
Workplace Safety Issues Survey, February 2001



American Society of
Radiologic Technologists

February 2002

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Background and Objectives

Background and Objectives

- ◆ Founded in 1920, the American Society of Radiologic Technologists (ASRT) is the largest radiologic science organization in the world, with more than 93,000 members worldwide. The mission of the ASRT is to provide members with educational opportunities, promote radiologic technology as a career and monitor state and federal legislation that affects the profession.
- ◆ Responding to evidence of an increasingly serious shortage of radiologic technologists (R.T.s) and to anecdotal reports that this shortage was having a harmful impact on workplace safety, ASRT prepared and mailed with February membership renewal forms (mailed in early January, 2001) a one-page questionnaire requesting members' feedback on this issue.
- ◆ The 2001 Workplace Safety Survey (see Appendix A) asked members what occupational safety programs had been implemented at the facility where they worked, whether their facility had written policies and orientation programs for occupational safety, what connection the R.T. saw between worker safety and patient care and safety, how important he or she deemed six specific issues (protection from chemical exposures, from latex allergies, from exposure to communicable disease, from radiation, from contaminated supplies or equipment and from poor ergonomics) and whether and in what way the R.T. believed personnel shortages had compromised his or her occupational safety.

Background and Objectives

- ◆ A total of 7,674 questionnaires were mailed; 2,880 of them were returned for a return rate of 37.5%.

- ◆ Because threats to occupational safety might differ as a function of the type of facility at which the R.T. works, members also were asked whether they worked at a clinic, in a hospital, in a private physician practice, in a diagnostic imaging facility, within a government institution or at some other type of facility (which they were asked to specify). All results were examined for differences as a function of type of facility.

Methodology

Methodology

- ◆ In January 2001, the ASRT mailed a one-page questionnaire to members who were due to renew their membership that month. A total of 2,880 questionnaires were returned, representing a response rate of 37.5%.
- ◆ The 95% confidence bound on percentages reported for the entire sample is from $\pm 1\%$ (for percentages below 10%) to $\pm 2\%$ (for percentages close to 50%). Larger margins of error apply to percentages reported for subgroups. For example, for a subgroup of 50 respondents, the 95% confidence bound on a reported percentage that is close to 50% is $\pm 14\%$. The width of the confidence bound increases in inverse proportion to the square root of the subgroup size.
- ◆ Question 3 asked members to explain the basis for their answers as to whether worker safety affects patient care and safety. Six hundred thirty-four (22%) of the respondents explained their answer. Question 6 asked members to explain the basis of their response to whether they felt personnel shortages had compromised their occupational safety. Almost half (1,384 or 48%) of the respondents provided an explanation. The large number of open-ended comments necessitated a lengthy coding procedure to provide an efficient summary of these responses.

Methodology

- ◆ ASRT's Director of Research (DOR) used a sample of approximately 100 open-ended responses to Questions 3 and 6 to develop coding schemes for the verbatim comments – seven response categories for Question 3 and 12 categories for Question 6. These coding schemes then were used by four ASRT Continuing Education data-entry specialists to code all 2,000+ open-ended responses. To check the reliability of the coding schemes, six of the 30 pages of open-ended responses to Question 3 and 12 of the 85 pages of open-ended responses to Question 6 were assigned to three of the coders. Each of the remaining pages was assigned to a single coder.
- ◆ Agreement among the three coders assigned to a given page of responses was sufficiently high to warrant using the responses that were coded by a single coder. The DOR examined the responses coded as “Other” for possible clusters of responses, leading to the establishment of five additional response categories for Question 3 and seven for Question 6. When a given response was coded in the same category by three coders, the majority code was adopted; ties were resolved by the DOR.

Executive Summary

Executive Summary

- ◆ Founded in 1920, the American Society of Radiologic Technologists is the largest radiologic science organization in the world, with more than 93,000 members worldwide. Its mission is to provide members with educational opportunities, promote radiologic technology as a career and monitor legislation.
- ◆ In January 2001, a total of 7,674 questionnaires were sent to ASRT members who were due to renew their memberships in February. Of these members, 37.5% responded to the questionnaire.
- ◆ More than half (54%) of the respondents work in a hospital setting; 15% each in clinics and private physician practices; 9% in diagnostic imaging facilities; and the remaining 7% in government institutions (1.5%), various “other” facilities (mobile units were most frequently mentioned at 1.2%) or as locum tenens staff.
- ◆ The vast majority of these R.T.s reported that their facility has a radiation protection program (90%) and provides for protection from biohazards (86%). Nearly three-fourths (73%) indicated that their facility has a program for protection from communicable diseases and about two-thirds (68%), needle protection programs. A few respondents (6%) cited “other” safety programs.

Executive Summary

- ◆ Hospitals were more likely than other types of facilities to have adopted one of the four specifically mentioned safety programs, although the differences among hospitals, clinics and private physician practices in radiation protection were not significant. Private physician practices had the lowest likelihood of implementing isolation procedures to protect against communicable diseases. Contrary to their general tendency to implement fewer programs than clinics, diagnostic imaging facilities were significantly more likely than clinics to adopt policies and procedures to handle biohazards and exposure to chemicals.

- ◆ More than 95% of responding R.T.s reported that their facilities had “written policies and orientation programs for occupational safety.” R.T.s working at hospitals were significantly more likely than those working in any other type of facility including clinics, to report this. Clinic-based R.T.s were, in turn, significantly more likely than R.T.s working in diagnostic imaging facilities, in private physician practices or in “other” facilities to indicate that their facilities had occupational safety programs.

Executive Summary

- ◆ A very high percentage of R.T.s (93.2%) agreed that worker safety affects patient care and safety. There were no statistically significant differences in this respect among the R.T.s working at different types of facilities.

- ◆ There were no large or statistically significant differences in the proportions of R.T.s working at the various types of facilities who offered particular explanations concerning the effect of worker safety on patient care and safety. The most common explanations provided were a simple rephrasing or strengthening of the respondent's "yes" or "no" answer (12% of "explainers"), an indication that patient and worker are "in this together" (30%), an indication that the worker's feeling safe (or unsafe) helps (or hurts) the worker's ability to concentrate on the patient (17%) and an indication that the worker's concern for safety shows concern for his or her patient, as well. In addition, about 14% of the responses cited a specific safety hazard without explicitly addressing the worker/patient safety connection, and about 13% mentioned specific things that the worker can do to promote his or her safety and that of the patient.

Executive Summary

- ◆ R.T.s working at the five types of facilities generally agreed as to the relative importance of the six occupational hazards. On average, R.T.s consider it more important to protect against communicable diseases and radiation than to protect against contaminated supplies. R.T.s rated the remaining occupational hazard in descending order of importance as follows: proper ergonomics, protection against exposure to toxic chemicals and dealing with latex allergies. However, even this least important safety hazard is rated, on average, half a unit above the midpoint of the importance scale.
- ◆ The only substantial departure from the pattern of the overall mean ratings is that R.T.s working in clinic settings and in private physician practices consider exposure to chemicals to be a slightly more important problem than ergonomics (but only by .06 units, on average), while those practicing in other settings, especially hospitals, consider ergonomics to be a more important problem.
- ◆ Seventy percent of responding R.T.s answered that they believe health care personnel shortages have compromised their occupational safety.

Executive Summary

- ◆ R.T.s working in hospitals (80%) were more likely than those working in “other” facilities (69%) to believe that personnel shortages have compromised their occupational safety. The “other-facility” R.T.s were in turn more likely than those working in diagnostic imaging facilities or in clinics (combined average of 58%) to believe that occupational safety was compromised, while fewer than half (49%, significantly lower than any of the other four types of facilities) of R.T.s working in private physician practices believed that their occupational safety had been compromised.

- ◆ Almost half of those surveyed explained their “yes” or “no” answer to this question. Across all facility types, 23% of R.T.s who explained their responses said that being hurried (presumably as a result of the personnel shortage) led to mistakes, shortcuts and other behaviors that put patient care at risk; another 16% indicated that increased workloads caused by the personnel shortage led to mistakes, shortcuts, etc.; 19% said that increased workloads led to ergonomic problems, with lifting heavy patients being the most frequently mentioned ergonomic problem; 9% said that increased workloads led to stress, although they didn’t specify any particular consequences for worker safety. On the other side of the coin, 8% of all R.T.s who explained their answer (in this case, “no”) said that there was no personnel shortage at their workplace, while 4% indicated that either they or their administration didn’t let the personnel shortage compromise worker safety or patient safety and care.

