

## SEM QPrecision User Experience Team: UX Design Strategy & Patterns – Event Entry

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- UX Mission & Strategy
- QPrecision Form Anatomy Diagram
- Basic Input Controls
- Taxonomy / Classification Modules
- Calls-to-Action (CTA's)
- Results
- CSS Classes Diagram
- Form-level Validations & Modal Windows
- Editing Key Values Flowcharts
- Enhancement Workflows
- 2<sup>nd</sup> Session / Working Copy
- Performance Metrics & Analysis

The screenshot displays the 'QATROS SAFETY EVENT MANAGER' interface. At the top, there is a red header bar with the text 'Client Name - Corporate' and 'Client Name - Facility'. Below this, the main title is 'Safety Event Entry Form' with the event ID 'QK07768369'. A note indicates that an asterisk (\*) denotes required fields. The form contains three sections: 1. 'When did the event occur?' with a date field (mm/dd/yyyy), a time field (hh:mm), and radio buttons for 'Today', 'Yesterday', 'Date unknown', and 'Time unknown' (which is selected). 2. 'Who was the affected party?' with radio buttons for 'Patient', 'Employee', 'Visitor', and 'No person involved'.

# SEM QPrecision UX Mission & Strategy

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## GOALS

- Make a form that is quicker and easier to get thru
- Encourage the reporting of more events.
- Make the form feel more like an interview than an interrogation.

## CHALLENGES

- Many users only use the application a handful of times per year.
- Users are often in a highly stressful environment with other higher priority ways to spend their time.
- Safety Event Reporting is voluntary, and can often be subjective or a judgment call
- Administrators want as much data as possible for reporting and reimbursement, but Event Submitters don't have the time or desire to fill out dozens of detailed questions.
- The concept of a taxonomy can be very foreign and confusing to infrequent users.
- There is no one right way – many facilities have their own workflows, jargon, habits...

## UX STRATEGY

Optimize the form for 2 user types:

Frontline-optimized (infrequent users):

- clear and intuitive usability for the many nurses who only use the application 2 or 3 times per year
- Simpler 'Yes/No questions are quicker to answer
- Put easy questions first to lessen the chance of bailing early
- Including help and definitions in the body of the question – no extra click required
- Ample white space easy on nurses' eyes and old monitors
- 'Flyouts' interaction make the form *seem* shorter and less intimidating
- Modern look – large targets – touch-friendly for future porting to mobile/tablets

Expert form (power users):

- Separate form layout for power users:
- Streamlined, compact presentation of information for daily users
- Easily scanned to distinguish answered questions from unanswered questions

## PROCESS

User research, interactive prototyping (Axure), usability testing, frequent iterating with tech and sales input

# Form Anatomy

The SEM QPrecision Event Entry form is comprised of several sections:

Generic questions, Smart Classification/taxonomy selection, Nature-specific questions (NSQs), Sub-nature specific questions (SNSQs), Event type-specific questions (ESQs), final generic questions

The screenshot shows the 'Safety Event Manager' interface in a Mozilla Firefox browser. The page title is 'QUANTROS SAFETY EVENT MANAGER'. The user is logged in as a 'Guest'. The form is titled 'Safety Event Entry Form' and includes the following sections:

- Client Information:** Client Name - Corporate, Client Name - Facility.
- Event ID:** QK07786283. Reported on: 02/25/2014 07:19 PM. Last saved: Not saved yet. A 'Save and Finish Later' button is present.
- When did the event occur?:** Date (mm/dd/yyyy), Time (hh:mm), and radio buttons for 'today', 'Yesterday', and 'Date unknown'.
- Who was the affected party?:** Radio buttons for 'Patient', 'Employee', 'Visitor', and 'No person involved'.
- Department where the event occurred?:** A dropdown menu and a 'Was another department involved?' question with 'Yes' and 'No' buttons.
- Was a physician contacted in response to this event?:** 'Yes' and 'No' buttons.
- Safety Event Categorization:** A section with the text 'Here, we'll use your description to identify what type of event this is.' and a 'What type of event was it?' question with radio buttons for 'Actual' and 'Near Miss'.
- Briefly describe what happened:** A text area with a 'See an Example' button and a list of instructions: 'Please include: Brief overview, Impact on patient, Immediate interventions'. A '4000 characters remaining' indicator is shown.
- Buttons:** 'Continue' and 'Save and Finish Later' buttons.
- Smart Classification:** A section titled 'In which safety event category would you place this event?' with 'Suggested matches' and a list of five categories: 1. Unobserved Fall, 2. Observed Fall, 3. Broken Bone or Fracture, 4. Positioned or Handled Inappropriately, 5. Complication or Injury During Transfer. Each category has a 'show similar' link.
- Footer:** 'show next results > 1 thru 10' and 'I don't see a match Show me all Event types' buttons.

'FIRST' GENERIC QUESTIONS  
(pre-classification) configurable

SMART CLASSIFICATION  
(Suggestions or Browse View)  
Module - not configurable

Event Details

Location where the event occurred

\* Prior to the fall, was this patient determined to be at risk for a fall?  
 Yes  No  Unknown

\* Prior to the fall, was a formal fall risk assessment performed?

What risk factors did the patient have?

Was patient oriented to person, place and time prior to fall?  
 Yes  No  Unknown

\* At the time of the fall, was the patient on medication known to increase the risk for a fall?  
 Yes  No  Unknown

Was patient oriented to person, place and time prior to fall?  
 Yes  No  Unknown

\* At the time of the fall, was the patient on medication known to increase the risk for a fall?  
 Yes  No  Unknown

Was patient continent at time of fall?  
 Yes  No  Unknown

Had the patient fallen in the past 30 days?  
 Yes  No  Unknown

Prior to the fall, was the patient on a fall prevention protocol?

\* Where did the patient fall from?

\* Immediately prior to the fall, what was the patient doing or trying to do?

What was the condition of the floor surface?

Was any device or equipment involved?  
 Yes  No  Unknown

Were any actions taken immediately following the event?  
 Yes  No  Unknown

Was anyone else involved, notified or witness to the event?  
 Yes  No  Unknown

What contributed to the event occurring?  
 Use the categories below to find the appropriate values. Please

- | Category  | Contributing factors |
|---|----------------------|
| Communication                                       |                      |
| Data  |                      |
| Environment   |                      |
| Equipment/Device                                    |                      |
| Human factors                                       |                      |
| Policies and procedure, includes clinical protocols |                      |
| Staff qualifications                                |                      |
| Supervision/Support                                 |                      |

Which of the following actions were taken?  
(check all that apply)

- Admitted or transferred to higher level of care
- Admitted to hospital
- Antidote, reversal agent or antagonist administered
- Blood product transfused
- Coaching performed
- Counseling administered
- Documentation corrected
- Emergency response activated (e.g. CPR, ACLS, BLS or Rapid Response)
- First aid administered
- Investigation of event initiated

Done Cancel

Event Submitter

Thank you! You're a safety champion!  
 This event is currently being submitted anonymously. If you would like to be available for follow-up about this event, please enter your contact information.

Reporter name  
 First name  Last name

Phone

TAXONOMY SELECTION

NATURE-SPECIFIC QUESTIONS  
 (NSQs - if applicable) not configurable

SUBNATURE-SPECIFIC QUESTIONS  
 (SNSQs - if applicable) not configurable

EVENT TYPE -SPECIFIC QUESTIONS  
 (ESQs - if applicable) configurable

'FINAL' GENERIC QUESTIONS  
 configurable

Flyouts: 'Child' questions only appear when 'parent' question is answered in a certain way. The 'child' questions have the same level of configurability as the 'parent' question.

