



Health & Wellness Committee

Five Year Analysis
2013-2017

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Firefighter Health and Wellness

The mission of the Firefighter Health and Wellness Committee is to provide factual data and practical guidance regarding key areas of health and wellness to educate and facilitate the development of action guides by individuals and departments.



Firefighter Health and Wellness

	Commissioner Mala Sharma – Chair	
Danny Kistner – McKinney Fire	Daniel DeYear – Dallas Fire Rescue	Brett Ellis – Harris County ESD #48
Doug Boeker – Sugar Land Fire Department	Scott Thompson- The Colony Fire Department	Michael Mire – Houston Fire Department
Dr. Sara Jahnke – Center for Fire, Rescue & EMS Health Research	Christopher Kahl – Portland Fire Department	Steven Green – Longview Fire Department.
Dr. Lucas Garcia - McAllen Fire Department	Homer Javier Salinas – Mission Fire Department	

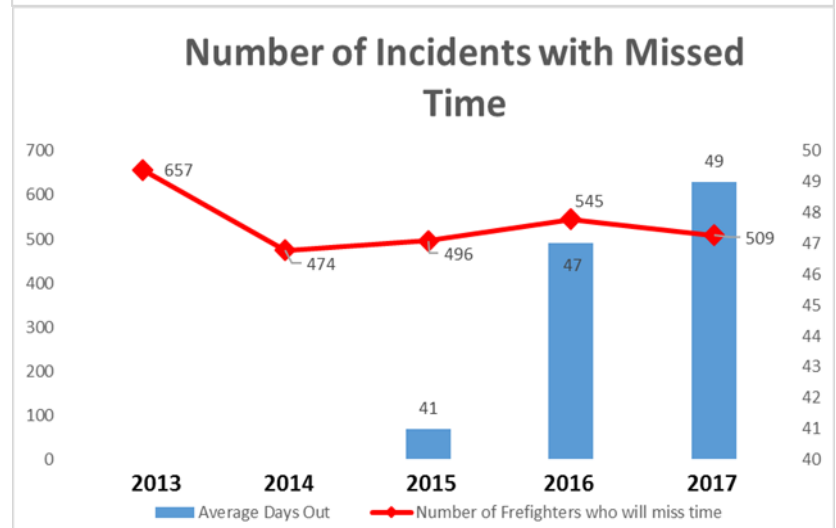
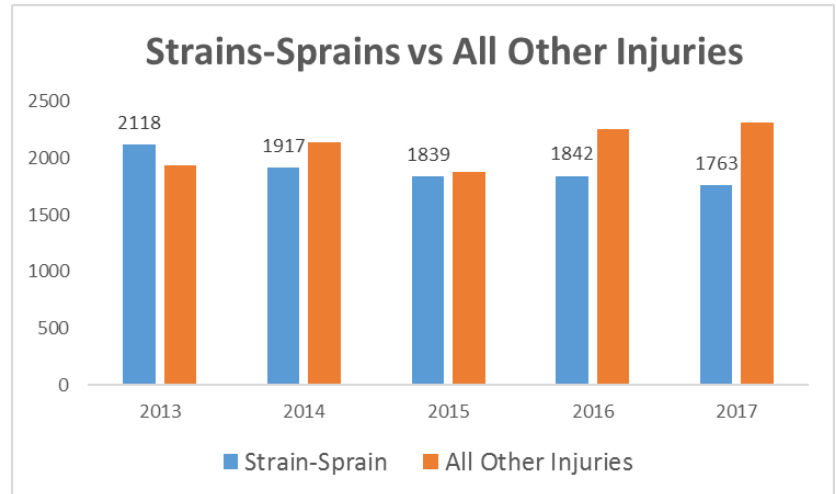


