Assessment of an Expanded Definition for Injury Hospitalizations: Record Reviews by SQI for Year 2

CSTE ICD-10-CM TRANSITION WORKGROUP
05/15/2018

Agenda

1. SQI
2. Questions
3. Methods
4. Results
5. Discussion

SQI

Surveillance Quality Improvement

SQI Purpose

Conduct investigations to:

- standardize definitions,
- advance methods,
- improve quality, and
- explore new sources

SQI States

Maryland

Massachusetts

Consensus

Select a topic.

Select a method.

Planning

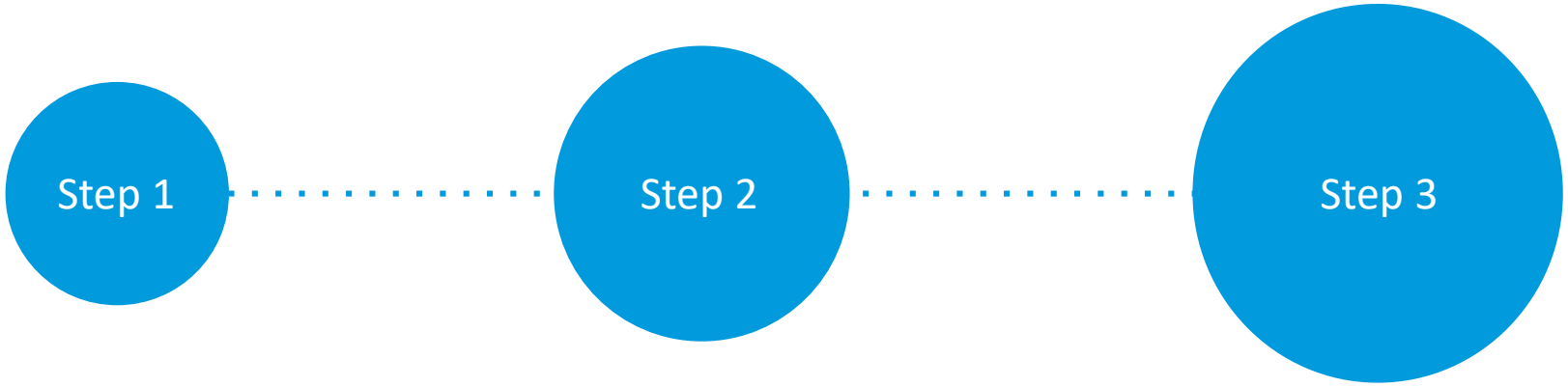
NCHS drafted a protocol.

NCHS wrote 4 questions.

MA drafted abstract form.

Implementation (Adaptation)

SQI states adapted form, sampled and reviewed medical records.



Questions

Current Proposed HDD Case Definition
(In green)
for selecting injury HDD

	No external cause code	With external cause code
No injury dx code	Cell A	Cell B
First listed dx is an injury code	Cell C	Cell D
Injury dx code in subsequent field	Cell E	Cell F

SQI Question:
Expand selection to HDD records with:

1) an injury diagnosis code in subsequent fields?

2) External cause code but no injury diagnosis?

This review does not assess

Injury diagnosis,

Accuracy of injury codes,

F codes, O codes, M codes,

Encounter type.

“We want to count hospitalizations where an injury contributed to the main reason for the hospitalization, either alone or in conjunction with a medical condition.”

— Imaginary voice of Dr. Hedegaard in Barbara Gabella’s head

Key outcome from medical record review

Reason for Hospital Stay:

- ○ Patient has PDx of an injury (this appears to be the reason for the hospital stay).
- ○ Patient has potentially multiple PDx (e.g., injury and medical).
- ○ Patient has SDx that is LATE EFFECT or SEQUELAE from previous injury.
- ◉ Patient has SDx of injury but hospital stay is DUE to pathological / disease process.
- ○ Patient EVALUATED for an injury (not PDx), but NO injury was identified.
- ○ No injury event, injury, or poisoning is documented.
- ○ Other (please describe in text field).

