



# REDUCING WORKPLACE VIOLENCE BY 34%

Case Study in eLearning

*Enhancing the Care of Patients  
with Behavioral Health Issues*

**amplifire**

When Learning Matters

## EXECUTIVE SUMMARY

### PROBLEM

25% of registered nurses and nursing students reported being physically assaulted. 93% of assaults came from patients.

### THE STUDY

At UCHHealth, 6,876 patient-facing care providers received an Amplifire course covering de-escalation techniques with agitated or challenging patients.

### RISK REVEALED

63% of staff had confidently held misinformation (CHM) about the body language that's least provocative with angry patients.

68% of staff had CHM about aggressive family members.

61% of staff had CHM about de-escalation involving aggressive patients in pain.

### DETECTED AND CORRECTED

41,875 instances of confidently held misinformation  
32,702 instances of uncertainty

### TRAINING OUTCOME

34% decrease in workplace violence



11% decrease in violent restraint utilization



5% increase in staff de-escalation confidence



## PROBLEM

### Caring for Patients with Behavioral Issues

Violence and abuse against healthcare workers is far more common than most people realize.

The CDC National Institute for Occupational Safety and Health (NIOSH) defines workplace violence as “violent acts (including physical assaults and threats of assaults) directed toward persons at work or on duty.”

A 2017 survey on hospital crime attributed 89% of all assaults against healthcare workers to patients or customers.<sup>1</sup>

According to the Occupational Safety and Health Administration (OSHA), 70% to 74% of nearly 5,000 workplace assaults reported occurred in healthcare and social service settings.<sup>2</sup> Workers in healthcare settings are four times more likely to be victimized than workers in private industry.

1. IAHSS: 2017 Healthcare Crime Survey

2. OSHA: Workplace Violence for Healthcare and Social Service Workers

3. American Nurses Association Health Risk Appraisal

An American Nurses Association study found that over a three-year period, 25% of surveyed registered nurses and nursing students reported being physically assaulted by a patient or a patient’s family member.<sup>3</sup> Physicians, particularly emergency medicine physicians and inpatient psychiatric workers, are also frequently victimized.

A recent [Harvard Business Review](#) showed that exposure to aggressive patients can increase the likelihood of medical error.



25% of registered nurses and nursing students reported being physically assaulted.



93% of all assaults come from patients or customers.

## STUDY DESIGN

### 6,876 Staff at UCHealth

UCHealth addressed workplace violence with training in Amplifire. No new equipment, no new procedures... just training.

Patient-facing care providers received an Amplifire course covering de-escalation techniques in situations involving agitated or challenging patients.

The course teaches de-escalation techniques providers can use when faced with situations in which they must manage aggressive patients.

Learning objectives included the following:

- Identify common verbal de-escalation techniques and non-coercive de-escalation approaches and know when to implement them
- Describe how to set clear boundaries and limits with patients
- Identify when situations escalate to the point that they require the involvement of Security or law enforcement
- Understand that staff safety is the ultimate goal when engaging with agitated patients or visitors
- Explain how to form collaborative relationships with patients and their families that facilitate shared decision-making

# AMPLIFIRE

## How It Works

Amplifire first measures and classifies a clinician's knowledge in three categories:

**Confidently Held Misinformation:** When a learner is sure they are right, but they are actually wrong.

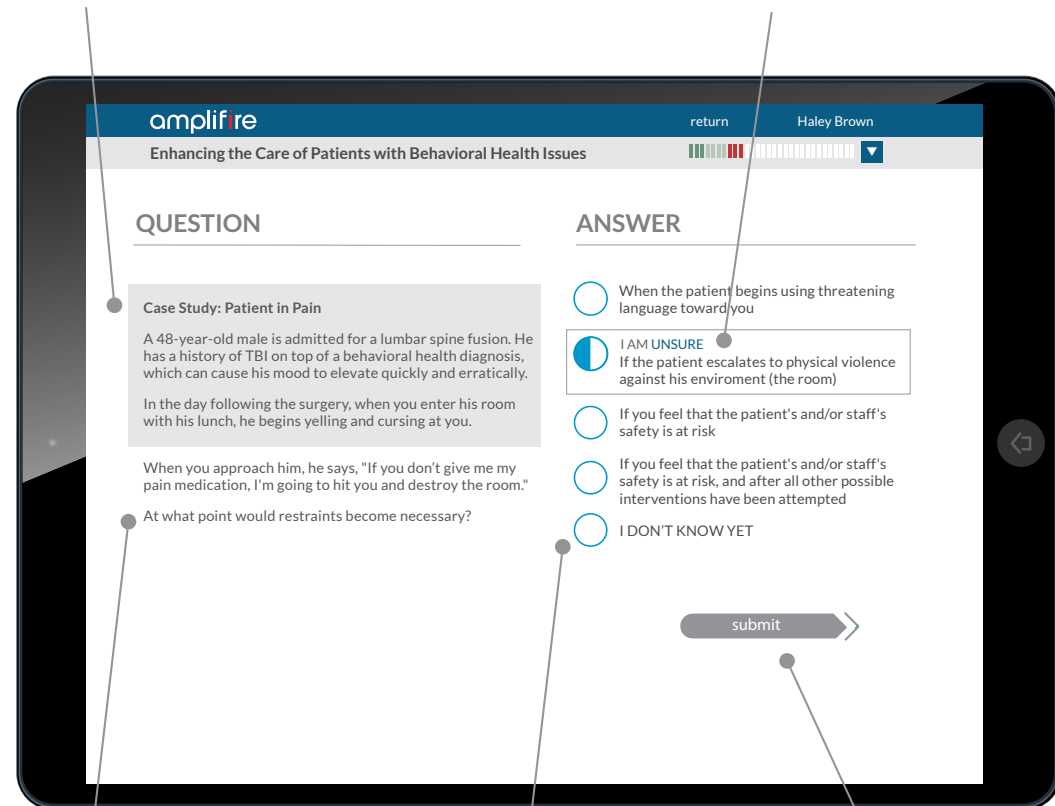
**Uncertainty:** When a learner is unsure.