Executive Summary

- ◆ There were, however, highly significant differences among the workplace settings in the percentage of R.T.s offering these various explanations. In particular, a significantly higher percentage of R.T.s working in hospitals (21%) than in diagnostic imaging facilities (14%) or in the other three kinds of facilities (8.5% combined) mentioned ergonomic problems (heavy lifting) as a problem created by the personnel shortage. Also, a significantly higher percentage of R.T.s working in private physician practices (21%) than in clinics, diagnostic imaging facilities or “other” facilities (11% combined) or in hospitals (3%) declared that there was no personnel shortage at their workplace. Finally, 10% of R.T.s in private physician practices said that they or their administration didn’t let the workplace shortage affect patient safety or quality of care, as compared with an average of 5% of the R.T.s working in any of the other four types of facilities.

Executive Summary

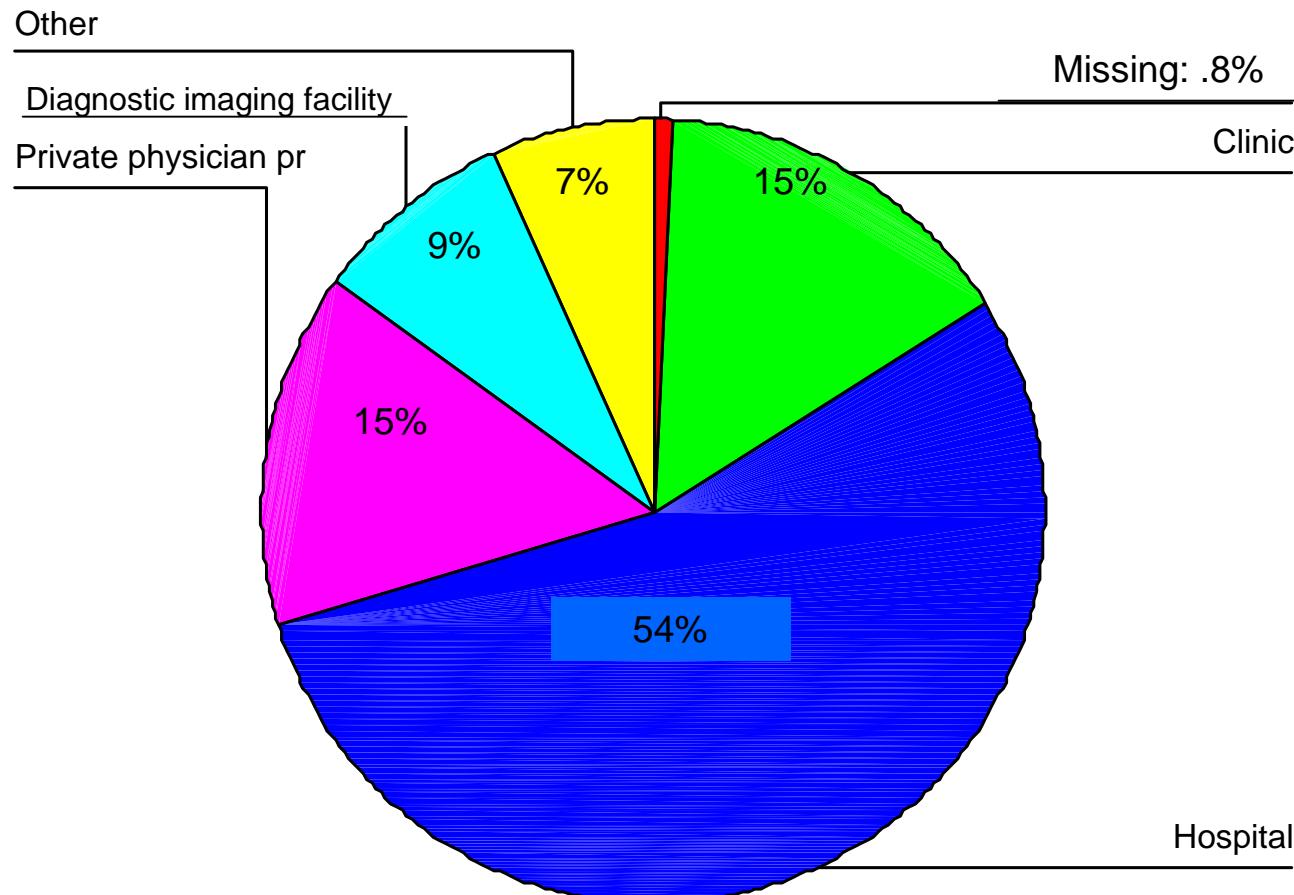
- ◆ With respect to profiles of responses, R.T.s working in hospitals were substantially more likely to mention ergonomic problems as a negative effect of the personnel shortage than they were to say no such shortage exists at their facility, while R.T.s working at clinics, imaging facilities and “other” facilities were roughly equal in these two tendencies. R.T.s working in private physician practices were substantially more likely to indicate there is no personnel shortage at their workplace than they were to report ergonomics and heavy lifting as a negative effect of the personnel shortage.

- ◆ R.T.s working in hospitals were much more likely to mention a negative effect of the shortage than they were to deny or downplay the effects of a personnel shortage at their workplace (difference of 88% between those two tendencies). Those working in clinics, at diagnostic imaging facilities or at “other” facilities showed a somewhat smaller difference, and those working in private physician practices were only 30% more likely to mention a negative impact than to deny or downplay the effects of a shortage.

Type of Facility - Detailed Findings

Type of Facility

Only 44 (1.5%) respondents indicated that they worked in a government institution; the largest category of “other” responses (of which there were 145, or 5% of the responses) were 34 R.T.s who indicated that they worked in a mobile unit or mobile facility. “Government institution” and “other” responses were therefore combined into a single “Other” category for purposes of analyses of differences among program types.

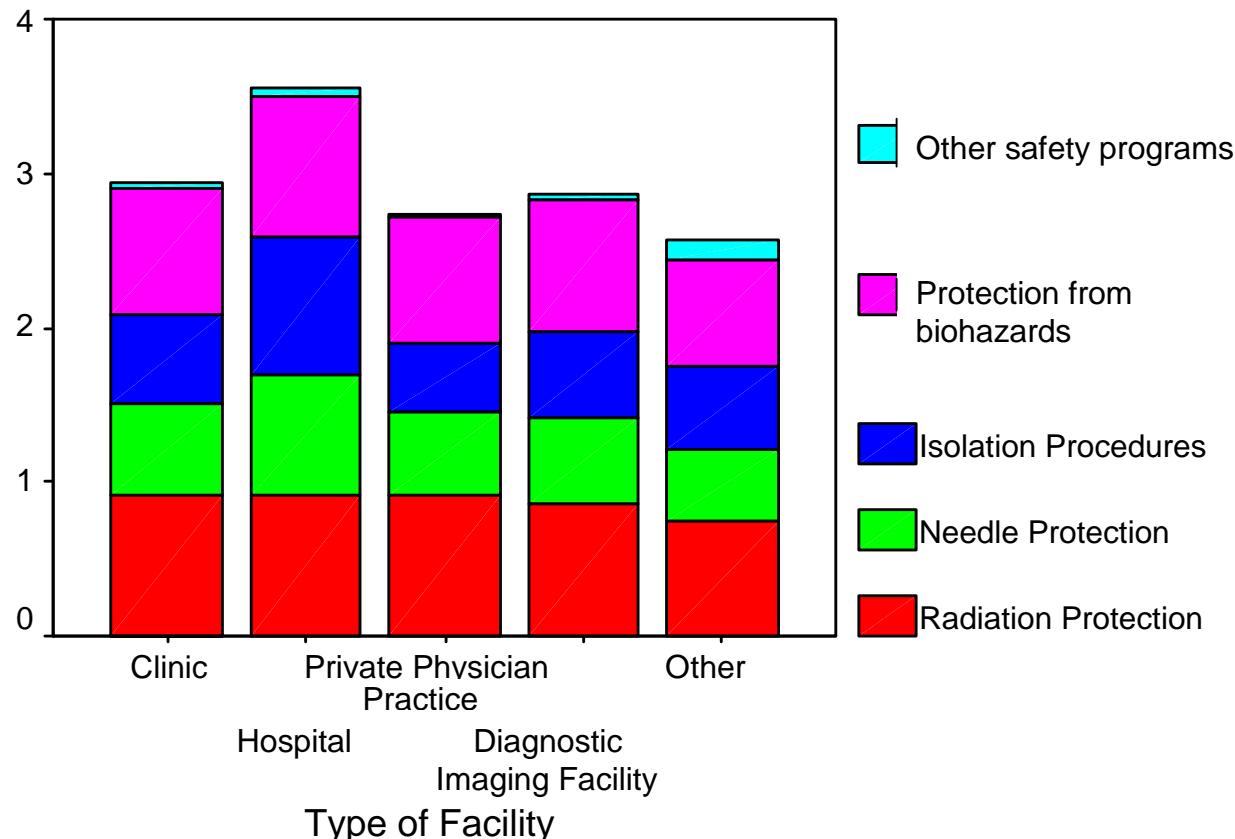


Occupational Safety Programs - Detailed Findings



Occupational Safety Programs

Proportion of R.T.s Reporting Facility Has
Each Type of Safety Program



Note. The overall height of each facility type's bar represents the mean number of safety programs reported.