Methods

Authority and HDD Characteristics

	CO	KY	MD	MA
State authority to review injury medical records	Trauma, drug poisoning	No	No	All injuries
State mandates external cause coding	No	No	Yes	Yes
HDD: Separate principal dx field	No	Yes	Yes	Yes
HDD: Total # of dx fields	30	25	30	100
HDD: Separate field for cause	No	3	1	1
Medical record reviewers	Professional coders	2 Trauma nurses	Trauma surgeon	Professional coders
Hospitalizations in review	1/1/2016-12/31/2016	10/1/2015 – 12/31/2016	10/1/15-12/31/17	10/1/2015-9/30/2016
Agreement for main reason	50% of 8 test records	62% of 13 test cases	None at this time	75% of 52 records

Similar % in expanded cells of HDD, 2015-16

1/1/16 - 12/31/16 N=447,113	No external cause code	Yes, external cause code
No injury dx code	Not in total	7.6%
Yes, in first field	3.3%	56.3%
Yes, only in subsequent field	6.8%	26.0%

10/1//15 -12/31/16 N=711,964	No external cause code	Yes, external cause code
No injury dx code	Not in total	10.0%
Yes, in first field	4.3%	47.2%
Yes, only in subsequent field	12.4%	26.1%

10/1/15 - 12/31/15 N=141,803	No external cause code	Yes, external cause code
No injury dx code	Not in total	9.1%
Yes, in first field	3.0%	47.8%
Yes, only in subsequent field	9.1%	31.1%

10/1/15 - 9/30/16 N=800,990	No external cause code	Yes, external cause code
No injury dx code	Not in total	8.5%
Yes, in first field	3.8%	48.6%
Yes, only in subsequent field	8.5%	30.6%

Hospitals in Sampling Frame
Non-federal, acute care hospitals, SQI States, 2016

23 hospitals with a trauma designation of I, II, or III in urban "Front Range"*

2 hospitals in 1 system

4 hospitals in 1 university system

All 74 acute care hospitals statewide

*Represents 87% of Colorado's population

Precision at design stage

SQI States, Hospital Discharge Data, 2015-16

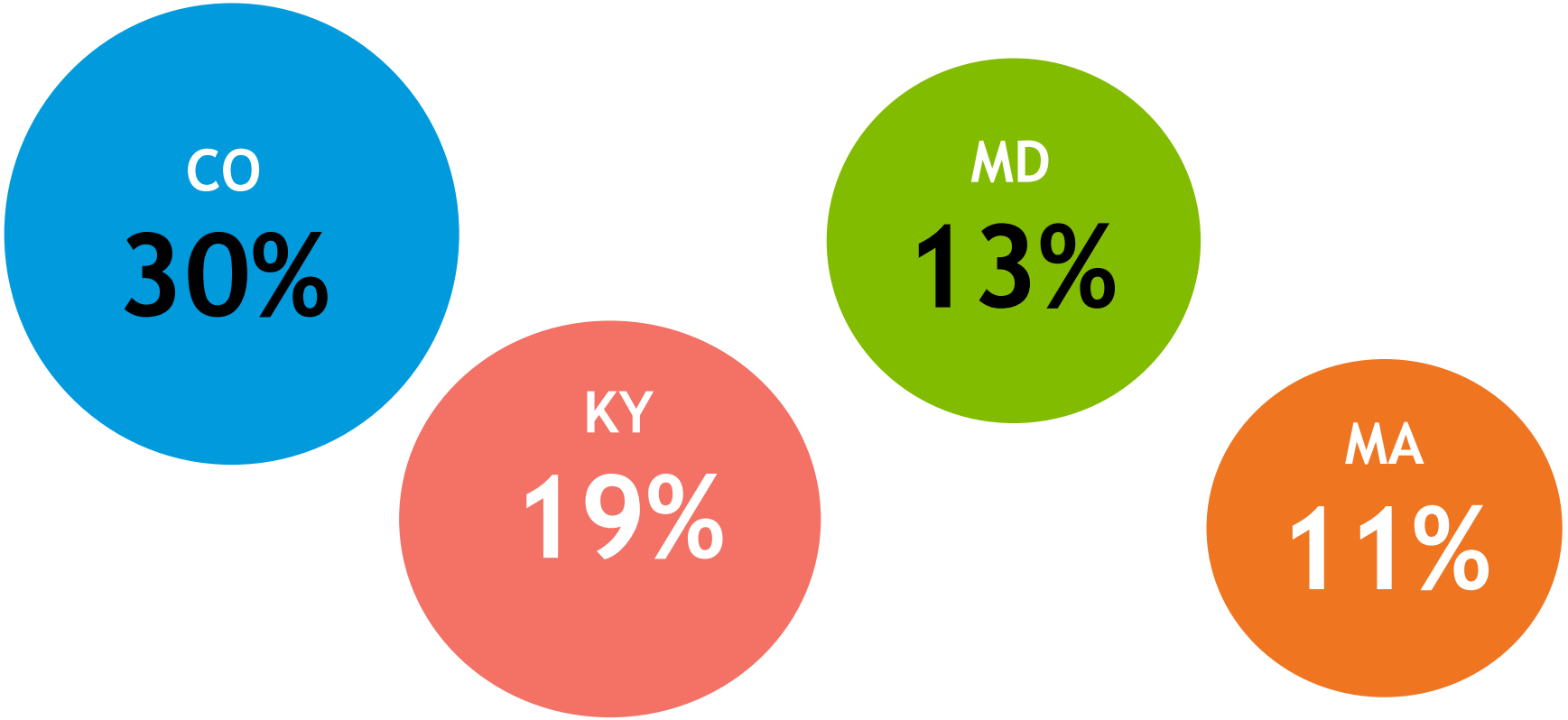
+/- 2.8% to 5.0% of the expected % that are true injuries

