

This sheet contains results of the TG262 AAPM survey on electronic charting.

Data does not include free response answers since it may contain vendor information or may identify the respondent.

There were 419 respondents

D1

1. Approximately how many patients are treated daily at your site that are charted using the RO-EMR?

a. 50	187	44.63%
b. 51-100	130	31.03%
c. Over 100	102	24.34%
Total	419	

Mean	1.80
Standard Dev.	0.81
Variance	0.65

D3

3. Where is your practice located?

Choose a state, "Canada", or "Outside US/Canada".

Alabama	1	0.24%
Alaska	0	0.00%
Arizona	7	1.67%
Arkansas	1	0.24%
California	30	7.18%
Colorado	6	1.44%
Connecticut	6	1.44%
Delaware	4	0.96%
Florida	23	5.50%
Georgia	10	2.39%
Hawaii	0	0.00%
Idaho	2	0.48%
Illinois	12	2.87%
Indiana	8	1.91%

Iowa	6	1.44%
Kansas	1	0.24%
Kentucky	10	2.39%
Louisiana	4	0.96%
Maine	1	0.24%
Maryland	9	2.15%
Massachusetts	8	1.91%
Michigan	10	2.39%
Minnesota	9	2.15%
Mississippi	1	0.24%
Missouri	5	1.20%
Montana	4	0.96%
Nebraska	0	0.00%
Nevada	4	0.96%
New Hampshire	4	0.96%
New Jersey	9	2.15%
New Mexico	4	0.96%
New York	20	4.78%
North Carolina	16	3.83%
North Dakota	1	0.24%
Ohio	13	3.11%
Oklahoma	3	0.72%
Oregon	7	1.67%
Pennsylvania	20	4.78%
Rhode Island	1	0.24%
South Carolina	10	2.39%
South Dakota	1	0.24%
Tennessee	11	2.63%
Texas	24	5.74%
Utah	5	1.20%
Vermont	3	0.72%
Virginia	17	4.07%
Washington	8	1.91%
West Virginia	3	0.72%
Wisconsin	10	2.39%
Wyoming	2	0.48%
Canada	15	3.59%
Outside US/Canada	29	6.94%
Total	418	

Mean	29.14
Standard Dev.	15.81
Variance	249.96

IQA1

1. Was a committee created to transition to the RO-EMR environment?

a. Yes	239	58.72%
b. No	168	41.28%
Total	407	

Mean	1.41
Standard Dev.	0.49
Variance	0.24

2. If there was a formal committee for RO-EMR transition, please give the approximate number of members from each subspecialty in the committee a. Therapists		
	Therapists	Dosimetrists
AVERAGE	2.0	1.4
STDEV	1.9	0.8
	Nurses	Physicists
AVERAGE	1.3	1.9
STDEV	0.9	1.3
	Attending Physicians	Resident Physicians
AVERAGE	1.6	1.9
STDEV	0.9	1.5
	Admins.	IT
AVERAGE	1.4	1.5
STDEV	0.7	0.8
	Vendor	Project Manager
AVERAGE	1.3	1.1
STDEV	0.8	0.3
	Engineer	Other
AVERAGE	1.3	3.6
STDEV	0.8	6.2

Note- data average/stdev only includes respondents that had at least one member in the selected category.

IQA3

3. What was the average frequency of team meetings for implementation?

a. No regular meetings/ ad hoc	106	32.02%
b. Daily	4	1.21%
c. A few days per week	17	5.14%
d. Weekly	109	32.93%
e. Biweekly	42	12.69%
f. Monthly	21	6.34%
g. Quarterly	4	1.21%
h. Less than quarterly	0	0.00%
Other (specify)	28	8.46%
Total	331	
Mean	3.68	
Standard Dev.	2.34	
Variance	5.50	

IQA4

4. Estimate the percent effort of the implementation team on each of the following processes (answers should add to 100%)

a. Software selection	3875	10.20%
b. Development of processes	11174	29.41%
c. Configuration of echart	9537	25.10%
d. Training	7718	20.32%
e. Go live.	5685	14.96%
Total	37989	
Mean	3.00	
Standard Dev.	1.23	
Variance	1.50	

