Staffing Levels of Safety Professionals in Healthcare

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Introduction

The field of healthcare is among the most sought after professions in the United States. Jobs in healthcare have the highest growth rate of any job category with the exception of the hospitality services sector. Jobs in healthcare, especially skilled positions, are also some of the highest paid in the country. A little known fact about the healthcare industry, however, is that it is also one of the most dangerous in terms of overall injury risk. Employees in healthcare in the United States are more than twice as likely to be injured on the job as construction workers (BLS 2017). In some long term nursing and residential care facilities the injury rate in certain states is more than 4 times that of construction.

INJURY RATES

Construction Non-residential Buildings – 3.1/100 FTE

National Hospitals (ALL) – 5.7/100 FTE

National Nursing Homes and Residential Care Facilities – 6.3/100 FTE

BLS: https://www.bls.gov/iif/oshwc/osh/os/summ1_00_2017.htm

Data

A review of the employee safety resources at a representative sample of some of the largest healthcare facilities in the United States points to a disconnect between the need and resources available. In particular, there are fewer safety professionals employed in this industry than in any other industry with similar injury or lower risk statistics. The following chart shows the numbers of safety professionals at the above mentioned large healthcare facilities.

HEALTHCARE FACILITY	NUMBER OF EMPLOYEES	NUMBER OF SAFETY PROFESSIONALS (for ee safety)	RATIO (Safety professionals to employees
1	45000	6	1 per 7500
2	61500	9	1 per 6834
3	45000	6	1 per 7500
4	19600	3	1 per 6533
5	167300	25	1 per 6692
6	14000	2	1 per 7000
7	**17000**	**2**	**1 per 8500**

Continuing the comparison with construction, the industry average for construction could be as low as 1 safety professional per 100 to 500 employees.

Safety professionals provide a level of expertise related to the hazards present in any work setting. They help to identify and mitigate the risks associated with these hazards by providing programs and information, recommended equipment (PPE or personal protective equipment), training, and implementing engineering controls to reduce injuries. When we examine the ratio of safety positions to the total number of employees in construction, and the significantly lower incident rates in that industry we can see a correlation between this investment and the outcome. Given the significantly lower injury rates from the construction industry, is it reasonable to use the staffing ratios for construction as a model for healthcare? Construction work and healthcare work are not the same. They may have similar hazards but generally with less dire consequences in healthcare (though not always). So what is the correct ratio or at least a *reasonable* ratio for healthcare?

Few models have been proposed to determine the required staffing levels for organizations. Some models are based on the level of hazards together with the number of employees potentially exposed to these hazards. Other staffing models, such as one proposed model for college campuses, use a formula based on the net assignable square footage (NASF) of buildings being overseen by the safety office with additions or subtractions made on the basis of the NASF for labs and whether or not there was a medical or veterinary school. Some of these methods are described further in the Appendices.

Professional organizations have also weighed in on the topic of appropriate staffing level for effective safety organizations. The American Society of Safety Engineers (ASSE) published a white paper[2] in 2005 reviewing several staffing models and found that the majority of its members felt that industries with moderate to high hazards require 1 safety professional for every 300 employees, and low hazard industries can be closer to 1 safety professional for every 500 employees. This is opinion based to some extent on experience but also somewhat colored by the fact that it is safety professionals expressing the opinions. There is clearly some self interest included.

Hazards in Healthcare

How do the hazards encountered in healthcare compare with of other industries? The following charts show several hazards common to construction, healthcare, and manufacturing along with days away from work, and incidence rates for each hazard. Healthcare is highest among these industry types in three of the categories, Musculoskeletal Injuries, Falls on the Same Level, and Violence and Other Injuries by Persons or Animals.