# QPrecision UX Design Patterns

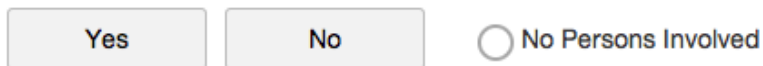
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## Basic Input Controls & CTA

- Yes/No Questions
- Button Bars
- Combobox / Dropdowns
- Listbox / Multi-select Listbox / 2-level listbox
- Text Boxes / Areas
- Stacked Radio Buttons
- Illustrated Array
- Custom Controls

### YES NO QUESTIONS

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#### *Description*

- Phrasing questions when possible as YES NO for quicker answering
- Designed as big buttons to allow for easy contact with the control and selection.
- These controls have the same functionality as radio buttons where only one in the group can be selected at a time.
- Buttons styles are used for the majority of the values, the one exception is for I don't know, unknowns, No person involved, etc.) In these cases we will use the radio button style as seen above.

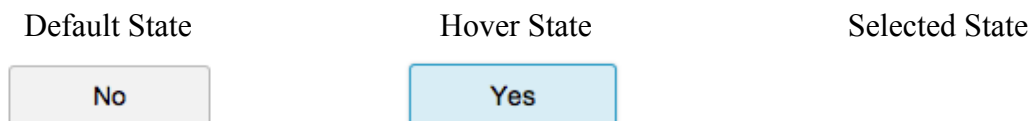
#### *When to use*

- When a user can choose only one option from a list of two or more options. Our upper limit of options is 6.

#### *How to Use*

- Initial state will leave both buttons in default/unselected state
- If you click on a button in the selected state it will set it to the default state (???)

#### *Button States*



The below styled radio button is primarily used for Unknown/None options next to a Yes/No question

Default/Unselected State

Selected State

No Persons Involved

No Persons Involved

## BUTTON BARS

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\* Who was the affected party?

Patient

Visitor

Employee

\* What kind of event was it?

Actual

An Actual Event has reached the patient and may or may not have caused harm.

Near Miss

A Near Miss has not reached the patient, but would have caused harm if it did.

### *Description*

- Used for Affected Party; Actual/Near Miss
- Designed as big buttons to allow for easy contact with the control and selection.
- These controls have the same specs (hover state, selected state, etc) as the YES/NO buttons, but may have different horizontal and vertical dimensions.

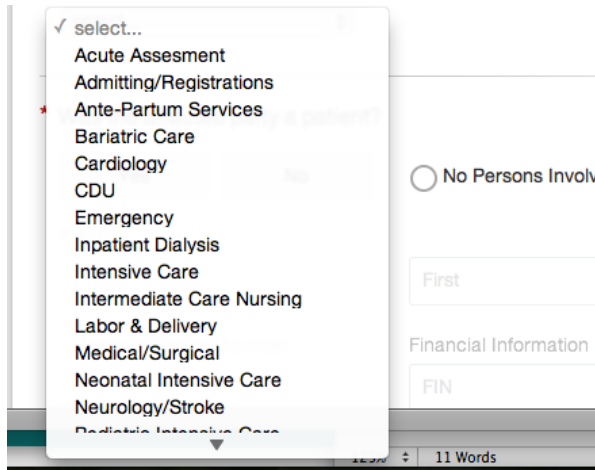
## DROP DOWN / COMBOBOX LIST

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\* Department where the event occurred?

select...





### ***When to use***

- Similar to a group of radio buttons, but saves screen real estate if there are several options from which to choose.
- Ideal for 6 or more values

### ***How to use***

- Sort options in a logical order. (Ex. Alphabetical order or most common floated to the top)
- Initial value should read as ‘Select..’. to cue users on interaction (should it say type or select?)
- If users chooses to type in, the list of values would filter down the results
  - The system returns the first 25 results
  - The matching results list displays 12 without scrolling. A scroll bar is displayed if there are more than 12.
  - If there are more than 25 results, the bottom of the list displays “show more”
  - Clicking on “show more” loads the next 25 (now a total of 50 results are listed)
  - The focus in the list is on the current 25 that are loaded... so the first time I click “show more”, result number 26 is in focus and at the top of the visible section of the list. I can scroll up to see results 1-25, or down to view 38 and on (since 12 are visible).

### ***Description***

Use this control for a list where a user can either recall the value on their own or need to browse through a list to determine the answer

- To allow a user to type a value in order to see a filtered down list
- To allow a user to scan a list to select a value
- To allow a user to type in their own value
- To allows users to get an idea of the values for the question

### ***When to use***

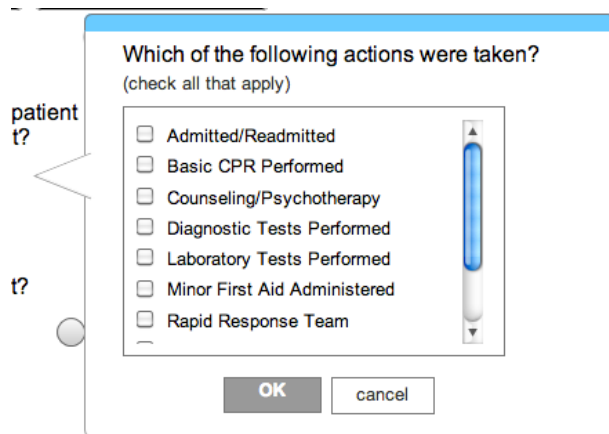
- Similar to a radio button or drop down list where only one selection can be made.
- For long lists that can be filtered down based on user knowledge

**How to use**

- Use autocomplete to show filtered down list
- Allow input field to accept values that are not in the list
- Cue the user on the functionality of the combo box by using placeholder text in the input box stating that they can type or select a value

**LIST BOX / MULTI-SELECT LISTBOX**

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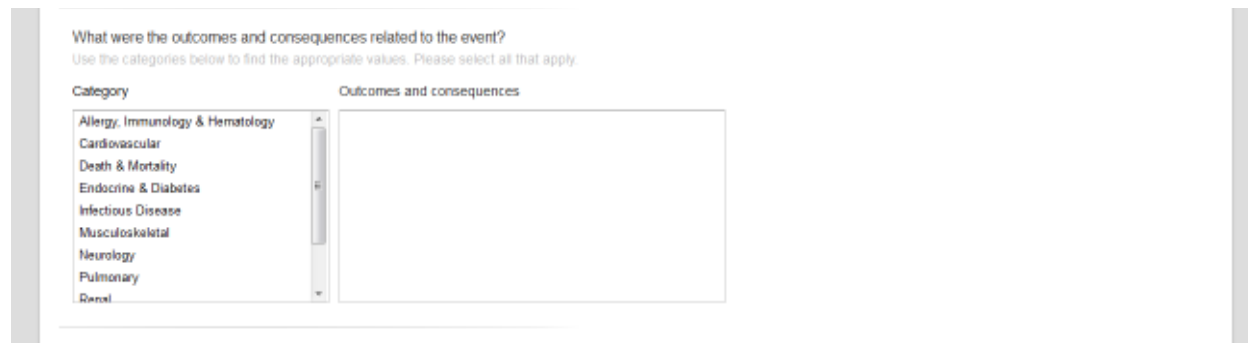


**Description**

To allow users to select multiple values through one control

**When to Use**

Another variation of the listbox is the 2-level listbox, where there are so many values that they need to be broken down first into larger groupings or categories





## TEXT BOXES

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Various lengths for different value types

**Numerical / Short answers - 110 pixels**

**Text answer – single word or phrase – 180 pixels**

**Narrative text area - comments, descriptions, lists**

## NARRATIVE

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Important moments in the form are given proper visual weight and differentiation

\* Briefly describe what happened

A screenshot of a narrative text input field. The field is a large, empty white rectangle with a light blue border. To the right of the field, there is a light blue sidebar containing the following elements: a button labeled "See an Example", the text "Please include:" followed by a bulleted list: "Brief overview", "Impact on patient", and "Immediate interventions", and a character count "4000 characters remaining".