	External cause only (cell B)	2° injury dx, no cause (cell E)	2° injury dx and cause (cell F)
Assumed injury main reason for:	**10%** of records in this cell	**60%**	**60%**
CO	5.0% (95% CI: 5 - 15%)		4% (E+F) (95% CI: 56 – 66%)
KY	5.0% (95% CI: 5 – 15%)	5% (95% CI: 55 – 65%)	5% (95% CI: 55 – 60%)
MD	4.0% (95% CI: 6 – 14%)	4.5% (95% CI: 7.2 – 12.8%)	3.6% (95% CI: 7.2 – 12.8%)
MA	4.7% (95% CI: 5.3 – 14.7%)		2.8% (E+F) (95% CI: 57.2 – 62.8%)

4 Results

% of Records in Cell B Where Injury Was a Main Reason for Hospitalization*

Cell B: No injury diagnosis, only an external cause code
SQI States, Hospital Discharges, 2016

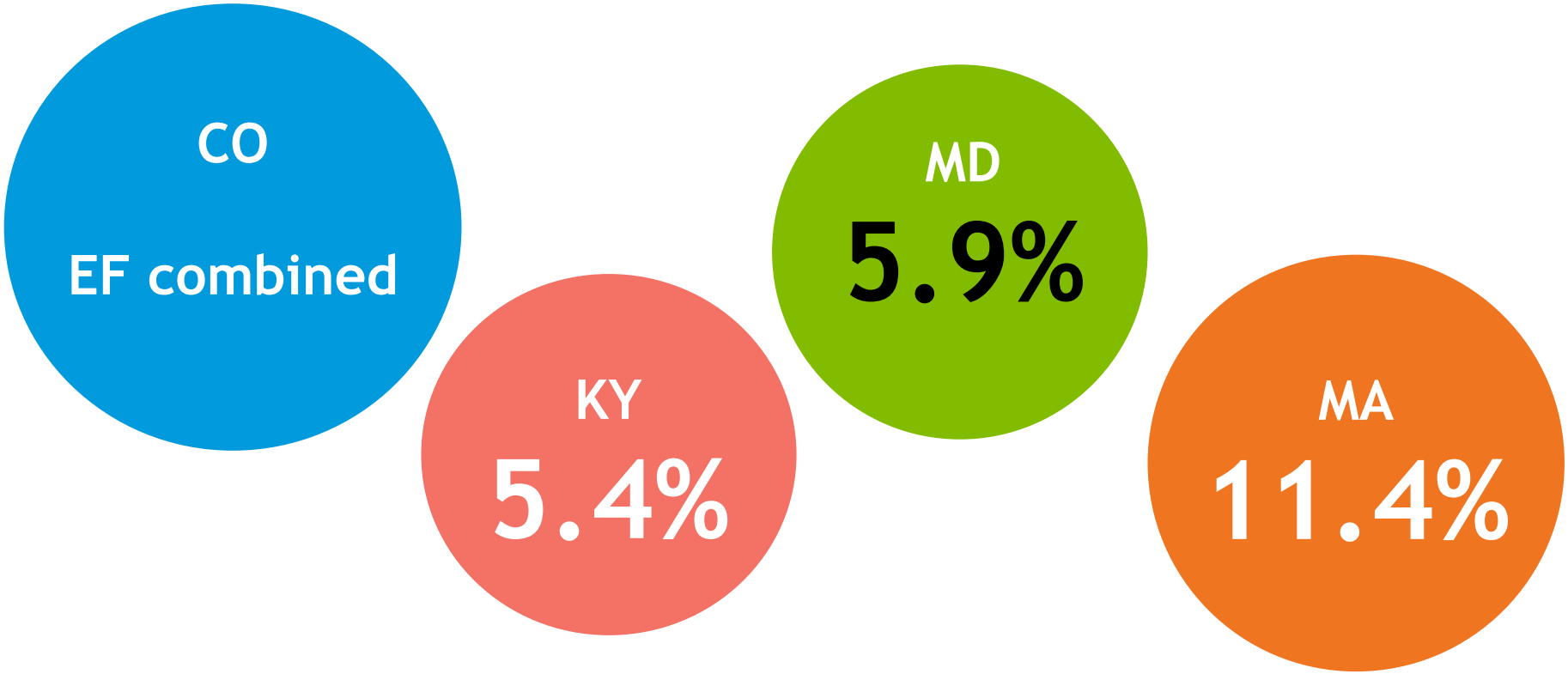


* Reviewers determined that an injury contributed to the reason for the hospitalization

Source: Medical record review for Year 2 SQI; preliminary results from CO and MD

% of Records in Cell E Where Injury Was a Main Reason for Hospitalization*

Cell E: Subsequent injury diagnosis code but no external cause code
SQI States, Hospital Discharges, 2016

