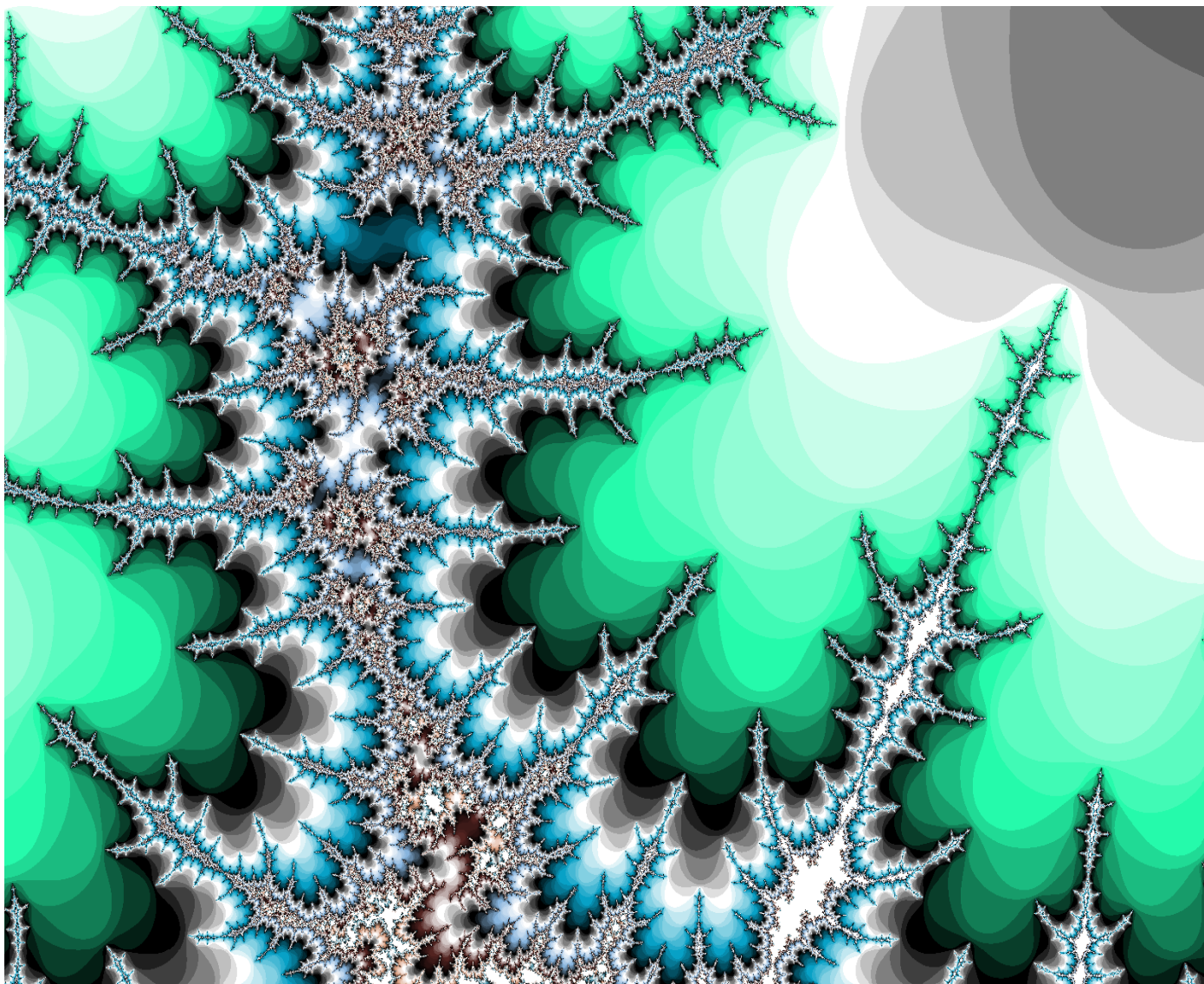


Radiation Protection Survey



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American Society of Radiologic Technologists

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Appendix A. Survey Instruments and Invitation Letter (Please contact the ASRT for a copy.)

Appendix B. Verbatim responses (Please contact the ASRT for a copy.)

Executive Summary

In October, 2014 the *Radiation Protection Survey* was sent to a sample of 22,000 radiologic technologists in the ASRT database. A total of 1,494 completed the survey, yielding an overall response rate of 6.8%. To help ensure an adequate sample of technologists from non licensure states, the following sampling scheme was employed:

State Licensure Status	Random Sample	Return	Percent
Non Licensed states (AL, AK, DC, GA, ID, MI, MO, NC, NH, NV, OK, SD)	10,000	459	4.6%
All states	12,000	1,035	8.6%

Demographics

Overall, 52.6% of respondents said their state has licensure requirements, 44.6% said their state does not have licensure requirements, and the remaining 2.7% were uncertain. When these results were cross-tabulated by whether the state actually has licensure standards, 72.2% of those in licensure states were aware of their state's standards while 25.4% believed that their state has no licensure, and the remaining 2.4% were unsure. Among those in states without licensure, 9.2% incorrectly thought their state has licensure while 87.4% correctly believe that their state has no licensure, and the remaining 3.4% were unsure. Some of the uncertainty regarding licensure status might have to do with only states with no licensure for any discipline in the radiologic sciences being counted as "non licensure" while respondents might have been answering about the status of their particular discipline.

The vast majority of respondents (95.6%) hold at least one certification in the radiologic sciences, with 96.5% respondents from non licensure states holding at least one certification, and 95.3% from licensure states holding at least one certification. The relatively few respondents who did not specify any certification might not have any, or might have skipped the question.

The vast majority of respondents (98.7%) in both licensure and non licensure states are members of the American Society of Radiologic Technologists (ASRT); 97.5% of respondents from non licensure states are members, and 99.2% from licensure states are members.

Most respondents listed their primary discipline as radiography (57.5%); 10.8% primarily work in computed tomography, 9.8% work in mammography, 6.4% in radiation therapy and 5.0% in magnetic resonance imaging. The remaining other disciplines accounted for less than 5.0% of respondents each. Because of the focus of the survey, and the relatively low *Ns* outside of radiography, CT, and mammography, other disciplines were excluded from most substantive cross-tabulations.

Asked to identify their certifications, respondents were most likely to be certified in radiography (96.6% in non licensure states and 94.4% in licensure states), mammography (15.8% in non licensure states and 26.1% in licensure states) or CT (19.4% in non licensure states and 16.4% in licensure states). Less than 10.0% of respondents to the survey held certifications in other disciplines.

Facility Demographics

A slight majority of respondents (50.1%) overall work at hospitals, 19.7% work in a clinic, 12.4% at an imaging center, 9.6% at a physician's office and 1.9% in a mobile unit. When asked what imaging technologies are in use at their facility:

- Respondents from licensure states listed CR (cassette-based) most frequently (69.3%) followed by DR (cassetteless) (61.1%), digital fluoroscopy (48.3%), fluoroscopy (22.3%) and film-screen (9.5%).
- Respondents in non licensure states listed CR most frequently (73.4%) followed by DR (57.9%), digital fluoroscopy (46.7%), fluoroscopy (18.0%) and film-screen (7.0%).

When asked which of these technologies are used most frequently at their facility:

- Respondents from licensure states listed DR most frequently (42.8%) followed by CR (42.6%), digital fluoroscopy (9.0%), film-screen (4.0%) and fluoroscopy (1.6%).
- Respondents from non licensure states listed CR most frequently (47.7%) followed by DR (39.4%), digital fluoroscopy (8.5%), film-screen (3.3%) and fluoroscopy (1.2%).

Most respondents overall (78.8%) work in a facility that images both adult and pediatric patients; 20.5% work in an adult-only facility, and only 0.7% work in a facility that images only pediatric patients. Among those working in facilities that image both children and adults, the average percentage of pediatric patients was 19.2% in non licensure states and 21.8% in licensure states.

Shielding Practices

Respondents were asked a variety of questions regarding the radiation safety practices at their facility. For the sake of clarity, reliability, relevance and brevity, only the responses from the top three disciplines are included here. Moreover, there were few statistically significant differences between the primary cross-tabulation groups: licensure states vs. non licensure states. For that reason, only the total percentages will be reported in the executive summary, except in the rare cases where significant differences exist.

Respondents were asked when their facility uses shielding:

- In radiography, 59.7% said they shield depending on the exam, 39.0% said they always shield, 1.2% said they do not shield, and 0.1% don't know.
- In mammography, 55.7% said they shield depending on the exam, 35.2% do not shield, and 8.2% always shield.
- In CT 77.8% shield depending on the exam, 11.1% do not shield, 10.4% always shield, and 0.7% don't know.

Respondents were asked whether they document patient shielding:

- In radiography, 50.6% said yes, 47.7% said no, and 1.7% didn't know.
- In mammography, 63.7% said yes, 33.9% said no, and 2.4% didn't know.
- In CT, 53.4% said yes, 41.1% said no, and 5.5% didn't know.

Respondents were asked whether their facility has policies in place to minimize radiation exposure to patients:

- In radiography, 86.0% said yes, 8.2% said no, and 5.8% didn't know.
- In mammography, 86.1% said yes, 9.0% didn't know, and 4.9% said no.
- In CT, 93.8% said yes, 4.1% said no, and 2.1% didn't know.

Respondents were asked whether their facility has policies in place to minimize radiation exposure to personnel:

- In radiography, 90.3% said yes, 6.0% said no, and 3.8% didn't know.
- In mammography, 92.4% said yes, 5.1% didn't know, and 2.5% said no.
- In CT, 93.1% said yes, 4.1% didn't know, and 2.8% said no.

When asked whether their facility records exposure index numbers for digital radiography, 39.7% said no, 39.0% said yes, and 21.3% didn't know.

However, 56.3% of respondents said their facility does record exposure for fluoroscopy; 29.4% said no and 14.3% didn't know.

Respondents were asked whether the equipment has dose-limiting software:

- In radiography, 49.5% said yes, 35.7% didn't know, and 14.8% said no.
- In mammography 46.7% didn't know, 45.9% said yes, and 7.4% said no.
- In CT, 83.0% said yes, 11.6% didn't know, and 5.4% said no.

When asked whether they adjust exposure parameters based on the patient's age:

- 60.5% of respondents in radiography said they always do, and 21.7% do so at least half of the time.
- In mammography, 48.3% said they always do or do so more than half of the time, 19.2% never do, and 20.8% didn't know.
- In CT, 63.3% of respondents always do, and 14.3% do so more than half of the time.

When asked whether they adjust exposure parameters based on body habitus:

- In radiography, 60.7% said they always do, and 22.2% said they do so at least half of the time.
- In mammography, 46.3% said they always do, while 14.6% said they never do, and 12.2% didn't know.
- In CT, 59.9% said they always do, and 27.9% said they do at least half of the time.

Respondents were asked whether their facility has posted technique charts for digital imaging. This was one of the relatively few instances in which there were statistically significant differences between the primary cross-tabulation groups, although only among radiographers.

- Among radiographers:
 - In licensure states, 64.9% have technique charts, 29.8% do not, and 5.2% don't know.
 - In non licensure states, 57.8% have technique charts, 39.0% do not, and 3.2% don't know.
- In mammography, there were no significant differences between groups: 83.1% have technique charts, 8.9% do not, and 8.1% don't know.
- In CT, 39.3% have technique charts, 30.0% do not, and 30.7% don't know.

Those who do have posted technique charts were asked how often those charts are used. Once again, there were some statistical differences between the licensure and non licensure groups, in this case within mammography.

- In radiography, 23.1% of respondents said they always use their technique charts, and another 41.3% said they use them at least half of the time; 4.3% never use them, and 17.0% don't know how often they use them.
- In mammography, there were significant differences between the licensure and non licensure groups:
 - In licensure states, 13.3% of respondents said they always use technique charts, 43.4% use them less than half the time or not at all, and 22.2% don't know.
 - In non licensure states, 43.5% said they always use technique charts, 26.1% use them less than half the time or not at all, and 8.7% don't know.
- In CT, there were no significant differences. The most common response regarding the use of technique

charts was “I don’t know” (45.9%); 42.3% said they use them always or more than half of the time.

When asked whether their facility hires only ARRT certified technologists, 87.1% of respondents in licensure states said yes, compared with 82.4% in non licensure states. The differences between the groups were statistically significant. Respondents were asked whether they perform a repeat/reject analysis for digital radiography at their facility:

- In radiography, 33.9% said they do, 37.6% said they do not, and 28.5% don’t know.
- In mammography, 62.3% said they do, 16.4% said they do not, and 21.3% don’t know.

Those who perform a repeat/reject analysis were asked several questions pertaining to that. In radiography, the average threshold percentage for a repeat/reject analysis was 7.0%, and the average percent repeat/reject rate was 6.0%. In mammography, the average threshold was 4.0% and the average percent rate was 3.0%.

Respondents also were asked how frequently they use pre-exposure collimation and post-exposure masking for digital radiography.

- In licensure states, 87.0% use pre-exposure collimation and 27.0% use post-exposure masking.
- In non-licensure states, 85.0% use pre-exposure collimation and 31.0% use post-exposure masking.

When asked how often they perform a repeat/reject analysis:

- In radiography, 18.6% said they often do, 22.2% said rarely or sometimes, and 23.5% said never; 35.7% don’t know.
- In mammography, 44.8% do so often, 8.6% do so sometimes or rarely, 11.2% never do so and 35.3% don’t know.

When asked to specify the reason for a repeat/reject, respondents were allowed to select all applicable issues: 76.6% cited positioning, 63.3% cited patient motion, 44.4% cited artifacts, 42.5% cited exposure, and 31.5% cited mechanical problems.

Respondents were asked whether they have a shielding policy for female patients of childbearing age:

- In radiography, 92.0% said yes, 4.9% said no, and 3.2% don’t know.
- In mammography, 87.3% said yes, 9.1% said no, and 3.6% don’t know.
- In CT, 82.0% said yes, 10.8% said no, and 7.2% don’t know.

When asked whether they image pregnant patients:

- In radiography, 68.9% said yes, 28.4% said no, and 2.8% don’t know.
- In mammography, 23.6% said yes, 73.6% said no, and 2.7% don’t know.
- In CT, 81.4% said yes, 17.1% said no, and 1.4% don’t know.

Those who image pregnant patients were asked whether they have specific safety protocols for them:

- In radiography, 87.3% said yes, 6.8% said no, and 5.9% don’t know.
- In mammography 76.7% said yes, 11.7% said no, and 11.7% don’t know.
- In CT, 88.0% said yes, 5.6% said no, and 6.4% don’t know.

Respondents were given the option to select all those who make shielding decisions:

- In radiography, 79.6% said that the technologist decides, 58.8% cited institutional policy, 33.9% cited patient request, 13.8% said the radiologist, and 4.2% said the physicist.
- In mammography, 65.8% said the technologist decides, 59.5% said it was patient request, 45.9% cited institutional policy, 15.3% said it was the radiologist, and 0.9% said it was the physicist.
- In CT, 71.4% said the technologist decides, 59.4% cited institutional policy, 34.6% said it was patient request, 22.6% said it was the radiologist, and 6.0% said it was the physicist.

Respondents were asked what type of shielding they use:

- In radiography, 93.4% use physical shielding, 91.7% use collimation, 60.0% use technique charts, and 41.0% use dose limiting software; only 0.5% use no shielding, and 1.9% don’t know.
- In mammography, 72.0% use physical shielding, 59.8% use dose limiting software, 52.3% use technique charts, and 44.9% use collimation; only 0.9% use none, and 3.7% don’t know.
- In CT, 90.6% use dose-limiting software, 75.4% use physical shielding, 43.5% use collimation, 15.9% use technique charts, and only 0.7% use none.

Finally, respondents were asked several questions about image archiving practices in specific instances involving portable digital radiography, portable fluoroscopy, and standard fluoroscopy. On average, 89.0% of portable digital radiography, 66.0% of portable fluoroscopy, and 81.0% of standard fluoroscopy images are archived.

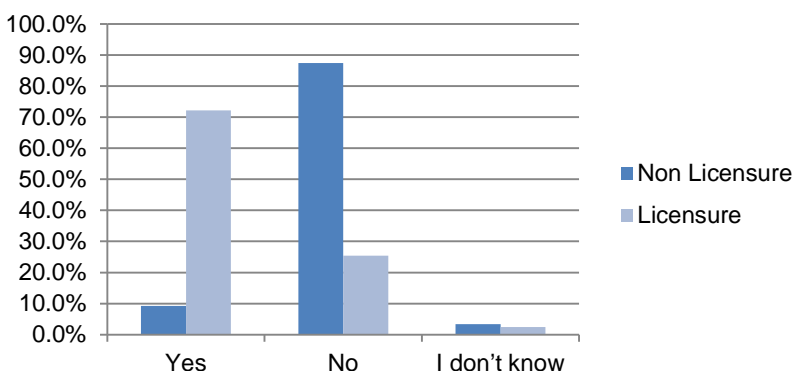
Demographics

Does your state have licensure requirements?

		Non Licensure	Licensure	Total
Yes	n	41	714	755
	%	9.2%	72.2%	52.6%
No	n	389	251	640
	%	87.4%	25.4%	44.6%
I don't know	n	15	24	39
	%	3.4%	2.4%	2.7%
Total	n	445	989	1434
	%	100.0%	100.0%	100.0%

The percentage differences were statistically significant $\chi^2(2, n = 1434) = 496.9, p < .001$.

Does your state have licensure requirements?

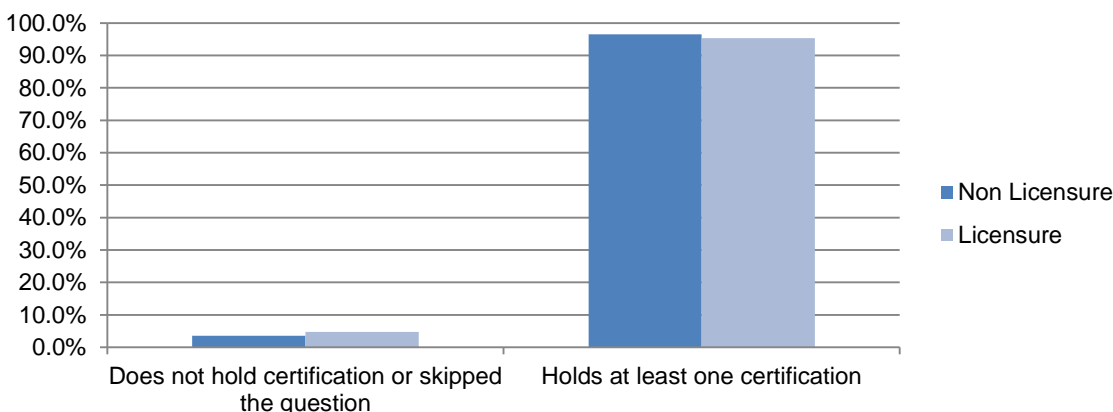


Does respondent hold at least one certification in the radiologic sciences?