IQA6

6. How did you gather the necessary information that drove the selection process for the e-chart environment and system use in your clinic? (Select all that apply)

a. Vendor presentations at your facility	204	21.50%
b. Conversation with vendors during national meetings (e.g. ASTRO, AAPM, etc)	122	12.86%
c. Virtual or testing system provided by the vendor to your institution	93	9.80%

d. <input checked="" type="checkbox"/> Visiting other clinics	123	12.96%
e. <input type="checkbox"/> Consulting with colleagues in other clinics	154	16.23%
f. <input checked="" type="checkbox"/> It was already being used as our record and verify system	215	22.66%
g. Other / unknown	38	4.00%
Total	949	
Mean	3.74	
Standard Dev.	1.98	
Variance	3.91	

IAQ7

7. Who provides training in the use of the RO-EMR in your clinic? (select all that apply)

a. <input checked="" type="checkbox"/> Vendor	319	35.88%
b. <input checked="" type="checkbox"/> Medical Physics	293	32.96%
c. <input checked="" type="checkbox"/> Therapists	108	12.15%
d. <input type="checkbox"/> Department IT	68	7.65%
e. <input type="checkbox"/> Institutional IT	45	5.06%
f. <input type="checkbox"/> Physicians	14	1.57%
g. <input type="checkbox"/> Contractor	12	1.35%
h. Other/unknown	30	3.37%
Total	889	
Mean	2.40	
Standard Dev.	1.70	
Variance	2.89	

IAQ8

8. Overall, how satisfied is your practice with the e-chart environment transition?

a. <input checked="" type="checkbox"/> Very satisfied	115	29.26%
b. <input checked="" type="checkbox"/> Satisfied	216	54.96%
c. <input type="checkbox"/> Neutral	47	11.96%
d. <input type="checkbox"/> Dissatisfied	13	3.31%
e. <input type="checkbox"/> Very dissatisfied	2	0.51%
Total	393	
Mean	1.91	

Standard Dev.	0.76
Variance	0.58

IQA10

10. Have RO-EMR document templates (forms created by your clinic for the electronic chart) ever been revised as a corrective action of failure/near-missed events?

a. <input checked="" type="checkbox"/> Yes	240	60.30%
b. <input type="checkbox"/> No	158	39.70%
Total	398	

Mean	1.40
Standard Dev.	0.49
Variance	0.24

IQA12

12. Has your clinic performed an FMEA analysis for all or part of your RO-EMR system?

a. <input checked="" type="checkbox"/> Yes	53	13.35%
b. <input type="checkbox"/> No	344	86.65%
Total	397	

Mean	1.87
Standard Dev.	0.34
Variance	0.12

IES1

1. How are the following common elements of a radiation oncology paper chart stored in the RO-EMR? For each chart element listed (a-j), choose from one of the following categories (A-D). :

A: Not stored in RO-EMR

B: Scanned or imported into RO-EMR

C: Form or template in RO-EMR

D: Free text note in RO-EMR

a. Diagnosis

A: Not stored in RO-EMR	16	3.86%
B: Scanned or imported into RO-EMR	64	15.42%

C: Form or template in RO-EMR	293	70.60%
D: Free text note in RO-EMR	42	10.12%
Total	415	

Mean	2.87
Standard Dev.	0.63
Variance	0.39

b. x/written directive

A: Not stored in RO-EMR	8	1.93%
B: Scanned or imported into RO-EMR	26	6.27%
C: Form or template in RO-EMR	334	80.48%
D: Free text note in RO-EMR	47	11.33%
Total	415	

Mean	3.01
Standard Dev.	0.50
Variance	0.25

c. Simulation order

A: Not stored in RO-EMR	14	3.38%
B: Scanned or imported into RO-EMR	44	10.63%
C: Form or template in RO-EMR	333	80.43%
D: Free text note in RO-EMR	23	5.56%
Total	414	

Mean	2.88
Standard Dev.	0.53
Variance	0.28

d. Simulation documentation

A: Not stored in RO-EMR	9	2.19%
B: Scanned or imported into RO-EMR	59	14.36%
C: Form or template in RO-EMR	312	75.91%
D: Free text note in RO-EMR	31	7.54%
Total	411	

Mean	2.89
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Standard Dev.	0.54
Variance	0.29

e. Treatment plan documentation

A: Not stored in RO-EMR	8	1.93%
B: Scanned or imported into RO-EMR	275	66.43%
C: Form or template in RO-EMR	122	29.47%
D: Free text note in RO-EMR	9	2.17%
Total	414	