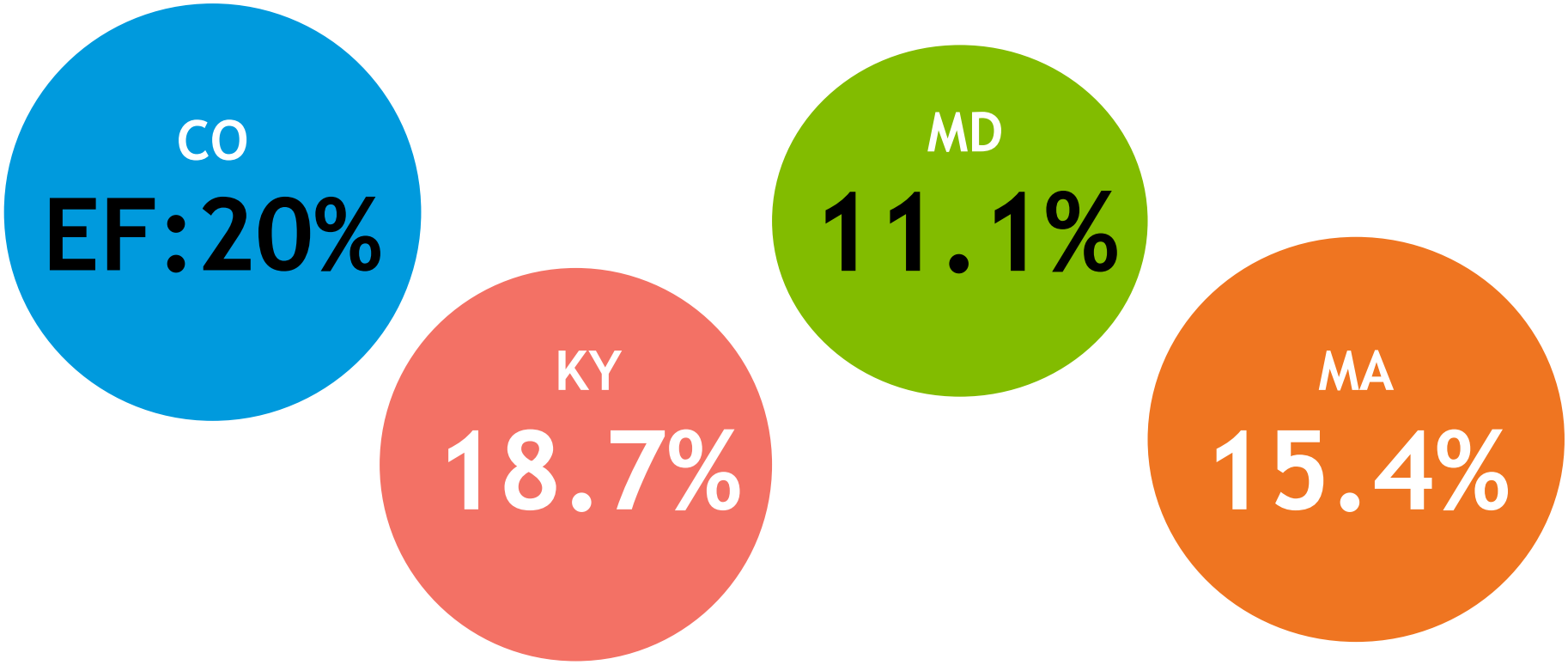


* Reviewers determined that an injury contributed to the reason for the hospitalization

Source: Medical record review for Year 2 SQI; preliminary results from CO and MD

% of Records in Cell F Where Injury Was a Main Reason for Hospitalization*

Cell F: Subsequent injury diagnosis code and an external cause code
SQI States, Hospital Discharges, 2016



* Reviewers determined that an injury contributed to the reason for the hospitalization

Source: Medical record review for Year 2 SQI; preliminary results from CO and MD

Discussion

Challenges

Differences among states

Age of patient (young, old)

Pain

Negative results from tx

Summary & Next Steps

CO and MD to finish review.

Final results to CDC.

Talk at CSTE annual meeting.

Acknowledgments

CO: Barbara Gabella, Sharon Emmerling, Naomi Pierson

KY: Svetla Slavova, Huong Luu, Julia Costich

MD: Ann Liu

MA: Beth Hume, Jeanne Hathaway and Cathie Wilde

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What stands out?