Occupational Safety Programs

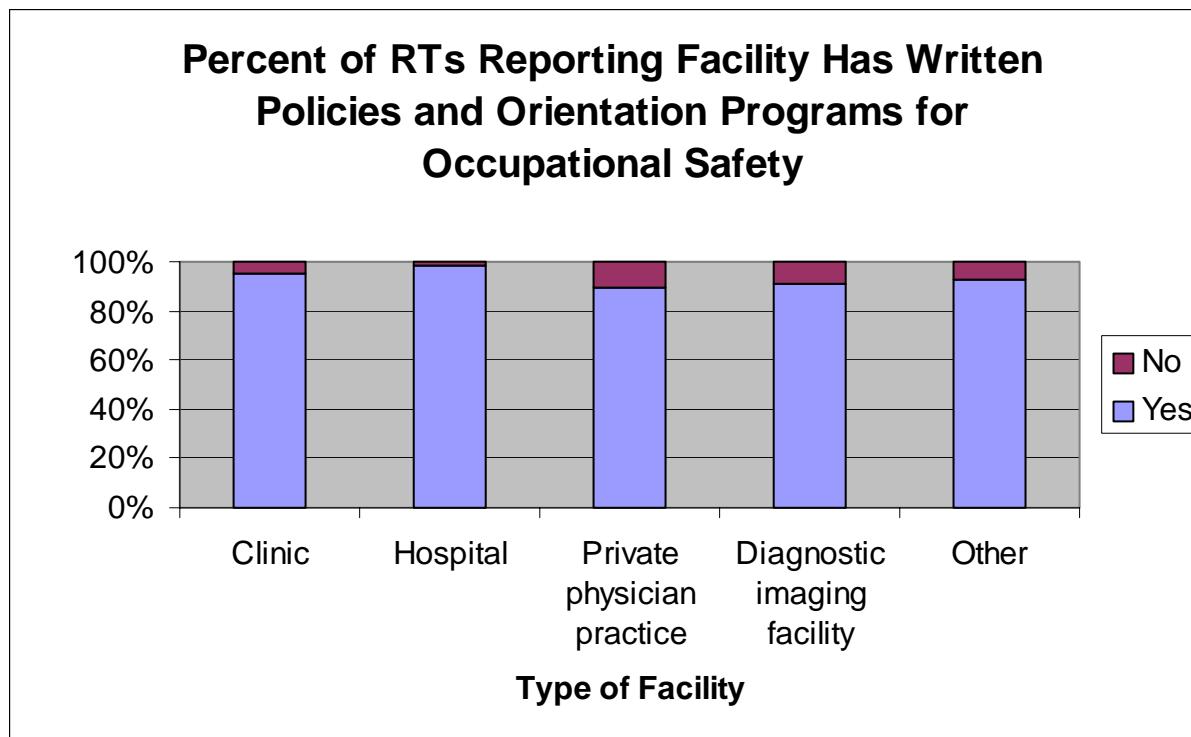
Combining across types of facilities, 90% ($\pm 1\%$) of R.T.s surveyed reported that their facility has implemented a radiation protection program(s); 86% ($\pm 1\%$), protection from biohazards; 73% ($\pm 2\%$), protection from communicable diseases; 68% ($\pm 2\%$), needle protection; and 6% ($\pm 1\%$), “other.”

R.T.s working in hospitals reported more safety programs implemented than did those working in clinics, who in turn reported slightly more programs than R.T.s working in diagnostic imaging facilities or in private physician practices, who in turn were “protected” by more safety programs than were R.T.s working in “other” facilities.

With respect to particular safety programs, hospitals were more likely than other types of facilities to have adopted each of the four specifically mentioned safety programs, although the differences among hospitals, clinics and private physician practices in radiation protection were not significant. R.T.s who reported working in “other” facilities were significantly more likely than those working in clinics, hospitals, private physician practices or diagnostic imaging facilities to report that their facility had implemented a safety program other than the four explicitly mentioned on the questionnaire. Private physician practices had the lowest likelihood of implementing isolation procedures to protect against communicable diseases. Contrary to their general tendency to implement fewer programs than clinics, diagnostic imaging facilities were significantly more likely than clinics to adopt policies and procedures to handle biohazards and exposure to chemicals.

Occupational Safety Programs

More than 95% ($95.4\% \pm .8\%$) of responding R.T.s reported that their facilities had “written policies and orientation programs for occupational safety.” R.T.s working in hospitals were significantly more likely than those working in any other type of facility, including clinics, to report this. Clinic-based R.T.s were, in turn, significantly more likely than R.T.s working in diagnostic imaging facilities, in private physician practices or in “other” facilities to so report. The latter three types of facility did not differ significantly among themselves in this respect.



Connection Between Worker Safety, Patient Care and Safety – Detailed Findings

Connection Between Worker Safety, Patient Care and Safety

A very high percentage of the R.T.s who responded to this question ($93.2\% \pm .9\%$) agreed that worker safety affects patient care and safety. There were no statistically significant differences in this respect among the R.T.s working at different types of facilities.

Six hundred thirty-four ($22\% \pm 3\%$) of the respondents explained their answer to the question. R.T.s working at different facilities did not differ in this respect. Further, there were no large or statistically significant differences in the proportions of R.T.s working at the various types of facilities who gave particular explanations.

The most common explanations offered were a simple rephrasing or strengthening of the R.T.'s "yes" or "no" response ($12\% \pm 3\%$ of all "explainers"), an indication that patient and worker are "in this together" ($30\% \pm 4\%$), an indication that the worker's feeling safe (or unsafe) helps (or hurts) the worker's ability to concentrate on the patient ($17\% \pm 3\%$) and an indication that the worker's concern for safety shows concern for his or her patient, as well. In addition, about $14\% (\pm 3\%)$ of the responses cited a specific safety hazard without explicitly addressing the worker/patient safety connection, and about $13\% (\pm 3\%)$ cited specific things that the worker could do to promote his or her safety and that of the patient.

The full frequency distribution of the number of respondents giving each category of explanation follows. Noteworthy verbatim responses to this question are given in the first part of Appendix B.

