

# Utilizing a Simulation with Virtual Humans to Prepare Emergency Department Personnel to Conduct Substance Use and Mental Health Screening and Brief Interventions

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**Objective:** Emergency department (ED) personnel are in an excellent position to be trained to play a fundamental role in screening and brief intervention for those at risk for suicide or substance abuse. Yet, many of them are reluctant due to time constraints, lack of knowledge regarding referral procedures, fear of liability, and stigma. The objective of this study is to examine the efficacy of *At-Risk in the ED*, an online CME and CNE-approved simulation designed to prepare ED personnel to: 1) recognize risk factors and warning signs of those at risk, 2) screen patients using evidence-based tools, 3) apply motivational interviewing tactics to build patients' trust and increase adherence, 4) consider treatment options and engage in collaborative treatment planning, and 5) adequately document screening and referral. This learning experience is structured around a series of clinical scenarios where ED personnel practice leading conversations with virtual, fully animated and emotionally responsive ED patients presenting with physical complaints and at risk for suicide and/or substance use. *At-Risk in the ED* was developed by Kognito ([www.kognito.com](http://www.kognito.com)).

**Materials and Methods:** In this longitudinal quasi-experimental study, 1,707 participants completed the *At-Risk in the ED* training. Of those, 75 were matched samples drawn from five states with 77% female and comprised of 48% nurses, 29% nursing students, 4% doctors, 12% social workers and 7% behavioral mental health specialists. All completed the pre-training, post-training and three-month follow-up surveys. A repeated measures ANOVA was used to analyze the data.

**Results:** Longitudinal data showed statistically significant ( $p < .001$ ) and sustained increases from pre-survey to 3-month follow-up measures in participant's preparedness and self-efficacy composite scores to 1) recognize, 2) screen, 3) discuss concerns and next steps with patients who screen positive, 4) conduct a brief intervention, 5) make an appropriate referral, and 6) adequately document screening and referral for patients at risk for substance use and suicide. Participants also reported statistically significant ( $p < .001$ ) increases in the likelihood that they will discuss concerns and conduct brief interventions and referrals with a patient that screens positive for suicide risk.

To examine changes in clinical practice at follow-up, participants were asked to rate those changes on 4-point Likert scale ranging from "strongly agree" to "strongly disagree" in response to items that were prefaced with "As a result of taking this course, there has been an increase in the number of patients that I have:" Participants either agreed or strongly agreed to each item as follows: 1) recognized as exhibiting signs of substance abuse (80%), 2) discussed my concerns with about substance abuse (75%), 3) screened for substance abuse (74%), 4) referred for substance abuse treatment (70%), 5) recognized as exhibiting signs of suicide risk (76%), 6) discussed my concerns about suicide risk (78%), 7) screened for suicide risk (79%), and 8) referred for suicide risk treatment (72%). Participants also gave the learning experience highly positive ratings: 97% said they would recommend it to a colleague, and all participants rated the course as good (9.5%), very good (45.9%), or excellent (43.2%).

**Conclusion:** Results strongly suggest that *At-Risk in the ED* is an effective tool to train and motivate ED personnel to identify, screen, conduct brief interventions, and refer patients at risk for mental health and/or substance use disorders.