Mean	2.32
Standard Dev.	0.55
Variance	0.30

f. Documentation of external previous treatment

A: Not stored in RO-EMR	31	7.49%
B: Scanned or imported into RO-EMR	310	74.88%
C: Form or template in RO-EMR	44	10.63%
D: Free text note in RO-EMR	29	7.00%
Total	414	

Mean	2.17
Standard Dev.	0.66
Variance	0.43

g. QA checklists used in planning or treatment

A: Not stored in RO-EMR	52	12.56%
B: Scanned or imported into RO-EMR	58	14.01%
C: Form or template in RO-EMR	297	71.74%
D: Free text note in RO-EMR	7	1.69%
Total	414	

Mean	2.63
Standard Dev.	0.72
Variance	0.52

h. QA forms (TLD/OSL report, IMRT QA results, etc)

A: Not stored in RO-EMR	21	5.06%
B: Scanned or imported into RO-EMR	220	53.01%
C: Form or template in RO-EMR	171	41.20%
D: Free text note in RO-EMR	3	0.72%

Total 415

Mean	2.38
Standard Dev.	0.59
Variance	0.35

i. Consult note

A: Not stored in RO-EMR	64	15.38%
B: Scanned or imported into RO-EMR	75	18.03%
C: Form or template in RO-EMR	206	49.52%
D: Free text note in RO-EMR	71	17.07%

Total 416

Mean	2.68
Standard Dev.	0.93
Variance	0.87

j. Status check note

A: Not stored in RO-EMR	53	12.83%
B: Scanned or imported into RO-EMR	33	7.99%
C: Form or template in RO-EMR	223	54.00%
D: Free text note in RO-EMR	104	25.18%

Total 413

Mean	2.92
Standard Dev.	0.92
Variance	0.84

2. Please specify whether each group listed below uses free text notes in your RO-EMR (ARIA journal, MOSAIQ On-Tx notes, etc). Answer yes, no, or answer NA if that group is not represented in your clinic (i.e. resident physicians or research assistants)

a. Therapists

Yes	357	86.23%
No	54	13.04%
N/A	3	0.72%
Total	414	

Mean	1.13
Standard Dev.	0.34
Variance	0.11

b. Dosimetrists

Yes	310	75.06%
No	91	22.03%
N/A	12	2.91%
Total	413	

Mean	1.23
Standard Dev.	0.42
Variance	0.18

c. Physicists

Yes	346	83.78%
No	64	15.50%
N/A	3	0.73%
Total	413	

Mean	1.16
Standard Dev.	0.36
Variance	0.13

d. Nurses

Yes	315	77.40%
No	77	18.92%

N/A	15	3.69%
Total	407	

Mean	1.20
Standard Dev.	0.40
Variance	0.16

e. Resident physicians

Yes	96	24.06%
No	55	13.78%
N/A	248	62.16%
Total	399	

Mean	1.36
Standard Dev.	0.48
Variance	0.23

f. Attending physicians

Yes	278	67.64%
No	110	26.76%
N/A	23	5.60%
Total	411	

Mean	1.28
Standard Dev.	0.45
Variance	0.20

g. Administrators

Yes	112	27.79%
No	200	49.63%
N/A	91	22.58%
Total	403	

Mean	1.64
Standard Dev.	0.48
Variance	0.23

h. <input type="checkbox"/> Research Assistants		
Yes	39	9.73%
No	99	24.69%
N/A	263	65.59%
Total	401	
Mean	1.72	
Standard Dev.	0.45	
Variance	0.20	

IES3

3. How are special circumstances (pregnancy, prior radiation devices, radiation-sensitive implanted medical devices, etc.) communicated to the staff? (Chose the first applicable answer)

a. <input checked="" type="checkbox"/> A special form or template is used.	166	40.39%
b. <input type="checkbox"/> No special form is used, but this information routinely appears in the initial consult.	61	14.84%
c. <input type="checkbox"/> Scans of relevant documents (pregnancy test results, prior radiation records, pacemaker information card) are retained in the EMR.	148	36.01%
d. <input checked="" type="checkbox"/> We do not have a consistent system for documenting special circumstances.	36	8.76%
Total	411	
Mean	2.13	
Standard Dev.	1.05	
Variance	1.10	

IES4

4. How are each of the following physics checks documented in the RO-EMR? For each check listed below (a-c), choose from one of the following categories (A-D)

- A. Form is filled out
 - B. Task or checklist item is completed
 - C. A combination of A and B
 - D. This check is not documented in the RO-EMR
- a. Physics initial chart check (plan check)