Connection Between Worker Safety, Patient Care and Safety

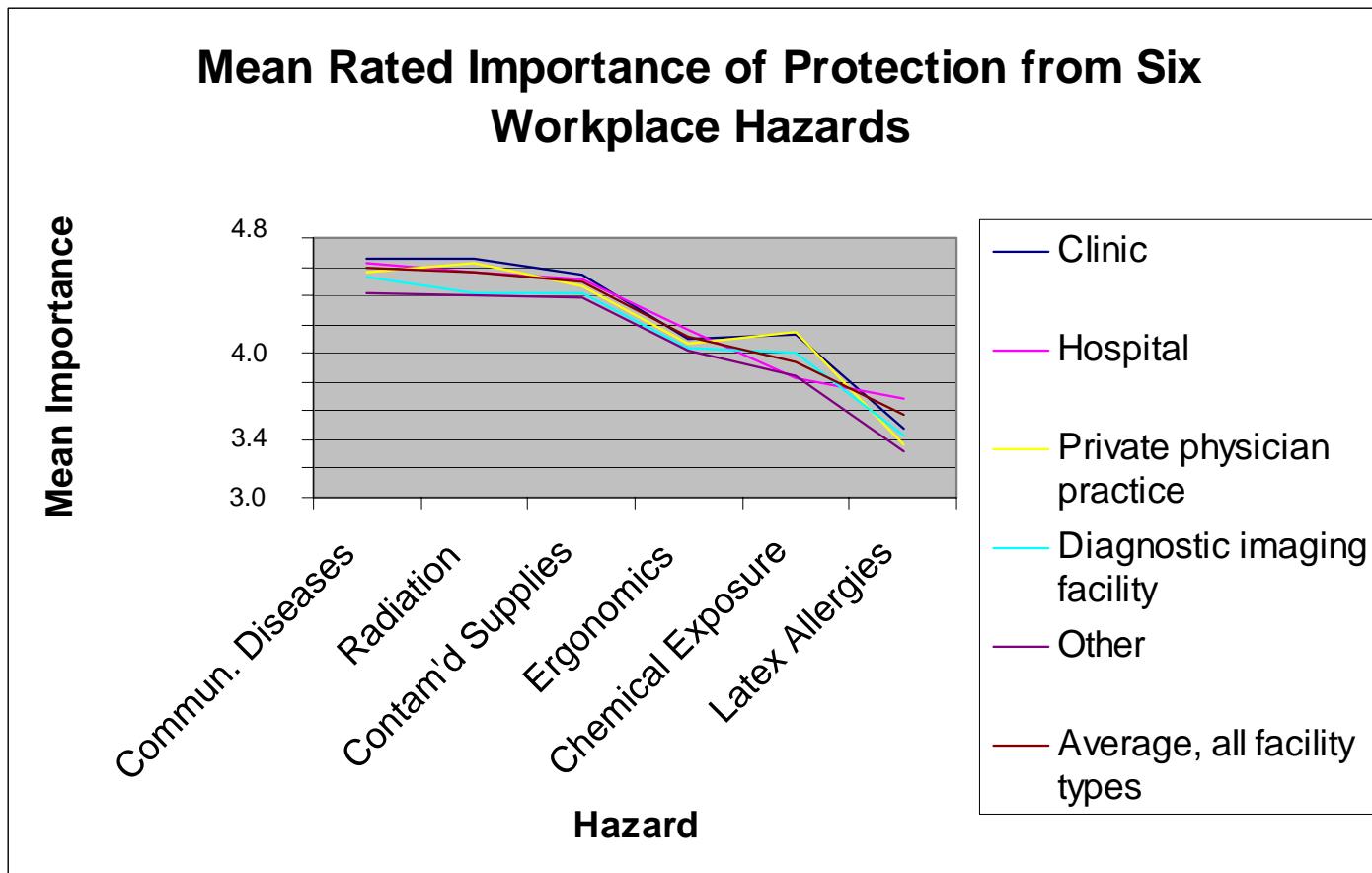
Explanations of Response to Whether Worker Safety Affects Patient Care and Safety

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rephrases or strengthens 'yes' or 'no,' but doesn't explain	76	2.7	11.9	11.9
	Patient/ worker in this together	193	6.7	30.2	42.0
	Worker feeling safe/unsafe helps/hurts concentration on patient	106	3.7	16.6	58.6
	Sick worker can infect patient	2	.1	.3	58.9
	Worker being safe/unsafe helps/hurts concentration on patient	6	.2	.9	59.8
	Patient feeling safe yields better treatment outcome	1	.0	.2	60.0
	Worker injuries, illness make shortage worse	2	.1	.3	60.3
	Cites safety hazard, doesn't address worker/patient connection	87	3.0	13.6	73.9
	Cites things employee can/should do to promote patient/self safety	82	2.8	12.8	86.7
	Cites things employer can/should do to promote safety	5	.2	.8	87.5
	Worker concern for safety indicates his/her concern for patients	63	2.2	9.8	97.3
	Employer concern for worker safety indicates concern for patients	2	.1	.3	97.7
	Too much emphasis on safety may frighten patient	2	.1	.3	98.0
		888.00	13	.5	2.0
	Total	640	22.2	100.0	100.0
Missing		999.00	3	.1	
	System Total	2237	77.7		
	Total	2240	77.8		
Total		2880	100.0		

Importance of Protection From Six Workplace Hazards – Detailed Findings

Importance of Protection From Six Workplace Hazards

R.T.s working at the five types of facilities generally agreed as to the relative importance of the six workplace hazards, as shown by the following graph and table:



Note: Scale provided was labeled 1 (unimportant) to 5 (important).

Importance of Protection From Six Workplace Hazards

Mean Rated Importance of Protection from Six Workplace Hazards

Type of Facility	N	Hazard					
		Commun. Diseases	Radiation	Contam'd Supplies	(Poor) Ergonomics	Exposure to Chemicals	Latex Allergies
Clinic	438	4.65	4.65	4.54	4.10	4.13	3.48
Hospital	1565	4.63	4.56	4.51	4.16	3.83	3.69
Private Physician Practice	420	4.56	4.62	4.46	4.06	4.15	3.37
Diagnostic Imaging	245	4.53	4.42	4.42	4.03	4.00	3.43
Other	189	4.42	4.40	4.38	4.02	3.85	3.32
Overall	2857	4.60	4.56	4.49	4.12	3.94	3.57
Error Mean Square ^a		1.04	1.11	1.16	1.23	1.90	2.07

^a $\pm 2 \text{ times } \sqrt{(\text{Error MS})/N}$ = the 95% confidence bound around a given mean.

Note: Entries in red indicate the instances in which the R.T.s working at a given type of facility rank ordered the importance of protecting against the six hazards differently.

Importance of Protection From Six Workplace Hazards

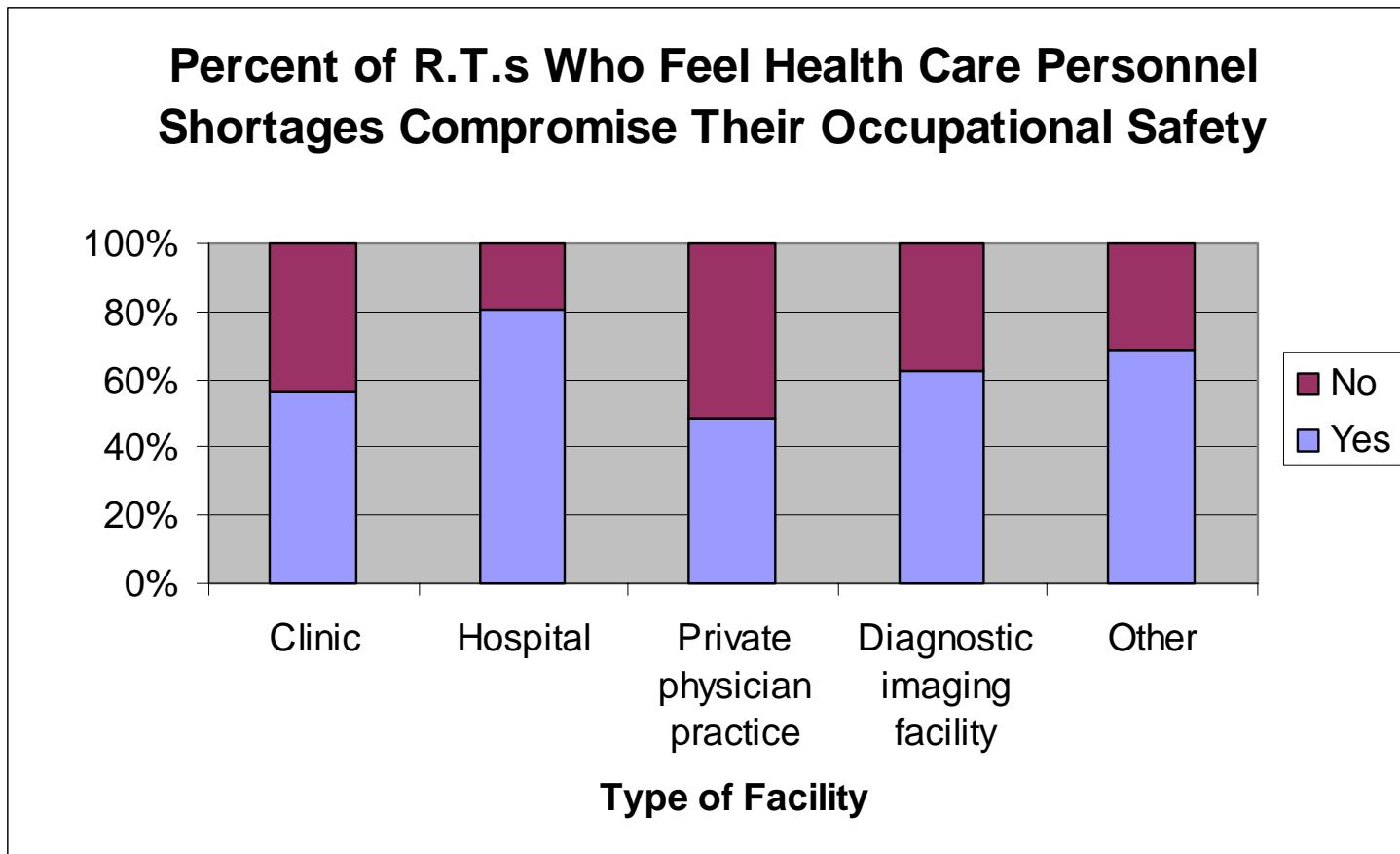
All differences among the overall means for the six hazards were statistically significant at the .01 level. An exception was the mean difference between communicable diseases and radiation, which was not significant. Thus R.T.s, on average, consider it significantly more important to protect against communicable diseases and radiation than to protect against contaminated supplies, which in turn is rated as more important than proper ergonomics, which in turn is significantly more important than protecting against exposure to toxic chemicals, which is seen as more important than dealing with latex allergies. However, even this least important safety hazard is rated, on average, half a unit above the midpoint of the importance scale.