		Non Licensure	Licensure	Total
Does not hold certification or skipped the question	n	16	49	65
	%	3.5%	4.7%	4.4%
Holds at least one certification	n	443	986	1429
	%	96.5%	95.3%	95.6%
Total	n	459	1035	1494
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Does respondent hold at least one certification in the radiologic sciences?

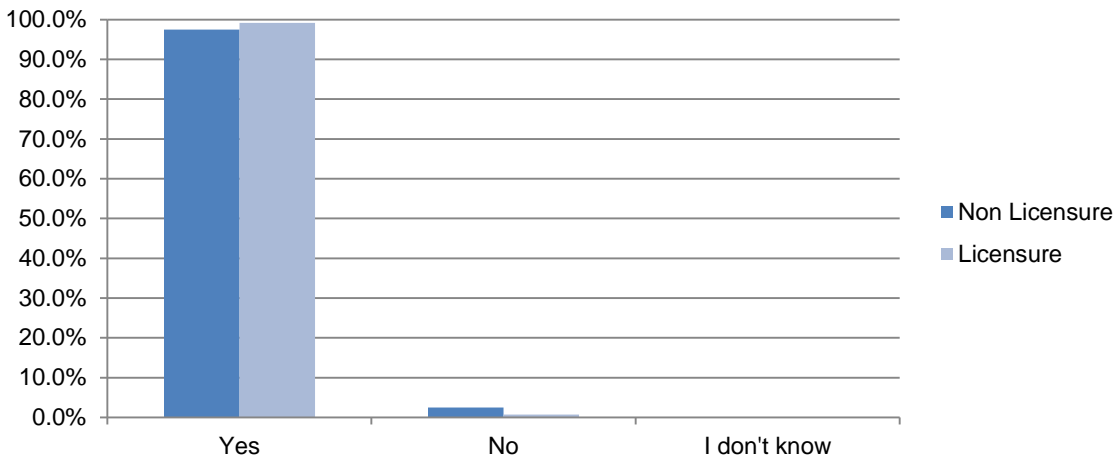


Are you a member of the American Society of Radiologic Technologists (ASRT)?

		Non Licensure	Licensure	Total
Yes	n	434	981	1415
	%	97.5%	99.2%	98.7%
No	n	11	7	18
	%	2.5%	0.7%	1.3%
I don't know	n	0	1	1
	%	0.0%	0.1%	0.1%
Total	n	445	989	1434
	%	100.0%	100.0%	100.0%

The percentage differences were statistically significant $\chi^2(2, n = 1434) = 8.1, p = .017$.

Are you a member of the American Society of Radiologic Technologists (ASRT)?

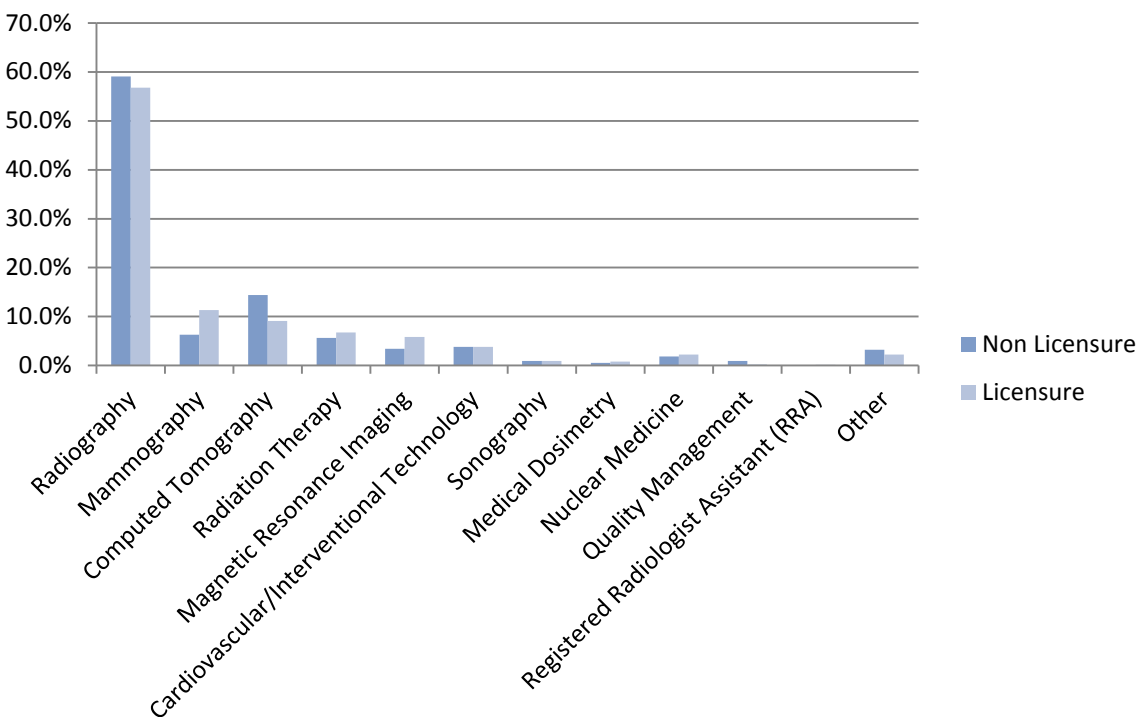


What is your primary discipline?

		Non Licensure	Licensure	Total
Radiography	n	262	562	824
	%	59.1%	56.8%	57.5%
Mammography	n	28	112	140
	%	6.3%	11.3%	9.8%
Computed Tomography	n	64	90	154
	%	14.4%	9.1%	10.8%
Radiation Therapy	n	25	66	91
	%	5.6%	6.7%	6.4%
Magnetic Resonance Imaging	n	15	57	72
	%	3.4%	5.8%	5.0%
Cardiovascular/Interventional Technology	n	17	38	55
	%	3.8%	3.8%	3.8%
Sonography	n	4	9	13
	%	0.9%	0.9%	0.9%
Medical Dosimetry	n	2	8	10
	%	0.5%	0.8%	0.7%
Nuclear Medicine	n	8	22	30
	%	1.8%	2.2%	2.1%
Quality Management	n	4	2	6
	%	0.9%	0.2%	0.4%
Registered Radiologist Assistant (RRA)	n	0	1	1
	%	0.0%	0.1%	0.1%
Other	n	14	22	36
	%	3.2%	2.2%	2.5%
Total	n	443	989	1432
	%	100.0%	100.0%	100.0%

The percentage differences were statistically significant $\chi^2(11, n = 1432) = 26.1, p = .006$.

What is your primary discipline?

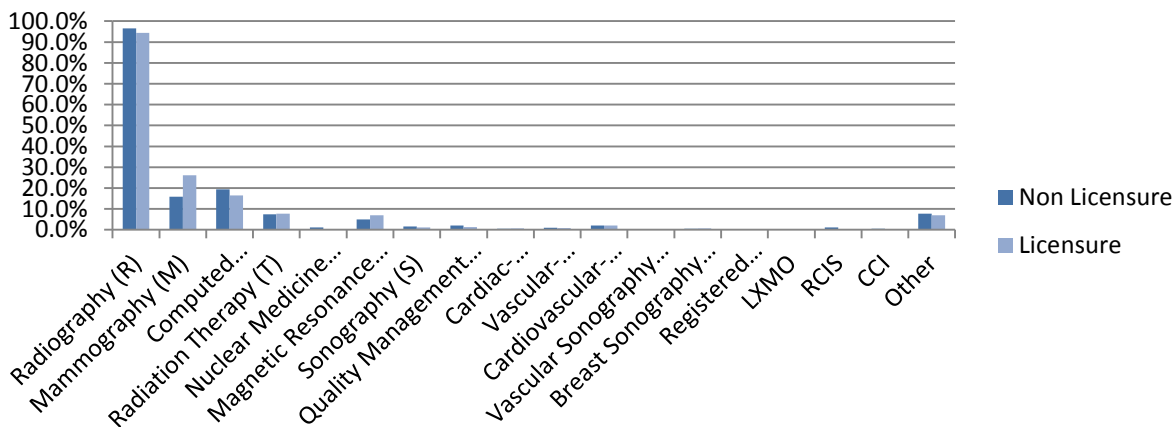


Certifications held:

		Non Licensure	Licensure
Radiography (R)	n	428	931
	%	96.6%	94.4%
Mammography (M)	n	70	257
	%	15.8%	26.1%
Computed Tomography (CT)	n	86	162
	%	19.4%	16.4%
Radiation Therapy (T)	n	33	76
	%	7.4%	7.7%
Nuclear Medicine Technology (N)	n	5	3
	%	1.1%	0.3%
Magnetic Resonance Imaging (MR)	n	22	69
	%	5.0%	7.0%
Sonography (S)	n	7	11
	%	1.6%	1.1%
Quality Management (QM)	n	9	12
	%	2.0%	1.2%
Cardiac-Interventional Radiography (CI)	n	2	6
	%	0.5%	0.6%
Vascular-Interventional Radiography (VI)	n	4	8
	%	0.9%	0.8%
Cardiovascular-Interventional Radiography (CV)	n	9	21
	%	2.0%	2.1%
Vascular Sonography (VS)	n	0	1
	%	0.0%	0.1%
Breast Sonography (BS)	n	2	7
	%	0.5%	0.7%
Registered Radiologist Assistant (RRA)	n	0	2
	%	0.0%	0.2%
LXMO	n	0	1
	%	0.0%	0.1%
RCIS	n	5	1
	%	1.1%	0.1%
CCI	n	2	0
	%	0.5%	0.0%
Other	n	34	69
	%	7.7%	7.0%
Total	n	443	986

The percentage differences were not statistically significant.

Certifications held:



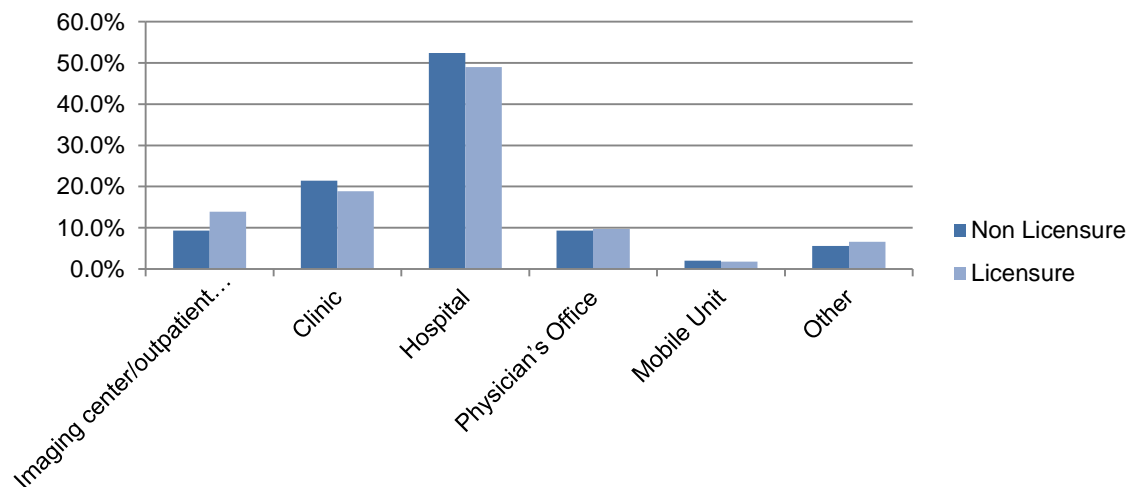
Facility Demographics

In which setting do you practice most of the time?

		Non Licensure	Licensure	Total
Imaging center/outpatient imaging center	n	41	137	178
	%	9.3%	13.9%	12.4%
Clinic	n	95	187	282
	%	21.4%	18.9%	19.7%
Hospital	n	232	484	716
	%	52.4%	49.0%	50.1%
Physician's office	n	41	96	137
	%	9.3%	9.7%	9.6%
Mobile unit	n	9	18	27
	%	2.0%	1.8%	1.9%
Other	n	25	65	90
	%	5.6%	6.6%	6.3%
Total	n	443	987	1430
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

In which setting do you practice most of the time?

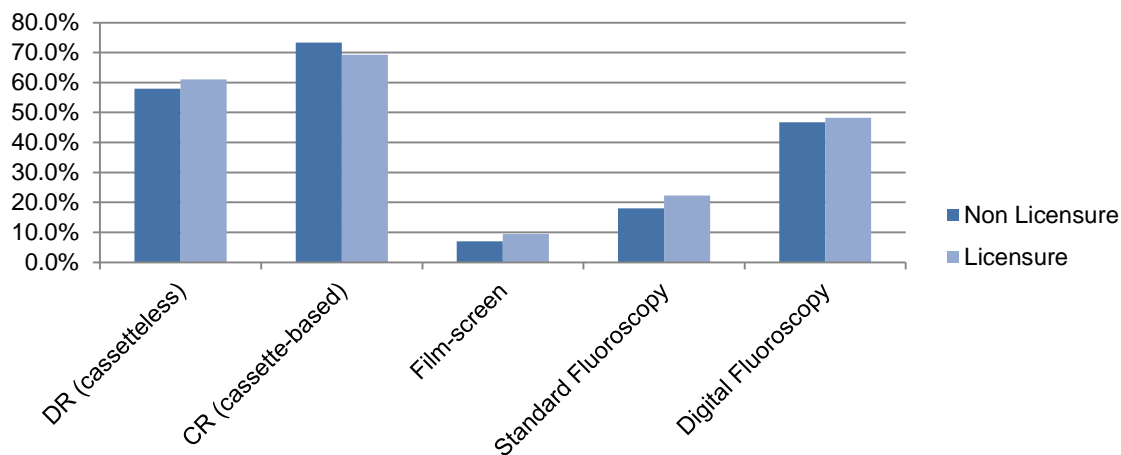


Select all of the imaging technologies used at your facility. (Select all that apply.)

		Non Licensure	Licensure	Total
DR (cassetteless)	n	248	567	815
	%	57.9%	61.1%	
CR (cassette-based)	n	314	643	957
	%	73.4%	69.3%	
Film-screen	n	30	88	118
	%	7.0%	9.5%	
Standard fluoroscopy	n	77	207	284
	%	18.0%	22.3%	
Digital fluoroscopy	n	200	448	648
	%	46.7%	48.3%	
Total	n	428	928	1356

The percentage differences were not statistically significant.

Select all of the imaging technologies used at your facility. (Select all that apply.)

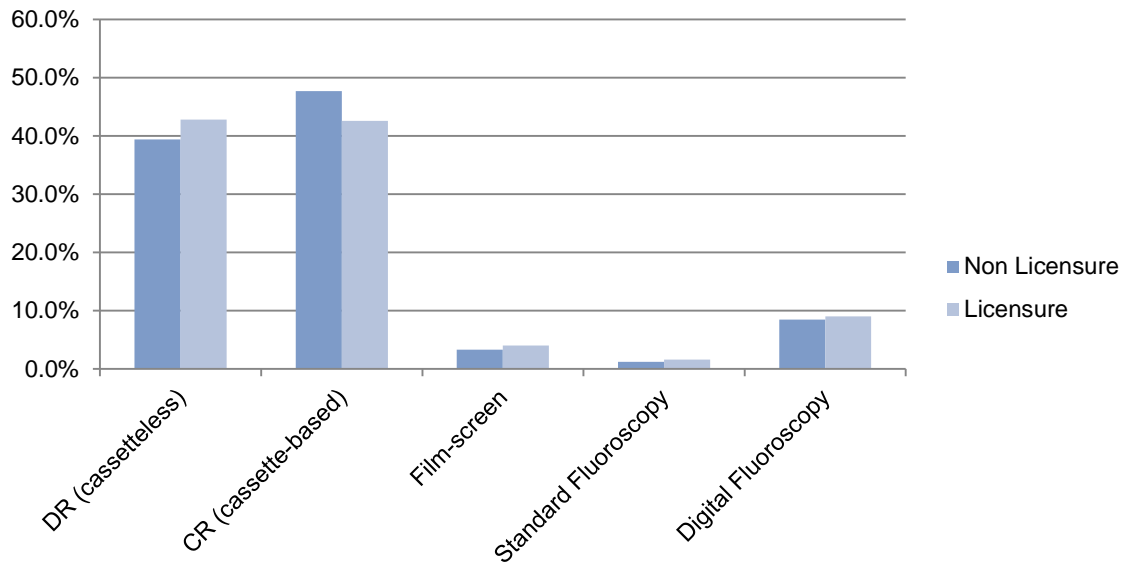


Which imaging technology is used most at your facility? (Select only one.)

		Non Licensure	Licensure	Total
DR (cassetteless)	n	168	397	565
	%	39.4%	42.8%	41.8%
CR (cassette-based)	n	203	395	598
	%	47.7%	42.6%	44.2%
Film-screen	n	14	37	51
	%	3.3%	4.0%	3.8%
Standard Fluoroscopy	n	5	15	20
	%	1.2%	1.6%	1.5%
Digital Fluoroscopy	n	36	83	119
	%	8.5%	9.0%	8.8%
Total	n	426	927	1353
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Which imaging technology is used most at your facility? (Select only one.)

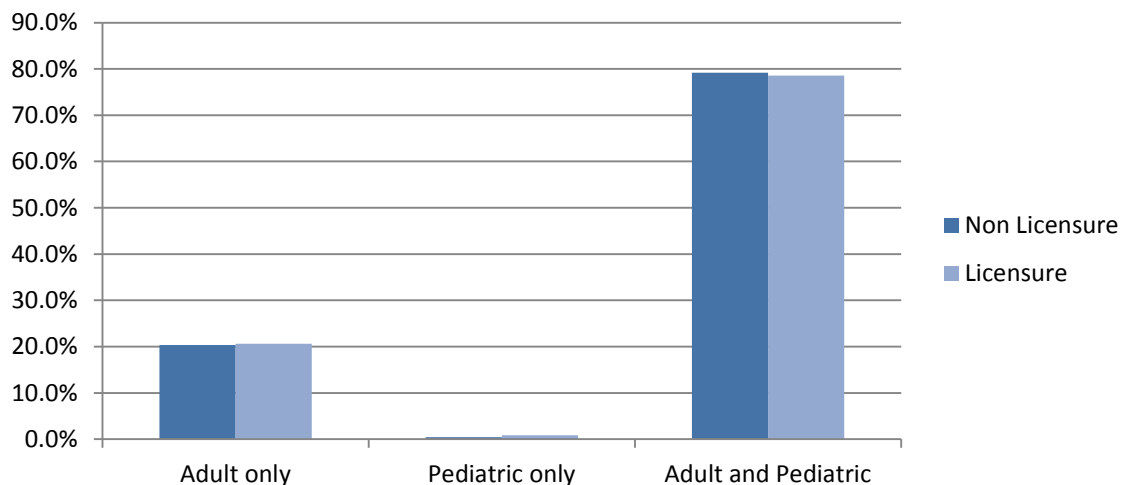


Please select the type of patient your facility performs exams on.