A screenshot of a narrative text input field with an example text. The field is a white rectangle with a light blue border. To the right of the field, there is a light blue sidebar containing the following elements: a button labeled "See an Example", the text "Please include:" followed by a bulleted list: "Brief overview", "Impact on patient", and "Immediate interventions", and a character count "4000 characters remaining". The example text is: "Patient admitted 5/20/2013. Deep tissue injury reported today by Primary RN to wound team. Skin breakdown not noted on admission assessment. Patient assessment done by wound team RN. Left trochanter pressure ulcer confirmed. LAL E-700 mattress ordered."

## STACKED RADIO BUTTONS

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Long answer values that wouldn't fit in a list box

\* What type of inappropriate use? [NA2E1032]

- Jury-rigging, creating a workaround, force-fitting, defeating fail-safe, etc.
- Selection or use of inappropriate device, including use of latex-containing product when patient was known to be allergic to latex
- Mis-setting, mis-programming, or otherwise misusing the device
- Unknown
- Other

## LONG LIST 'BUCKETS'

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### PATIENT INJURIES & COMPLICATIONS

Dialysis Related Infection  
Exposure to Communicable Disease  
Hospital Acquired Condition  
Post-Implant Surgical Infection

### BEST PRACTICES ISSUES

Breach in Isolation  
Breach in Aseptic Technique  
Improper or Inadequate Isolation  
Improper Sharps Disposal  
Infection Risk Assessment Omitted or Inadequate  
Potential Cross Contamination

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Other Issue Not on List (specify) >

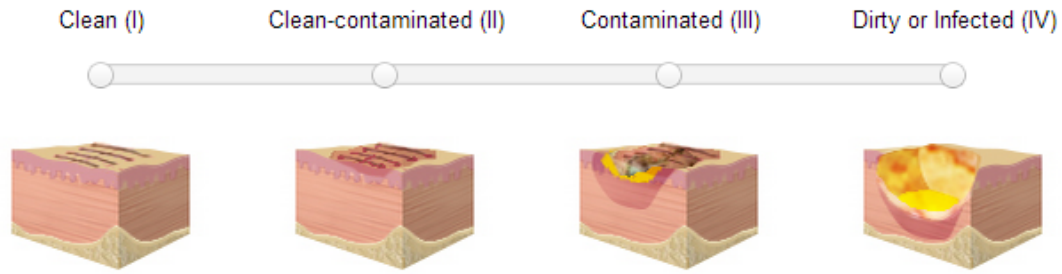
## ILLUSTRATED ARRAY

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Default State - illustrations for help / guidance.

Also nice break / moments in the form – wall of text / questions

What was the surgical wound class? [OTS1017]



## DATE/TIME FIELDS

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Custom control - shortcut for 'today' and 'yesterday' - the 2 most selected values

\* When did the event occur?

Date         Today     Yesterday     Date unknown

Time  (2400h)       Time unknown

## INJURY PANEL

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Grouped as a set because of the 'add another' feature, where you'd need each value again for a second or third injury.

What was the timing of the condition?

Present on admission  
 Within the first 24 hours after admission  
 More than 24 hours after admission  
 Unable to determine

Location

Position

Length(cm), Width(cm), Depth(cm)

Length:  (cm)   
 Width:  (cm)   
 Depth:  (cm)

Thickness

Superficial      Partial thickness      Full thickness      Unable to determine

**MEDICATION GRID**

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	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A <input type="checkbox"/> Same as ordered
* Name of medication or substance	<input type="text" value="Reopro (abciximab)"/>	<input type="text" value="Trizivir (abacavir/lamivudine/zidovudine)"/>
Dose, strength or concentration	<input type="text" value="33"/> <input type="text" value="Milligrams (mg)"/>	<input type="text" value="22"/> <input type="text" value="Liters (L)"/>
Route of administration	<input type="text" value="Intravenous"/>	<input type="text" value="Sublingual"/>
IV Solution	<input type="text" value="select ..."/>	
Rate	<input type="text"/> <input type="text"/>	
Frequency	<input type="text" value="Other"/>	<input type="text" value="select ..."/>
	<input type="text" value="please specify..."/>	
Quantity	<input type="text"/>	<input type="text"/>
Dosage form	<input type="text" value="select ..."/>	<input type="text" value="select ..."/>

## SEVERITY

We designed 2 versions – one interactive version for infrequent users, and a static version for frequent users. Both bring the definitions of the categories (A thru I) to the fore for easier answering.

### Interactive version

What was the severity of the event?

No Harm	Severity C	Event reached patient but caused no harm
	Severity D	Event increased the need for monitoring/intervention but caused no harm
Temporary Harm	Severity E	Event increased the need for treatment/intervention and caused temporary harm
	Severity F	Event contributed or resulted in temporary harm and may require initial and prolonged hospitalization
Severe Harm	Severity G	Event may have contributed or resulted in permanent harm
	Severity H	Event that required intervention to sustain life
Death	Severity I	Death related to event or cause unknown
	Severity X	Death due to admitting diagnosis or due to an unrelated disease

Severity Unknown - Select Severity Unknown if you are not sure which level to select

### Frequent User version

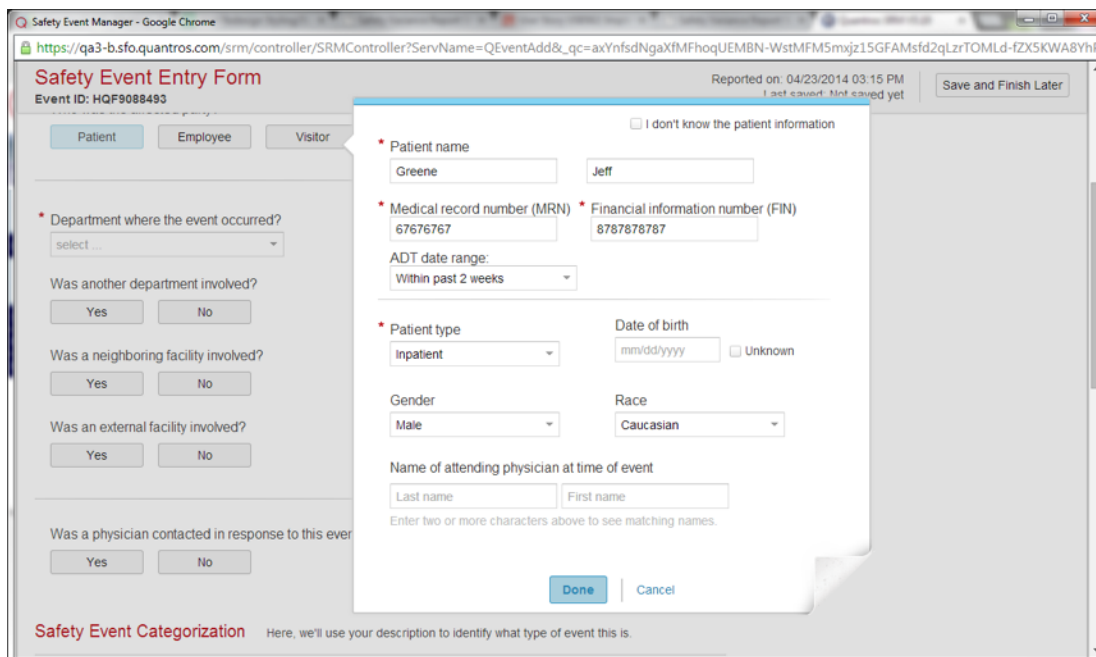
What was the severity of the event?

Severity C	No harm. No action needed.
Severity D	No harm. Increased monitoring.
Severity E	Temporary harm. No change in status.
Severity F	Treatment or procedure required. Stay may be prolonged.
Severity G	Permanent harm. Change in clinical status or transfer to higher care.
Severity H	Life-sustaining efforts required.
Severity I	Event contributed to or resulted in death.
Severity X	Death NOT as a result of the event.
Severity Unknown	Unable to determine severity at this time.