The only substantial departure from the pattern of overall mean ratings is that R.T.s working in clinic settings and in private physician practices consider exposure to chemicals to be a slightly more important problem than ergonomics (but only by .06 units, on average), while those practicing in other settings, especially hospitals, consider ergonomics to be a more important problem. This "difference between differences" (interaction) is highly statistically significant.

Connection Between Personnel Shortage, Workplace Safety- Detailed Findings

Connection Between Personnel Shortage, Workplace Safety

Averaged across all facilities, 70% ($\pm 2\%$) of the responding R.T.s answered “yes” to Question 6: Do you feel health care personnel shortages compromise your occupational safety?“.



Connection Between Personnel Shortage, Workplace Safety

R.T.s working in hospitals were significantly more likely ($80\% \pm 2\%$) than those working in “other” facilities ($69\% \pm 7\%$) to feel that personnel shortages have compromised their occupational safety. The “other-facility” R.T.s were in turn significantly more likely than those working in diagnostic imaging facilities or in clinics (combined average of $58\% \pm 4\%$) to believe their safety to be compromised, while fewer than half ($49\% \pm 5\%$ significantly lower than for any of the other 4 types of facility) of the R.T.s working in private physician practices felt that their occupational safety had been compromised by personnel shortages.

Almost half ($48\% \pm 2\%$) of the respondents explained their “yes” or “no” answer to this question. Across all facility types, 23% ($\pm 2\%$) of R.T.s who explained their response said that being hurried (presumably as a result of the personnel shortage) led to mistakes, shortcuts and other behaviors that put patient care at risk. Another 16% ($\pm 2\%$) said that increased workloads caused by the personnel shortage led to such mistakes, shortcuts, etc., and 19% ($\pm 2\%$) said that increased workloads led to ergonomic problems, with R.T.s lifting heavy patients being the most frequently mentioned ergonomic problem. Of the respondents who explained their answer, 9% ($\pm 1.5\%$) said that increased workloads led to stress, although they didn’t specify any particular consequences for worker safety. On the other side of the coin, 8% ($\pm 1.5\%$) of all R.T.s who explained their answers (in this case, presumably “no”) said that there was no personnel shortage at their workplace, while 4% ($\pm 1\%$) said that either they or their administration didn’t let the personnel shortage compromise worker safety or patient safety and care.

Connection Between Personnel Shortage, Workplace Safety

There were, however, highly significant differences among the workplace settings in the percentage of R.T.s offering these various explanations. In particular, a significantly higher percentage of R.T.s working in hospitals ($21\% \pm 3\%$) than in diagnostic imaging facilities ($14\% \pm 7\%$) or in the other three kinds of facilities ($8.5\% \pm 3\%$, combined) mentioned ergonomic difficulties as a problem created by the personnel shortage. Also, a significantly higher percentage of R.T.s working in private physician practices ($21\% \pm 6\%$) than in clinics, diagnostic imaging facilities or “other” facilities ($11\% \pm 3\%$, combined) or in hospitals ($3\% \pm 1\%$) declared that there was no personnel shortage at their workplace.

Finally, 10% ($\pm 5\%$) of R.T.s in private physician practices said that they or their administration simply didn't let the workplace shortage affect patient safety or quality of care, as compared with an average of 5% ($\pm 1\%$) of R.T.s working in any of the other four types of facility.

A full listing of the high-frequency categories of explanations offered by these R.T.s is provided by the following table:

Connection Between Personnel Shortage, Workplace Safety

Explanations of Responses to Whether Shortage Has Compromised Occupational Safety

	Clinic	Hospital	Private physician Practice	Diagnostic imaging facility	Other	Row Total			
Explanation	Count	Col pct							
Reiterates or emphasizes “Yes” response	14	8.6	81	9.3	7	3	11	116	8.4
Shortage leads to ergonomic problems, e.g. heavy lifting	13	8.0	208	23.9	15	13	8	257	18.6
Increased workload, no consequences specified	9	5.6	48	5.5	5	5	4	71	5.1
Incr'd workload leads to stress, no consequences of stress specified	9	5.6	90	10.3	13	6	8	126	9.1
Incr'd workload leads to mistakes, shortcuts, etc.	24	14.8	145	16.7	26	12	11	218	15.8
Hurry leads to hazards, shortcuts, etc.	42	25.9	199	22.9	31	30	18	320	23.1
Shortage leads to having to work w untrained personnel	5	3.1	11	1.3	6	1	5	28	2.0
Other explanations of “Yes” answer	7	4.3	44	5.1	14	5	11	81	5.9

Connection Between Personnel Shortage, Workplace Safety

Explanations of Responses to Whether Shortage Has Compromised Occupational Safety (continued)

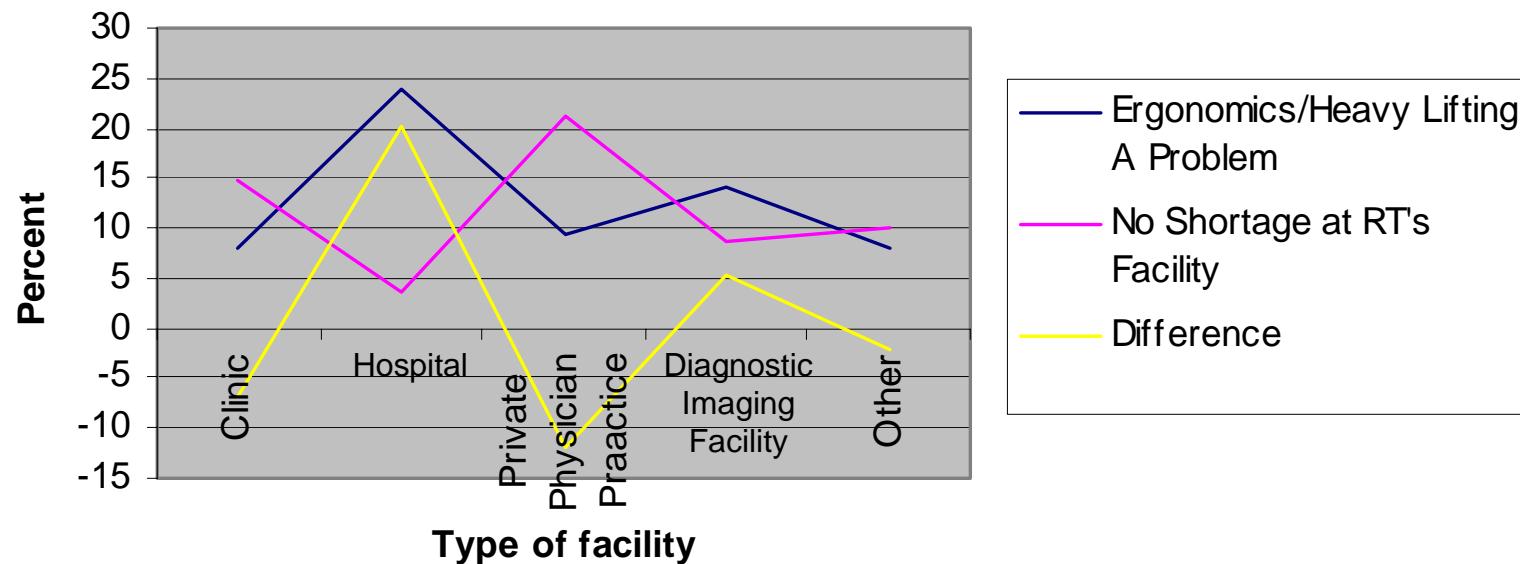
	Clinic	Hospital	Private physician practice	Diagnostic imaging facility	Other	Row Total
Explanation						
No shortage where respondent works	24 14.8	31 3.6	34 21.1	8 8.7	10 10.1	107 7.7
Respondent and/or administration won't let it affect patient care	9 5.6	28 3.2	16 9.9	5 5.4	6 6.1	64 4.6
Other "No" explanation	7 4.3	35 4.0	5 3.1	6 6.5	7 7.1	60 4.3
Column Total	162 11.7	870 62.9	161 11.6	92 6.6	99 7.2	1384 100.0