**Proficiency:** When a learner is both confident and correct.

Once knowledge is categorized this way, the platform uses triggers from cognitive science to activate learning. It automatically customizes the course in real time for each learner, leading them to rapid proficiency across all topics.

Case studies simulate real life and trigger both curiosity and attention, which are strong drivers of lasting memory.

Asking about confidence causes metacognition (thinking about one's thinking), which drives long-term memory.



Asking questions causes retrieval, the most effective cognitive technique for correcting misinformation.

Learners can be honest about their knowledge, helping create the emotional state of "alert," which is optimal for learning.

Feedback will be delayed by a few minutes. This *spacing* boosts the durability of the learning.

## EXTREME KNOWLEDGE VARIATION

(prior to learning)

This heatmap from Amplifire's reporting dashboard shows the workforce sorted by confidently held misinformation, uncertainty, and proficiency.

- 6,876 employees generated 199,404 data points
- 41,875 instances of confidently held misinformation were corrected
- 32,702 instances of uncertainty were corrected
- 124,827 instances of existing proficiency
- The most misinformed staff spent 81 minutes in the platform on average, while those who were already proficient spent only 10 minutes.
- By the end of the course, 100% of staff were proficient (both confident and correct) on all the material.



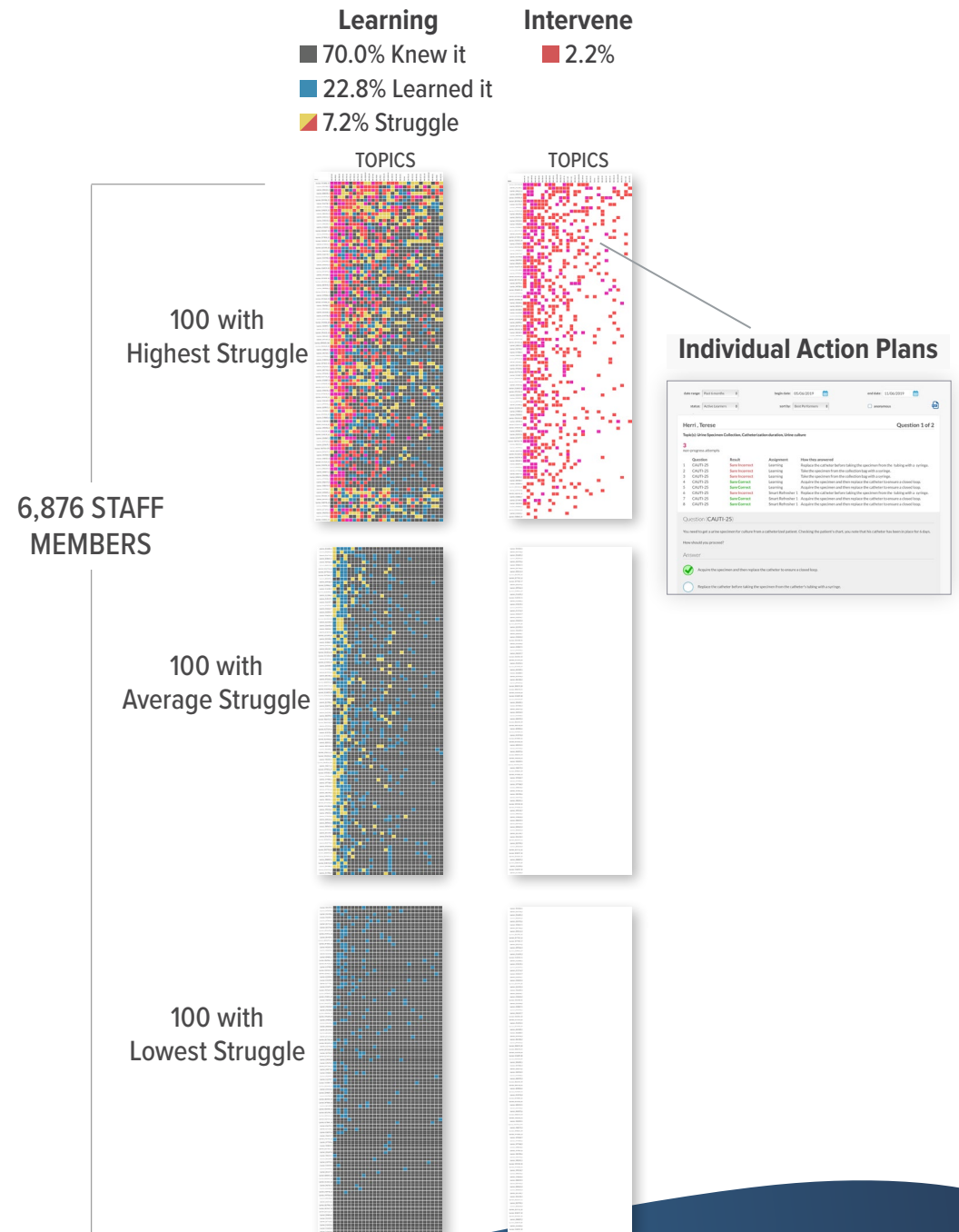
# LEARNING AND INTERVENTION

The first heatmap shows that most staff members already knew much of the material. Where uncertainty and misinformation existed, learning was rapid.

Struggle to learn occurs when proficiency fails to emerge despite presentation of the needed information. Staff may struggle due to temporary on-the-job distractions, or they may be dealing with acute or chronic personal issues.

- 4,387 instances of High Struggle
- 9,971 instances of Low Struggle
- 45,464 instances of Learned It
- 139,582 instances of Knew It

For the 2.2% of nurses who struggled to learn on multiple topics, Amplifire generated individual action plans in its reporting dashboard. Administrators and educators can use these plans for individual at-the-elbow consultations or group webinars that focus on common misconceptions uncovered in Amplifire.



## SELECT TAKE-AWAYS BY TOPIC

To help manage risk across an organization, Amplifire ranks healthcare topics by the percent of the workforce with confidently held misinformation.

### Provoking Aggression

63% of staff were misinformed about the proper body language proven to be the least provocative when dealing with angry, agitated patients.

### Interference






68% of staff confidently made the wrong decision when dealing with an aggressive family member.