Five Year Analysis



Strains and Sprains

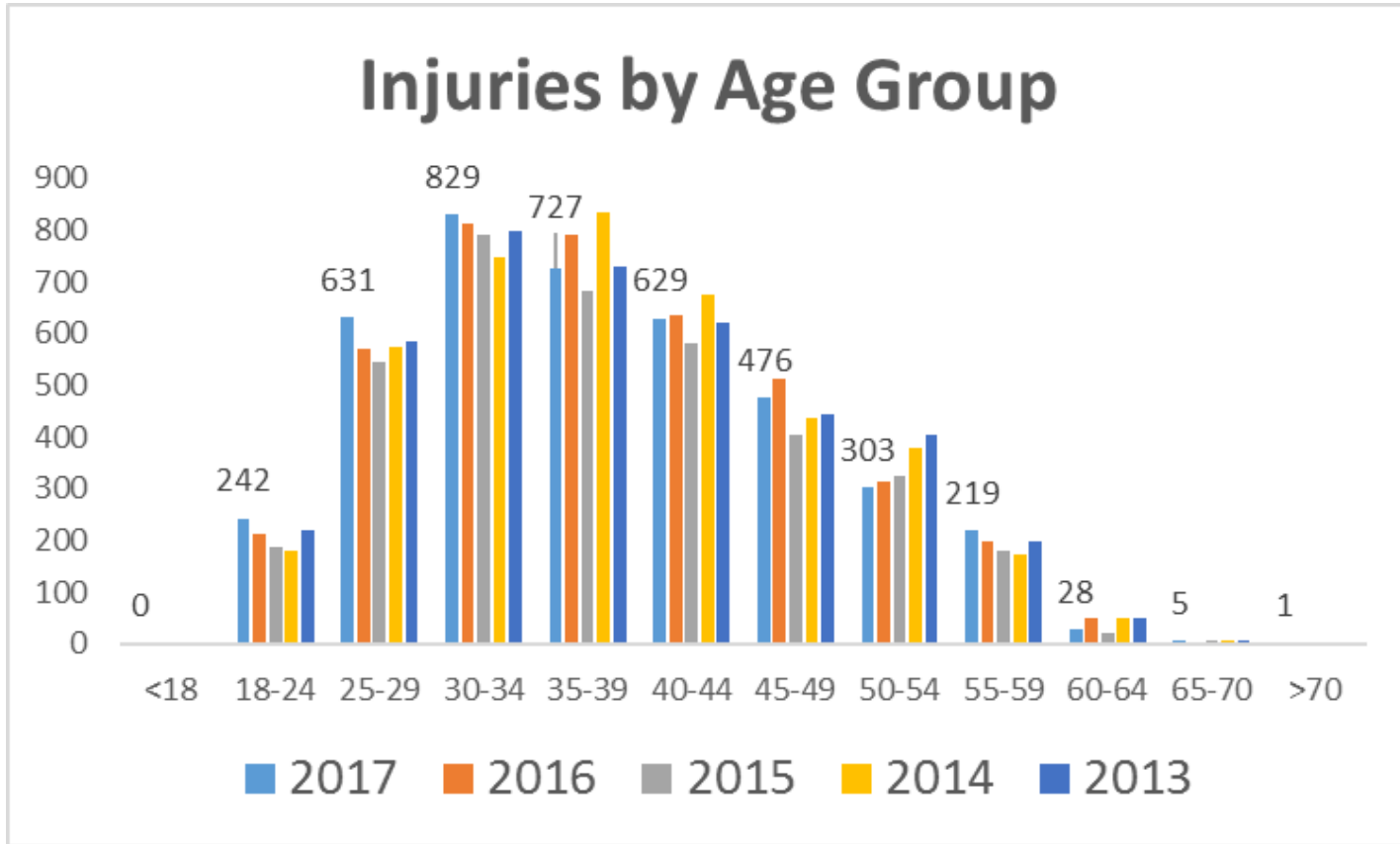
- There is an average of **1,896** strains-sprains per year. In the last five years strains-sprains have made up **47.4%** of the number of total injuries.
- There was an average of **536** Firefighters a year who missed time with a strain-sprains. Since 2015 Firefighters who have missed time with a sprain-strain injury were out an average of **46 days**.