Percents and totals based on respondents
 1,384 valid cases; 1,496 missing cases

Connection Between Personnel Shortage, Workplace Safety

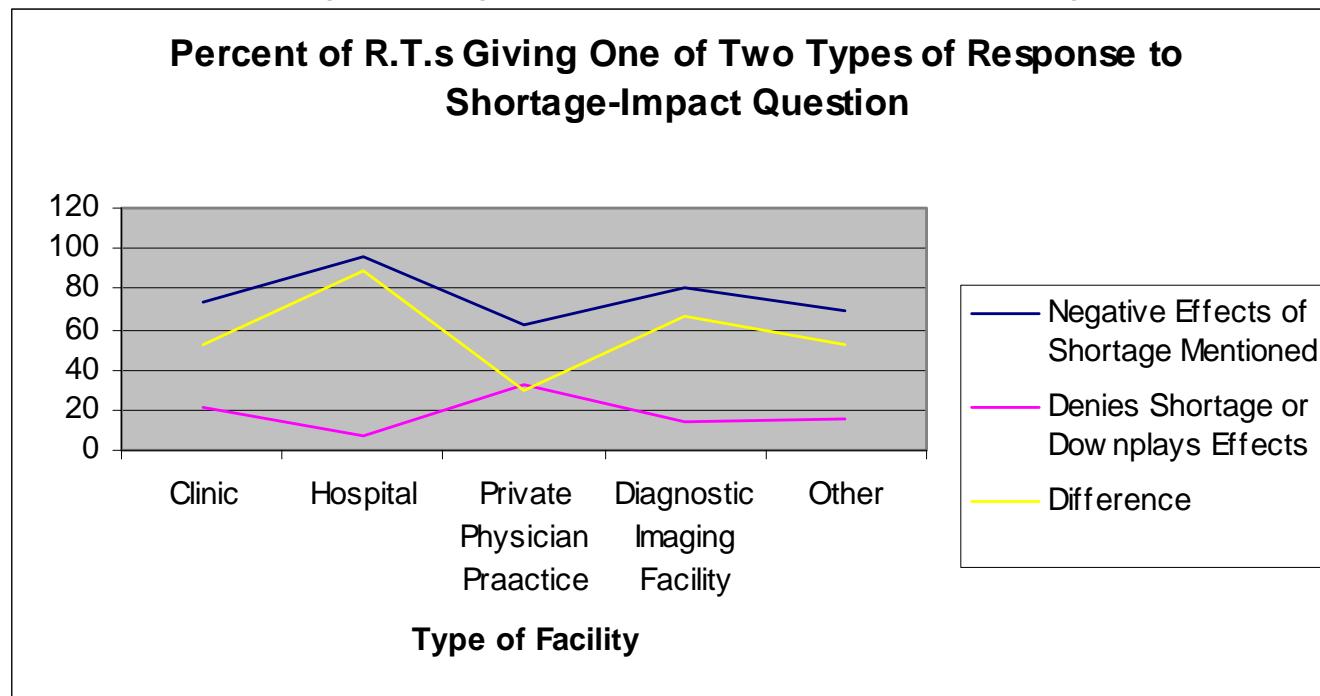
In addition to examining individual responses, the discriminant function (the linear combination of all responses that showed the most statistically significant differences among facility types) was computed. The following two graphs compare the five types of facilities with respect to two patterns of responses to this question: being more likely to mention a negative impact of the shortage than to downplay its existence or impact and being more likely to mention ergonomic problems than to state that no shortage exists at one's facility.

Percent R.T.s Giving Each of Two Responses to Shortage-Impact Question



Connection Between Personnel Shortage, Workplace Safety

R.T.s working at hospitals were substantially more likely ($21\% \pm 3\%$) to mention ergonomic problems as a negative effect of the personnel shortage than they were to say no such shortage exists at their facility ($3\% \pm 1\%$), while R.T.s working at clinics, imaging facilities and “other” facilities were roughly equal in these two tendencies ($13\% \pm 4\%$ vs. $11\% \pm 3\%$), and R.T.s working in private physician practices were substantially more likely to indicate that there is no personnel shortage at their workplace ($21\% \pm 6\%$) than they were to report ergonomics and heavy lifting as a negative effect of the personnel shortage ($9\% \pm 5\%$).



Connection Between Personnel Shortage, Workplace Safety

R.T.s working at hospitals are much more likely to mention a negative effect of the shortage ($94\% \pm 2\%$) than they are to deny or downplay its effects at their workplace ($7\% \pm 2\%$, a difference of 87% between those two tendencies). Those working in clinics, at diagnostic imaging facilities or at “other” facilities show a somewhat smaller difference ($72\% \pm 5\%$ vs. $18\% \pm 4\%$), and those working in private physician practices are only 30% more likely to mention a negative impact ($61\% \pm 8\%$) than to deny or downplay the effects of a shortage ($31\% \pm 8\%$). All the cited differences are statistically significant.

Appendices



Appendix A: Questionnaire

Questionnaire

5912429103

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The ASRT is collecting data on work place safety and occupational hazards medical imaging and radiation therapy personnel face on the job. To help us represent your interests before governmental agencies tasked with regulating worker and patient safety, please take a moment to fill out this survey and return it to ASRT.

1. What occupational safety programs have been implemented in your facility? Check all that apply.

- Radiation protective devices
- Needle protective sheaths
- Isolation procedures (protection from communicable diseases)
- Biohazard/chemical safety procedures (equipment and protocols)
- Other _____

2. Do you have written policies and orientation programs for occupational safety?

- Yes
- No

3. Do you feel worker safety affects patient care and safety? Yes No

Please explain: _____

4. How important are the following issues on occupational safety to you? Please rank each one of the following from 1 to 5, with 1 being unimportant and 5 being important.

