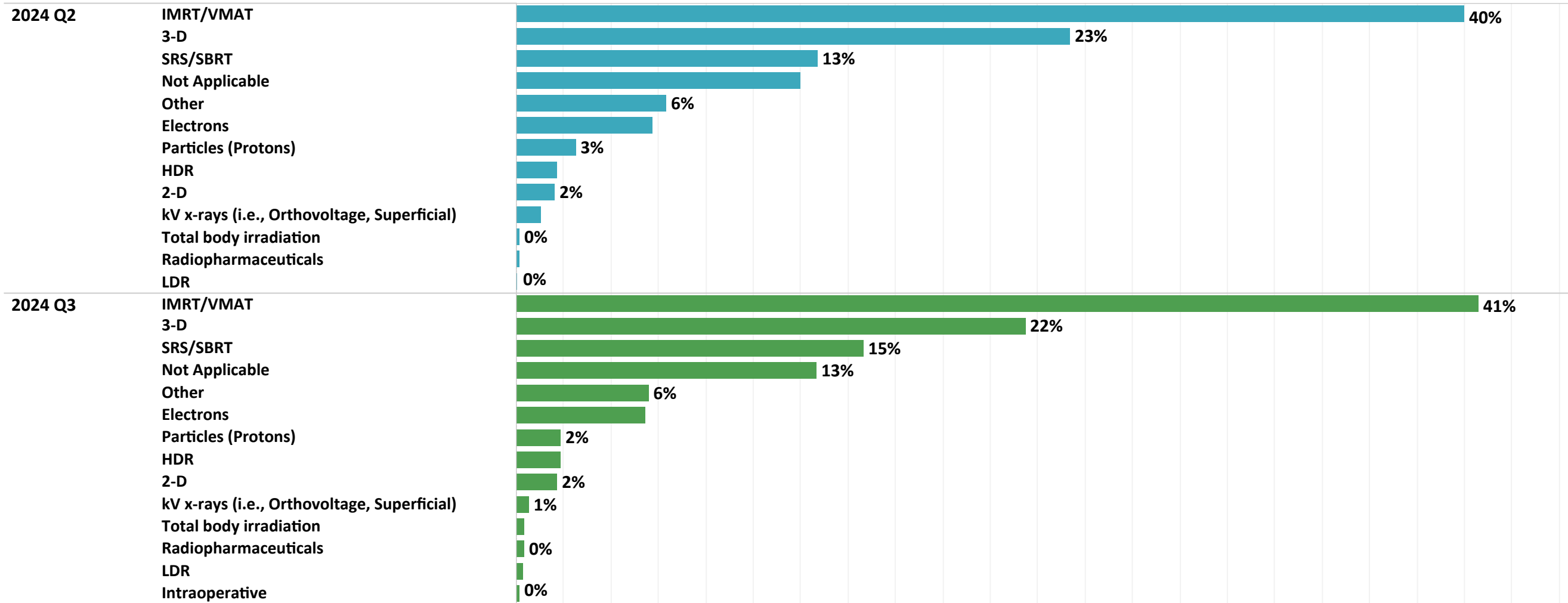
This data is based on data element #207 (*Discovered\_Workflow*), presented in yearly increments. As a part of the Q3 2016 data element update, this question became required and an answer option of "Outside the Radiation therapy Workflow or Other" was added.

# Aggregate: Workflow Step Where Event Occurred & Event Discovered

<u>Quarter</u>	<u>Discovered Workflow</u>	<u>Occurred Workflow</u>								Grand Total	
		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
2024 Q3	Before Simulation	92%	5%	1%		1%				1%	100%
	Pre-planning Imaging and Simulation	44%	42%	8%	1%	1%			1%	4%	100%
	Treatment Planning	7%	41%	51%	1%	1%			1%		100%
	Pre-Treatment QA Review	4%	14%	39%	34%	4%	1%	0%		4%	100%
	Treatment Delivery Including Imaging	1%	7%	18%	9%	60%	1%	0%	0%	3%	100%
	On-Treatment QA	5%	5%	7%	5%	53%	24%		0%	1%	100%
	After Treatment Course is Finished	4%	3%	3%	3%	32%	7%	43%	1%	4%	100%
	Equipment and Software QA						10%		71%	19%	100%
	Outside the Radiation Therapy Workflow or Other	3%	3%	7%	1%	4%	5%	2%	1%	74%	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”).