		Non Licensure	Licensure	Total
Adult only	n	88	196	284
	%	20.3%	20.6%	20.5%
Pediatric only	n	2	8	10
	%	0.5%	0.8%	0.7%
Adult and Pediatric	n	343	748	1091
	%	79.2%	78.6%	78.8%
Total	n	433	952	1385
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Please select the type of patient your facility performs exams on.



If you answered "Adult and Pediatric" in the question above, please give the percent that are pediatric.

	Non Licensure	Licensure	Total
n	329	711	1040
Mean	19.2%	21.8%	21.0%
<i>SD</i>	13.4%	30.2%	24.9%

The mean differences were not statistically significant.

Shielding Practices

When does your facility use shielding for patients?

Radiography

		Non Licensure	Licensure	Total
We shield all patients regardless of the exam	n	90	213	303
	%	36.3%	40.3%	39.0%
We shield some patients depending on the exam	n	157	306	463
	%	63.3%	58.0%	59.7%
We do not shield	n	1	8	9
	%	0.4%	1.5%	1.2%
I don't know	n	0	1	1
	%	0.0%	0.2%	0.1%
Total	n	248	528	776
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
We shield all patients regardless of the exam	n	3	8	11
	%	12.5%	8.2%	9.0%
We shield some patients depending on the exam	n	15	53	68
	%	62.5%	54.1%	55.7%
We do not shield	n	6	37	43
	%	25.0%	37.8%	35.2%
Total	n	24	98	122
	%	100.0%	100.0%	100.0%

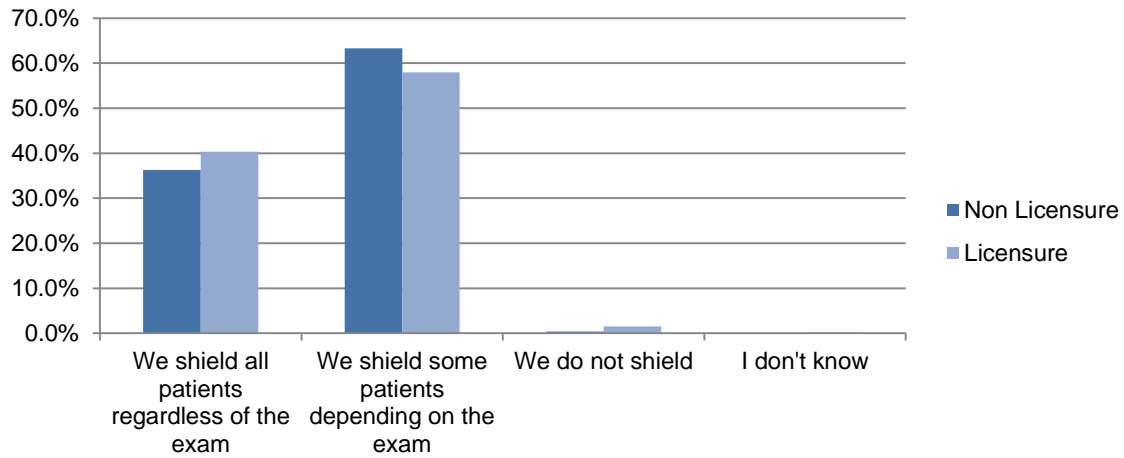
The percentage differences were not statistically significant.

Computed Tomography

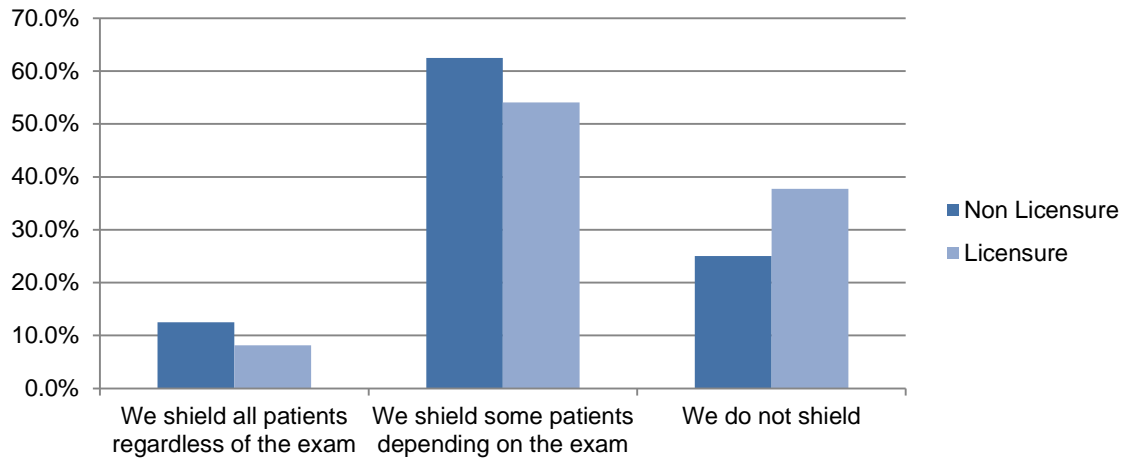
		Non Licensure	Licensure	Total
We shield all patients regardless of the exam	n	8	7	15
	%	13.30%	8.30%	10.40%
We shield some patients depending on the exam	n	50	62	112
	%	83.30%	73.80%	77.80%
We do not shield	n	2	14	16
	%	3.30%	16.70%	11.10%
I don't know	n	0	1	1
	%	0.00%	1.20%	0.70%
Total	n	60	84	144
	%	100.00%	100.00%	100.00%

The percentage differences were not statistically significant.

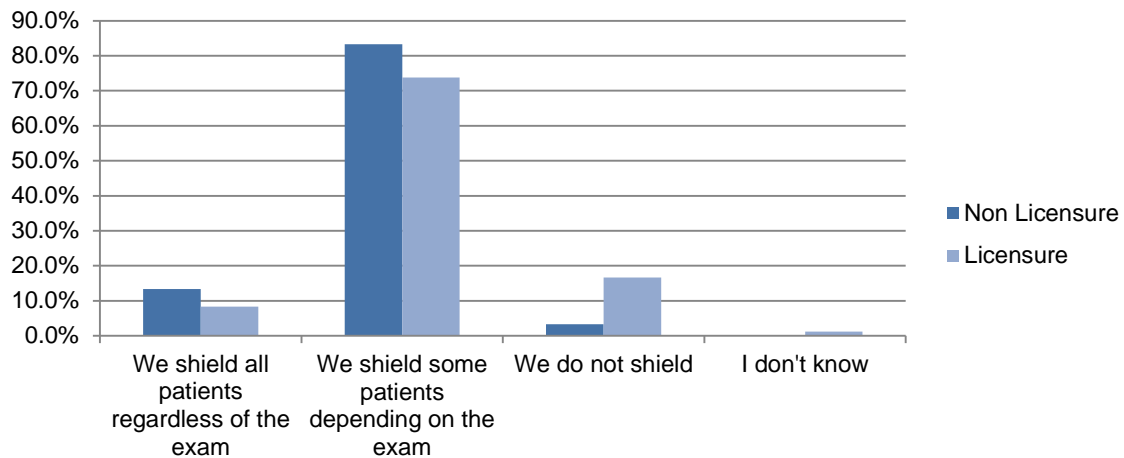
When does your facility use shielding for patients? -- Radiography



When does your facility use shielding for patients? -- Mammography



When does your facility use shielding for patients? -- Computed Tomography



Do you document patient shielding?

Radiography

		Non Licensure	Licensure	Total
Yes	n	116	278	394
	%	46.0%	52.9%	50.6%
No	n	132	239	371
	%	52.4%	45.4%	47.7%
I don't know	n	4	9	13
	%	1.6%	1.7%	1.7%
Total	n	252	526	778
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Yes	n	14	65	79
	%	56.0%	65.7%	63.7%
No	n	11	31	42
	%	44.0%	31.3%	33.9%
I don't know	n	0	3	3
	%	0.0%	3.0%	2.4%
Total	n	25	99	124
	%	100.0%	100.0%	100.0%

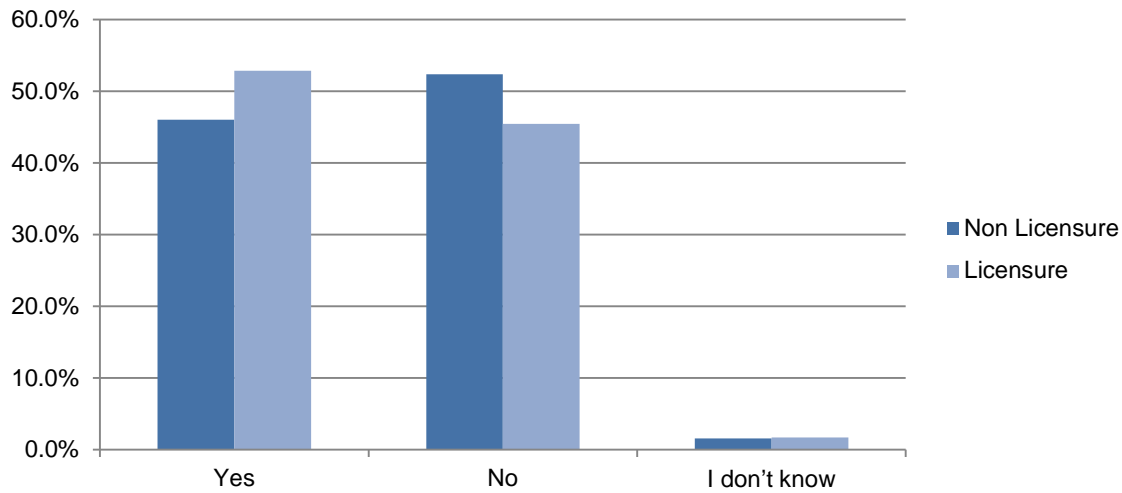
The percentage differences were not statistically significant.

Computed Tomography

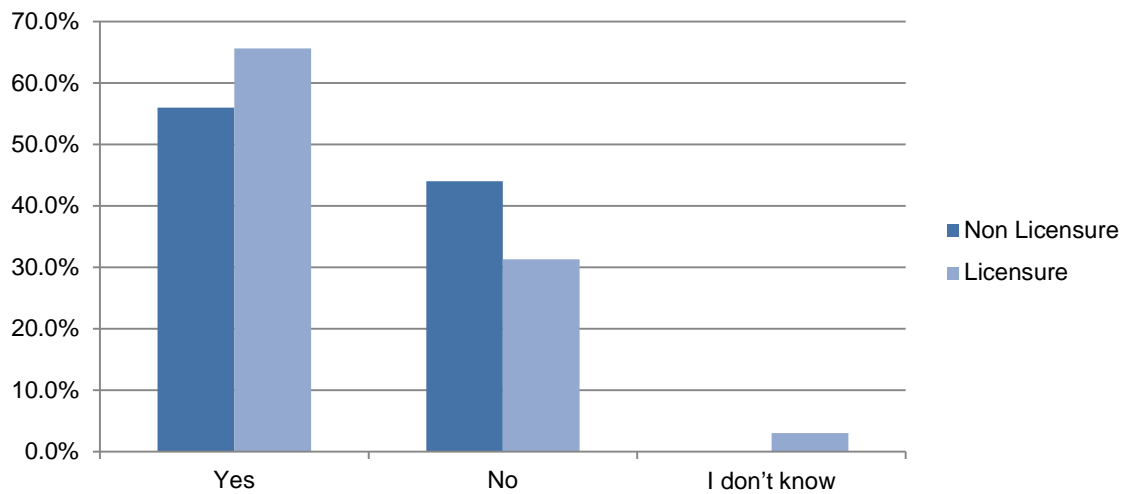
		Non Licensure	Licensure	Total
Yes	n	27	51	78
	%	45.0%	59.3%	53.4%
No	n	31	29	60
	%	51.7%	33.7%	41.1%
I don't know	n	2	6	8
	%	3.3%	7.0%	5.5%
Total	n	60	86	146
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

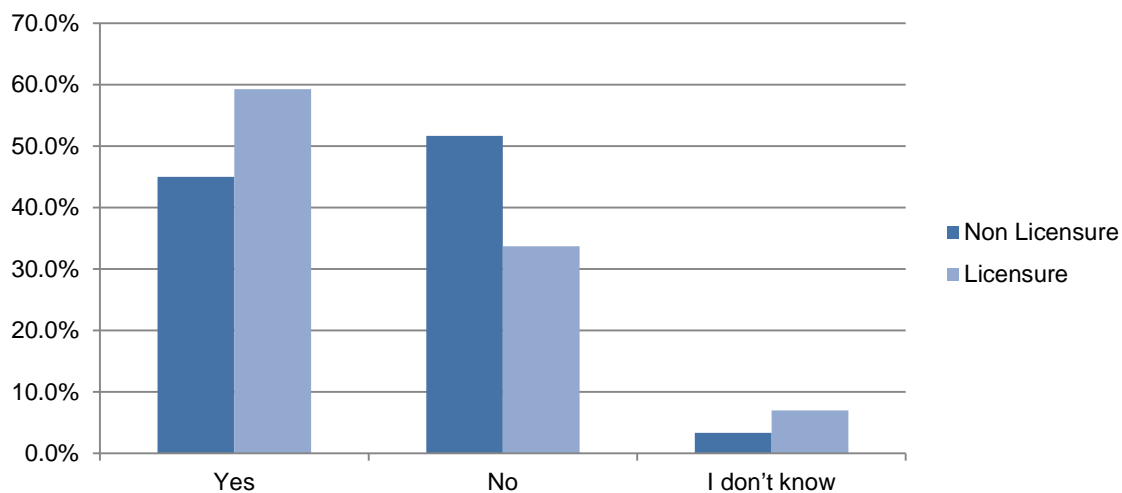
Do you document patient shielding?--Radiography



Do you document patient shielding?--Mammography



Do you document patient shielding?--Computed Tomography



Does your facility have policies in place that minimize radiation exposure to patients?

Radiography

		Non Licensure	Licensure	Total
Yes	n	209	458	667
	%	83.9%	86.9%	86.0%
No	n	28	36	64
	%	11.2%	6.8%	8.2%
I don't know	n	12	33	45
	%	4.8%	6.3%	5.8%
Total	n	249	527	776
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Yes	n	19	86	105
	%	82.6%	86.9%	86.1%
No	n	1	5	6
	%	4.3%	5.1%	4.9%
I don't know	n	3	8	11
	%	13.0%	8.1%	9.0%
Total	n	23	99	122
	%	100.0%	100.0%	100.0%

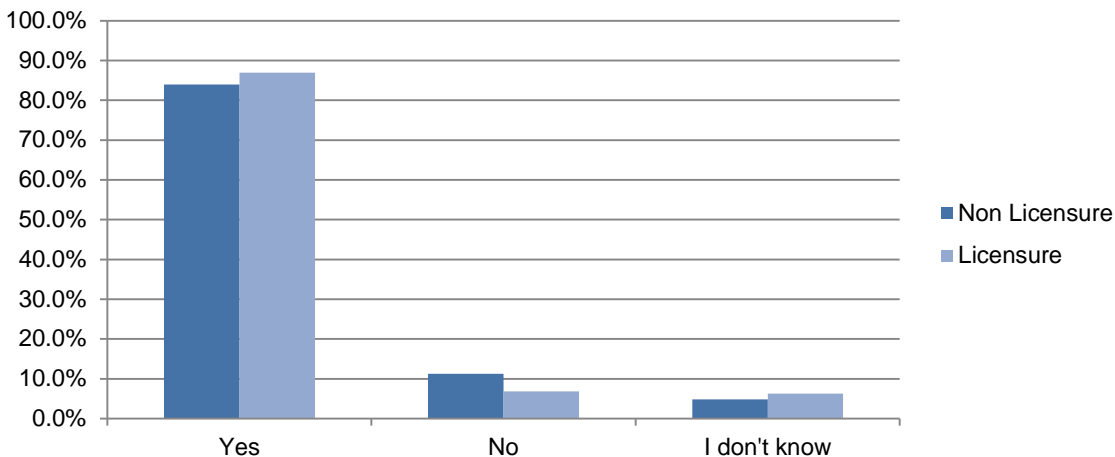
The percentage differences were not statistically significant.

Computed Tomography

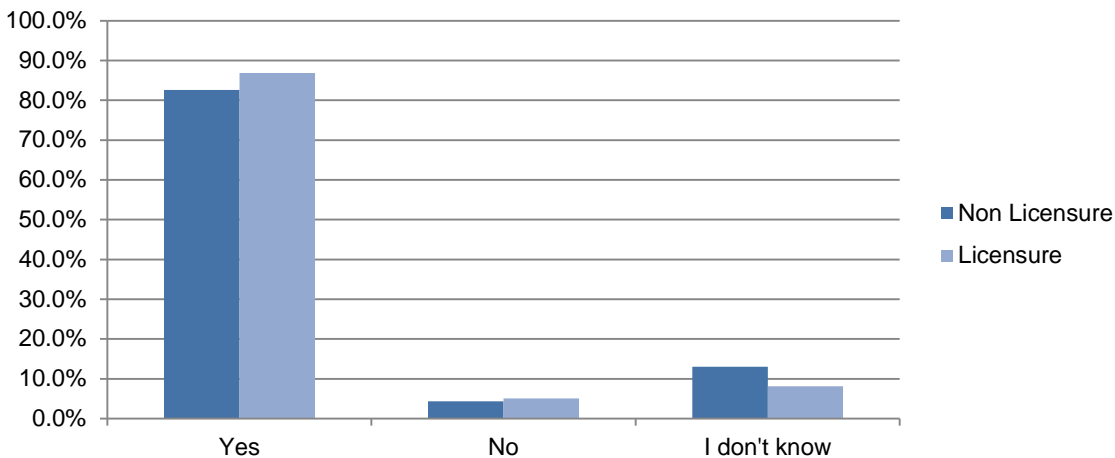
		Non Licensure	Licensure	Total
Yes	n	55	81	136
	%	91.7%	95.3%	93.8%
No	n	4	2	6
	%	6.7%	2.4%	4.1%
I don't know	n	1	2	3
	%	1.7%	2.4%	2.1%
Total	n	60	85	145
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

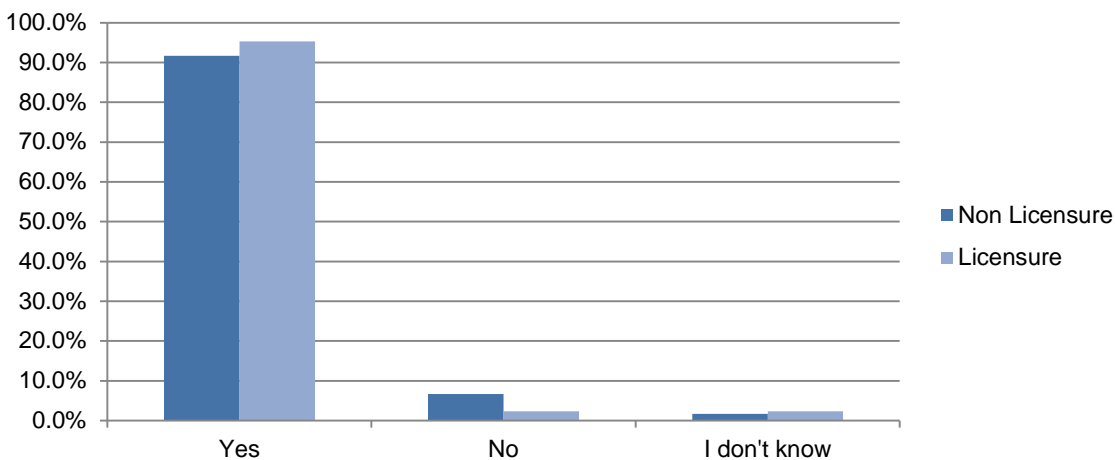
Does your facility have policies in place that minimize radiation exposure to patients? -- Radiography



Does your facility have policies in place that minimize radiation exposure to patients? -- Mammography



Does your facility have policies in place that minimize radiation exposure to patients? -- Computed Tomography



Does your facility have policies in place that minimize radiation exposure to personnel?