## Parent-Child Flyouts

A major interaction mechanism to make the form *seem* not as long is the flyouts. Many SEM questions are conditional - ie. 'skip-logic' is used to ask certain follow-up questions based on the answer to a previous question. The Legacy form simply added those new questions underneath the 'parent' question, which had the unfortunate effect of making the form longer and longer - in essence moving the finish line after the race had started. By encapsulating the 'child' questions in a flyout which appears to the right of the 'parent' question, the form stays the same length, no matter how many additional questions are asked.

In fact, in conjunction with our 'results' display, the form can now actually get shorter as you move thru it (such as when a large control like severity or the injury panel collapses down to just the results).



The screenshot shows a web browser window titled "Safety Event Manager - Google Chrome" with the URL [https://qa3-b.sfo.quantros.com/srm/controller/SRMController?ServName=QEventAdd&\\_qc=axYnfsdNgaXfMfhoqUEMBN-WstMFM5mxjz15GFAMsf2qLzrTOMLd-fZX5KWA8YhP](https://qa3-b.sfo.quantros.com/srm/controller/SRMController?ServName=QEventAdd&_qc=axYnfsdNgaXfMfhoqUEMBN-WstMFM5mxjz15GFAMsf2qLzrTOMLd-fZX5KWA8YhP). The page is titled "Safety Event Entry Form" and shows an event ID of "HQF9088493". The form is for a "Patient" and includes a "Reported on" date of "04/23/2014 03:15 PM". A "Save and Finish Later" button is visible. The form contains several questions with "Yes/No" buttons, such as "Department where the event occurred?", "Was another department involved?", "Was a neighboring facility involved?", "Was an external facility involved?", and "Was a physician contacted in response to this event?". A flyout modal is open, titled "Patient name" and "I don't know the patient information". It contains fields for "Patient name" (Greene, Jeff), "Medical record number (MRN)" (676767), "Financial information number (FIN)" (87878787), "ADT date range" (Within past 2 weeks), "Patient type" (Inpatient), "Date of birth" (mm/dd/yyyy), "Gender" (Male), "Race" (Caucasian), and "Name of attending physician at time of event" (Last name, First name). A "Done" button is visible at the bottom of the flyout.

### Description

To be able to support child questions to parent questions by using the screen real estate on the right side instead of extending the form downward.

### When to use

- When there are child question(s) to a parent question on the form
- 'Grandchild' questions are possible as well. If a child question is answered a certain way, then the 'DONE' button turns into a 'NEXT' button, and a second state/panel in the flyout is displayed with the additional question(s).

### How to use

- A tinted 'glass pane' appears between the main form and the flyout, disabling the controls on the main form and necessitating the user to hit a CTA button inside the flyout in order to continue.



# Calls-to-Action

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**Main Form**  
**Inside Flyouts**  
**Add Another**

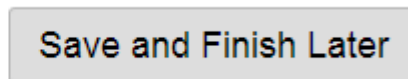
## Main Form

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Primary

Secondary

Text



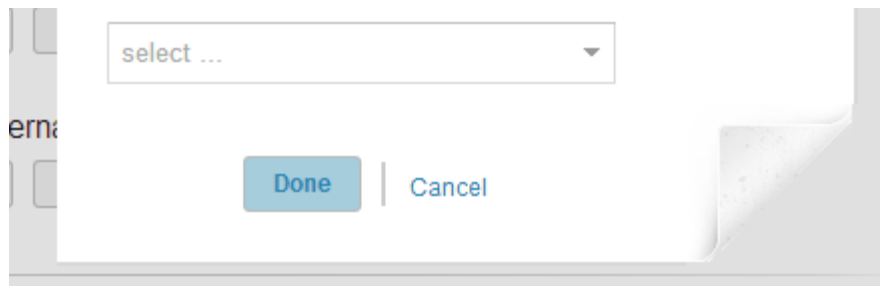
## Inside Flyout

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Primary

Secondary

Text



## Add Another

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# Results

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**Showing results – easier to scan - easy to see which questions have been answered and which have not (by the same user in a later session, or by a manager reviewing. can make the form shorter when the results replace a larger control**

\* Who was the affected party?

Patient	Name: Greene, Jeff   MRN: 67676767   FIN: 87878787
Patient type: Inpatient	Gender: Male   Race: Caucasian

\* Department where the event occurred?

Assisted Living Recreation Area : Quantros Demo Hospital
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A paraphrased 'results label' provides context for answer, ie., which question it answers.  
Values are separated by a vertical separator '|'   
Values should start a new line if they cannot fit into the remaining space, ie. NOT have a line break

UNANSWERED QUESTIONS INDICATOR

WORKING COPY RESULTS

See 'Working Copy' view of form later in this document.

## Taxonomy / Classification Modules

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The SEM taxonomy is the engine that drives the entire application. There are 25 Patient safety categories, 7 Employee safety categories, and 6 Visitor safety categories, with each safety category having some number of sub-categories ('Natures'), and

The selection then determines which follow-up questions are asked of the user.

The importance of selecting the 'correct' taxonomy value is crucial, so we have designed 3 different ways for a user to get that correct value. Depending on a user's experience and expertise, there are interactions

- **Smart Classification**
- **Browse Taxonomy**
- **See All (Megabuckets)**

### Smart Classification

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Based on Quantros' 3 million event database, Smart Classification uses the users narrative description to SUGGEST potential matches. After displaying the first 5 suggestions, a user can expand that list to see the next 6-15, or click 'almost... show similar' to narrow down the choices, or go to a 'See all' view.

\* In which safety event category would you place this event?

Suggested matches

Analysis of the information above suggests the following safety event classifications. Please choose the best fit:

- 1 Device Failure or Equipment Malfunction**  
Safety category: Devices & Medical Equipment almost... show similar
- 2 Displacement, Migration or Breakage >**  
Safety category: Devices & Medical Equipment
- 3 Renal Failure or Insufficiency**  
Safety category: Outcomes, Complications & Findings almost... show similar
- 4 Renal Failure or Insufficiency**  
Safety category: Surgery & Invasive Procedures almost... show similar
- 5 Inappropriate Use or Disconnect**  
Safety category: Devices & Medical Equipment

> show next results: 6 thru 10

I don't see a match  
Show me all Event types

The Smart Classification algorithm only returns taxonomy values down to the Nature level. When a returned value has Subnatures, the Suggestion line has a ‘more’ carrot, which – when clicked – reveals the Subnatures below it.

**3 Soft Tissue Infection**  
 Safety Category: Infection Control almost...show similar

**4 Vascular Access Issues >**  
 Safety Category: Vascular Access and Infusion almost...show similar

select one:

- Access Line Dislodged X
- Access Site Bleeding or Bruising
- Central Line or PICC Complication - No Infection
- Central Line or PICC Dislodged or Removed
- Extravasation
- IV Infiltration
- Necrosis
- Phlebitis due to Intravenous Infiltrate

**5 Venous Ulcer**  
 Safety Category: Skin Integrity Events almost...show similar

## Browse View

If Smart Classification fails to give the correct suggestion, or if a user is more familiar with the taxonomy thru frequent use, this BROWSE VIEW provides generous real estate for quickly scanning different categories and natures.

\* In which safety event category would you place this event?  
 Suggested matches | Browse the taxonomy | See all event types

Great. Now let's find the best match within this safety category.

**Choose an Event Type**

- Admission Transfer Discharge
- Anesthesia Care
- Behavioral Events
- Blood & Blood Product
- Devices & Medical Equipment
- Diagnoses & Assessments
- EHR & Health Information Technologies
- Facility & Administrative Services
- Falls & Slips
- Infection Control
- Laboratory Events
- Medical Documentation & Privacy
- Medication Events

**Now, which nature below fits best?**

- ADMISSION ISSUES
- Admission Denied
- Inappropriate Admission
- Missed Visit or Appointment
- Unplanned Readmission
- Unscheduled Admission or Visit
- TRANSFER ISSUES
- Ambulance or Van in Traffic Accident
- Inappropriate Method of Transfer
- Incomplete Handoff
- Transfer Plan Issue
- Transfer to Wrong Level of Care
- Unplanned Transfer - Outpatient to Hospital Admission
- Unscheduled Transfer In
- Unscheduled Transfer Out
- DISCHARGE ISSUES

The Browse View module displays a Safety Category (aka Event Type) column and a Natures column. An ‘OK’ button appears to select the Nature value. When the nature has Subnatures, then an additional box appears to the right of the module with those values.