### Listening Closely

61% of staff had confidently held misinformation about the process of de-escalating a situation involving aggressive patients in pain.

### Distraction

32% of staff knew the process of “agreeing, apologizing, and joining with a patient” with dementia, but were misinformed yet confident about the next stage of calming a patient.

Topics		
Name	# of Learners	Average Knowledge
Provocative	6876	
Interference	6876	
Listen Closely	6876	
Distract	6876	
Concise	6876	

### Being Concise

40% of staff were either misinformed or uncertain regarding how to craft the most easily understood and calming language when dealing with aggravated TBI patients.



## TRAINING RESULTS

Outcomes data was collected before and after Amplifire deployment during a consistent 145 day period. COVID was present throughout the entire study.



### 34% decrease

in workplace violence incidents

- Workplace violence incidents in inpatient and ambulatory settings associated with both patients and visitors was assessed using worker's compensation reports
- Events were analyzed on multiple levels including offender, setting, and type of incident



### 11% decrease

in violent restraint utilization

- Violent restraint utilization in the inpatient setting was assessed using data from the electronic medical records



### 5% increase

in staff de-escalation confidence

- 4,046 inpatient surveys completed
- 2,293 ambulatory surveys completed
- Staff confidence regarding the ability to implement de-escalation techniques was assessed using a 5-point Likert scale

## ABOUT AMPLIFIRE

Empirical data shows that caregivers in every healthcare organization possess knowledge gaps, doubts, and medical misconceptions. The Amplifire learning platform tackles these issues using discoveries from cognitive science and algorithms that adapt evidence-based content to the needs of each individual caregiver.

Healthcare organizations embrace Amplifire as a change management tool that transforms training from a rote activity, where administrators can only hope for results, into a strategic activity that delivers measurably better outcomes. Popular course libraries include:

- Clinical Safety and Quality
- Compliance
- EHR
- Obstetrics
- Opioids
- Pediatrics
- Revenue Cycle Management
- Safe Surgery

With more than three billion learner interactions, Amplifire continues to harness scientific research, advanced analytic techniques, and artificial intelligence. Learners experience a faster, more engaging path to proficiency so they can attain their highest potential.



*“ Amplifire is a tool that more accurately, completely, and rapidly loads complex clinical knowledge into expert minds. It gives us not only the ability to transmit knowledge, but the ability to measure how well we transmitted it and how well it stuck. ”*

— Brent James, MD

Clinical Professor at the Clinical Excellence Research Center at Stanford University

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