Radiography

		Non Licensure	Licensure	Total
Yes	n	226	471	697
	%	90.0%	90.4%	90.3%
No	n	16	30	46
	%	6.4%	5.8%	6.0%
I don't know	n	9	20	29
	%	3.6%	3.8%	3.8%
Total	n	251	521	772
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Yes	n	22	87	109
	%	100.0%	90.6%	92.4%
No	n	0	3	3
	%	0.0%	3.1%	2.5%
I don't know	n	0	6	6
	%	0.0%	6.3%	5.1%
Total	n	22	96	118
	%	100.0%	100.0%	100.0%

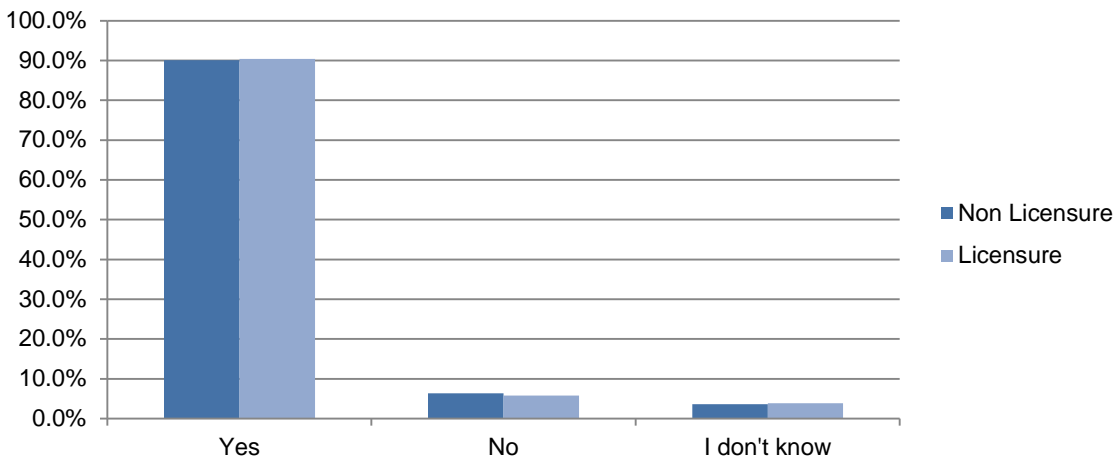
The percentage differences were not statistically significant.

Computed Tomography

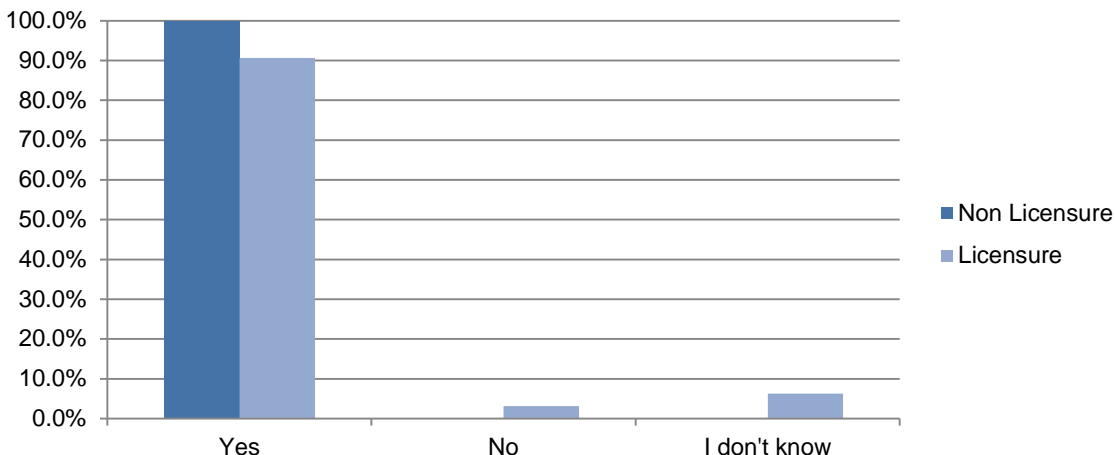
		Non Licensure	Licensure	Total
Yes	n	55	80	135
	%	91.7%	94.1%	93.1%
No	n	2	2	4
	%	3.3%	2.4%	2.8%
I don't know	n	3	3	6
	%	5.0%	3.5%	4.1%
Total	n	60	85	145
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

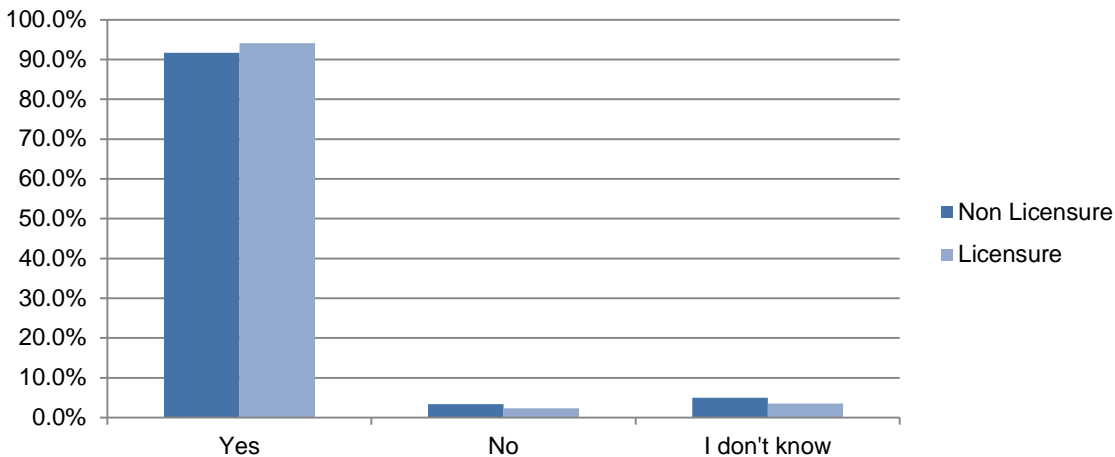
Does your facility have policies in place that minimize radiation exposure to personnel? -- Radiography



Does your facility have policies in place that minimize radiation exposure to personnel? -- Mammography



Does your facility have policies in place that minimize radiation exposure to personnel? -- Computed Tomography

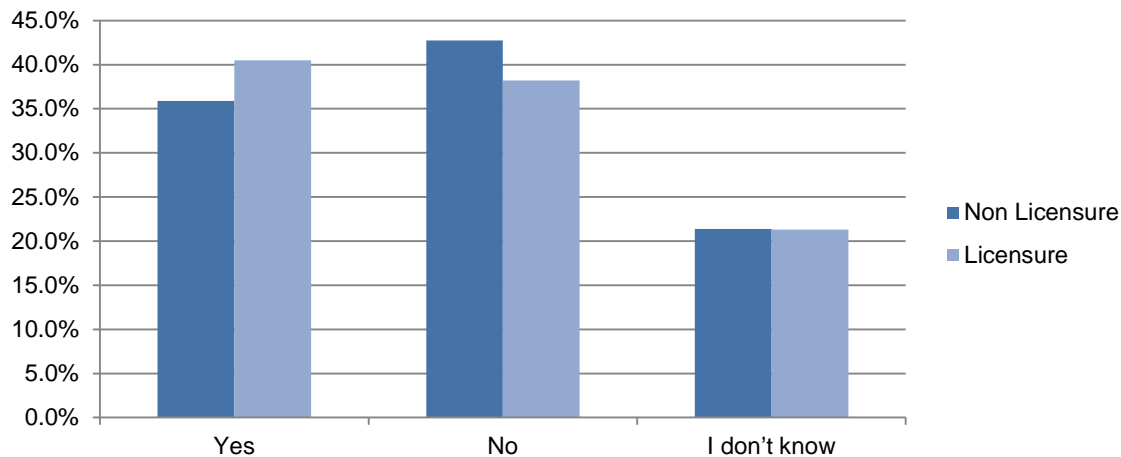


Does your facility record exposure index numbers for digital radiography?

		Non Licensure	Licensure	Total
Yes	n	89	211	300
	%	35.9%	40.5%	39.0%
No	n	106	199	305
	%	42.7%	38.2%	39.7%
I don't know	n	53	111	164
	%	21.4%	21.3%	21.3%
Total	n	248	521	769
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Does your facility record exposure index numbers for digital radiography?

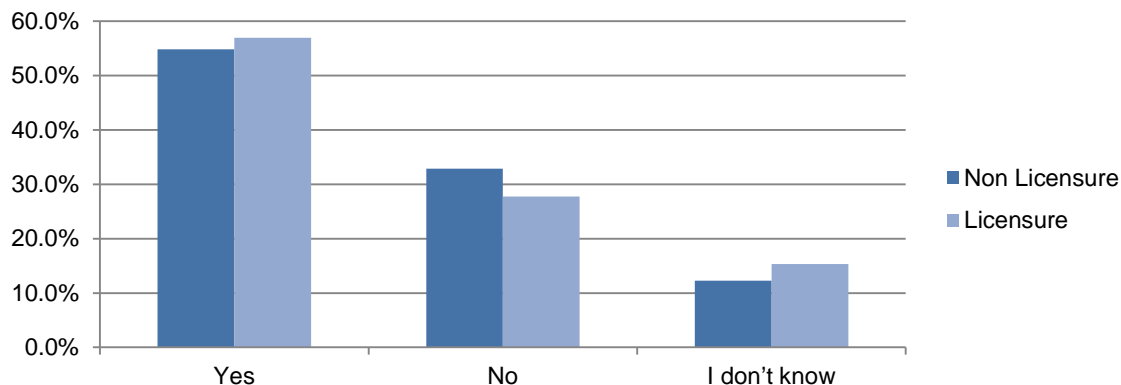


Does your facility record exposure for fluoroscopy?

		Non Licensure	Licensure	Total
Yes	n	125	275	400
	%	54.8%	56.9%	56.3%
No	n	75	134	209
	%	32.9%	27.7%	29.4%
I don't know	n	28	74	102
	%	12.3%	15.3%	14.3%
Total	n	228	483	711
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Does your facility record exposure for fluoroscopy?



Does your imaging equipment have dose-limiting software?

Radiography

		Non Licensure	Licensure	Total
Yes	n	120	261	381
	%	48.6%	49.9%	49.5%
No	n	36	78	114
	%	14.6%	14.9%	14.8%
I don't know	n	91	184	275
	%	36.8%	35.2%	35.7%
Total	n	247	523	770
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Yes	n	12	44	56
	%	50.0%	44.9%	45.9%
No	n	2	7	9
	%	8.3%	7.1%	7.4%
I don't know	n	10	47	57
	%	41.7%	48.0%	46.7%
Total	n	24	98	122
	%	100.0%	100.0%	100.0%

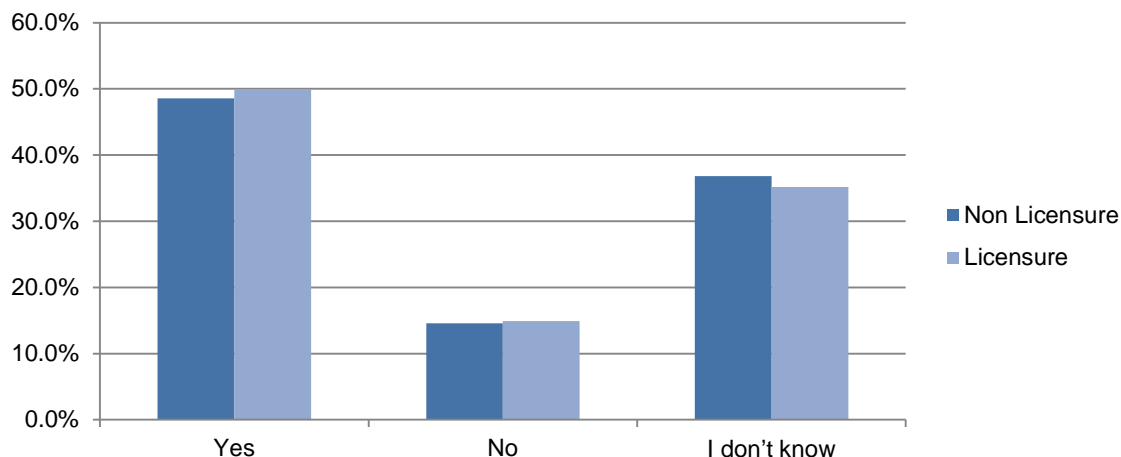
The percentage differences were not statistically significant.

Computed Tomography

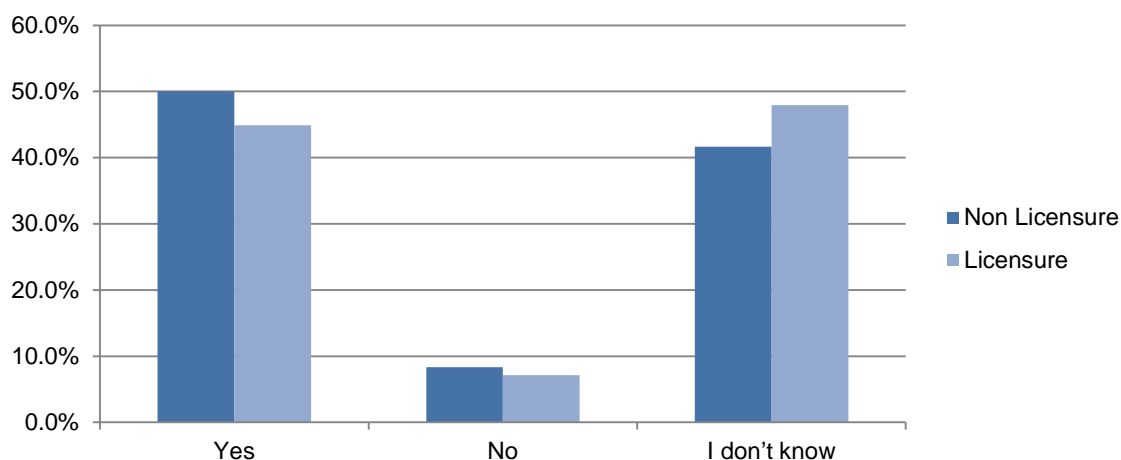
		Non Licensure	Licensure	Total
Yes	n	48	74	122
	%	80.0%	85.1%	83.0%
No	n	5	3	8
	%	8.3%	3.4%	5.4%
I don't know	n	7	10	17
	%	11.7%	11.5%	11.6%
Total	n	60	87	147
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

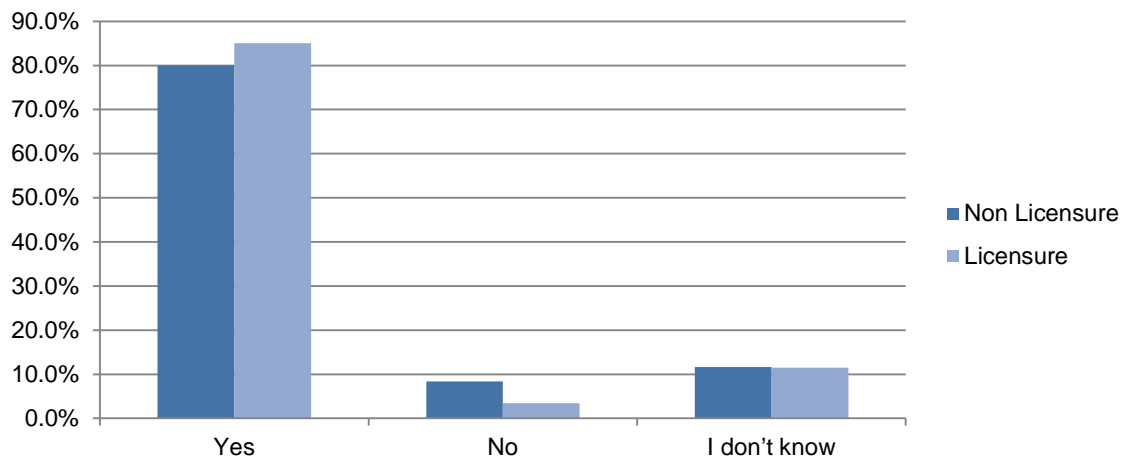
**Does your imaging equipment have dose-limiting software?--
Radiography**



**Does your imaging equipment have dose-limiting software?--
Mammography**



**Does your imaging equipment have dose-limiting software?--
Computed Tomography**



How often do you adjust exposure parameters based on the patient's age?