Protections from darkroom disease (chemical exposures)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Latex allergies	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Exposure to communicable disease	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Radiation protection	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Infection from contaminated supplies or equipment	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Ergonomics (equipment design and body mechanics)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

5. How would you categorize the facility in which you work? Please select only one

- Clinic
- Hospital
- Private physician practice
- Diagnostic imaging facility
- Government institution
- Other _____

6. Do you feel health care personnel shortages compromise your occupational safety?

- Yes
- No

Please explain: _____

Appendix B: Noteworthy Verbatim Responses to Questions 3 and 6

Noteworthy Verbatim Responses to Questions 3 and 6

Noteworthy Verbatim Responses to Questions 3 and 6

Noteworthy Verbatim Responses to Questions 3 and 6

Noteworthy Verbatim Responses to Questions 3 and 6

Question 6		
Category of Explanation to Q6 Answer	Verbatim Comment	Frequency
Downplays or de-emphasizes impact on occupational safety	"To a small extent. The rules are there for us; its up to us to protect ourselves rather short staffed or not...Ownership of our own safety"	1
Reiterates or emphasizes 'yes' but doesn't explain	"Definitely! To get the job done one can push oneself too hard. From 7pm to 7am there is one tech in the x-ray dept; to get inpatients from the floor & watch them in the dept try holding a pt and exposing them at the same time" "In our facility techs are routinely working alone esp on portables and general radiography. We are required to lift pts on our own and leave them unattended while we check films. I feel this compromises our safety as well as our pts safety"	1
	"More personnel shortages SO more work for remaining personnel & more shortcuts causing more occupational safety risks"	1
	"Personnel shortages cause undo stress on workers; workers want to do a good job but there is a need for better managers to balance worker shortage and pt care"	1
	"Safety is compromised when there are shortages in any area ie maintenance health care providers or admin when short cuts are taken due to lack of personnel. Hazards may include anything from contamination to physical injury such as back strain etc"	1
	"Sometimes speed and quickness are more important to the hospital than time and safeness "	1
	"The workplace is either safe or not safe. The amount of personnel does not change this."	1
	"There are some exams that require 2 people. When facing these tasks alone it puts the tech & pt in an unsafe environment."	1
	"Too large a number are out of work due to unsafe occupational training programs that do not include all that needs to be implemented to make it a safe workplace. Yes; personnel shortages compromises pt care"	1
	"We are forced to attempt procedures that should be done with multiple personnel- as an individual- due to short staffing"	1
	"When you have to wear some many hats something or someone will suffer. Jack of all trades; master of none"	1
Shortage leads to ergonomic problems such as heavy lifting by worker	"Heavy labor (grave yards) no help or limited from ER if they come-pts have assaulted rad techs in past - due to limited staff in hospital" "I am forced to do more by myself which puts me in danger- especially when moving pts" "No assistance/moving help/leaving pt unattended/rushing procedures are some factors that leave open room for poor pt care" "Occasionally hard to find enough lifting assistance when staffing shortages recur" "Technologist work load has doubled; therefore it makes it difficult to get help moving pts" "There is often not enough personnel to lift safely"	1

Noteworthy Verbatim Responses to Questions 3 and 6

Question 6 (continued)

<u>Category of Explanation to Q6 Answer</u>	<u>Verbatim Comment</u>	<u>Frequency</u>
	"Unsafe lifting can lead to personal injuries. Fatigue can lead to poor judgement- resulting in injuries or accidents"	1
	"We are expected to lift & move pts with less help or no help at all. Overworked people tend to be less alert & careful"	1
	"We don't have enough staff to help move pts. We cannot keep transporters since not offered a decent salary & have an important & physically demanding job. Many of the techs have pulled muscles or hurt back;etc from moving pts or supplies"	1
	"We work short staffed and that means longer hours/more hours. We are often left ot move pts by ourselves"	1
	"When moving heavy pts to tables it is necessary to have enough personnel to make the move. Sometimes 2 people are not enough- even when using proper body mechanics."	1
	"When there is a shortage you may not get the extra help you need in moving or lifting a pt - hence an injury can occur. Personnel are trying to get pts done& may not take time for ex to see if darkroom ventilation is working."	1
	"When we are left alone to manipulate patients for exams we are being physically challenged and in turn strain ourselves"	1
	"Working alone & lifting heavy patients & equipment. Usually go without eating lunch;lower back pain; bruises; stiff neck & complaints from DRs & nurses and patients."	1
	Total	14
Increased workload, no further consequences mentioned	"Hospital staff are working forced overtime & are expected to do the work/assume the responsibilities that previously entailed more than one person to accomplish the task. Both the pt & health care provider suffers."	1
	"More stress & long hours for health care personnel. More sick time."	1
	"Personnel are expected to keep the same pt load up with less staff"	1
	"We are more stressed out the workload for 2-3 people is put on the shoulders of 1 person. 12 day stretches are common in my workplace. Safety can be compromised if the workers are tired and stressed"	1
	"We work twice as hard with fewer employees especially with call ins and extended leave policies"	1
	"Work day typically goes 1-2 hrs longer than it used to. More staff with back and feet disabilities."	1
	"Yes Understaffing means more overtime - you get tired and physically stressed not break you get injured and or ill"	1
	Total	7

Noteworthy Verbatim Responses to Questions 3 and 6

Question 6 (continued)

Category of Explanation to Q6 Answer	Verbatim Comment	Frequency
Increased workload leads to stress, no further consequences mentioned	"Absolutely with up stress up pt load errors increase. Need to educate public regarding oversuse of the system for illnesses that do not require professional medical care."	1
	"Covering workload of 2 people makes me exposed more frequently to hazards and radiation. Also working so many hours can cause fatigue which contributes to lower immunity and often mistakes made"	1
	"Remaining employees are usually stressed. Mgmt tries to foce them to complete as much work as a full staff would. Stressed employees are more likely to sustain injuries"	1
	"Shortages mean overworked stressed employees. Everyone down the chain of company will be affected- most of all the pt"	1
	"There is no break & no slow down. There is alot of stress with so many other duties expected. It makes dedication difficult"	1
	"Trying to do more pts in less time causes stress & mistakes; etc. therefore more chance of injuries (physical and mental)"	1
	"Understaffed = overworked = physical injuries = mental stress"	1
	"When there are too few employees for a fixed amount of work those employees left standing are overworked & stressed. Side-effects both physical & mental. Pt care is also diminished when physical as well as emotional breaks during the day disappear	1
	"When you are forced to work double shifts (sometimes even 24 hrs) our chances of injury increases (the same goes to communicable diseases)"	1
	"When you are in a room & w/ a pt. by yourself something could go wrong that could jeopardize your life or the patients. Should always have at least two people on every shift."	1
	"When you are short staffed you have to work harder and faster while trying to provide the same level of care. Tech who are overworked and stressed are more easily injured and are more susceptible to illness"	1
	Total	11

Noteworthy Verbatim Responses to Questions 3 and 6

Question 6 (continued)

Category of Explanation to Q6 Answer	Verbatim Comment	Frequency
Increased workload leads to mistakes, inattention, shortcuts, etc.	"Currently we are treating 1-2 therapists short. Puts demands on our minds and bodies. We feel this impacts pt safety & quality "	1
	"Cutting corners; high stress; increased radiation exposure; acceptance of poor-performing individuals in the dept because of personnel shortages"	1
	"Do more with less does not only compromise pts care but contributes greatly to burn-out and frustration with employees; leading to mistakes and errors"	1
	"HCP shortages can cause rise in workload for staff which cause mistakes due to tired overworked staff. Simple safety issues can also be overlooked."	1
	"No lifting help - no breaks or lunches"	1
	"Now do 2 or 3 pts at once due to short staff. Means more radiation exposure & less attention to pts. Excessive overtime leads to illness & injuries & possible mistakes."	1
	"Personnel shortages compromise occupational safety because more mistakes are made by people being forced to do work of more than 1 person."	1
	"Shortages lead to tired personnel- which make accidents more likely"	1
	"Technologist become fatigued & thus not able to perform procedures adequately sometimes. Not good and affects the tech health also. Not good for pts either"	1
	"Techs are working short staffed & longer hrs-thus are stressed out & underpaid & aren't as alert making a perfect atmosphere for mistakes & accidents due to institutions trying to save money"	1
	"The more volume of work you have to do- the more likely you are to make mistakes"	1
	"Understaffing leads to over work which leads to carelessness"	1
	"We are forced to do more work in the same if not shorter period of time. Therefore causing us to work more rapidly to be more prone to accidents"	1
	"We are forced to work longer because there is no staff relief - when tired you could make mistakes"	1
	"We are under pressure to perform even though we are short handed causing us to be more prone to carelessness"	1
	"We are working longer and longer hours and becoming very fatigued. Accidents happen when workers are tired and not concentrating"	1
	"We must work so quickly to keep up w/pt workload that we may not be as conscious about looking out for our own safety but rather get the work done."	1
	"We tend to overwork and therefore will not have enough energy and ability to give proper care to our pts"	1
	"We work longer hours & get less sleep and feel more stressed. We always feel guilty taking sick time and vacations. When we're tired and stressed we have more accidents and are more apt to forget using safety devices"	1

Noteworthy Verbatim Responses to Questions 3 and 6

Question 6 (continued)