A. Form is filled out.	38	9.25%
B. Task or checklist item is completed.	199	48.42%
C. A combination of A and B	160	38.93%
D. This check is not documented in the RO-EMR	14	3.41%
Total	411	

Mean	2.36
Standard Dev.	0.70
Variance	0.49

b. Physics weekly chart check		
A. Form is filled out.	49	11.98%
B. Task or checklist item is completed.	222	54.28%
C. A combination of A and B	115	28.12%
D. This check is not documented in the RO-EMR	23	5.62%
Total	409	

Mean	2.27
Standard Dev.	0.74
Variance	0.55

c. Physics End of Treatment (EOT) check		
A. Form is filled out.	45	11.00%
B. Task or checklist item is completed.	186	45.48%
C. A combination of A and B	151	36.92%
D. This check is not documented in the RO-EMR	27	6.60%
Total	409	

Mean	2.39
Standard Dev.	0.77
Variance	0.59

IES5

5. Are the following occurrences documented in the RO-EMR? Answer yes or no for each.

a. Incomplete treatments		
Yes	398	96.84%
No	13	3.16%

Total	411	
Mean	1.03	
Standard Dev.	0.18	
Variance	0.03	
b. Missed appointments		
Yes	349	84.91%
No	62	15.09%
Total	411	
Mean	1.15	
Standard Dev.	0.36	
Variance	0.13	
c. Machine failures		
Yes	264	64.23%
No	147	35.77%
Total	411	
Mean	1.36	
Standard Dev.	0.48	
Variance	0.23	

IES6

6. Please indicate how your "signatures" are documented. For each item on the left (a-e), choose one of the types of signatures (A-E)

- A. Electronic approval with a password
- B. Completion of an electronic task or QCL item

C. Hand written signature, pdf signature, etc that is scanned in or imported

D. Signature is on paper (not scanned in to RO-EMR)

E. Other

a. Prescription approval by the physician

A. Electronic approval with a password	388	94.17%
B. Completion of an electronic task or QCL item	8	1.94%

C. Hand written signature, pdf signature, etc that is scanned in or imported	7	1.70%
D. Signature is on paper (not scanned in to RO-EMR)	9	2.18%
E. Other	0	0.00%
Total	412	

Mean	1.12
Standard Dev.	0.52
Variance	0.27

b. Treatment plan approval by the physician		
A. Electronic approval with a password	373	90.53%
B. Completion of an electronic task or QCL item	15	3.64%
C. Hand written signature, pdf signature, etc that is scanned in or imported	11	2.67%
D. Signature is on paper (not scanned in to RO-EMR)	9	2.18%
E. Other	4	0.97%
Total	412	

Mean	1.19
Standard Dev.	0.68
Variance	0.46

c. Planner's signature on the treatment plan		
A. Electronic approval with a password	259	63.02%
B. Completion of an electronic task or QCL item	98	23.84%
C. Hand written signature, pdf signature, etc that is scanned in or imported	19	4.62%
D. Signature is on paper (not scanned in to RO-EMR)	7	1.70%
E. Other	28	6.81%
Total	411	

Mean	1.65
Standard Dev.	1.11
Variance	1.24

d. Initial physics chart check (plan check)		
A. Electronic approval with a password	288	69.90%

B. <input type="checkbox"/> Completion of an electronic task or QCL item	101	24.51%
C. <input type="checkbox"/> Hand written signature, pdf signature, etc that is scanned in or imported	8	1.94%
D. <input type="checkbox"/> Signature is on paper (not scanned in to RO-EMR)	8	1.94%
E. <input type="checkbox"/> Other	7	1.70%
Total	412	

Mean	1.41
Standard Dev.	0.78
Variance	0.60

e. <input type="checkbox"/> Chart rounds approval by physician		
A. <input type="checkbox"/> Electronic approval with a password	101	24.88%
B. <input type="checkbox"/> Completion of an electronic task or QCL item	130	32.02%
C. <input type="checkbox"/> Hand written signature, pdf signature, etc that is scanned in or imported	16	3.94%
D. <input type="checkbox"/> Signature is on paper (not scanned in to RO-EMR)	49	12.07%
E. <input type="checkbox"/> Other	110	27.09%
Total	406	

Mean	2.84
Standard Dev.	1.58
Variance	2.50

W1

1. Overall, how satisfied is your practice with the utility of the RO-EMR environment in management of your clinical workflow? If you do not use your RO-EMR to manage workflow, choose f.

