

Investigation of Cases where Injury was a Main Reason for Hospitalization, Massachusetts FY2016 Hospital Discharge Data

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Role of Injury in Reason for Hospitalization

Massachusetts Medical Record Review Results **“Injury PDx”**

Category	Count	Percentage
Injury is the main reason	49	9.2%
Injury is one of the main reasons	24	4.5%
Injury sequelae present	12	2.3%
Injury present, but not a main reason	290	54.3%
Evaluation after injury event	71	13.3%
No injury documented	56	10.5%
Other	32	6.0%
Total	534	100%

“Injury PDx” Percentages by Cell

(n=73 “Injury PDx”, n=534 in sample)

	No external cause code	With external cause code
No injury dx code	Cell A	Cell B – 11.5% (16 of 140 cases)
First listed dx is an injury code	Cell C	Cell D
Injury dx code in subsequent field	Cell E – 11.4% (10 of 88 cases)	Cell F – 15.4% (47 of 306 cases)

Investigation Process

Goal: Are there simple criteria that could be used to capture these “Injury PDx” cases?

- **Hand-sorted cases into categories based on “coder rationale”**
- **Analyzed diagnosis and E-code patterns within category to look for identifying criteria**
- **Tested diagnosis and E-code criteria on full sample (Cells B, E & F) to check its specificity**

“Injury PDx” Case Categories¹

(where Injury was a Main Reason for Hospitalization, n = 73)

Category	Count	Percentage
Acute injury	28	38.4%
Poisoning/overdose	10	13.7%
Adverse effects/complications		
<i>Trauma-related prosthetic injury</i>	10	13.7%
<i>Other adverse effects/complications</i>	18	24.7%
Traumatic rhabdomyolysis	5	6.8%
Other (anaphylaxis, past injury)	3	4.1%

1. Categories are not mutually exclusive, so total does not equal 73.

Acute Injury

(n = 28)

Case Examples

- *Patient admitted after fall, found to have hip fracture, also found to have acute on chronic CHF.*
- *Pt. admitted with hyponatremia and cough/chest pain, found to have fx rib and hemothorax, felt to be due to coughing.*

Acute Injury

(n = 28)

- Cell F - 23 cases, Cell B - 3 cases, Cell E - 2 cases
- No pattern to principal dx (A – R-codes)
- 25 cases had injury dx in dx2-dx11, with 7th digit “A”
- 25 cases had valid principal E-code, with 7th digit of “A”
- Applying criteria: injury dx in dx2-dx11, w/7th “A” and valid principal E-code, w/7th “A” to full sample, get: 127 cases, of which only 24 were “Injury PDx” cases

Poisoning/overdose

(n = 10)

Case Examples

- *Patient admitted for drug OD (opioid, coke, EtOH) resulting in acute respiratory failure and aspiration pneumonia.*
- *Patient admitted with suicide attempt consisting of alcohol, cocaine and clonidine. Also has depressive disorder.*

Poisoning/overdose

(n = 10)

- All 10 cases in Cell F
- 8 cases had poisoning dx in dx2-dx16, 7 with 7th digit of “A”
- 4 cases had a principal dx of J9600 or J9601 – acute respiratory failure (with hypoxia)
- Applying criteria: poisoning dx in dx2-dx16, w/7th “A”, get: 36 cases, of which 9 were “Injury PDx” cases
- If also require a principal dx of J9600 or J9601, get: 4 cases, which are all “Injury PDx” cases

Trauma-related Prosthetic Injury

(n = 10)

Case Examples

- *Admitted after a fall from recliner with periprosthetic spiral fracture of left femur.*
- *Patient came in after falling with dislocation of patellar component of her knee replacement, needed a revision.*

Trauma-related Prosthetic Injury

(n = 10)

- **All 10 cases had a principal dx code of:**
 - T84.02XA – Dislocation of internal joint prosthesis
 - T84.04XA – Periprosthetic fracture around internal prosthetic
 - T84.22XA – Displacement of internal fixation device of other bones
- **7 cases had a valid principal E-code, with 7th digit of “A”**
- **Applying criteria: T84(.02, .04, .22), w/7th “A” in dx1, get: 13 cases, of which 10 were “Injury PDx” cases**
- **If also require a valid principal E-code, w/7th “A” , get: 8 cases, of which 7 were “Injury PDx” cases**

Other Adverse Effects/Complications

(n = 18)

Case Examples

- *Pt. admitted for nausea and vomiting due to radiation therapy.*
- *Pt. admitted with a catheter-related UTI/sepsis. Pt. also had a fall just prior to admit with contusion of knee.*

Other Adverse Effects/Complications

(n = 18)

- **Cells B – 6 cases, Cell E – 6 cases, Cell F – 6 cases**
- **10 cases had an adverse effects/complications T-code as the principal dx**
- **12 cases had a non-adverse injury dx in dx2-dx17, 8 of which had a 7th “A”**
- **11 cases had a valid principal E-code, 7 of which had a 7th “A”**

Traumatic Rhabdomyolysis

(n = 5)

Case Examples

- *Patient found on floor, admitted with rhabdomyolysis from unwitnessed fall, no other injuries found.*
- *Patient had rhabdomyolysis following heavy weight lifting and admitted for IV fluids.*

Traumatic Rhabdomyolysis

(n = 5)

- Cell B – 2 cases, Cell E – 1 case, Cell F – 2 cases
- All 5 cases had an incorrect ICD-10-CM dx of: M62.82 - rhabdomyolysis (non-traumatic) rather than T79.6 - traumatic rhabdomyolysis
- In 4 cases M62.82 was the principal dx, in 1 case it was dx5
- **This suggests a need for coder education; M62.82 should NOT be included in the injury definition.**

Conclusions

- Including entire cells (B, E or F) would not specifically capture “Injury PDx” cases.
- No good criteria for selectively capturing acute injury cases considered to be “Injury PDx” cases.
- To specifically capture poisoning cases, would need a poisoning code in any field and dx1 of J96.0X.
- Could capture trauma-related prosthetic injuries by adding specific T-codes to current injury definition. Could also require valid principal E-code.
- Need to educate coders to use T79.6 for traumatic rhabdomyolysis rather than M62.82.

Questions?

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