<u>Category of Explanation to Q6 Answer</u>	<u>Verbatim Comment</u>	<u>Frequency</u>
	"When one works 50-60 hrs week one is generally very tired & not as alert as one should be possibly putting oneself & pt at risk for mishaps"	1
	"When people get overworked they usually get a little less careful and they start to leave things in conditions that are less than safe and/or clean"	1
	"When personnel become exhausted due to working extra hours or shifts. This increases the risk of accidents occurring."	1
	"When techs are too busy they get tired - short of sleep from being called out at night or just from non-stop rushed work schedule - techs tend to make mistakes which could compromise their safety"	1
	"When there is a shortage of staff you tend to cut corners to get the work done & a lot of time to tend to forget something as simple as universal precaution"	1
	"When you have shortage of personnel in a health care center accidents are more frequent and the time you take for care for a pt become shorter. Thank you"	1
	"With staff shortages we are asked to do more with less -pressure & stress cause needless mistakes-when rushed the first thing to go is personal safety."	1
	"With the shortage means more work and less time to evaluate things. Being in a rush caused mistakes and that may be safety to you and the pts"	1
	"Workers are overworked and therefore become careless"	1
	"Working short staffed makes my job more difficult & more tiring possibly causing me to make mistakes or could cause injury due to lack of help when needed"	1
	"Working short staffed; less people to safely move pts.working longer hrs with not enough rest can cloud thinking. Increased stress"	1
	Total	30
Increased workloads lead to more exposure to radiation, disease	"Compromises pt safety. Increases risk for overexposure due to over work over stress. Quantity of work production vs quality of diagnostic images compromises pt treatment plan"	1
Increased workloads lead to low morale	"By continually expecting us to do more with less help er are physically being worn out at an earlier age – work related injuries and morale disabilities requiring early retirement"	1
	"The burn out is incredible. The stress of being understaffed has taken its toll. I want to be happy again in my profession."	1
	"We work way too many hrs on too little sleep. I sometimes feel as though I work on an assembly line"	1
	"When your overworked due to personnel shortage then your tired and maybe moody which could reflect on the pt"	1
	"You're depended on to do more work & work alone more often- which can lead to injury or carelessness due to time constraints. Also it leads to decline in morale which affects attitude towards the job"	1
	Total	5

Noteworthy Verbatim Responses to Questions 3 and 6

Question 6 (continued)

<u>Category of Explanation of Q6 Answer</u>	<u>Verbatim Comment</u>	<u>Frequency</u>
Hurry leads to hazards, shortcuts, etc.	"Always in a hurry I have personally had more needs sticks in past year than entire career because hurrying & fatigue part also no help avail to transport pt to table not safe for tech or pt."	1
	"I'm an older tech much of what I do is almost automatic; but when I have to rush to keep up with increasing pt load and extra duties I tend to make mistakes"	1
	"In theory they should not however when persons become rushed due to staffing or pt situation; often times safety is compromised. As an industry we must become absolutely methodical with safety issues to ensure everyone's safety."	1
	"More patients; more work; less time to do cases; have to work faster compromising personal safety & patient safety."	1
	"Our engineers maintain and check our equipment for safety issues and they are very short of personnel in their area. This could affect how well their job is done and if it will be done in a timely manner."	1
	"People rush when there are not enough staff. In this situation safety standards are often not practiced as they would in a nonrushed situation."	1
	"Shortages lead to rushing to finish the same amount of work. Rushing and frustration leads to mistakes being made. Also - due to lack of workers - this meant lack of lifters I've had 2 back injuries in 12 months"	1
	"We all work faster to keep pt from waiting. This causes more repeat fills; worse body mechanics; & people running into each other thereby causing accidents"	1
	"We are in such a rush to keep up that we aren't as careful as we should be. I go home with bruises everyday."	1
	"We are undergoing a personnel shortage that makes us more rushed & more likely to make mistakes & more likely to cut corners. This has a negative impact on occupational safety as well as pt safety."	1
	"We get in a hurry because we don't have enough time to always practice good safety policies. Facilities want more for less!"	1
	"We operate with a bare minimum of staff & consequently; we must work at break-neck speeds a lot of the time. Haste carries accidents & short-cuts which are not in the pts best interest"	1
	"When pts are waiting & I am trying to hurry I feel like I could stick myself accidentally when I am drawing blood. Trying to hurry may also cause unnecessary repeat filming. I work by myself drawing blood & doing urinalysis & taking the films for 4."	1
	"When there are not enough employees every aspect of the department is affected pt care occupational safety etc. Everyone tends to work harder faster and in most cases become less effective"	1

Noteworthy Verbatim Responses to Questions 3 and 6

Question 6 (continued)

<u>Category of Explanation to Q6 Answer</u>	<u>Verbatim Comment</u>	<u>Frequency</u>
	"When there is a personnel shortage staff must do more with less; therefore perform their job in a hurried less careful way. Also this increases stress in the work area increasing chances of mistakes and accidents"	1
	"When we're extremely busy and short staff there is more room for an accident because we're rushing around and pressured to get our work done in a short amount of time"	1
	"When we are short staffed rushing to get pts in and out can lead to injuries and mistakes to staff and pts"	1
	"When working short staffed you tend to try to work at a quicker pace which can cause injuries to oneself (moving patients w/o assistance from a co-worker & hurting your back) you just don't think things through if you are stressing and overly busy."	1
	"Without the assistance of another tech to work with you tend to rush; get careless; and ultimately could cause damage to yourself as well as the pt"	1
	"Yes most of the time you are so rushed for the next pt. to be done- or you are operating 2 rooms at once. Therefore you tend to skip a step here or rush through the exam. pt is dissatisfied & so is tech"	1
		Total 20
Shortage leads to having to work with untrained personnel	"Health care personnel shortages are definitely impacting pt care in hospitals and clinics - more unqualified people trying to care for pts"	1
	"I've been forced to work in areas with equipment I am unfamiliar with and hospital areas with little or no orientation time"	1
	"Lack of qualified help effects workplace as well as pt safety. Unqualified people such as medical assistants doing this work is a major problem. State x-ray licenses to untrained people should be eliminated for public safety and adequate services."	1
	"Non educated personnel perform x-rays - repeat radiation - missed diagnosis"	1
	"Shortages in work place other personnel may take on responsibilities out of their scope of practice."	1
	"Techs coming into new surroundings may not know proper procedures for that facility which may put people at risk"	1
	"We have traveler techs and they may not be familiar with all the policies"	1
	"With less techs work sites take what they can get as long as it's a warm body. Sometimes inexperienced warm bodies. This can affect safety!"	1
	"With shortages & need for more help many physicians don't concern themselves with how untrained help affects safety of all within practice- they write mistakes off with 'I didn't know any better'"	1

Noteworthy Verbatim Responses to Questions 3 and 6

Question 6 (continued)

<u>Category of Explanation to Q6 Answer</u>	<u>Verbatim Comment</u>	<u>Frequency</u>
Respondent and/or administration doesn't let shortage affect occupational safety	"Work with nurses that are not aware of safety issues regarding radiation safety. AL doesn't require an x-ray tech to operate x-ray equip."	1
	"Yes; the less educated and knowledgeable health care workers in the work force means less safety for myself and all others."	1
	Total	11
	"I'm a CT tech. My safety and the pt I'm scanning is solely my responsibility I have co-workers who are very supportive"	1
	"No matter how critical the shortage becomes it does not justify taking chances with ones or the pts safety. It actually take little time to protect yourself or your pt"	1
	"Occupational safety is controlled by the individual & how they implement them while working"	1
	"The safety measures are explained to you. As a personnel safety you follow the suggestions for you & your family you come home to."	1
	"Ultimately - responsibility rests with individual"	1
	"We have OSHA training in all aspects of the medical field so I do not feel my occupational safety is compromised"	1
	"You are responsible for your own protection regardless of the number people working in any facility"	1
Other problems more important than personnel shortage	Total	7
	"It has been hard to keep good techs and we are constantly having to retrain new employees"	1
	"Less techs a facility has more quality techs they need. Unfortunately the opposite is often true. Working under the gun is a safety compromise. It all is reflective of management decisions. reactive management costs time & money and safety issues"	1
	"Less time is spent actually doing procedures & more time is being spent trying to get everything else done."	1
	Total	3