a. <input type="checkbox"/> Very satisfied	105	25.30%
b. <input type="checkbox"/> Satisfied	209	50.36%
c. <input type="checkbox"/> Neutral	69	16.63%
d. <input type="checkbox"/> Dissatisfied	14	3.37%
e. <input type="checkbox"/> Very dissatisfied	2	0.48%
f. <input type="checkbox"/> Our RO-EMR does not manage clinical workflow	16	3.86%
Total	415	

Mean	2.15
Standard Dev.	1.09

Variance

1.20

W2

2. Which of the following safety barriers prevent proceeding with the simulation without completion of MD's simulation order?

Choose the first answer that applies.

a. <input type="checkbox"/> Software interlock. (forcing function)	38	9.18%
b. <input type="checkbox"/> Time out procedure or checklist.	148	35.75%
c. <input checked="" type="checkbox"/> Written policy	164	39.61%
d. <input type="checkbox"/> There is no barrier	64	15.46%
Total	414	

Mean 2.61

Standard Dev. 0.86

Variance 0.73

W3

3. Which of the following safety barriers in your RO-EMR prevent proceeding with the treatment without final approval by physics?

Choose the first answer that applies.

a. <input type="checkbox"/> Software interlock. (forcing function)	277	67.40%
b. <input type="checkbox"/> Time out procedure or checklist.	72	17.52%
c. <input checked="" type="checkbox"/> Written policy	40	9.73%
d. <input type="checkbox"/> There is no barrier	22	5.35%
Total	411	

Mean 1.53

Standard Dev. 0.88

Variance 0.77

W4

4. How often do you experience failures of communication/transferring of treatment history from your delivery systems back to the e-chart system? If your RO-EMR does not communicate with your delivery system, choose "f".

a. Always (daily occurrences)	3	0.73%
b. Usually (several times a week)	6	1.46%
c. Sometimes (once every week)	35	8.52%
d. Rarely (once every couple weeks)	232	56.45%
e. Never	130	31.63%
f. My RO-EMR does not communicate with the delivery system	5	1.22%
Total	411	
Mean	4.20	
Standard Dev.	0.73	
Variance	0.53	

W5

5. Have you had near-misses or deviations because of failures of communication/transferring of treatment history back to the e-chart system?

a. Yes	80	19.51%
b. No	272	66.34%
c. Unknown	58	14.15%
Total	410	
Mean	1.95	
Standard Dev.	0.58	
Variance	0.33	

W6

6. Do you explicitly schedule and/or manage the following parts of your workflow using the RO-EMR? Please answer Yes or No for each

a. Write diagnosis		
Yes	239	58.15%
No	172	41.85%
Total	411	

Mean	1.42
Standard Dev.	0.49
Variance	0.24

b. Enter prescription

Yes	306	74.09%
No	107	25.91%
Total	413	

Mean	1.26
Standard Dev.	0.44
Variance	0.19

c. Treatment plan

Yes	372	90.07%
No	41	9.93%
Total	413	

Mean	1.10
Standard Dev.	0.30
Variance	0.09

d. Initial physics chart check (plan check)

Yes	386	93.69%
No	26	6.31%
Total	412	

Mean	1.06
Standard Dev.	0.24
Variance	0.06

e. MRT QA measurement

Yes	361	87.41%
No	52	12.59%

Total	413	
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Mean	1.13	
Standard Dev.	0.33	
Variance	0.11	

f. MRT QA review

Yes	308	75.12%
No	102	24.88%

Total	410	
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Mean	1.25	
Standard Dev.	0.43	
Variance	0.19	

g. Weekly physics chart QA

Yes	285	69.51%
No	125	30.49%

Total	410	
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Mean	1.30	
Standard Dev.	0.46	
Variance	0.21	

h. End of treatment physics chart QA

Yes	351	85.19%
No	61	14.81%

Total	412	
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Mean	1.15	
Standard Dev.	0.36	
Variance	0.13	

i. Initial RTT chart QA

Yes	321	78.10%
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No	90	21.90%
Total	411	