Age-Injury Correlation

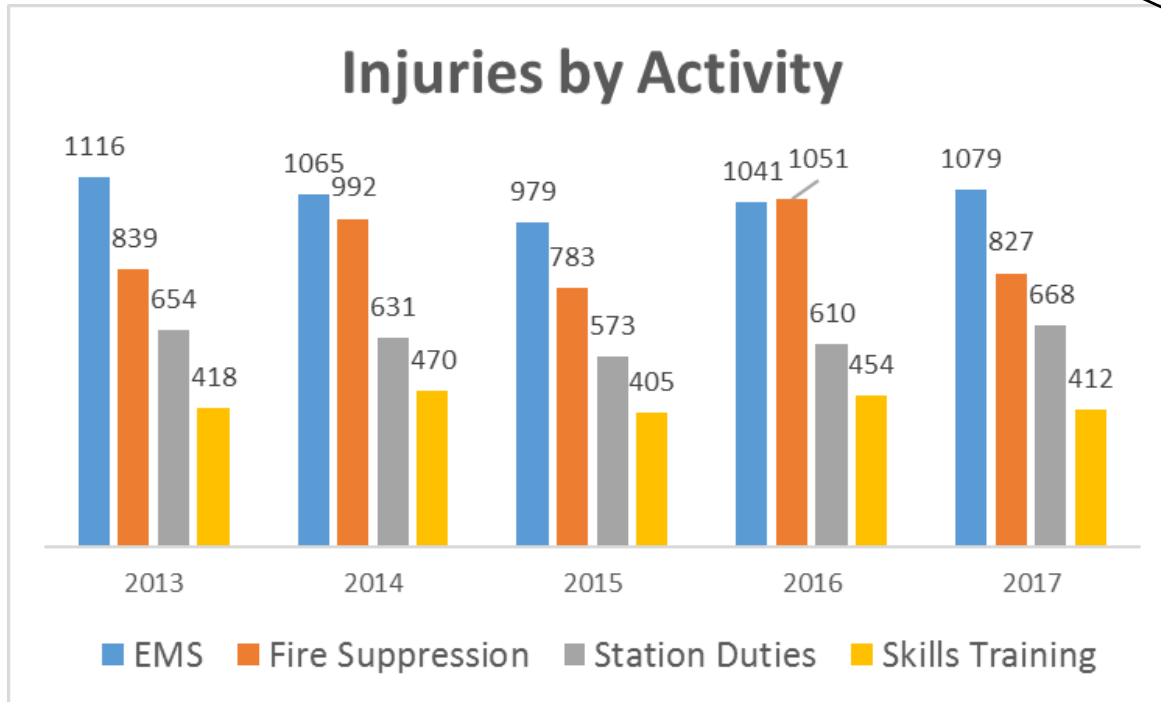
Age	<18	18-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-70	>70
Percentage of Total	0.005%	5.19%	14.50%	19.91%	18.79%	15.68%	11.36%	8.60%	4.83%	0.98%	0.13%	0.02%





Injuries by Types of Activity

- There is an average of **774 Firefighters** who take time off because of an injury.
- Each year there is an average of **28,588 days** missed due to injury.



Equivalent to

- 686,112 hours missed
- 238 full time Firefighters off for a year



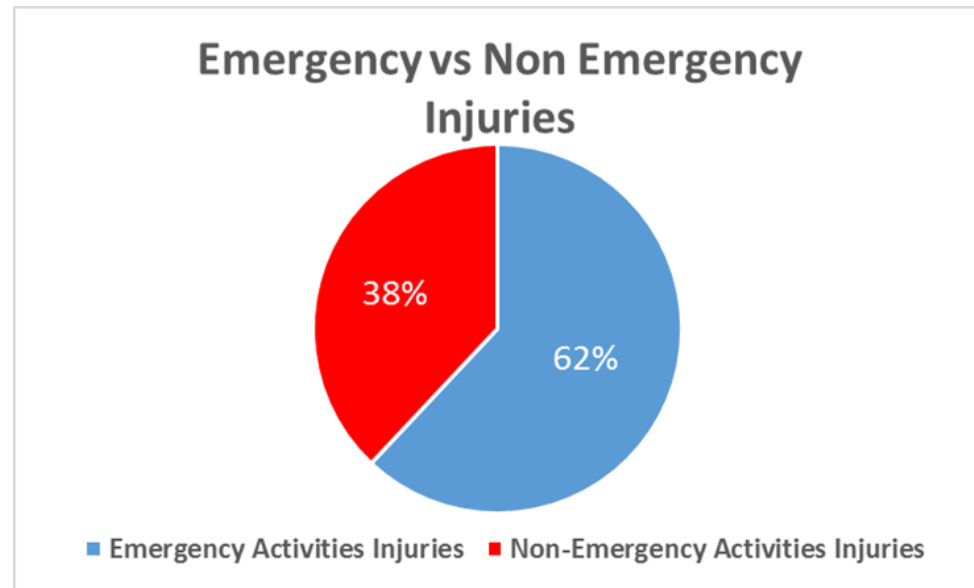
Emergency Vs Non-Emergency

List of Emergency Activities (Percentage of Total Injuries)

- EMS (26.38%)
- Fire Suppression (22.44%)
- Rescue-Non Fire (6.15%)
- Responding to Incidents (3.80%)
- Rescue- Fire Related (1.12%)
- Returning from Incidents (1.43%)
- Hazmat (0.67%)

List of Non-Emergency Activities (Percentage of Total Injuries)

- Station Duties (15.67%)
- Skills Training (10.79%)
- Wellness/Fitness (9.96%)
- Fire Prevention (1.58%)






Task at Time of Injury

Group 1 = >10% of Total Injuries
Group 2 = 10%< of Total Injuries

1

43.72%

Providing EMS Care
Extinguishing Fires
Physical Fitness Activity



2


56.28%

Lifting/Moving Patients
Moving About Station, Normal Activity
Training Activity
Rescues
Moving/Picking up Equipment
Mounting/Dismounting Apparatus
Slip/Trip/Falls
Deploying and Extending Hose Line
Driving/Riding a Vehicle
Equipment Maintenance
Responding/Returning from Incidents

CLOSE UP

31.7%

Weightlifting
Leading cause of physical fitness activities



CLOSE UP

15.4%

Deploying/Extending Hose
Leading cause of skills training activities



20,015
Total number of injuries over the last five years.

