

Leveraging Dollars in Addition to Incidence

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ARIZONA DEPARTMENT
OF HEALTH SERVICES

Health and Wellness for all Arizonans

Occupational Health Surveillance in Arizona

2008-2012

Arizona
Occupational
Health
Hazard
Indicators



ORIGINAL ARTICLE

Arizona Hospital Discharge and Emergency Department Database

Implications for Occupational Health Surveillance

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Arizona
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Health Services

ve of the project was to identify trends in emergency inpatient admissions for occupational injury and describe the financial impact from specific clinical occupational risk factors. **Methods:** Workers com-19 million records in the Arizona statewide hospital

United States, United Kingdom, and Canada; mandatory reporting of acute pesticide toxicity

This project explores the utility of hospitalization (IP) and emergency department (ED) records in identifying trends in occupational injury and disease frequency. The project aims to improve understanding of the fi

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Background in Arizona – Occupations

Arizona Population



(Census 2016)

Employment (All Occupations)



(BLS 2016)



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Background in Arizona – Hospital Discharge Database

- 19.5 million records
 - (2008-2014)
 - 14 million ED Visits
 - 5.5 million Inpatient Admissions
- 240 fields
- 25 diagnosis fields
- 12 procedure codes



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Methods

- Reviewed AZ records
 - (2008-2014)
- Subset of single expected payer: Workers' Compensation
- Residents only



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Lower-Back Related

		2008	2011	2014	Trend
Median Charge	ED	\$1,021	\$1,531	\$1,898	↑
	IP	\$39,962	\$55,541	\$77,891	↑
Total Charges (\$ millions)	ED	\$2.1	\$3.5	\$4.3	↑
	IP	\$38.6	\$43.26	\$42.5	↑
Cases	ED	1,216	1,231	1,076	↓
	IP	588	559	412	↓



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Cardiac

		2008	2011	2014	Trend
Median Charge	ED	\$1,315	\$1,486	\$2,342	↑
	IP	\$33,537	\$38,847	\$49,923	↑
Total Charges (\$ millions)	ED	\$4.3	\$7.4	\$10.7	↑
	IP	\$61.6	\$69.0	\$76.2	↑
Cases	ED	1,942	1,959	2,201	↑
	IP	1,139	1,164	994	↓

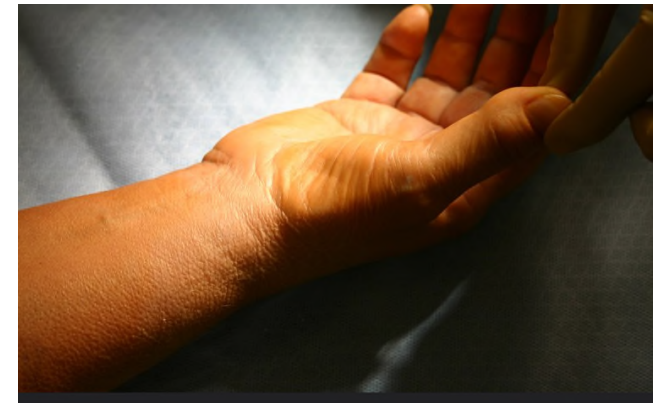


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Carpal Tunnel Syndrome

		2008	2011	2014	Trend
Median Charge	ED	\$604	\$1,316	\$2,323	↑
	IP	\$60,379	\$32,446	\$57,068	↓
Total Charges (\$ millions)	ED	\$.02	\$.13	\$.19	↑
	IP	\$1.83	\$0.69	\$1.83	▬
Cases	ED	Suppressed			
	IP	25	17	23	▬



Heat

		2008	2011	2014	Trend
Median Charge	ED	\$2,347	\$3,068	\$3,490	↑
	IP	\$13,836	\$14,572	\$23,276	↑
Total Charges (\$ millions)	ED	\$0.32	\$0.47	\$0.5	↑
	IP	\$0.25	\$0.39	\$0.73	↑
Cases	ED	121	134	100	↓
	IP	17	21	15	▬



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Psychiatric

		2008	2011	2014	Trend
Median Charge	ED	\$1,193	\$1,620	\$2,130	↑
	IP	\$32,650	\$35,369	\$47,673	↑
Total Charges (\$ millions)	ED	\$4.47	\$7.76	\$12.35	↑
	IP	\$53.4	\$51.72	\$61.1	↑
Cases	ED	2,296	2,398	2,769	↑
	IP	1,082	953	846	↓



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Pulmonary

		2008	2011	2014	Trend
Median Charge	ED	\$1,263	\$1,623	\$2,290	↑
	IP	\$38,934	\$49,870	\$54,772	↑
Total Charges (\$ millions)	ED	\$1.24	\$2.03	\$3.38	↑
	IP	\$39.1	\$36	\$41.2	↔
Cases	ED	626	620	679	↑
	IP	493	420	386	↓



Trauma

		2008	2011	2014	Trend
Median Charge	ED	\$2,094	\$2,785	\$3,834	↑
	IP	\$34,448	\$43,911	\$55,478	↑
Total Charges (\$ millions)	ED	\$1.91	\$2.32	\$3.91	↑
	IP	\$40.6	\$32.2	\$33.8	↓
Cases	ED	463	395	462	↔
	IP	632	398	370	↓



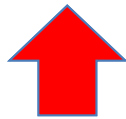
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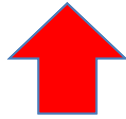
Shift from IP to ED

- Emergency Department Visits

– Frequency



– Charges



- Inpatient Admissions

– Frequency



– Charges



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Disease vs Injury

Disease

- Psychiatric, Pulmonary, and Cardiac



Injury

- Trauma and Back

Psychiatric, Pulmonary, and Cardiac cases were more frequent than Back and Trauma Injuries when reviewing both IP and ED cases

Source: Flickr Creative Commons



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Limitations

- Reviewed all diagnosis codes instead of primary
- Unable to differentiate co-morbidities being the root cause of work related claim
- Did not adjust for inflation
- No mandatory reporting of industry or occupation



Utility of Discharge Data Analyses

- Cost of prevention?
- Cost of treatment?

Extending surveillance to include cost data can help OH professionals convince governmental agencies that monitoring and protecting workers is critically important.



Potential to Improve Care

- May inform prevention strategies integrating workplace hazard reduction
- Leveraging the worksite for health promotion
- High aggregate cost of psychiatric diagnoses and treatment may bring awareness to preventionists and insurers regarding the importance of this area



Conclusion

- Including charge data may increase attention to policy makers
- Important to review diseases and injuries
- Increasing charge information can be leveraged for prevention



THANK YOU

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