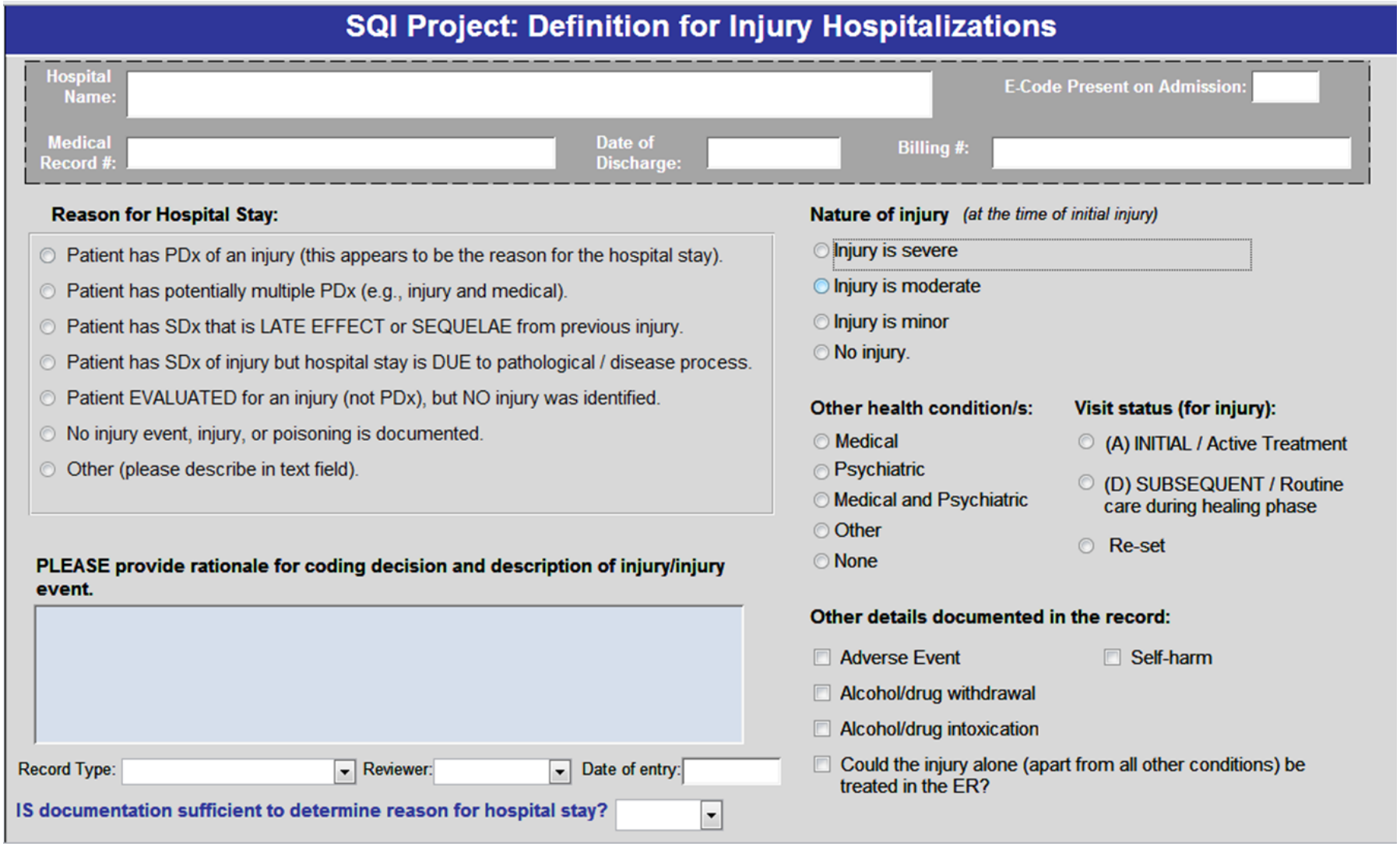
Your insights?

What additional analysis?

Is this enough to make a decision?

Next SQI topic?

What additional analyses?



SQI Project: Definition for Injury Hospitalizations

Hospital Name: | E-Code Present on Admission: | Medical Record #: | Date of Discharge: | Billing #:

Reason for Hospital Stay:

- Patient has PDx of an injury (this appears to be the reason for the hospital stay).
- Patient has potentially multiple PDx (e.g., injury and medical).
- Patient has SDx that is LATE EFFECT or SEQUELAE from previous injury.
- Patient has SDx of injury but hospital stay is DUE to pathological / disease process.
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- No injury event, injury, or poisoning is documented.
- Other (please describe in text field).

PLEASE provide rationale for coding decision and description of injury/injury event.

Record Type: | Reviewer: | Date of entry:

IS documentation sufficient to determine reason for hospital stay?

Nature of injury *(at the time of initial injury)*

- Injury is severe
- Injury is moderate
- Injury is minor
- No injury.

Other health condition/s:

- Medical
- Psychiatric
- Medical and Psychiatric
- Other
- None

Visit status (for injury):

- (A) INITIAL / Active Treatment
- (D) SUBSEQUENT / Routine care during healing phase
- Re-set

Other details documented in the record:

- Adverse Event
- Self-harm
- Alcohol/drug withdrawal
- Alcohol/drug intoxication
- Could the injury alone (apart from all other conditions) be treated in the ER?

Q & A