4,003
Average number of injuries per year.



Burn Injury Report



**592 Total
Burn Injuries**

From 2013-2017

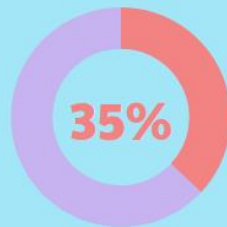
165 Injuries

2013
Year with the most
burn injuries

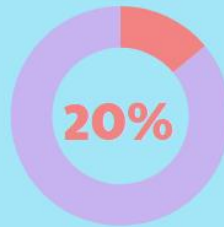
Burn Injuries
by
Type

**74.5%
Thermal**

**23%
Scald or
Steam**



35%
of burn injuries
occur above the
shoulders
(neck, face, ears,
head)



20%
of burn injuries
occur to hands and
fingers

**28
Days**

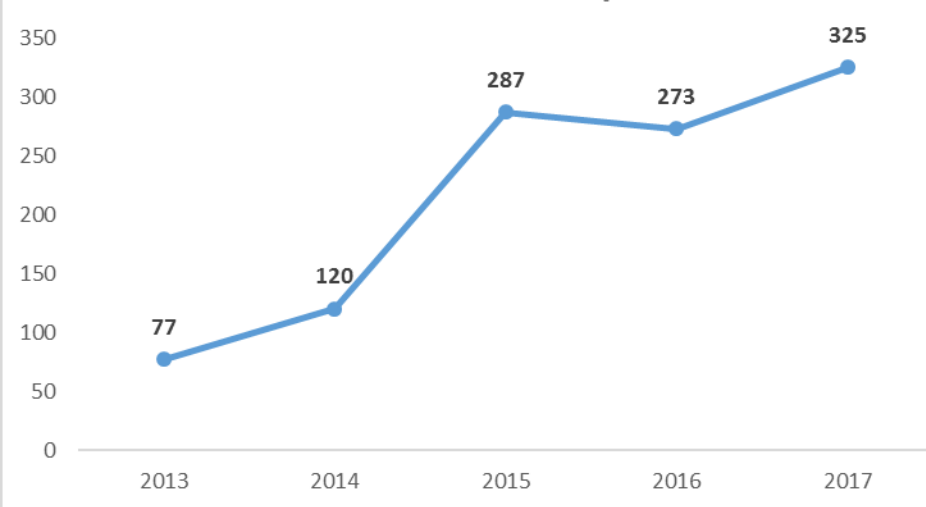
Average number
of days missed
due to burn
injuries



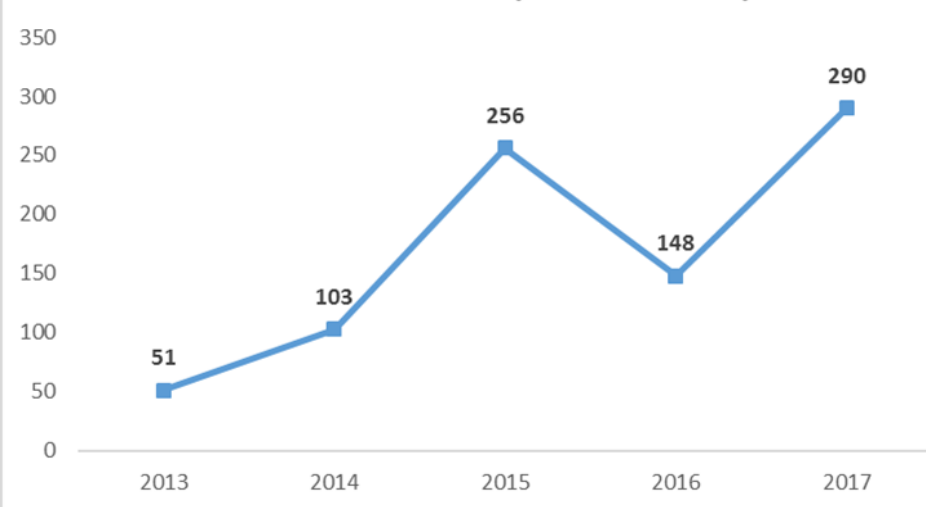
Exposures

- The number of undetermined exposure routes have gone up **422%** the last five years.
- The number of unknown exposure descriptions have gone up **566%** the last five years.