Radiography

		Non Licensure	Licensure	Total
Always	n	141	328	469
	%	56.6%	62.4%	60.5%
More than half of the time	n	37	82	119
	%	14.9%	15.6%	15.4%
About half of the time	n	21	28	49
	%	8.4%	5.3%	6.3%
Less than half of the time	n	26	41	67
	%	10.4%	7.8%	8.6%
Never	n	15	23	38
	%	6.0%	4.4%	4.9%
I don't know	n	9	24	33
	%	3.6%	4.6%	4.3%
Total	n	249	526	775
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Always	n	12	34	46
	%	52.2%	35.1%	38.3%
More than half of the time	n	3	9	12
	%	13.0%	9.3%	10.0%
About half of the time	n	0	3	3
	%	0.0%	3.1%	2.5%
Less than half of the time	n	0	11	11
	%	0.0%	11.3%	9.2%
Never	n	3	20	23
	%	13.0%	20.6%	19.2%
I don't know	n	5	20	25
	%	21.7%	20.6%	20.8%
Total	n	23	97	120
	%	100.0%	100.0%	100.0%

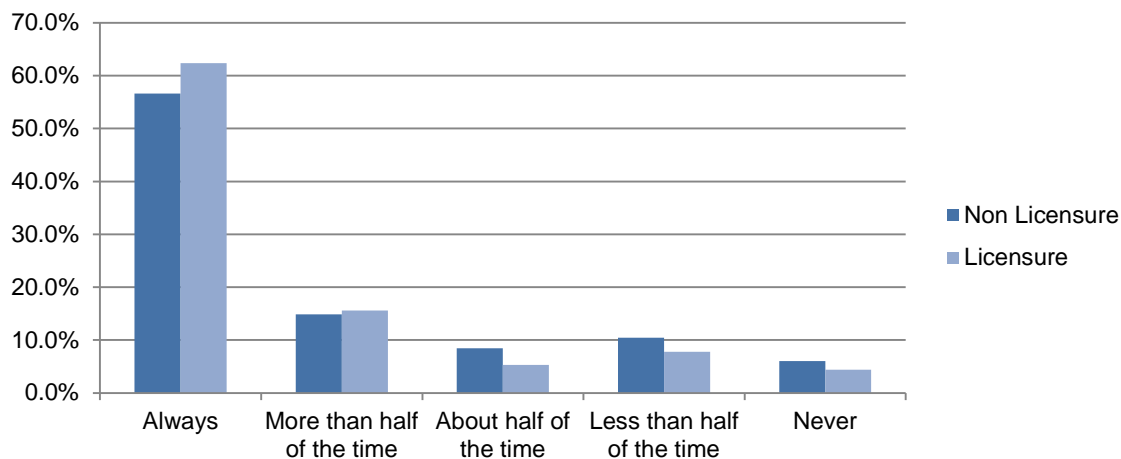
The percentage differences were not statistically significant.

Computed Tomography

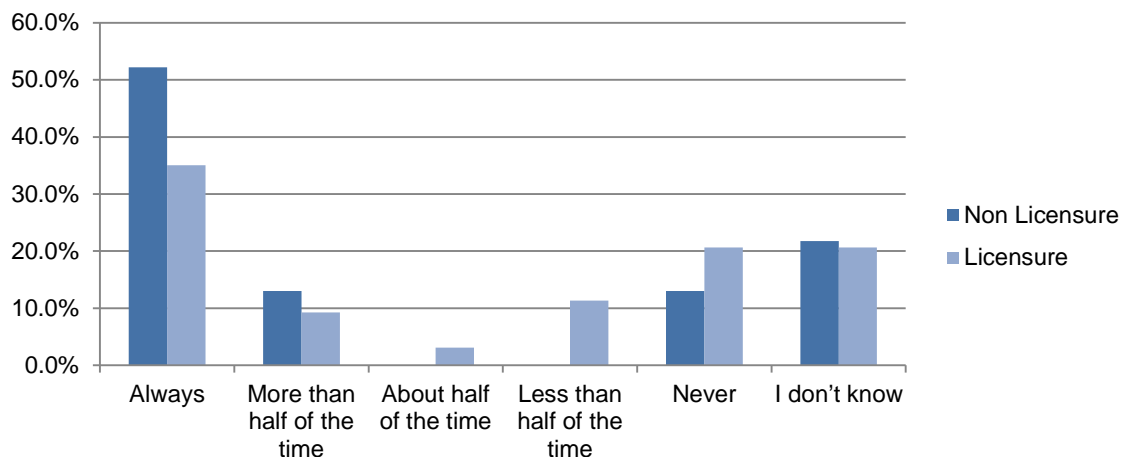
		Non Licensure	Licensure	Total
Always	n	37	56	93
	%	61.7%	64.4%	63.3%
More than half of the time	n	13	8	21
	%	21.7%	9.2%	14.3%
About half of the time	n	3	4	7
	%	5.0%	4.6%	4.8%
Less than half of the time	n	5	9	14
	%	8.3%	10.3%	9.5%
Never	n	0	3	3
	%	0.0%	3.4%	2.0%
I don't know	n	2	7	9
	%	3.3%	8.0%	6.1%
Total	n	60	87	147
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

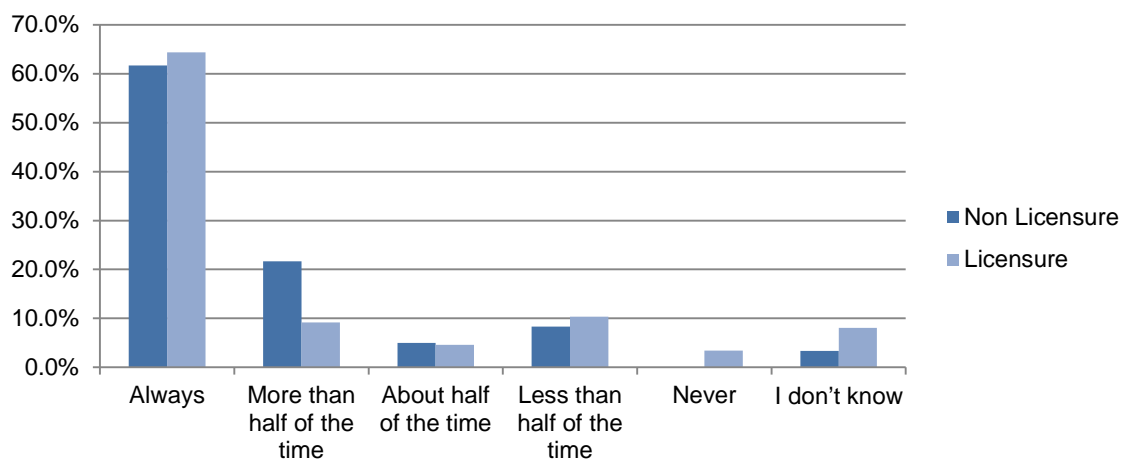
How often do you adjust exposure parameters based on the patient's age?--Radiography



How often do you adjust exposure parameters based on the patient's age?--Mammography



How often do you adjust exposure parameters based on the patient's age?--Computed Tomography



How often do you adjust exposure parameters based on the patient's body habitus?

Radiography

		Non Licensure	Licensure	Total
Always	n	257	571	828
	%	60.9%	60.6%	60.7%
More than half of the time	n	68	147	215
	%	16.1%	15.6%	15.8%
About half of the time	n	28	59	87
	%	6.6%	6.3%	6.4%
Less than half of the time	n	25	50	75
	%	5.9%	5.3%	5.5%
Never	n	18	39	57
	%	4.3%	4.1%	4.2%
I don't know	n	26	76	102
	%	6.2%	8.1%	7.5%
Total	n	422	942	1364
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Always	n	15	42	57
	%	62.5%	42.4%	46.3%
More than half of the time	n	2	10	12
	%	8.3%	10.1%	9.8%
About half of the time	n	1	6	7
	%	4.2%	6.1%	5.7%
Less than half of the time	n	2	12	14
	%	8.3%	12.1%	11.4%
Never	n	2	16	18
	%	8.3%	16.2%	14.6%
I don't know	n	2	13	15
	%	8.3%	13.1%	12.2%
Total	n	24	99	123
	%	100.0%	100.0%	100.0%

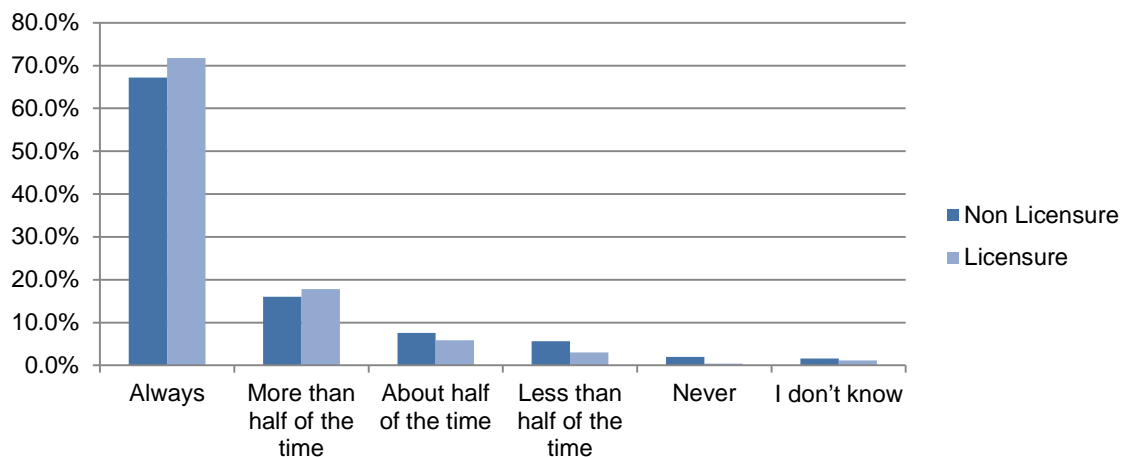
The percentage differences were not statistically significant.

Computed Tomography

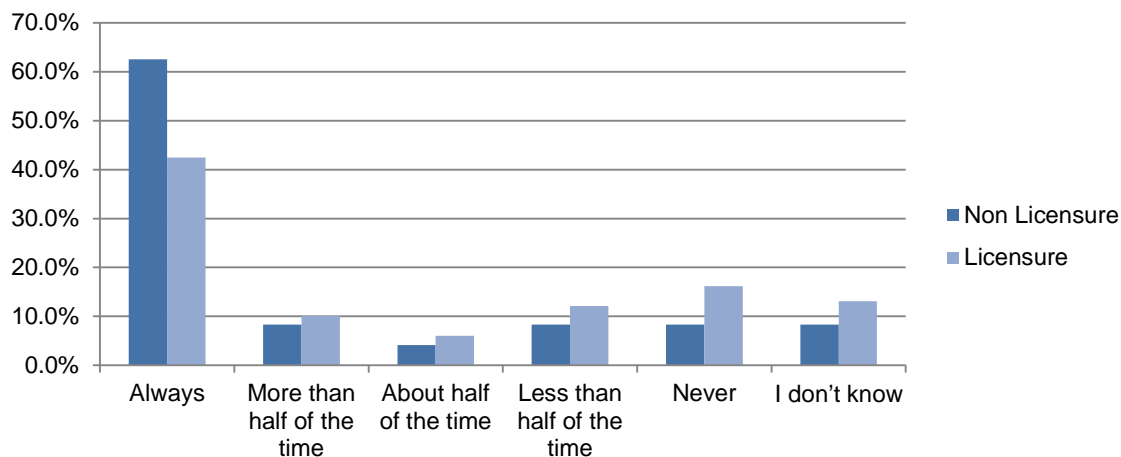
		Non Licensure	Licensure	Total
Always	n	34	54	88
	%	56.7%	62.1%	59.9%
More than half of the time	n	18	13	31
	%	30.0%	14.9%	21.1%
About half of the time	n	3	7	10
	%	5.0%	8.0%	6.8%
Less than half of the time	n	4	8	12
	%	6.7%	9.2%	8.2%
Never	n	1	3	4
	%	1.7%	3.4%	2.7%
I don't know	n	0	2	2
	%	0.0%	2.3%	1.4%
Total	n	60	87	147
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

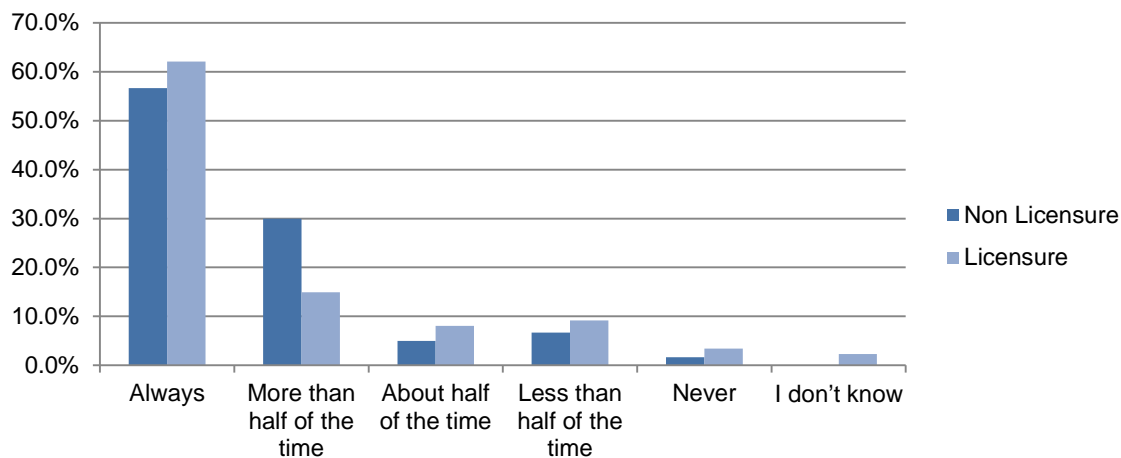
How often do you adjust exposure parameters based on the patient's body habitus?--Radiography



How often do you adjust exposure parameters based on the patient's body habitus?--Mammography



How often do you adjust exposure parameters based on the patient's body habitus?--Computed Tomography



Does your facility have posted technique charts for digital imaging?

Radiography

		Non Licensure	Licensure	Total
Yes	n	144	335	479
	%	57.8%	64.9%	62.6%
No	n	97	154	251
	%	39.0%	29.8%	32.8%
I don't know	n	8	27	35
	%	3.2%	5.2%	4.6%
Total	n	249	516	765
	%	100.0%	100.0%	100.0%

The percentage differences were statistically significant $\chi^2(2, n = 765) = 7.1, p = .029$.

Mammography

		Non Licensure	Licensure	Total
Yes	n	20	83	103
	%	80.0%	83.8%	83.1%
No	n	3	8	11
	%	12.0%	8.1%	8.9%
I don't know	n	2	8	10
	%	8.0%	8.1%	8.1%
Total	n	25	99	124
	%	100.0%	100.0%	100.0%

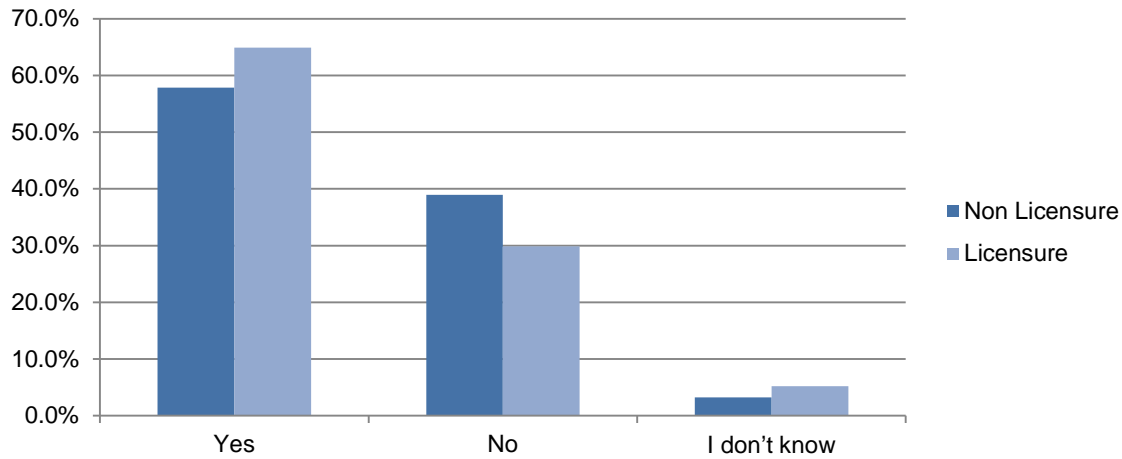
The percentage differences were not statistically significant.

Computed Tomography

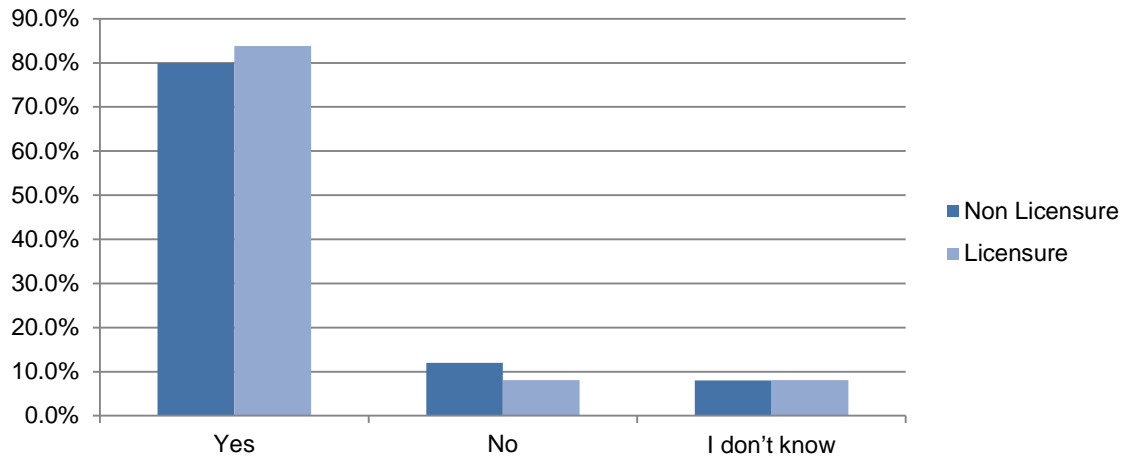
		Non Licensure	Licensure	Total
Yes	n	26	29	55
	%	45.6%	34.9%	39.3%
No	n	20	22	42
	%	35.1%	26.5%	30.0%
I don't know	n	11	32	43
	%	19.3%	38.6%	30.7%
Total	n	57	83	140
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

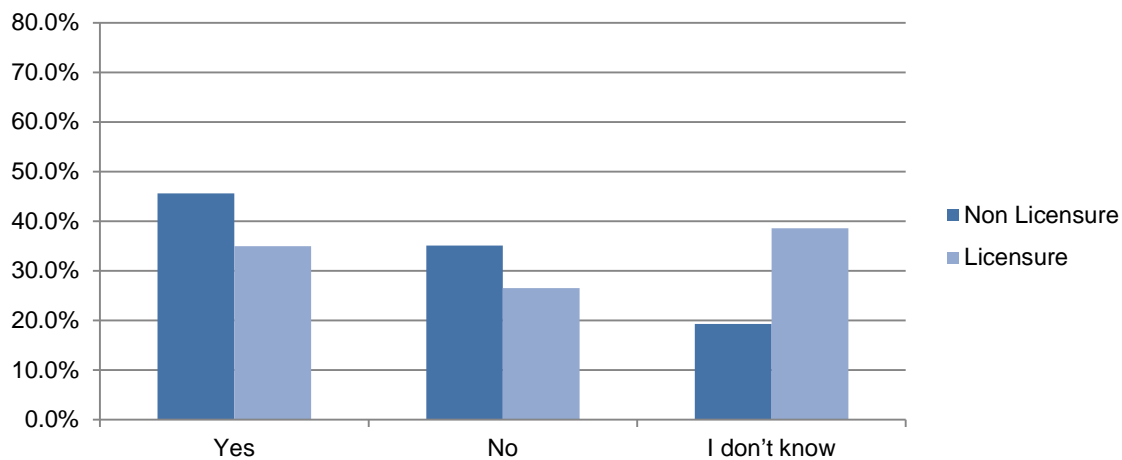
Does your facility have posted technique charts for digital imaging?--Radiography



Does your facility have posted technique charts for digital imaging?--Mammography



Does your facility have posted technique charts for digital imaging?--Computed Tomography



If you selected "Yes" on the question above, how often are the posted technique charts for digital imaging utilized?