Mean	1.22
Standard Dev.	0.41
Variance	0.17

j. Weekly RTT chart QA

Yes	218	52.91%
No	194	47.09%
Total	412	

Mean	1.47
Standard Dev.	0.50
Variance	0.25

k. End of treatment RTT chart QA

Yes	253	61.26%
No	160	38.74%
Total	413	

Mean	1.39
Standard Dev.	0.49
Variance	0.24

W7

7. How well is the communication within the RO-EMR functioning in the contexts given below? (1 = poor, 2=below average, 3=average, 4=above average, 5- excellent, or "unknown")

a. Physician to Treatment Planning

1 - Poor	27	6.60%
2	49	11.98%
3	118	28.85%
4	123	30.07%
5 - Excellent	67	16.38%
Unknown	25	6.11%
Total	409	

Mean	3.40
Standard Dev.	1.13
Variance	1.27

b. Physician to Simulation

1 - Poor	28	6.83%
2	49	11.95%
3	124	30.24%
4	120	29.27%
5 - Excellent	54	13.17%
Unknown	35	8.54%
Total	410	

Mean	3.33
Standard Dev.	1.10
Variance	1.22

c. Physician to Treatment Machine

1 - Poor	29	7.06%
2	50	12.17%
3	132	32.12%
4	116	28.22%
5 - Excellent	47	11.44%
Unknown	37	9.00%
Total	411	

Mean	3.27
Standard Dev.	1.09
Variance	1.19

d. Alert for protocol patient

1 - Poor	27	6.57%
2	42	10.22%
3	88	21.41%
4	89	21.65%
5 - Excellent	79	19.22%
Unknown	86	20.92%

Total	411
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Mean	3.46
Standard Dev.	1.22
Variance	1.50

e. Alert for changes in prescription

1 - Poor	40	9.73%
2	75	18.25%
3	105	25.55%
4	103	25.06%
5 - Excellent	73	17.76%
Unknown	15	3.65%
Total	411	

Mean	3.24
Standard Dev.	1.24
Variance	1.54

f. Notification of incomplete tasks

1 - Poor	20	4.85%
2	58	14.08%
3	105	25.49%
4	131	31.80%
5 - Excellent	87	21.12%
Unknown	11	2.67%
Total	412	

Mean	3.52
Standard Dev.	1.13
Variance	1.28

g. Notification of incomplete checklists

1 - Poor	37	9.00%
2	61	14.84%
3	103	25.06%
4	103	25.06%
5 - Excellent	74	18.00%

Unknown	33	8.03%
Total	411	

Mean	3.31
Standard Dev.	1.23
Variance	1.52

h. Notification of change in treatment (change in no. of fractions, change in bolus, etc)

1 - Poor	40	9.73%
2	77	18.73%
3	126	30.66%
4	90	21.90%
5 - Excellent	62	15.09%
Unknown	16	3.89%
Total	411	

Mean	3.14
Standard Dev.	1.20
Variance	1.44

BNSTD2

2. If you have the following devices, have you bought or are you planning to buy the EMR connectivity packages? (answer "Yes", "No", or "NA" to each)

a. Tomotherapy

Yes	36	10%
No	61	16%
NA	279	74.20%
Total	376	

Mean	1.63
Standard Dev.	0.49
Variance	0.24

b. CyberKnife

Yes	34	9%
No	62	16%
NA	281	74.54%

Total	377
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Mean	1.65
Standard Dev.	0.48
Variance	0.23

c. HDR		
Yes	167	42%
No	127	32%
NA	103	25.94%
Total	397	

Mean	1.43
Standard Dev.	0.50
Variance	0.25

BNSTD3

3. Is your written directive for brachytherapy/non-standard treatment devices

a. <input type="radio"/> On paper	73	19.16%
b. <input checked="" type="radio"/> Electronic	192	50.39%
c. <input type="radio"/> Both/Mixed depending on treatment	116	30.45%
Total	381	

Mean	2.11
Standard Dev.	0.70
Variance	0.48

BNSTD4

4. When designing the written directive for your RO-EMR system for brachytherapy and/or non-standard treatment devices, did you interface with state regulators before implementation?

a. Yes	102	26.63%
b. No	179	46.74%
c. Unknown	102	26.63%

Total	383
Mean	2.00
Standard Dev.	0.73
Variance	0.53

BNSTD5

5. Can you access your RO-EMR/Written Directive from other treatment locations in your hospital (e.g. from radiology, from the O.R., etc)?

a. Yes	202	50.50%
b. No	145	36.25%
c. Unknown	53	13.25%
Total	400	

Mean	1.63
Standard Dev.	0.71
Variance	0.50

BNSTD_branch

Do you have any of the following technologies at your facility:
Tomotherapy, Cyberknife, HDR, or Gamma Knife.