## See All (Megabuckets)

For users very unfamiliar with the taxonomy (or even the concept of what a taxonomy is), we have a ‘Megabuckets’ view to help them start the process. In the future, this section may become more of a ‘wizard’ / tutorial-type tool To help new users understand the concept and help them make the proper selection to complete the form..

\* In which safety event category would you place this event?

[Suggested matches](#) | [Browse the taxonomy](#) | [See all event types](#)

Sorry, we couldn't seem to find a match for your description.  
Let's try another way. Which safety category below might this event fit into?

 <b>Patient-Centered Events</b> Behavioral Events Diagnoses & Assessments Falls & Slips Infection Control Medication Events Nutritional and Dietary Outcomes, Complications & Findings Pain Management Perinatal & Maternal Events Restraint & Seclusion Skin Integrity	 <b>Medical Tests &amp; Procedures</b> Anesthesia Care Blood & Blood Product Laboratory Events Radiology & Radiotherapies Respiratory Therapy Surgery & Invasive Procedures Treatments & Therapies Vascular Access & Infusion	 <b>Facility &amp; Equipment Issues</b> Devices & Medical Equipment Facility & Administrative Services Security Events
		 <b>Patient Management &amp; Records</b> Admission Transfer Discharge EHR & Health Information Technologies Medical Documentation & Privacy

# CSS Classes Diagram

Listed are the unique CSS classes necessary to control the design elements.  
Full specs on fontsize, style, hex colors, etc. are on a separate spec document.

## QPRECISION CSS CLASSES DIAGRAM

### MAIN FORM CLASSES

- Headerwhiteleft white
- Headerwhitefacility white; bold
- Formtitle dark red; H1
- headerEventID bold
- header\_helpertext fontsize
- Mandatory\_indicator div
- Mainformlabel 16 pt
- MFsublabel 13 pt
- MFhelpertext 13 pt; gray
- MFseparator gray
- result\_box blue outline
- result\_value 14pt blue; bold
- mainformpadding (between questions, between label and control)
- buttonbar\_selected blue
- buttonbar\_hover darker blue outline
- buttonbar\_default
- Section\_header dark red; H2
- Section\_head\_subtext 13 pt black

- NarrativeBG #f blue fill; outline
- narrative\_helpertext

- MFPrimaryCTA
- MFSecondaryCTA

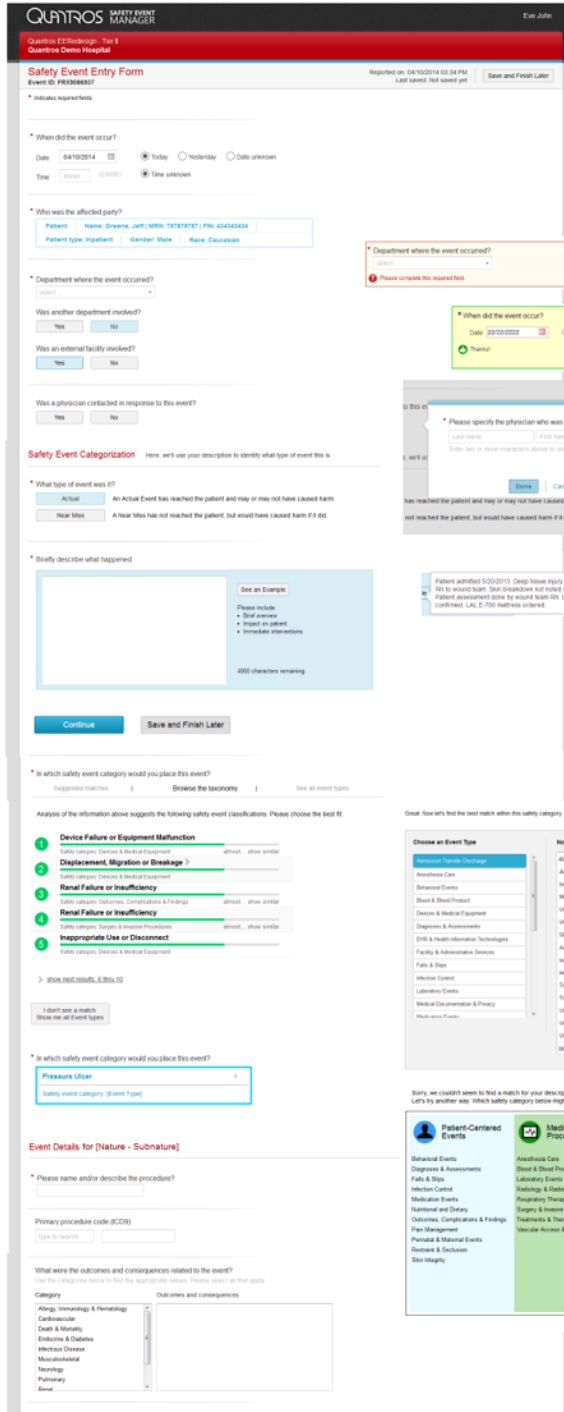
- Classificationmodule\_tabs

- SCSuggestion-nature
- SCSuggestion-category
- SCSuggestion-almostlink
- SCSuggestion-number

- SCShowall-button

- Classificationresult\_nature
- Classificationresult\_category

- Section\_header



### FIELD VALIDATION CLASSES

- Fieldval\_colorbox yellow fill; red outline
- Fieldval\_icon image div
- Fieldval\_colorfext 12 pt dark red

NOTE: there also will be a 'warning' box (same yellow fill, orange outline, finger icon) an 'info' box (blue outline, 'i' icon) and a 'success' box (green outline, 'thumbs up' icon)

### FLYOUT CLASSES

- Flyout\_label 14pt
- Flyout\_padding (higher than main form)
- Flyout\_helpertext 12 pt gray
- Flyout\_glasspane gray; % transparency
- Flyout\_primaryCTA
- Flyout\_cancelCTA
- Gray\_glasspane

- Narrative\_samplertext

### BROWSE TAXONOMY CLASSES

- BT\_categorycolumnheader
- BT\_naturecolumnheader
- BT\_category\_size, padding
- BT\_NatureBucket ALLCAPS, color
- BT\_Nature\_size, padding
- BT\_categoryselected

### MEGABUCKET CLASSES

- Megabucket\_grouptitle
- Megabucket\_groupicon
- Megabucket\_grouplist
- Megabucket\_background1
- Megabucket\_background2
- Megabucket\_background3
- Megabucket\_background4

Severitybuttons

Is the patient or family aware of the event?  
 Yes  No  Unknown

What was the severity of the event?

No harm	Severity C	Event reached patient but caused no harm
	Severity D	Event increased the need for monitoring/observation but caused no harm
Temporary harm	Severity E	Event increased the need for treatment/observation and caused temporary harm
	Severity F	Event contributed or resulted in temporary harm and may require initial and prolonged monitoring
Severe harm	Severity G	Event may have contributed or resulted in permanent harm
	Severity H	Event that required intervention to sustain life
Death	Severity I	Death related to event or cause unknown
	Severity J	Death due to underlying diagnosis or due to an unrelated disease

Severity unknown Select Severity Unknown if you are not sure which level to select

Injurypanel-title

Injurypanel-bgbox

Injurypanel-bodyimagelabels

Out or Laceration Details

What was the timing of the condition?  
 Present on admission  
 Within the first 24 hours after admission  
 More than 24 hours after admission

LOCATION

Position

Length(cm), Width(cm), Depth(cm)  
 Length  Width  Depth

Thickness  
 Superficial Partial thickness Full thickness Unable to determine

Add another

Addanother-linktext

During the patient's stay, did the patient develop a secondary morbidity?  
 Yes  No  Unknown

When was the event discovered?  
 Date   Today  Yesterday  Date unknown

Section\_header

Event Submitter

Thank you! You're a safety champion  
 Review your contact information below and make any necessary corrections.