Radiography

		Non Licensure	Licensure	Total
Always	n	39	83	122
	%	23.8%	22.7%	23.1%
More than half of the time	n	45	105	150
	%	27.4%	28.8%	28.4%
About half of the time	n	19	49	68
	%	11.6%	13.4%	12.9%
Less than half of the time	n	24	52	76
	%	14.6%	14.2%	14.4%
Never	n	9	14	23
	%	5.5%	3.8%	4.3%
I don't know	n	28	62	90
	%	17.1%	17.0%	17.0%
Total	n	164	365	529
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Always	n	10	12	22
	%	43.5%	13.3%	19.5%
More than half of the time	n	5	10	15
	%	21.7%	11.1%	13.3%
About half of the time	n	0	9	9
	%	0.0%	10.0%	8.0%
Less than half of the time	n	6	33	39
	%	26.1%	36.7%	34.5%
Never	n	0	6	6
	%	0.0%	6.7%	5.3%
I don't know	n	2	20	22
	%	8.7%	22.2%	19.5%
Total	n	23	90	113
	%	100.0%	100.0%	100.0%

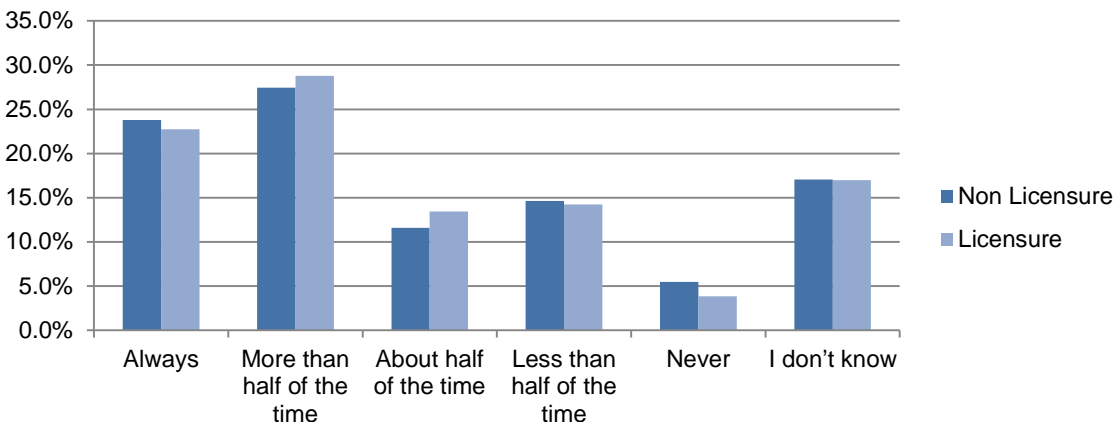
The percentage differences were statistically significant $\chi^2(5, n = 113) = 16.3, p = .006$.

Computed Tomography

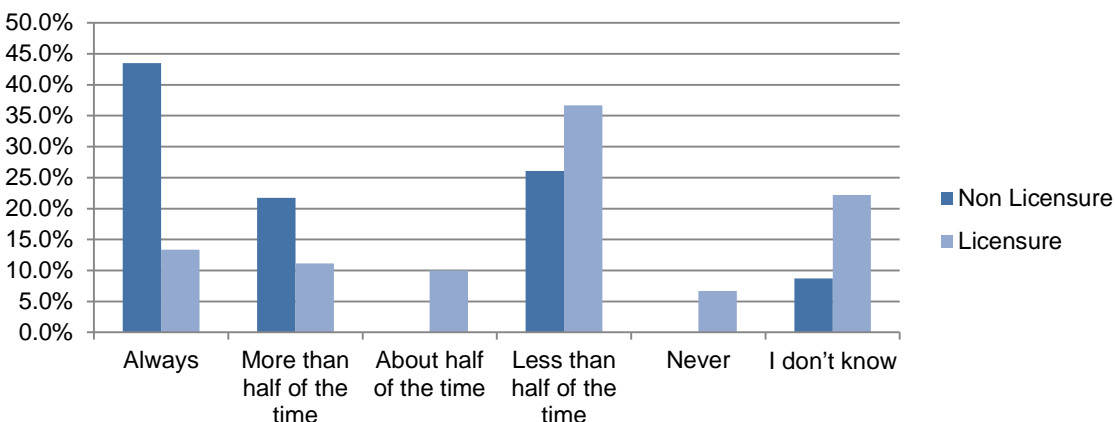
		Non Licensure	Licensure	Total
Always	n	9	7	16
	%	24.3%	14.6%	18.8%
More than half of the time	n	10	10	20
	%	27.0%	20.8%	23.5%
About half of the time	n	3	4	7
	%	8.1%	8.3%	8.2%
Less than half of the time	n	2	0	2
	%	5.4%	0.0%	2.4%
Never	n	1	0	1
	%	2.7%	0.0%	1.2%
I don't know	n	12	27	39
	%	32.4%	56.3%	45.9%
Total	n	37	48	85
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

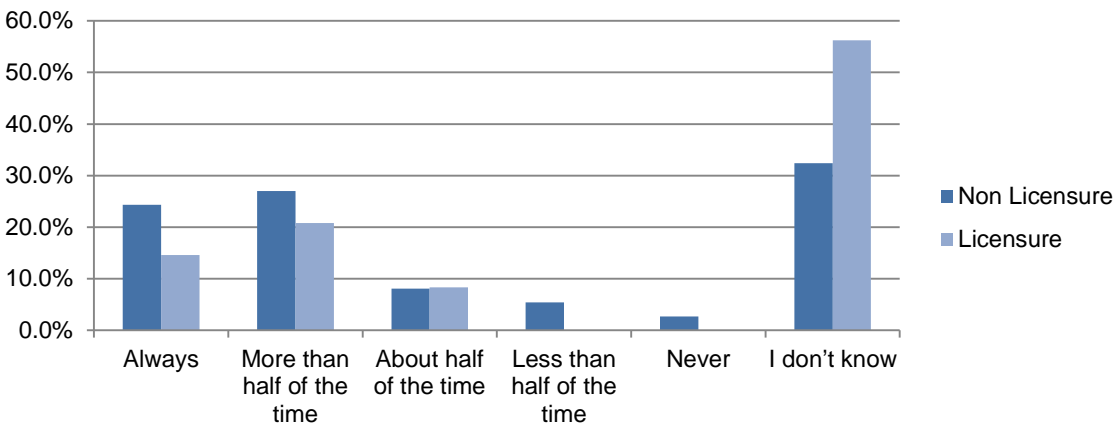
**If you selected "Yes" on the question above, how often are the posted technique charts for digital imaging utilized?--
Radiography**



**If you selected "Yes" on the question above, how often are the posted technique charts for digital imaging utilized?--
Mammography**



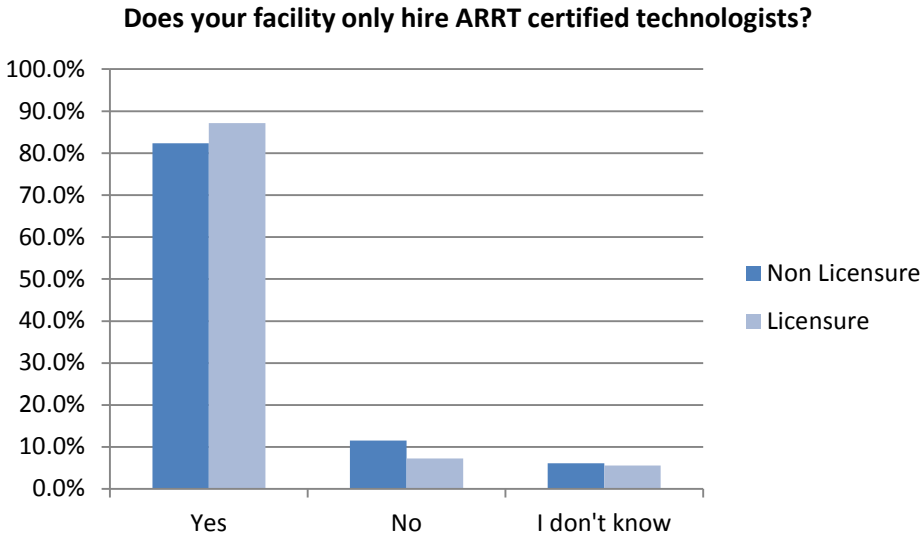
If you selected "Yes" on the question above, how often are the posted technique charts for digital imaging utilized?--Computed Tomography



Does your facility only hire ARRT certified technologists?

		Non Licensure	Licensure	Total
Yes	n	350	827	1177
	%	82.4%	87.1%	85.7%
No	n	49	69	118
	%	11.5%	7.3%	8.6%
I don't know	n	26	53	79
	%	6.1%	5.6%	5.7%
Total	n	425	949	1374
	%	100.0%	100.0%	100.0%

The percentage differences were statistically significant $\chi^2(2, n = 1374) = 7.1, p = .028$.



Do you perform a repeat/reject analysis for digital radiography at your facility?

Radiography

		Non Licensure	Licensure	Total
Yes	n	90	171	261
	%	36.0%	32.9%	33.9%
No	n	91	198	289
	%	36.4%	38.2%	37.6%
I don't know	n	69	150	219
	%	27.6%	28.9%	28.5%
Total	n	250	519	769
	%	100.0%	100.0%	100.0%

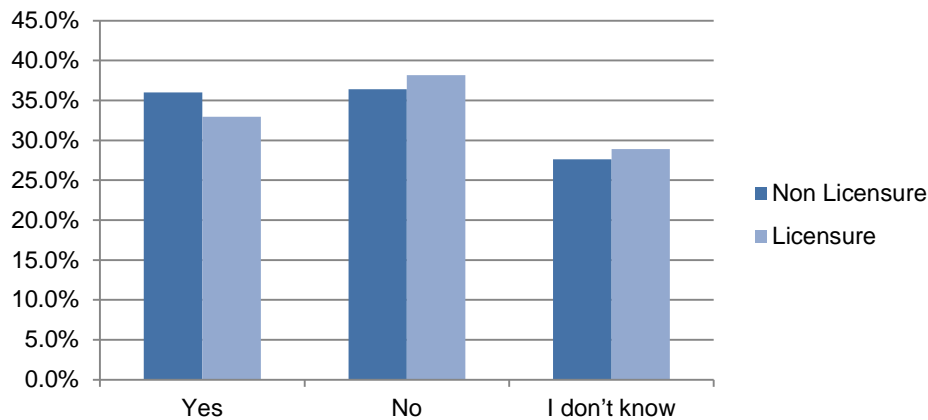
The percentage differences were not statistically significant.

Mammography

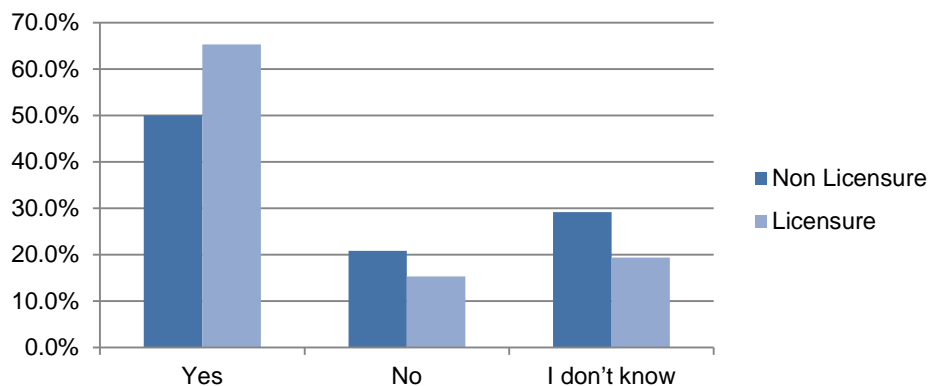
		Non Licensure	Licensure	Total
Yes	n	12	64	76
	%	50.0%	65.3%	62.3%
No	n	5	15	20
	%	20.8%	15.3%	16.4%
I don't know	n	7	19	26
	%	29.2%	19.4%	21.3%
Total	n	24	98	122
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Do you perform a repeat/reject analysis for digital radiography at your facility?--Radiography



Do you perform a repeat/reject analysis for digital radiography at your facility?--Mammography



If you selected "Yes" to the question above, what is the threshold percentage for a repeat/reject analysis at your facility?

Radiography

Non-licensure	n	52
	Mean	7%
	<i>SD</i>	5%
Licensure	n	83
	Mean	7%
	<i>SD</i>	11%
Total	n	135
	Mean	7%
	<i>SD</i>	9%

Mammography

Non-licensure	n	4
	Mean	3%
	<i>SD</i>	2%
Licensure	n	35
	Mean	4%
	<i>SD</i>	3%
Total	n	39
	Mean	4%
	<i>SD</i>	3%

The mean differences were not statistically significant for either discipline by licensure status.

What is your facility's average repeat/reject percent rate?

Radiography

Non-licensure	n	83
	Mean	7%
	<i>SD</i>	7%
Licensure	n	144
	Mean	6%
	<i>SD</i>	8%
Total	n	227
	Mean	6%
	<i>SD</i>	8%

Mammography

Non-licensure	n	4
	Mean	2%
	<i>SD</i>	1%
Licensure	n	37
	Mean	3%
	<i>SD</i>	2%
Total	n	41
	Mean	3%
	<i>SD</i>	2%

The mean differences were not statistically significant for either discipline by licensure status.

In what percent of digital radiography exams do you utilize pre-exposure collimation?

Radiography

Non-licensure	n	176
	Mean	85%
	<i>SD</i>	26%
Licensure	n	348
	Mean	87%
	<i>SD</i>	25%
Total	n	524
	Mean	87%
	<i>SD</i>	25%

The mean differences were not statistically significant.

In what percent of digital radiography exams do you utilize post-exposure masking?

Radiography

Non-licensure	n	162
	Mean	31%
	<i>SD</i>	35%
Licensure	n	312
	Mean	27%
	<i>SD</i>	32%
Total	n	474
	Mean	29%
	<i>SD</i>	33%

The mean differences were not statistically significant.

How often do you perform a repeat/reject analysis for digital radiography at your facility?

Radiography

		Non Licensure	Licensure	Total
Often	n	48	88	136
	%	19.8%	18.0%	18.6%
Sometimes	n	32	49	81
	%	13.2%	10.0%	11.1%
Rarely	n	21	60	81
	%	8.7%	12.3%	11.1%
Never	n	60	112	172
	%	24.8%	22.9%	23.5%
I don't know	n	81	180	261
	%	33.5%	36.8%	35.7%
Total	n	242	489	731
	%	100.0%	100.0%	100.0%

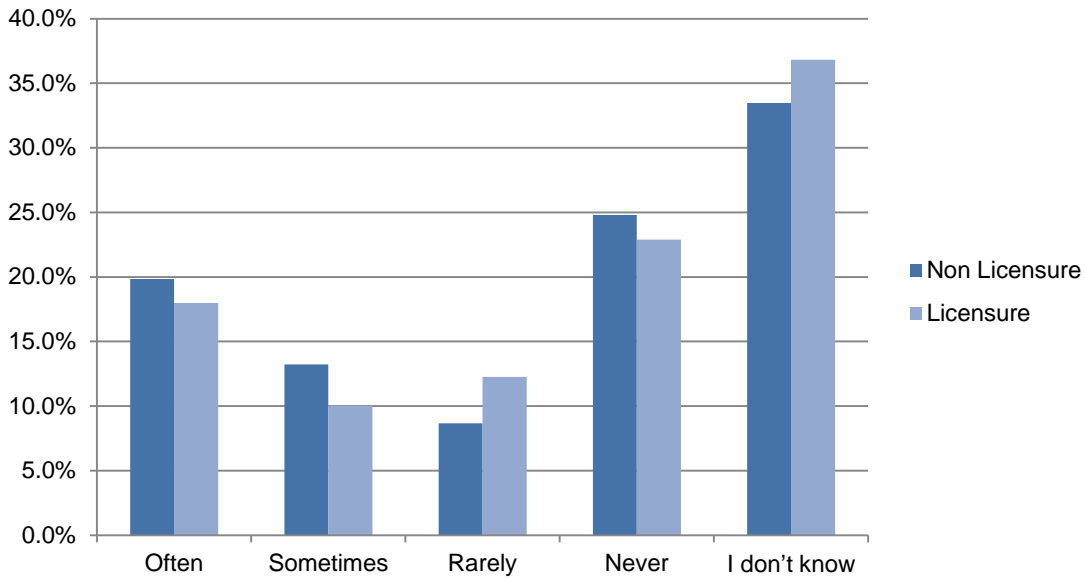
The percentage differences were not statistically significant.