Number of Undetermined Exposure Routes



Number of Unknown Exposure Descriptions





Absorption

- Absorption:
 - Modern fires are more like hazardous materials incidents. Approximately 84,000 chemicals are used in modern construction and contents.
 - Prolonged dermal exposure to soot. Contaminants may adhere to personal protective equipment.
 - Absorption increases 400% with each 5° increase in skin temperature.
 - Neck area is one of most common areas for exposure, angle of the jaw, and forehead.

Be Quick.

Be Smart.

Protect your head.

Source: March 2019
Health and Wellness
Presentation



Texas Vs. United States



Texas vs NFPA by Activity

Activity(By percentage)	Texas	NFPA	TX vs NFPA
Fireground	23.56%	42.34%	18.77%
Non-Fire	33.20%	20.89%	-12.31%
Other On-Duty	27.21%	17.67%	-9.54%
Training	10.79%	12.28%	1.49%
Responding and Returning	5.24%	6.83%	1.59%

- “Fireground” includes Fire Suppression and Rescue-Fire Related
- “Non-Fire” includes Rescue Non-Fire, EMS, and Hazmat
- “Other On-Duty” includes Fire Prevention, Station Duties, and Wellness/Fitness
- “Responding and Returning” and “Training appear to correspond closely to the commission’s categories



Cancer Report



Cancer Report

Firefighter occupational cancer is reported voluntarily.

- 10 reports of firefighter cancer reported to TCFP in 2017.
- 14 reports of firefighter cancer reported to TCFP in 2016.

Note: several Texas Fire Departments anecdotally report much higher incidence of cancer.



Cancer Report

Scope:

Cancer Type	Risk
Testicular	2.02 (x) greater risk
Mesothelioma	2.0 (x) greater risk
Multiple Myeloma	1.53 (x) greater risk
Non-Hodgkins Lymphoma	1.51 (x) greater risk
Skin	1.39 (x) greater risk
Brain	1.31 (x) greater risk
Malignant Melanoma	1.31 (x) greater risk
Prostate	1.28 (x) greater risk
Colon	1.21 (x) greater risk
Lukemia	1.14 (x) greater risk

Source: March 2019 Health and Wellness Presentation



Cancer Report

Scope:

- According to data collected by IAFF, Cancer has caused 61% of career firefighter Line of Duty Deaths since 2002.
- Firefighters have a 9% higher risk of cancer diagnosis than the general population.
- Firefighters are 14% more likely to die from cancer than the general population.
- Estimates that 1/3 of all firefighters will experience cancer at some point in their lives.
- Respiratory, digestive, and urinary cancer prevalent.
- Mesothelioma among firefighters is double the reported rate for the general population.

Source: March 2019 Health and Wellness Presentation



What Can We Do To Get Better?



Problems with Data Collection

- We need to ask better questions when collecting exposure information.
 - Exposures make up 24.38% of total injuries but we do not gather enough data about the actual exposures.
 - We need to do a better job of reporting cancer data.
 - Move toward mandatory cancer reporting.
- Injury – Illness Statistics
 - Average of 47 injury reports concerning chest pains-cardiac.



Recommendations

Recommendations

Based on their review of the data contained within this report, the commission offers the following recommendations to the Texas fire service:

- ◇ Improve awareness and distribution of the annual injury report by notifying fire department administrators when this and future reports are published and provide a link to the report in the notifications.
- ◇ Enhance program features and “usability” by providing better explanations, descriptions and definitions of terms in both the reporting module and in the annual report.
- ◇ Provide the Texas fire service with injury updates, perhaps on a quarterly basis, targeting trends or other issues noted during the year. This could be accomplished via postings on the agency’s website, social media platforms, or by other means.
- ◇ Explore options for incorporating injury data into annual continuing education opportunities for fire personnel.



Recommendations(cont.)

- Strains-Sprains
 - Stretching
 - EMS equipment review / Patient moving
 - Equipment deployment / Apparatus design
- Weightlifting
 - Review purpose of weight lifting
 - Review types of exercise routines



Recommendations(cont.)

- Cancer
 - Consider early detection testing
 - Review Health & Wellness Committee Mar 2019 presentation
 - Read The Lavender Report
 - Clean everything often
- Fire ground Injury Prevention
 - Fire Risk Analysis
 - Familiarity walk through
 - Pre-planning



Any Questions?