Reporter name  
 Job  EXT

Occupational title  
 Director

Phone  
 408-607-0380

Email  
 vprasad@questus.com

What was the severity of the event?

Severity C	No harm, no action needed
Severity D	No harm, increased monitoring
Severity E	Temporary harm, no change in status
Severity F	Treatment or procedure required, this may be prolonged
Severity G	Permanent harm, change in clinical status or transfer to higher care
Severity H	Life-sustaining efforts required
Severity I	Event contributed to or resulted in death
Severity J	Death NOT as a result of the event
Severity Unknown	Unable to determine severity at this time

**FREQUENT USER SEVERITY CONTROL**  
 This is a more static version of the severity control without any hover interactivity. If we activate user roles, it would be for frequent users.

Thank you for reporting!

We noticed you haven't worked on the form in a while.  
 Would you like to keep working?

54  
 minutes

If you don't check activity in the next minute we'll close this event and exit.

**MODAL WINDOW CLASSES**  
 (this includes Timeout, Form Validation, and Edit/Reclassify Warning pop-ups)

Modal\_sublabel 14 pt  
 Modal\_label 18 pt bold  
 Modal\_primaryCTA  
 Modal\_cancelCTA

ModalTimeout\_countdown  
 Modal\_helpertext 12 pt  
 Modal\_background\_grey  
 Blueglasspane

The following questions must be completed to continue.

Where did the event occur?  
 Who was the affected party?

Are you sure you want to generate a new set of suggestions?  
 Please note that adding or re-classifying an existing event may result in losing some of your data.



# Form-level Validations & Modal Windows

- **Minimum questions for Save and Finish Later**
- **Questions required to Continue to Smart Classification / taxonomy selection**
- **Answering all Mandatory questions**

## MODAL WINDOW RULES & SCREENFLOWS

VALIDATION RULES	MODAL POP-UP	MAIN FORM UI
Minimum questions not completed to SAVE & FINISH LATER		<ul style="list-style-type: none"> <li>• Date</li> <li>• Affected Party</li> <li>• Department</li> </ul>
Minimum questions not completed to CONTINUE to taxonomy		<ul style="list-style-type: none"> <li>• Affected Party</li> <li>• Actual / Near Miss</li> <li>• Narrative Description</li> </ul>
Minimum questions not completed to SUBMIT SAFETY EVENT		<ul style="list-style-type: none"> <li>• Any visible 'Mandatory' questions (generic, NSQ, SNSQ, ESQ)</li> </ul>
TIMEOUT message		No change to form

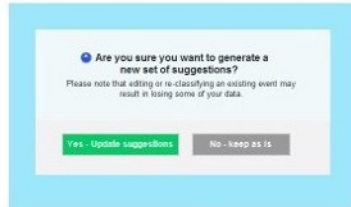
**WARNING MESSAGES WHEN EDITING KEY VALUES**

Edit Affected Party  
(pre or post-classification)



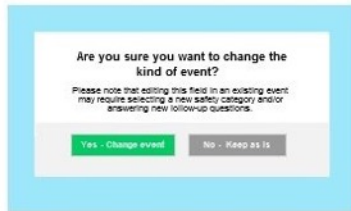
Department questions may change (ie., Patient to Employee)  
Taxonomy may change (ie., Patient to Visitor or Employee)  
Follow-up questions may change

Edit Narrative  
(post-suggestions but pre-taxonomy selection)



Suggestions may change

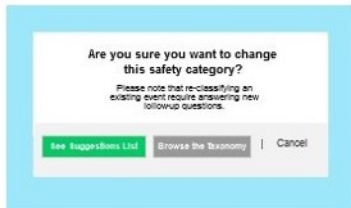
Edit Actual / Near Miss  
(if classification module has been displayed yet)



Taxonomy choices may change (ie. Actual to Near Miss)

Edit Taxonomy Value  
(post-classification)

w/Smart Classification  
(ie., Patient)



Follow-up questions may change

w/out Smart Classification  
(ie., Employee, Visitor)



Follow-up questions may change

## 2<sup>nd</sup> Session / Working Copy

In addition to the QPrecision 'Frontline' Entry Form, there are several other views of the event information.

- 2<sup>nd</sup> Session (Expert) View
- Working Copy

### 2nd Session Form View

This view is for the expert / power user who is checking or completing an existing event record. Questions already answered appear in their 'Results' format, easily distinguishable from new questions that only display for these higher-level user roles.

The screenshot displays the 'Safety Event Entry Form' in an expert view. The form is titled 'Safety Event Entry Form' and includes the event ID 'UM/999236'. It is reported on '05/13/2014 11:45 AM' and has not been saved yet. The form is divided into several sections:

- When did the event occur?:** Date: 05/13/2014, Time: 11:45 AM. Includes radio buttons for 'Today' and 'Yesterday', and a 'Date Unknown' option.
- Who was the affected party?:** Patient Name: 98765, Medical record number (MRN): 98765. Includes a link to 'Click to view unassigned questions'.
- Department where the event occurred?:** Compliance/Medical Staff: Quantros Demo Hospital. Includes radio buttons for 'Yes' and 'No' for 'Was another department involved?' and 'Was a neighboring facility involved?'. Includes radio buttons for 'Yes' and 'No' for 'Was an external facility involved?' and 'Was a physician or provider contacted in response to this event?'.
- Safety Event Categorization:** Includes radio buttons for 'Actual' (An Actual Event has reached the patient and may or may not have caused harm) and 'Near Miss' (A Near Miss has not reached the patient, but would have caused harm if it did).
- Briefly describe what happened:** A text area with a character count of 4000. Includes a 'See an Example' link and a list of items to include: Brief overview, Impact on patient, and Immediate interventions.
- In which safety event category would you place this event?:** Radiology & Radiotherapies: Wrong Drug.
- Event Details:** Includes a section for 'Wrong Drug Details' with a table showing 'Medication Ordered: 988' and 'Medication Given: 988'. Includes an 'Add another' button.
- What radioscope was ordered?:** A question at the bottom of the form.

# Working Copy

This view is more compact and streamlined.

The screenshot displays the Quantros Safety Event Manager interface. The browser title is 'Event Document Privileges - Internet Explorer'. The URL is [https://qs2-b.sfo.quantros.com/gmodules/controller/gmodules/Controller?ServName=EventDocuments.EventDocuments&qc=VEhOvqipE70-4ZPCvzeWSPB1jWv19pk1\\_y-eP\\_LrhiaKqCgG7gYz7xISbMKEP3IP4SqLgFjZUTAFLKQfA](https://qs2-b.sfo.quantros.com/gmodules/controller/gmodules/Controller?ServName=EventDocuments.EventDocuments&qc=VEhOvqipE70-4ZPCvzeWSPB1jWv19pk1_y-eP_LrhiaKqCgG7gYz7xISbMKEP3IP4SqLgFjZUTAFLKQfA). The page has 'Close' and 'Print' buttons in the top right. The main content area is titled 'QUANTROS SAFETY EVENT MANAGER' and 'Eve John'. The event details are as follows:

**Quantros EERedesign - Tier II**  
**Quantros Demo Hospital**  
**Safety Event Entry - Working Copy** Reported on: 05/13/2014 11:46 AM  
Event ID: UMJ9095236 Last saved: 05/13/2014 11:47 AM

**Event Basics**

* When did the event occur?	08/22/2013	14:30
* Which department did the event occur in?	Cardiology	St. Jeromes
Was there another department involved?	Admissions	St. Jeromes
Was an external facility involved?	No	
* Was the affected party a patient?	Yes	
* Name	Last Name, First Name	
* Patient Type:	Inpatient	
* Financial information number:	8785432	
Medical record number:	1234567	
Date of Birth:	12/30/1974	
Gender:	Male	
Race:	---	
Admitting physician:	Pearson, Drew	
Was a physician contacted in response to the event?	No	