TABLE 1. **Number, median days away from work, and incidence rate for nonfatal injuries and illnesses involving days away from work by ownership, industry, musculoskeletal disorders, and event or exposure**

				Event or exposure leading to injury or illness (incidence rate)										
Industry	Number	Median days away from work	Musculo-skeletal disorders (incidence rate	Incidence rate	Contact with objects	Fall to lower level	Fall on same level	Slips or trips without fall	Over-exertion in lifting/low-ering	Repetitive motion	Exposure to harmful sub-stances or environ-ments	Transpor-tation in-cidents	Fires and explo-sions	Violence and other injuries by persons or animal
Total private industry	917,090	8	33.5	99.9	25.3	5.1	15.4	3.8	11.8	2.7	4.4	4.8	0.2	4.2
Construction	82,040	11	41.9	154.7	53.4	18	16.1	5.7	16	1.5	6.4	6.2	0.3	1.3
Health care and social assistance	167,150	6	50.2	125.4	1.5	2.9	2.5	4.8	13.3	1.8	4.7	4.5	-	16.2
Manufacturing	120,110	9	36.1	100.9	37.2	3.7	10.7	3.2	10.9	6.8	5	1.9	0.3	0.5

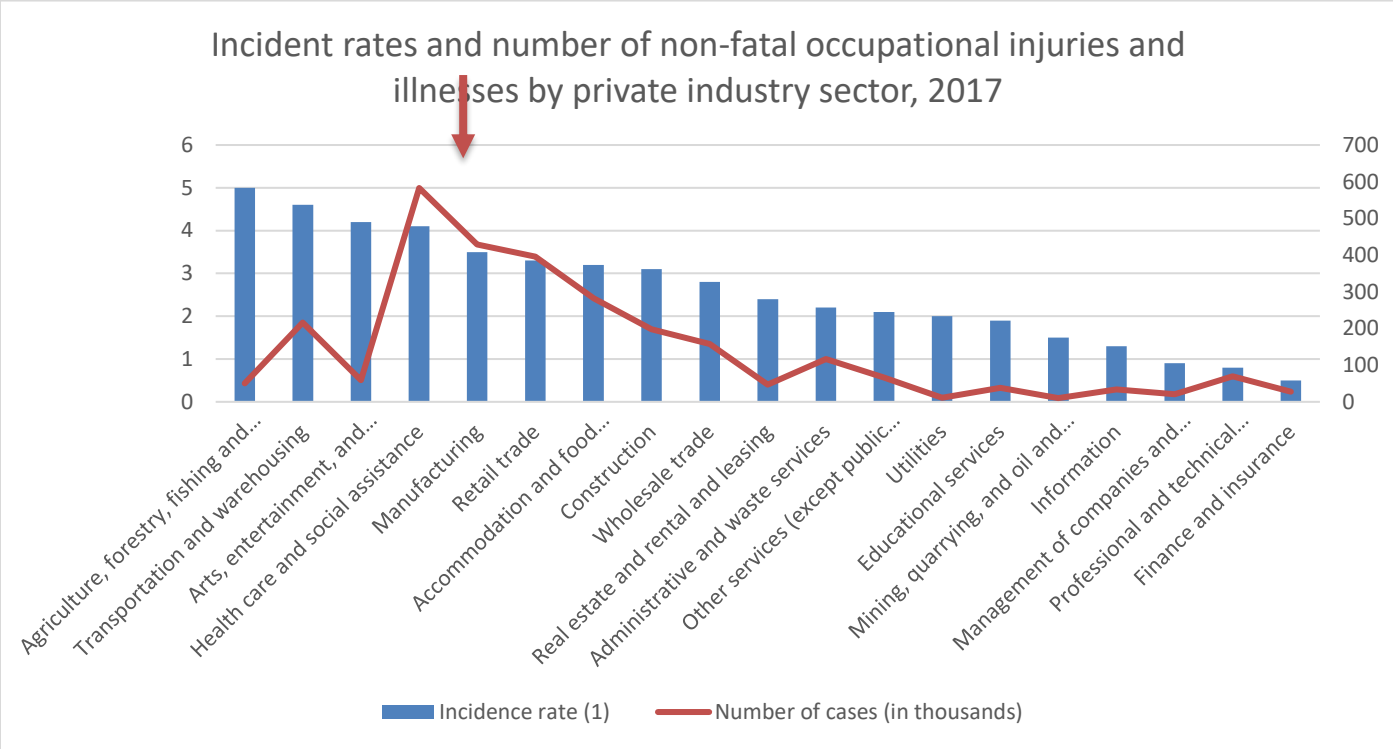
Note that the incidence rates for events or hazards are for 10,000 FTE hours rather than the usual 100 FTE hours. The BLS chose to do it this way to avoid having all very small fractions.