Mammography

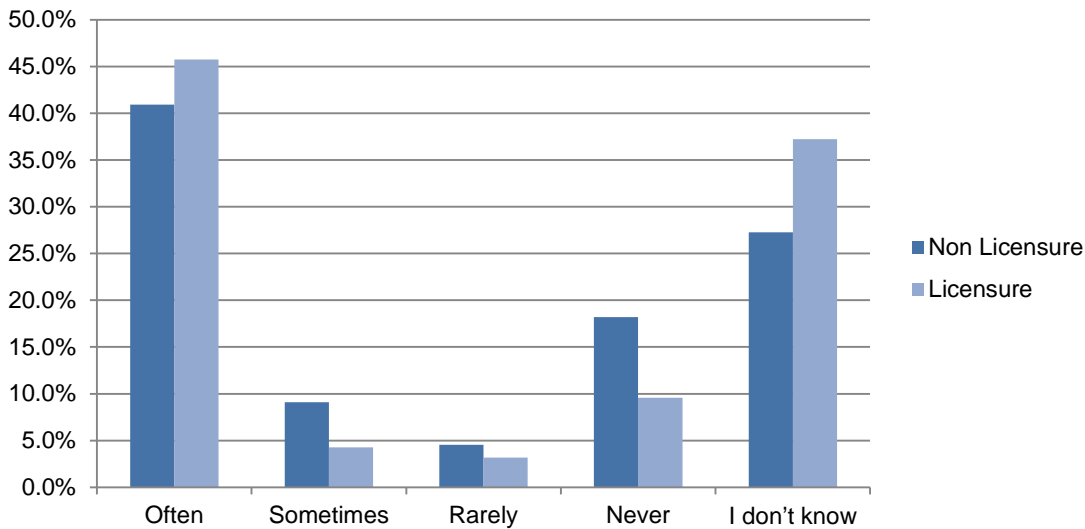
		Non Licensure	Licensure	Total
Often	n	9	43	52
	%	40.9%	45.7%	44.8%
Sometimes	n	2	4	6
	%	9.1%	4.3%	5.2%
Rarely	n	1	3	4
	%	4.5%	3.2%	3.4%
Never	n	4	9	13
	%	18.2%	9.6%	11.2%
I don't know	n	6	35	41
	%	27.3%	37.2%	35.3%
Total	n	22	94	116
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

How often do you perform a repeat/reject analysis for digital radiography at your facility?--Radiography



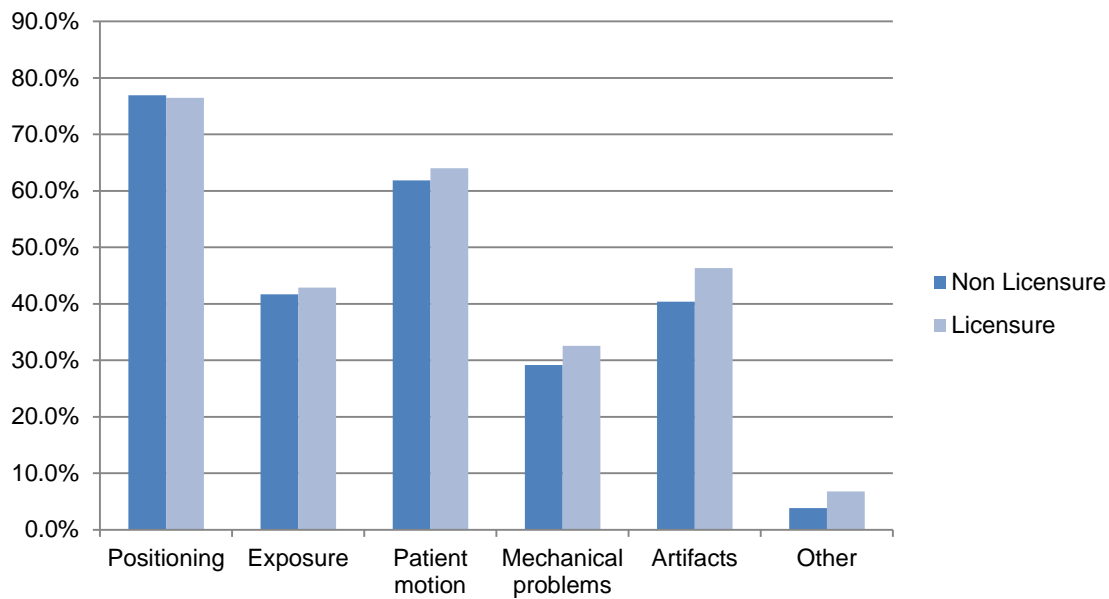
How often do you perform a repeat/reject analysis for digital radiography at your facility?--Mammography



Reason for repeat/reject: (Select all that apply.)

		Non Licensure	Licensure	Total
Positioning	n	240	510	750
	%	76.9%	76.5%	76.6%
Exposure	n	130	286	416
	%	41.7%	42.9%	42.5%
Patient motion	n	193	427	620
	%	61.9%	64.0%	63.3%
Mechanical problems	n	91	217	308
	%	29.2%	32.5%	31.5%
Artifacts	n	126	309	435
	%	40.4%	46.3%	44.4%
Other	n	12	45	57
	%	3.8%	6.7%	5.8%
Total	n	312	667	979

Reason for repeat/reject:



Do you have a shielding policy for female patients of childbearing age?

Radiography

		Non Licensure	Licensure	Total
Yes	n	223	477	700
	%	90.3%	92.8%	92.0%
No	n	17	20	37
	%	6.9%	3.9%	4.9%
I don't know	n	7	17	24
	%	2.8%	3.3%	3.2%
Total	n	247	514	761
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Yes	n	21	75	96
	%	95.5%	85.2%	87.3%
No	n	0	10	10
	%	0.0%	11.4%	9.1%
I don't know	n	1	3	4
	%	4.5%	3.4%	3.6%
Total	n	22	88	110
	%	100.0%	100.0%	100.0%

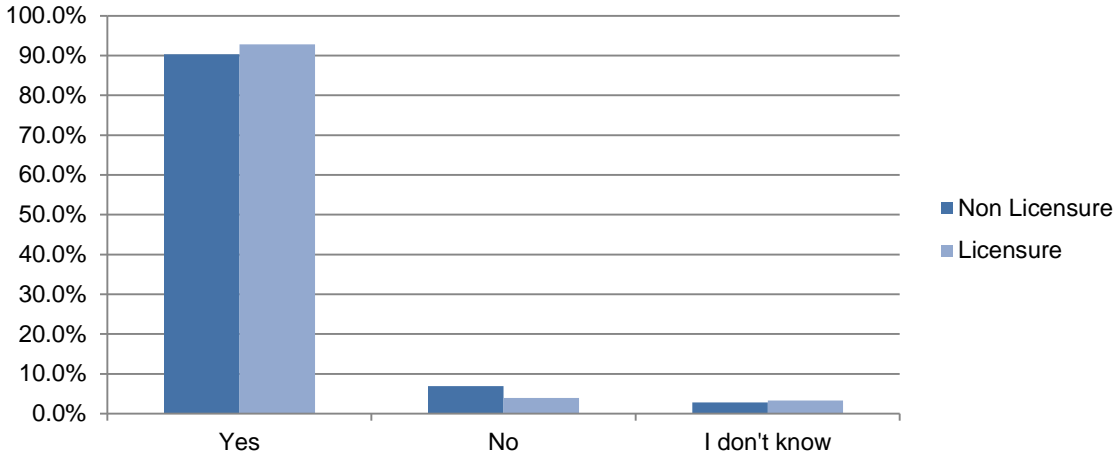
The percentage differences were not statistically significant.

Computed Tomography

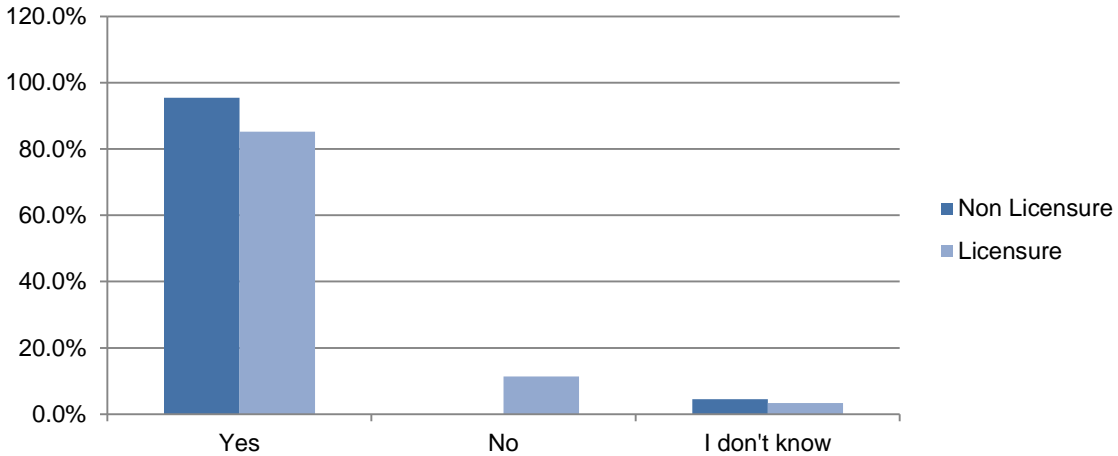
		Non Licensure	Licensure	Total
Yes	n	51	63	114
	%	85.0%	79.7%	82.0%
No	n	6	9	15
	%	10.0%	11.4%	10.8%
I don't know	n	3	7	10
	%	5.0%	8.9%	7.2%
Total	n	60	79	139
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

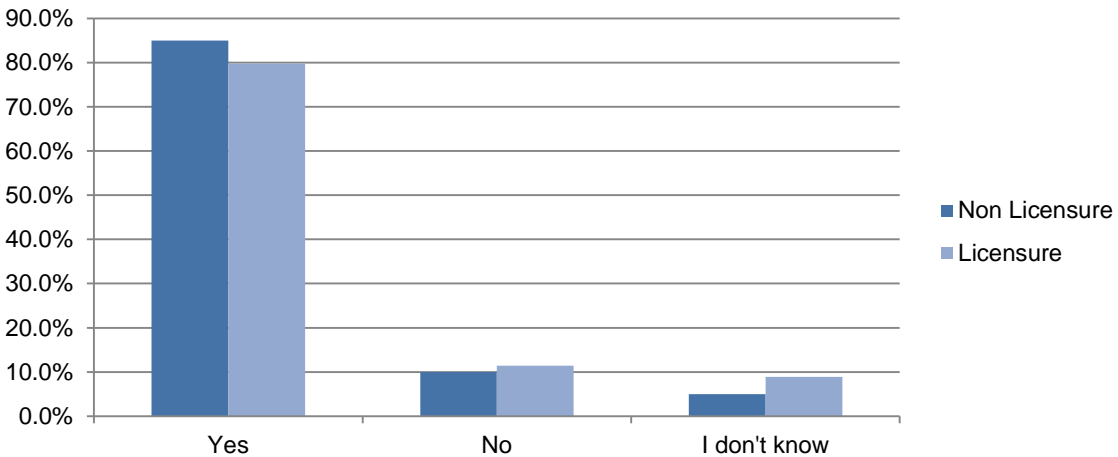
Do you have a shielding policy for female patients of childbearing age? -- Radiography



Do you have a shielding policy for female patients of childbearing age? -- Mammography



Do you have a shielding policy for female patients of childbearing age? -- Computed Tomography



Do you image pregnant patients at your facility?

Radiography

		Non Licensure	Licensure	Total
Yes	n	171	351	522
	%	69.5%	68.6%	68.9%
No	n	69	146	215
	%	28.0%	28.5%	28.4%
I don't know	n	6	15	21
	%	2.4%	2.9%	2.8%
Total	n	246	512	758
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Yes	n	5	21	26
	%	22.7%	23.9%	23.6%
No	n	17	64	81
	%	77.3%	72.7%	73.6%
I don't know	n	0	3	3
	%	0.0%	3.4%	2.7%
Total	n	22	88	110
	%	100.0%	100.0%	100.0%

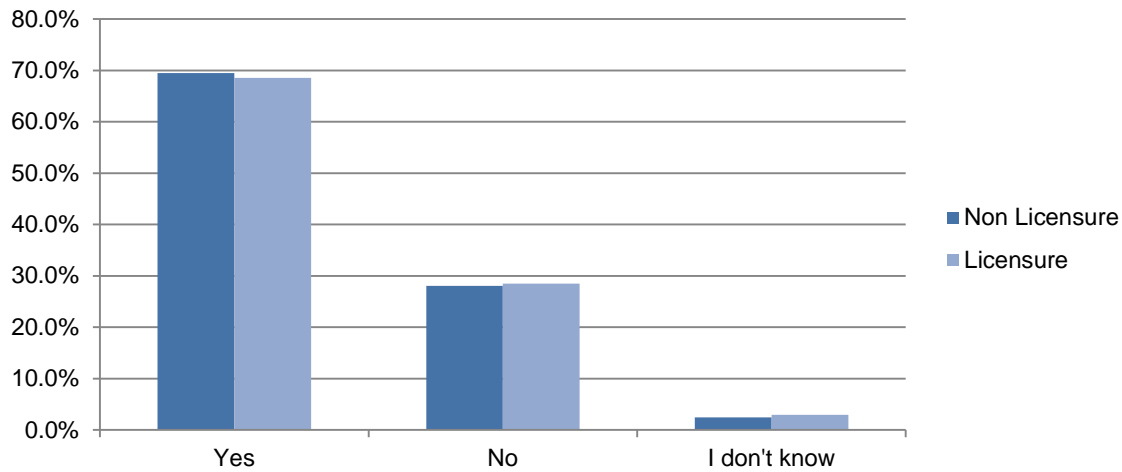
The percentage differences were not statistically significant.

Computed Tomography

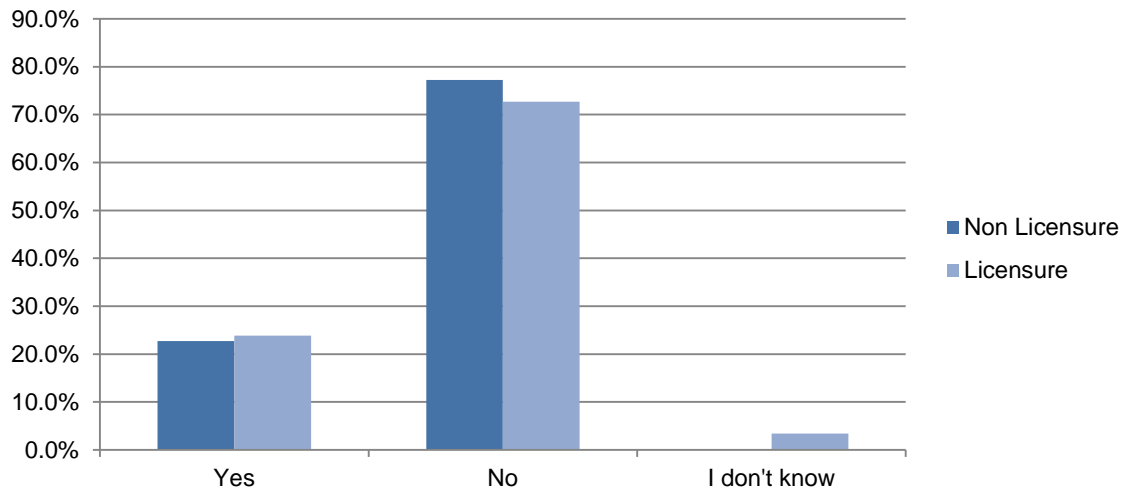
		Non Licensure	Licensure	Total
Yes	n	47	67	114
	%	79.7%	82.7%	81.4%
No	n	10	14	24
	%	16.9%	17.3%	17.1%
I don't know	n	2	0	2
	%	3.4%	0.0%	1.4%
Total	n	59	81	140
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

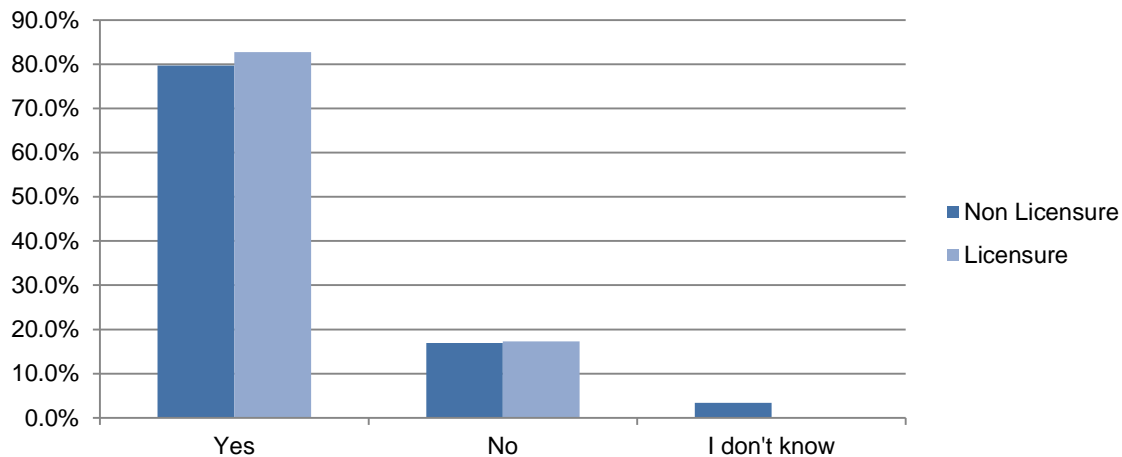
Do you image pregnant patients at your facility? -- Radiography



Do you image pregnant patients at your facility? -- Mammography



Do you image pregnant patients at your facility? -- Computed Tomography



If you selected "Yes" on the question above, does your facility have radiation safety policies specific to pregnant patients?

Radiography

		Non Licensure	Licensure	Total
Yes	n	158	343	501
	%	84.0%	88.9%	87.3%
No	n	18	21	39
	%	9.6%	5.4%	6.8%
I don't know	n	12	22	34
	%	6.4%	5.7%	5.9%
Total	n	188	386	574
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

Mammography

		Non Licensure	Licensure	Total
Yes	n	11	35	46
	%	84.6%	74.5%	76.7%
No	n	1	6	7
	%	7.7%	12.8%	11.7%
I don't know	n	1	6	7
	%	7.7%	12.8%	11.7%
Total	n	13	47	60
	%	100.0%	100.0%	100.0%

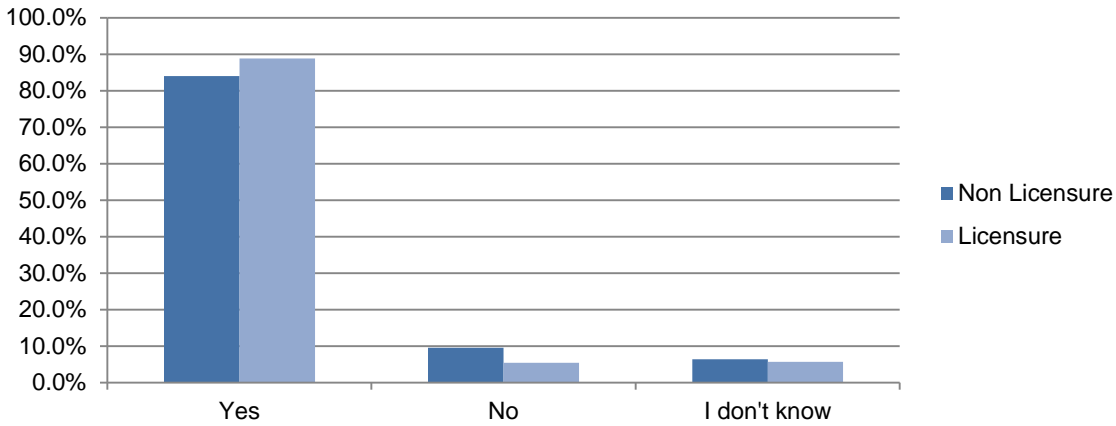
The percentage differences were not statistically significant.