**Safety Event Classification**

* What type of event was it?	Actual Event
* Please describe the event in your own words	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean euismod bibendum laoreet. Proin gravida dolor sit amet lacus accumsan et viverra justo commodo. Proin sodales pulvinar tempor. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Nam fermentum, nulla luctus pharetra vulputate, felis tellus mollis orci, sed rhoncus sapien nunc eget odio.
* Event classification	Pressure Ulcer [: plus subnature if applicable] Safety event category: Skin Integrity

**Event Details**

* Location of Pressure Ulcer	Right buttock
* Size	l: 1 cm w: 1 cm d: 0 cm
* Stage of Pressure Ulcer	Stage 2
Was pressure ulcer acquired in this facility?	Yes
* Was any device or equipment involved?	Yes
* What was the name of the device	Cardioramanator 3000
* What type of device was it?	---

# Editing Key Values Flowcharts

- Editing Classification
- Editing Actual/Near Miss
- Editing Affected Party

## Changing / Editing a Taxonomy Classification

### Re-running Smart Classification & Changing a Safety Category

CHI and - to zoom out

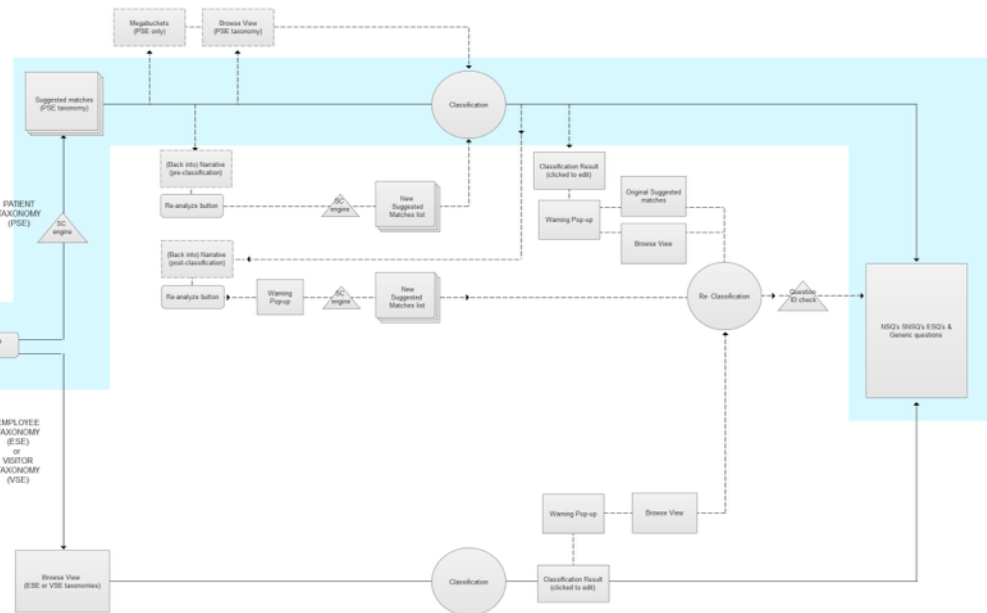
There is an important distinction between re-running the Smart Classification BEFORE a taxonomy selection has been made (i.e., NSOs/ESQs have not been displayed), and wanting to change certain values (Affected party, Actual/Near Miss) AFTER a taxonomy selection is made.

Making changes BEFORE a taxonomy selection is made is easier, because no ESQs/NSOs have been displayed yet. If a user revises their description, a 'Get New Suggestions' button appears (where the CONTINUE button was), and a new set of suggestions is listed.

Changing values AFTER a taxonomy selection is made requires a Warning message, because if the user answered any NSOs/ESQs and then reclassifies, then some of those questions may be thrown away. (This scenario will most likely involve a Second Session user.)