More importantly, healthcare workers *face the same hazards* as workers in industries considered more hazardous. The *risk* of encountering these hazards appears to be similar regardless of the industry with which they are associated as shown by the overall injury incidence rates.

The following charts show the incidence rate ranking of several industries as compiled by the Bureau of Labor Statistics (BLS).

In this chart, Healthcare and Social Services is fourth in terms of incidence rate but far greater in total cases. In fact it is first, reporting more nonfatal injuries than any other industry sector and accounting for more than 8% of all reported injuries.

More non-fatal injury cases were reported in the health care and social assistance industry sector (582,000) than in any other private industry sector in 2017, accounting for 8 percent of all injury cases reported among private industry workplaces.



SUMMARY

The healthcare industry, based on injury and illness incident rate and lost work days, is nearly as hazardous as any of the industries more commonly thought of as “high risk” in terms of employee safety and health. The injury and illness incidence rates for Hospitals and Nursing and Long Term Care Facilities is nearly twice that of Construction, more than twice that of mining and 1.5 times that of Manufacturing. However, when looking at safety professional staffing within healthcare, we see that healthcare facilities have significantly less resources dedicated to safety than these high risk industries.

Why should this be the case? The healthcare industry is turning employees into patients at an alarming rate. A part of the solution to this problem must be greater numbers of trained safety professionals, especially in the areas of Behavioral Safety and Ergonomics. Most causal factors of employee injury in healthcare are ergonomic (patient handling, RSI, push/pull/lift/manipulate objects). However, in many if not most instances it is unsafe behavior (for whatever reason) that is the *root cause*. More coaching and training is needed to inculcate the concept of a Culture of Safety in each healthcare enterprise. This will happen only if there are professionals available to provide these services.

APPENDIX A

The United States Navy uses a formulaic approach (bless the US military) that takes into account the level of hazard associated with the job along with the number of employees. It further accounts for additional employees and different hazard categories such that there is actually a decreasing number of safety personnel required. Here's how it works:

HAZARD CATEGORY

A = HIGH
B = MODERATE
C = LOW

SAFETY STAFF

0.0033 X the first 1200 persons in Category A
+ 0.0025 X the next 800 persons in Category A
+ 0.0020 X the remaining persons in Category A
+ 0.0020 X total number of persons in Category B
+ 0.0016 X total number of persons in Category C

Using Healthcare Facility number 1 in the previous chart, let's assume that one-half of the employees are in high hazard jobs, and one-fourth each are in moderate and low hazard jobs.
45,000 ÷ 4 = 11,250 so 22,500 are in high hazard jobs
1200 x .0033 = 4
800 x .0025 = 2
20,500 x .0020 =41
So a total of 47 safety staff for the high hazard jobs or 1 per 479 employees.

Moving to the moderate hazard employees:
11250 x .0020 = 23

and the low hazard employees:
11250 x .0016 = 18

According to this formula, for an employee population of 45,000, 88 safety professionals are required for the hazards we have assumed or 1 per 511 employees which is roughly 15 times the level we see (1 per 7500). Furthermore, it's still 5 times fewer than in construction.

REFERENCES

1. Bureau of Labor Statistics – BLS News Release, December 4, 2014 on 2013 injury rate data

2. Data projected from 2014 interviews with EHS administration at the following healthcare institutions:

   Available upon request.

   NOTE: The number of safety professionals dealing directly with the majority of *healthcare employee safety issues* is significantly fewer than the total number of safety professionals at each organization.

3. Staffing Issues and SH&E Professionals - Technical Report American Society of Safety Engineers (ASSE) Council on Practice and Standards, 2005

4. United States Department of the Navy, OPNAV INSTRUCTION 5100.23G CHANGE TRANSMITTAL 1; July 21, 2011

5. Staffing Analysis—Safety & Health Team Oversight Requirements: Evaluations of Multiple Models, Los Alamos Site Office Environment, Safety & Health Team, 2005

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