a. Yes	302	72.77%
b. No	113	27.23%
Total	415	

Mean	1.27
Standard Dev.	0.45
Variance	0.20

TCHGK6

6. Which of these devices is the most heavily used?

a. Tomotherapy	56	18.54%
b. Cyberknife	28	9.27%
c. HDR	193	63.91%

d. Gamma Knife	25	8.28%
Total	302	
Mean	2.62	
Standard Dev.	0.88	
Variance	0.77	

TCHGK7

7. Please indicate how you currently store the following 5 elements of the chart (a-e) for these devices in particular. If there are different methods for different devices, choose the most common or prevalent method for the most heavily used device (specified in the previous question). Answer A, B or C for each where A-C are given by

- A. Electronic
- B. Scanned paper or pdf
- C. Paper (not scanned)

a. Prescription/Written Directive

A. Electronic	218	72.67%
B. Scanned paper or pdf	65	21.67%
C. Paper (not scanned)	17	5.67%
Total	300	

Mean	1.33
Standard Dev.	0.58
Variance	0.34

b. Sim orders

A. Electronic	237	80.34%
B. Scanned paper or pdf	43	14.58%
C. Paper (not scanned)	15	5.08%
Total	295	

Mean	1.25
Standard Dev.	0.54
Variance	0.29

c. Treatment plan

A. Electronic	150	50.00%
B. Scanned paper or pdf	138	46.00%
C. Paper (not scanned)	12	4.00%
Total	300	

Mean	1.54
Standard Dev.	0.57
Variance	0.33

d. 2nd check documentation

A. Electronic	173	58.05%
B. Scanned paper or pdf	109	36.58%
C. Paper (not scanned)	16	5.37%
Total	298	

Mean	1.47
Standard Dev.	0.60
Variance	0.36

e. Checklists

A. Electronic	197	66.11%
B. Scanned paper or pdf	73	24.50%
C. Paper (not scanned)	28	9.40%
Total	298	

Mean	1.43
Standard Dev.	0.66
Variance	0.43

TCHGK9

9. Is the limited RO-EMR connectivity of these devices a factor in your purchasing decisions?

a. Yes	115	38.85%
b. No	181	61.15%
Total	296	

Mean	1.61
Standard Dev.	0.49
Variance	0.24

IT1

1. Select the groups that participated during the discussion about the design of RO-EMR environment IT infrastructure (i.e. server configuration) (select all the apply):

a. <input checked="" type="checkbox"/> Clinical team (physicians, therapists, physicists, etc)	349	25.68%
b. <input checked="" type="checkbox"/> Institutional IT	289	21.27%
c. <input checked="" type="checkbox"/> Department IT	170	12.51%
d. <input checked="" type="checkbox"/> Administrator	252	18.54%
e. <input checked="" type="checkbox"/> Vendor	299	22.00%
Total	1359	

Mean	2.90
Standard Dev.	1.52
Variance	2.30

IT2

2. What best describes your IT infrastructure?

a. Single-Vendor environment (i.e. delivery, planning and e-chart environment are from the same vendor)	217	52.42%
b. Multi-Vendor environment (i.e. delivery, planning and e-chart environment are from different vendors)	197	47.58%
Total	414	

Mean	1.48
Standard Dev.	0.50
Variance	0.25

IT3

3) Which of the following best describes how your RO-EMR is deployed (installed)?

a. <input checked="" type="checkbox"/> Software is deployed locally on workstations	26	6.27%
b. <input checked="" type="checkbox"/> Software is deployed on servers located at your institution (at a data center for example)	211	50.84%

c. Software is deployed on servers located in the cloud (outside of your institution)	42	10.12%
d. A combination of the above	134	32.29%
e. Unknown	2	0.48%
Total	415	
Mean	2.70	
Standard Dev.	1.01	
Variance	1.01	

IT4

4. Which of the following best describes how you access your RO-EMR		
a. Access it using Citrix	166	40.19%
b. Access it using a web browser (not through citrix)	4	0.97%
c. Access it via an application installed on my computer	132	31.96%
d. A combination of above	111	26.88%
Total	413	
Mean	2.46	
Standard Dev.	1.26	
Variance	1.59	