Happy path

#### Affected Party

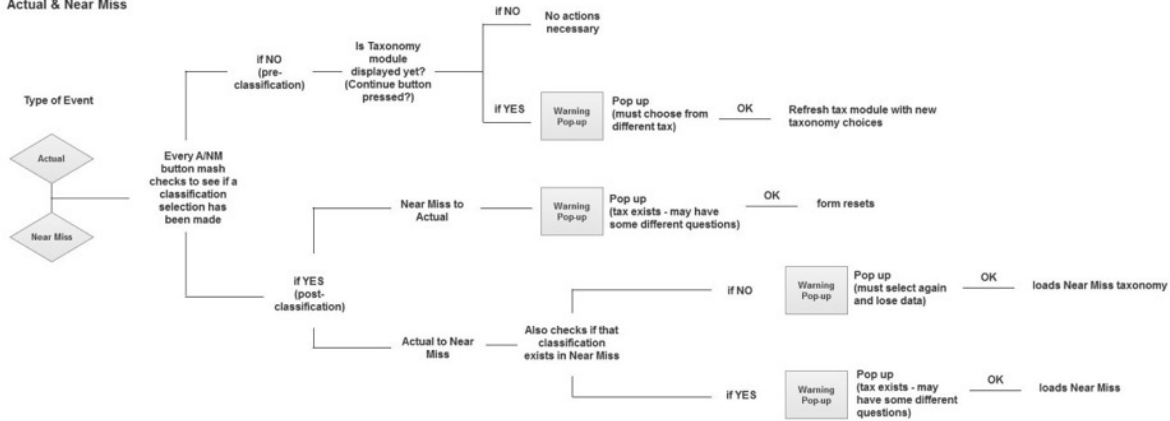


# Changing or Editing 'Actual / Near Miss'

## How editing other form elements affects the Classification flow

Ctrl and - to zoom out

### Actual & Near Miss

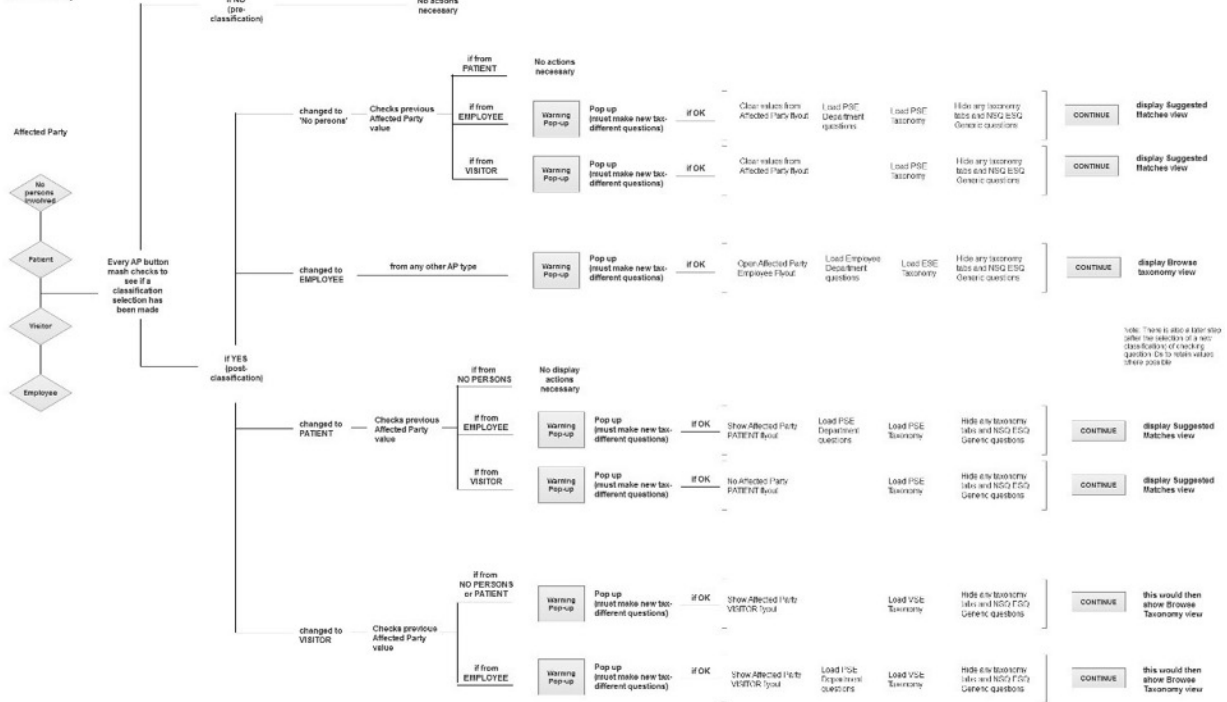


# Changing or Editing 'Affected Party'

## How editing other form elements affects the Classification flow

Ctrl and - to zoom out

### Affected Party



# Advanced Workflows

- Multiple Classifications
- Multiple Affected Parties
- Unsafe Condition

## Multiple Classifications

### Multiple Classifications

Ctrl and - to zoom out

In some cases there is a desire to identify multiple taxonomy values for a particular event. Follow-up questions are only asked regarding the 'primary' classification. Users have the ability to switch the 'primary,' and are warned if one of the 'secondary' classifications are potential SRE's - so that the pertinent follow-up questions are asked.

We recommend only Manager-level users have access to this advanced feature.

\* Safety event classification

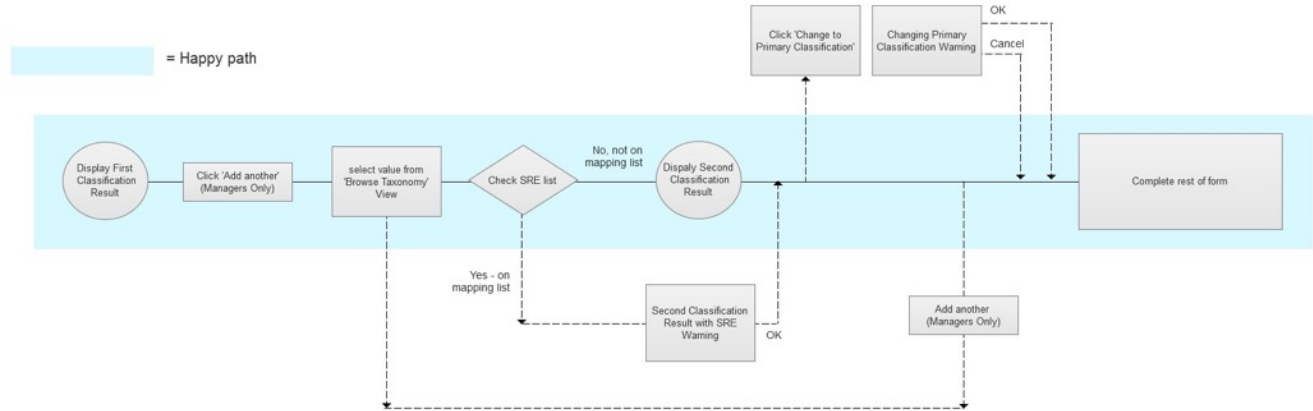
Pressure Ulcer x  
Safety Category: Skin Integrity Event

Additional safety event classifications

Dialysis Related Infection x  
Safety Category: Infection Control

make this the primary safety category

+ Add another safety category



Changes to the database and to reporting are detailed elsewhere.

# Multiple Affected Parties

## Multiple Affected Parties

Ctrl and - to zoom out

In some cases there is a desire to identify multiple Affected Parties for a particular event. We will start with 2 of the 'simpler' scenarios: 'Mass' events and 'linked' events. For 'Mass' events, all affected parties share the same actions taken, severities, outcomes, etc, so in essence just a list of names is required. For 'linked' events, different affected parties have different actions taken and severities, so each needs a full set of follow-up questions asked. User research will ask what percentage of multiple affected party events these 2 scenarios will cover, and help figure out if a third workflow is also required.

We recommend only Manager-level users have access to this advanced feature.

\* Who was the affected party?

**Patient** Visitor Employee

**PATIENT INFORMATION** I don't know the patient information

\* Patient name  
last  first

Medical record number  Financial information number

\* Patient type  Date of birth   DOB unknown

Race  Gender

Name of attending physician at time of event  
last  first

Enter first or last characters about to save matching names.

Add Another Done cancel

**MULTIPLE AFFECTED PARTIES**

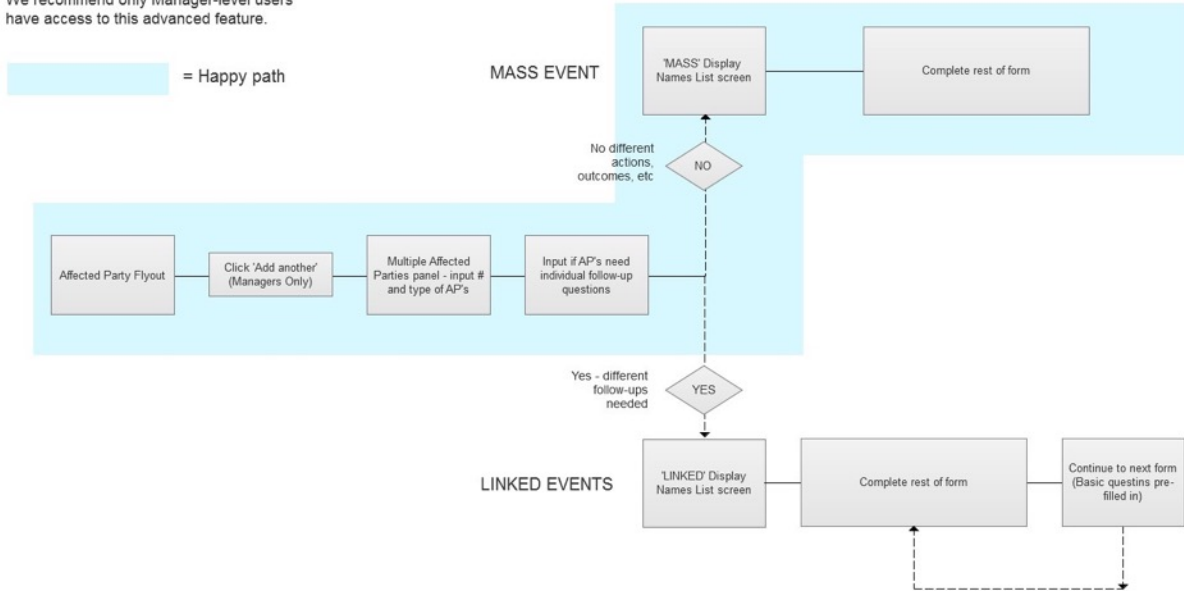
How many other affected parties were there?

Patients  Employees  Visitors

Were there different actions taken and/or severities for various affected parties?

Yes No

Done cancel



Changes to the database and to reporting are detailed elsewhere.



**Unsafe Condition**

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# Performance Metrics & Analysis

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- **UX Team Performance Metrics**
- **Key User Analysis Metrics**

## UX Team Performance Metrics

---

# User Research / Usability Testings  
User story preparation - (lead time / backlog?)  
Feature success rate (design vs. in the wild changes)

## Key User Analysis Metrics

---

Average Time trending lower - Event Entry (normalized for # questions, time in narrative, section, etc)  
# Actual events reported trending upward  
# Near Misses reported trending upward  
Time to complete form trending downward (total, and controlled for Narrative time)  
# events reported trending upward (tricky - also based on facility trends)  
# times classification is changed (by second user)  
# times Smart Classification hits 1-5  
# taxonomy 'others' trending downwards  
% optional questions skipped  
Time by section (top of form; narrative; NSQs/SNSQs/ESQs; Final generics (by event type?))  
Time per question to average it  
Bail out points in the form