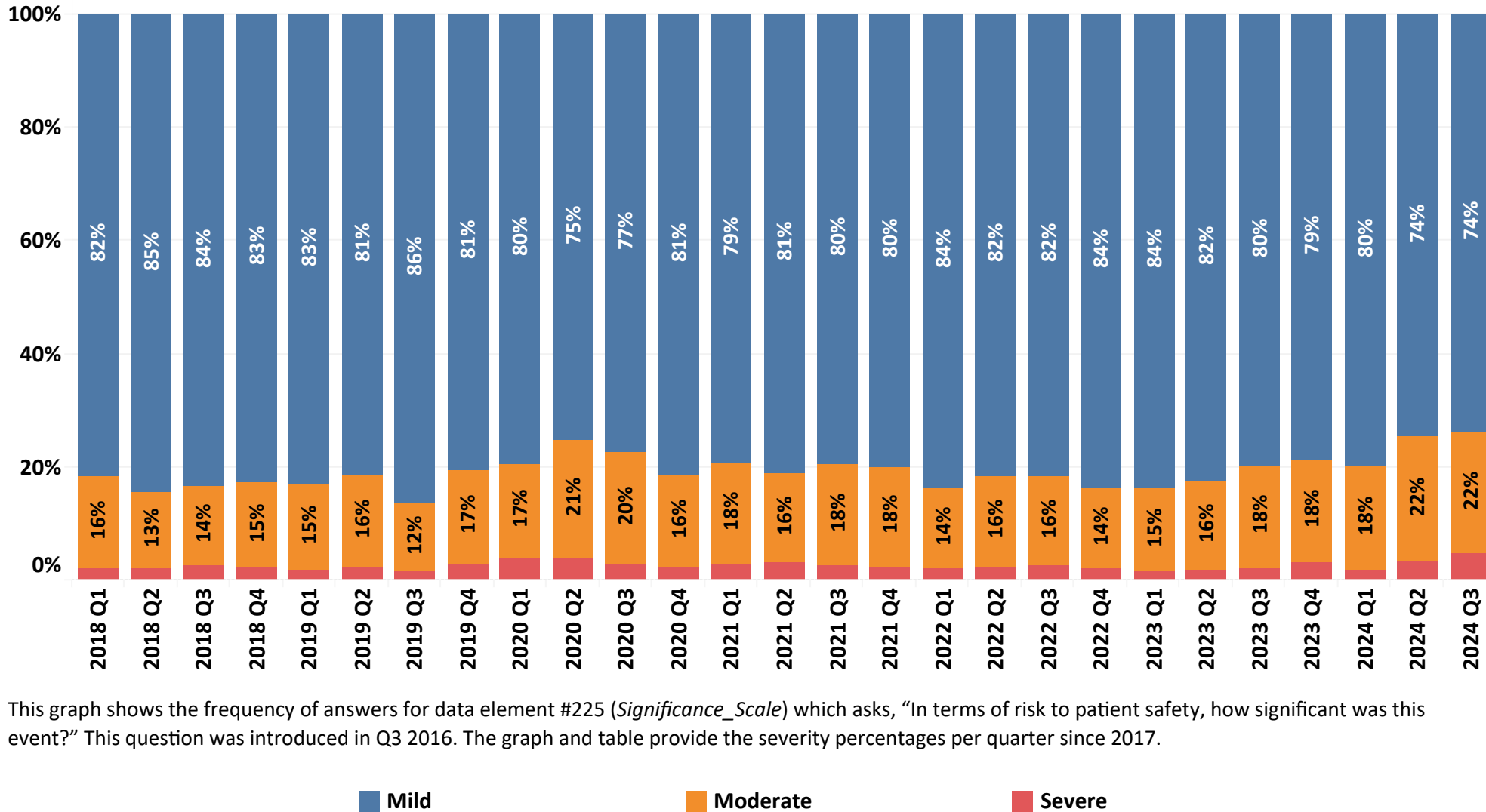
## Aggregate: Treatment Technique(s)



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



## Aggregate: Significance Scale



Quarter	Mild	Moderate	Severe
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%	1%
2019 Q4	81%	17%	3%
2020 Q1	80%	17%	4%
2020 Q2	75%	21%	4%
2020 Q3	77%	20%	3%
2020 Q4	81%	16%	2%
2021 Q1	79%	18%	3%
2021 Q2	81%	16%	3%
2021 Q3	80%	18%	3%
2021 Q4	80%	18%	2%
2022 Q1	84%	14%	2%
2022 Q2	82%	16%	2%
2022 Q3	82%	16%	3%
2022 Q4	84%	14%	2%
2023 Q1	84%	15%	1%
2023 Q2	82%	16%	2%
2023 Q3	80%	18%	2%
2023 Q4	79%	18%	3%
2024 Q1	80%	18%	2%
2024 Q2	74%	22%	3%
2024 Q3	74%	22%	5%

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.