IT5

5. Do clinicians use smart devices access to RO-EMR (iPhone, iPad, Android, etc)?		
a. Yes	96	23.41%
b. No	314	76.59%
Total	410	
Mean	1.77	
Standard Dev.	0.42	
Variance	0.18	

IT6

6. Do you have a test environment to validate upgrades?

a. Yes	332	80.39%
b. No	46	11.14%
c. Unknown	35	8.47%
Total	413	
Mean	1.28	
Standard Dev.	0.61	
Variance	0.37	

IT7

7. How are your database backups performed?

a. <input checked="" type="checkbox"/> Automated	365	87.74%
b. <input checked="" type="checkbox"/> Manually	15	3.61%
c. <input checked="" type="checkbox"/> No backups are performed	0	0.00%
d. <input checked="" type="checkbox"/> Unknown	36	8.65%
Total	416	
Mean	1.30	
Standard Dev.	0.85	
Variance	0.73	

IT8

8. Who approves an individual to be given access to your e-chart environment?

a. <input checked="" type="checkbox"/> Supervisors within the clinical team (e.g. physicists, RTTs, physicians, dosimetrists)	192	46.49%
b. <input checked="" type="checkbox"/> Department/Institution IT Team	53	12.83%
c. <input checked="" type="checkbox"/> Combination of the clinical team and IT	159	38.50%
d. <input checked="" type="checkbox"/> Other	9	2.18%
Total	413	
Mean	1.96	
Standard Dev.	0.97	
Variance	0.94	

IT9

9. Who manages (creates/deletes) user accounts for your RO-EMR?

Select all that apply.

a. <input checked="" type="checkbox"/> System Administrator(s)	196	35.00%
b. <input checked="" type="checkbox"/> Supervisors within the clinical team (e.g. physicists, RTTs, physicians, dosimetrists)	210	37.50%
c. <input checked="" type="checkbox"/> Department/Institutional IT Team	145	25.89%
d. <input checked="" type="checkbox"/> Vendor	4	0.71%
e. <input checked="" type="checkbox"/> Other	5	0.89%
Total	560	

Mean	1.95
Standard Dev.	0.85
Variance	0.72

IT10

10. Who supports the RO-EMR IT infrastructure (i.e. servers, database backups, database performance checks, etc.)?

(Select all that apply)

a. <input checked="" type="checkbox"/> Member of the clinical team (e.g. physicists, RTTs, physicians, dosimetrists)	126	15.89%
b. <input checked="" type="checkbox"/> Departmental IT team	164	20.68%
c. <input checked="" type="checkbox"/> Institutional IT team	293	36.95%
d. <input checked="" type="checkbox"/> Administrator	28	3.53%
e. <input checked="" type="checkbox"/> Vendor	160	20.18%
f. <input checked="" type="checkbox"/> Contractor	11	1.39%
g. <input checked="" type="checkbox"/> Other	3	0.38%
h. Unknown	8	1.01%
Total	793	

Mean	3.02
Standard Dev.	1.46
Variance	2.12

IT11

11. Who has administrator level rights for your RO-EMR? (Select all that apply)

a. Physicians	22	2.43%
b. Physicists	325	35.91%
c. Radiation Therapists	17	1.88%
d. Dosimetrists	32	3.54%
e. Department/Institution IT team	251	27.73%
f. Administrator	177	19.56%
g. Vendor	73	8.07%
h. Unknown	8	0.88%
Total	905	
Mean	4.14	
Standard Dev.	1.89	
Variance	3.59	

IT_branch

Do you use data mining at your clinic?

a. Yes	171	41.61%
b. No	240	58.39%
Total	411	
Mean	1.58	
Standard Dev.	0.49	
Variance	0.24	

IT12

12. Which group(s) use data mining for practice improvement initiatives (Select all that apply).

a. Physicians	76	18.36%
b. Physicists	127	30.68%
c. Radiation Therapists	24	5.80%
d. Dosimetrists	24	5.80%
e. Institutional IT Team	24	5.80%
f. Department IT Team	31	7.49%
g. Administrator	102	24.64%
h. Vendor	4	0.97%
i. Contractor	2	0.48%

Total	414
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Mean	3.79
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Standard Dev.	2.40
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Variance	5.76
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Q60

13. Do you generate custom reports from your RO-EMR to support clinical decisions, business administration, or quality reporting?

a. Yes	303	73.54%
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b. No	109	26.46%
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Total	412
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Mean	1.26
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Standard Dev.	0.44
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Variance	0.20
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