Detecting Unreported Critical Incidents in Medicaid Claims

The CT DDS Journey to Improve Quality Through Technology
The Changing Landscape
Presentation Overview

- Background Information
- Responding to Change
- Using Claims to Identify Potential Critical Incidents
- Expanding Capabilities
- What’s Next
Background

- OIG Audits
- Joint Report
- Health and Welfare Review
- Technical Assistance
- Medicaid Waiver Assurances
Responding to Change

- DDS took immediate steps to shore up systems that protect individuals.
NASDDDS Organizational Self Assessment

- Do people know what to report, when to report, and who to report it to?
- Do people know what happens once reported?
- How do we trend and analyze incidents?
- How do we identify improvement efforts?
- How do we engage partners and stakeholders?
- How do we manage Mortality Review?
We Were Only Seeing Part of the Picture

<table>
<thead>
<tr>
<th>Region</th>
<th>No Follow-up</th>
<th>Follow-up</th>
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<tbody>
<tr>
<td>(All)</td>
<td>33</td>
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Critical Incidents by Follow-up/No Follow-up

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<tr>
<th>Year</th>
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<td></td>
<td>10</td>
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## Quality & System Improvement Ecosystem

<table>
<thead>
<tr>
<th>INFORMATION SOURCES</th>
<th>CONNECTICUT DEPARTMENT OF DEVELOPMENTAL SERVICES</th>
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<tbody>
<tr>
<td>DDS INDIVIDUALS</td>
<td>Incident Reporting &amp; Management System</td>
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<td>CAREGIVERS</td>
<td>Incident Review &amp; Follow-up</td>
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**INFORMATION SOURCES**

- DDS INDIVIDUALS
- CAREGIVERS
- PROVIDERS
- MEDICAID CLAIMS
- ER ADMISSIONS
- HEALTH INFO EXCHANGE

**CONNECTICUT DEPARTMENT OF DEVELOPMENTAL SERVICES**

- Incident Reporting & Management System
- Incident Review & Follow-up
- INCIDENT DETECTION SYSTEM
- Quality and System Improvement
Using Claims to Identify Potential Critical Incidents

- Too many claims to wade through
- If everything is a top priority, nothing is
- Need to use Resources efficiently
Problem: We lacked technical expertise to use raw claims data
Solution: Let’s leverage an existing resource
The Pulselight software was built as a general-purpose analytic platform and application that was designed to address multiple and varied healthcare challenges.

We already had years worth of Medicaid claims and 3rd-party data in our data stores.

CT DDS turned to us to see if we could help.
Incident Detection System

An analytic solution that:

- Utilizes Medicaid claims and data from reported incidents
- Detects critical incidents in claims data - using state definitions & categorizations
- Shows medical history and context around individuals with detected incidents
- Matches detected critical incidents with reported critical incidents
- Prioritizes incidents for better resource allocation
- Analyzes volumes and trends of incidents by individual, residence or provider
What We Found
Expanding Capabilities

Detected Critical Incidents by Category

- Severe Injury: 001
- Death: 291
- Assault or Sexual Abuse: 210
- Severe Injury - Vehicle Accident: 5
- Severe Injury - Self-harm from Fire: 1

Distinct Providers: 474
Distinct Individuals: 922
Detected Critical Incidents: 1,108
The “Telescope Effect”

The telescope has always been an incredibly useful tool. It can show us things that are normally impossible to see.

One problem with a telescope, though, is that it can only show you one small piece of the whole picture at a time.

Take the soldier who looks out into the harbor with his telescope for signs of a pending attack.

He sees this...
BUT THIS IS THE FULL PICTURE
Jane Doe has one reported incident

- In October 2015, while living at Acme (location A), she fell and broke her elbow
The Story of Jane Doe and Provider Acme, Inc.

Jane Doe: Reported Incident
- Oct 2015: Acme (A), elbow fracture

Jane Doe: Detected Incidents
- Oct 2015: Acme (A), elbow fracture
- Sep 2017: Acme (A), femur fracture
- Apr 2018: Acme (B), aspiration pneumonia
The Story of Jane Doe and Provider Acme, Inc.

Acme, Inc. (50+ locations) 10/15 - forward

- 124 Detected Critical Incidents
- 35 Reported Incidents
- 94 Unreported Incidents
  - 65 Aspiration pneumonia
  - 9 Injury (fractures, contusions, etc.)
  - 8 Infection
  - 5 Complications w/ prosthetic devices, implants, grafts
  - 3 Injury from Assault
  - 2 Choking (asphyxiation)
  - 1 Adverse effects of antipsychotics
  - 1 Suspected sexual abuse
Full Context of an Incident

Sep 2017: Acme (A), femur fracture

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<th>CI Trigger Dx Code</th>
<th>Service Start</th>
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<th>Procedure Code</th>
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Full Context of an Individual - Jane Doe
Is This Just More Work?

Aspiration Pneumonia Incidents by Year

- 2016: 365 reported, 143 reported A&N, 222 unreported
- 2017: 329 reported, 124 reported A&N, 205 unreported
- 2018: 365 reported, 119 reported A&N, 246 unreported
- 2019 (partial): 241 reported, 80 reported A&N, 161 unreported
Prioritization
(Separate the “Wheat from the Chaff”)

- Pulselight prioritizes incidents based on risk of abuse or neglect using machine learning algorithms.
- Model “features” include metrics from the incident, the individual, the provider and the residential placements.
Single-Incident Reviews to System-wide Discoveries (The Chaff is still Important!)

Every identified incident does not have to lead to a personal review and follow-up

- System Intelligence
  - Ex. “Aspiration Pneumonia is occurring more than we thought.”

- Technical Insight
  - Ex. “Maybe we need to adjust our critical incident definitions.”

- Population Health Improvement
  - Update Safe Swallowing Guidelines
  - Update Training & “Train the Trainer” Programs

“Compliance should be the floor.”

-Josh “Critical Incident” Scalora
What’s Next?

- Work together to share “lessons learned”
- Adopt standard “Critical Incident” definitions and claim set
- Ensure access to Medicare claims for dual-eligible individuals
- Use data to help people live healthier, safer and more empowered lives
Contact information:

► Joshua Scalora, CT DDS
  joshua.scalora@ct.gov

► Jason Helmandollar, Pulselight
  jhelmandollar@pulselight.com