Computed Tomography

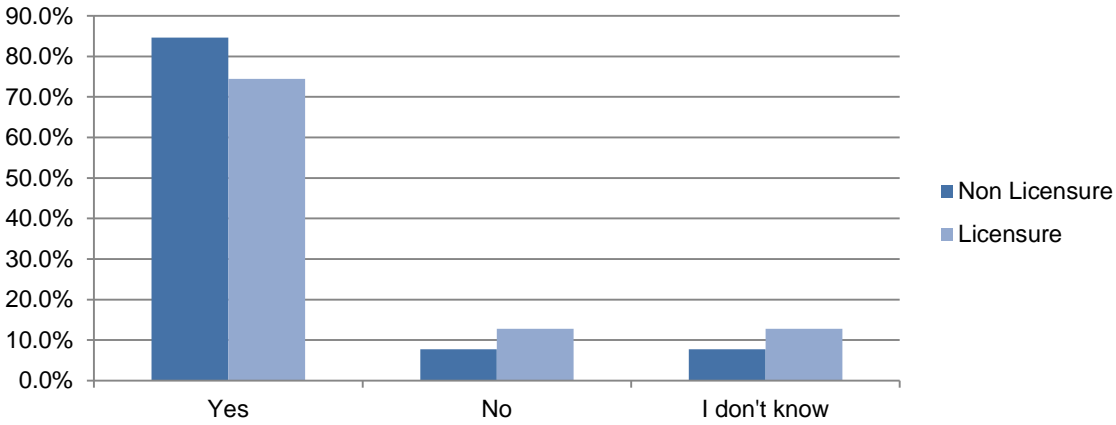
		Non Licensure	Licensure	Total
Yes	n	42	68	110
	%	82.4%	91.9%	88.0%
No	n	5	2	7
	%	9.8%	2.7%	5.6%
I don't know	n	4	4	8
	%	7.8%	5.4%	6.4%
Total	n	51	74	125
	%	100.0%	100.0%	100.0%

The percentage differences were not statistically significant.

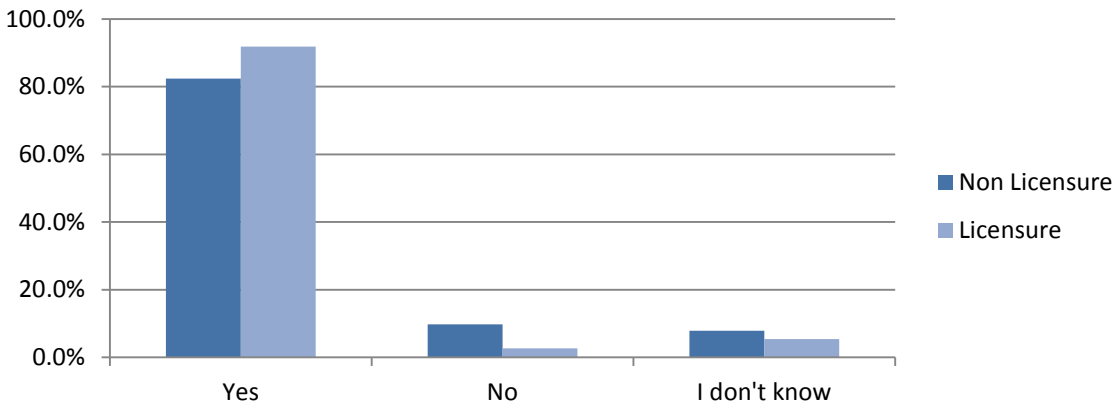
If you selected "Yes" on the question above, does your facility have radiation safety policies specific to pregnant patients? -- Radiography



If you selected "Yes" on the question above, does your facility have radiation safety policies specific to pregnant patients? -- Mammography



If you selected "Yes" on the question above, does your facility have radiation safety policies specific to pregnant patients? -- Computed Tomography



Who decides whether to shield?

Radiography? (check all that apply)

		Non Licensure	Licensure	Total
Institutional Policy	n	128	307	435
	%	53.3%	61.4%	58.8%
Patient Request	n	74	177	251
	%	30.8%	35.4%	33.9%
Radiologist	n	34	68	102
	%	14.2%	13.6%	13.8%
Physicist	n	9	22	31
	%	3.8%	4.4%	4.2%
Radiologic Technologist	n	190	399	589
	%	79.2%	79.8%	79.6%
Other	n	3	4	7
	%	1.3%	0.8%	0.9%
I don't know	n	0	4	4
	%	0.0%	0.8%	0.5%
Total	n	240	500	740

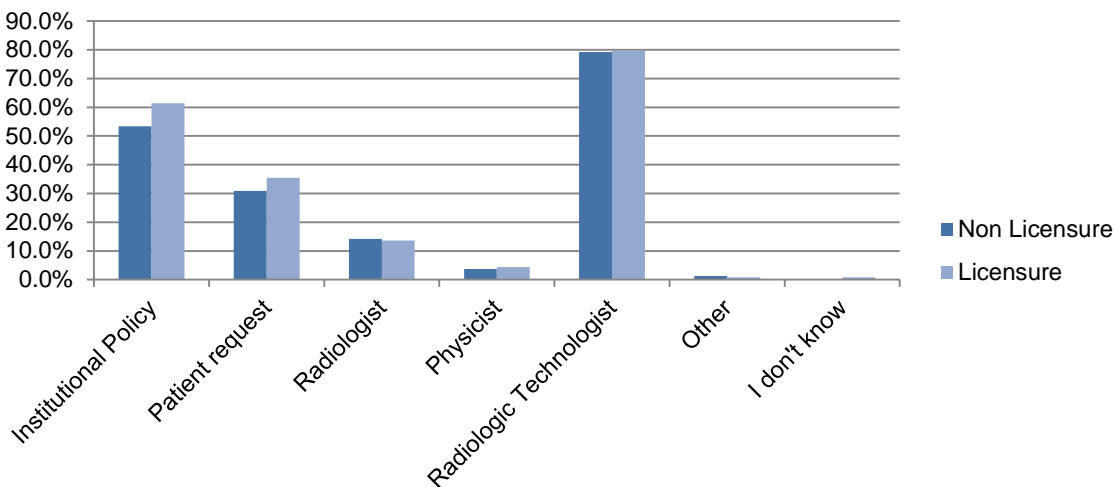
Mammography (check all that apply)

		Non Licensure	Licensure	Total
Institutional Policy	n	9	42	51
	%	40.9%	47.2%	45.9%
Patient Request	n	7	59	66
	%	31.8%	66.3%	59.5%
Radiologist	n	4	13	17
	%	18.2%	14.6%	15.3%
Physicist	n	0	1	1
	%	0.0%	1.1%	0.9%
Radiologic Technologist	n	17	56	73
	%	77.3%	62.9%	65.8%
I don't know	n	0	1	1
	%	0.0%	1.1%	0.9%
Total	n	22	89	111

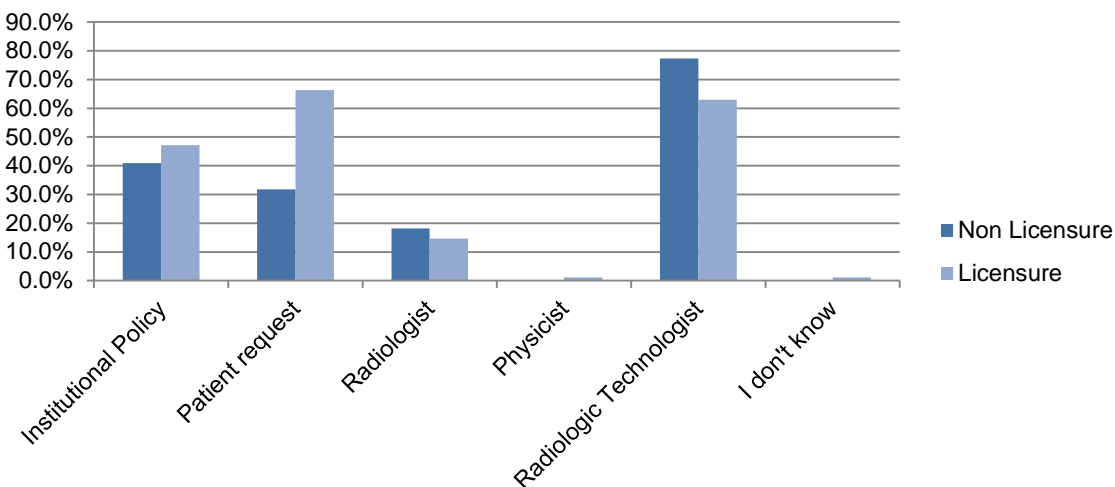
Computed Tomography (check all that apply)

		Non Licensure	Licensure	Total
Institutional Policy	n	32	47	79
	%	56.1%	61.8%	59.4%
Patient Request	n	15	31	46
	%	26.3%	40.8%	34.6%
Radiologist	n	12	18	30
	%	21.1%	23.7%	22.6%
Physicist	n	3	5	8
	%	5.3%	6.6%	6.0%
Radiologic Technologist	n	42	53	95
	%	73.7%	69.7%	71.4%
Other	n	1	1	2
	%	1.8%	1.3%	1.5%
I don't know	n	1	1	2
	%	1.8%	1.3%	1.5%
Total	n	57	76	133

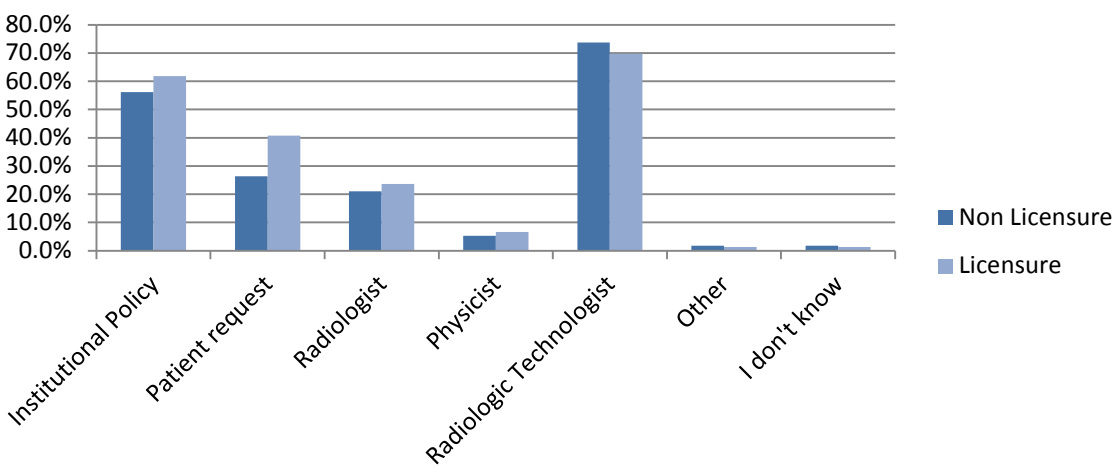
Who decides whether to shield for radiography?



Who decides whether to shield for mammography?



Who decides whether to shield for CT?



What type of shielding do you use?

Radiography (check all that apply)

		Non Licensure	Licensure	Total
Dose-limiting software	n	98	207	305
	%	40.3%	41.4%	41.0%
Physical Shielding (e.g. lead apron)	n	225	469	694
	%	92.6%	93.8%	93.4%
Collimation	n	219	462	681
	%	90.1%	92.4%	91.7%
Technique Charts	n	122	324	446
	%	50.2%	64.8%	60.0%
We do not use any	n	1	3	4
	%	0.4%	0.6%	0.5%
I don't know	n	5	9	14
	%	2.1%	1.8%	1.9%
Total	n	243	500	743

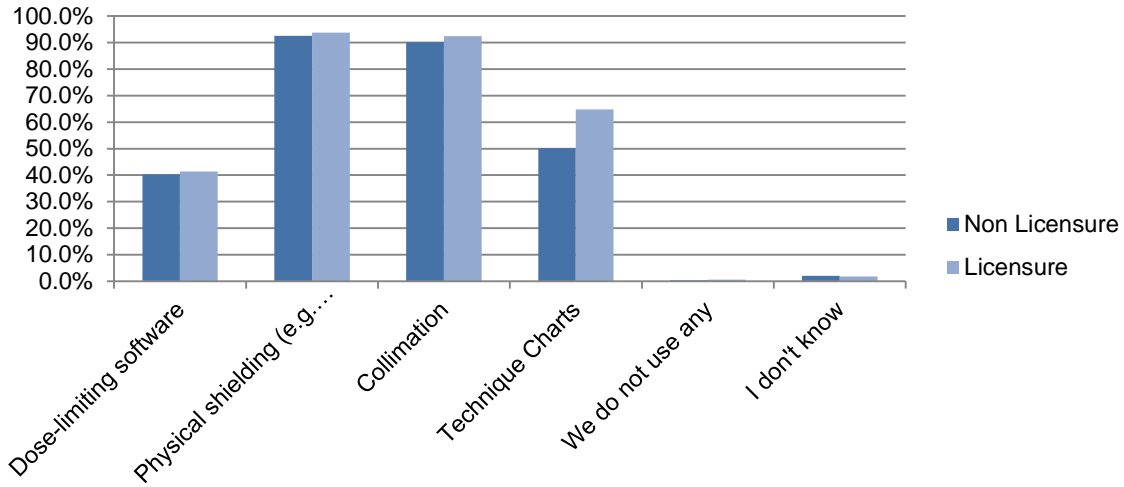
Mammography (check all that apply)

		Non Licensure	Licensure	Total
Dose-limiting software	n	15	49	64
	%	65.2%	58.3%	59.8%
Physical Shielding (e.g. lead apron)	n	16	61	77
	%	69.6%	72.6%	72.0%
Collimation	n	9	39	48
	%	39.1%	46.4%	44.9%
Technique Charts	n	11	45	56
	%	47.8%	53.6%	52.3%
We do not use any	n	0	1	1
	%	0.0%	1.2%	0.9%
I don't know	n	0	4	4
	%	0.0%	4.8%	3.7%
Total	n	23	84	107

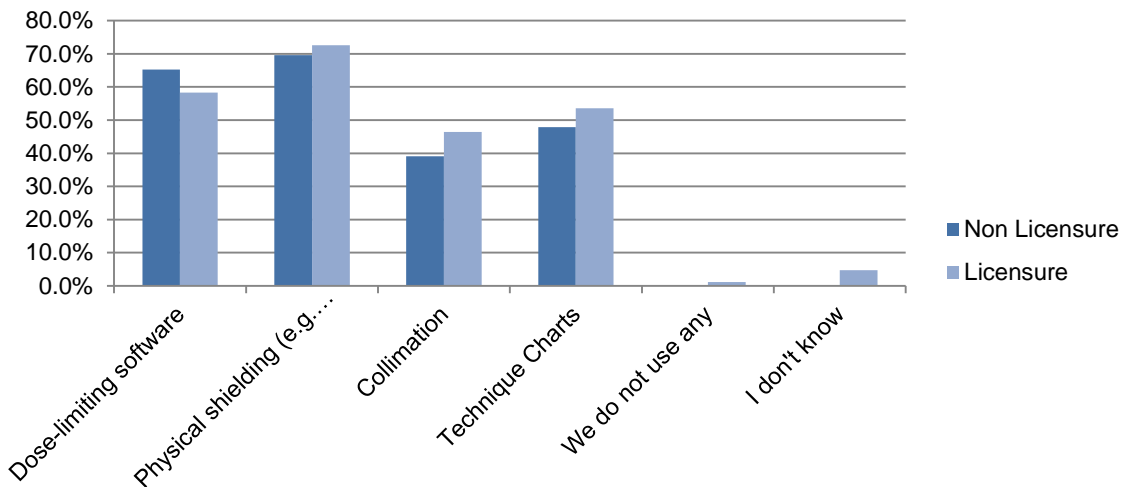
Computed Tomography (check all that apply)

		Non Licensure	Licensure	Total
Dose-limiting software	n	53	72	125
	%	91.4%	90.0%	90.6%
Physical Shielding (e.g. lead apron)	n	47	57	104
	%	81.0%	71.3%	75.4%
Collimation	n	31	29	60
	%	53.4%	36.3%	43.5%
Technique Charts	n	14	8	22
	%	24.1%	10.0%	15.9%
We do not use any	n	1	0	1
	%	1.7%	0.0%	0.7%
Total	n	58	80	138

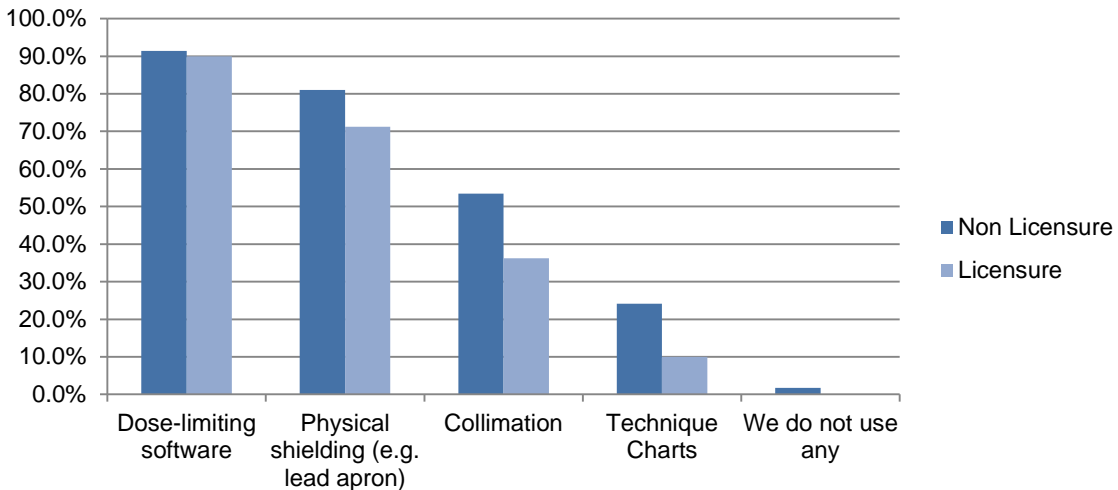
What type of shielding do you use in radiography?



What type of shielding do you use in mammography?



What type of shielding do you use in CT?



When performing portable digital radiography procedures that require multiple exposures, what percentage of the captured images are archived?

Radiography

Non-licensure	n	89
	Mean	87%
	<i>SD</i>	26%
Licensure	n	167
	Mean	90%
	<i>SD</i>	21%
Total	n	256
	Mean	89%
	<i>SD</i>	23%

The mean differences were not statistically significant.

When performing portable fluoroscopy procedures that require multiple exposures, what percentage of the captured images are archived?

Radiography

Non-licensure	n	70
	Mean	66%
	<i>SD</i>	40%
Licensure	n	149
	Mean	66%
	<i>SD</i>	37%
Total	n	219
	Mean	66%
	<i>SD</i>	37%

The mean differences were not statistically significant.

When performing standard fluoroscopy procedures that require multiple exposures, what percentage of the captured images are archived?

Radiography

Non-licensure	n	88
	Mean	82%
	<i>SD</i>	32%
Licensure	n	183
	Mean	81%
	<i>SD</i>	31%
Total	n	271
	Mean	81%
	<i>SD</i>	31%

The mean differences were not statistically significant.