Assessment of Ebola Training Efficacy Using Learner Surveys

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BACKGROUND

- In the fall of 2014, Education Nurse Specialists at UCHealth's Clinical Education and Innovation Center (CEIC) in Windsor, CO were tasked with providing training for management of patients with high risk infectious diseases (HRIDs) in anticipation of caring for patients with Ebola

PURPOSE

- The study objective was to evaluate learner perceptions of the efficacy of the Ebola training
- We used the ICER Model© as the theoretical framework for this evaluation

METHOD

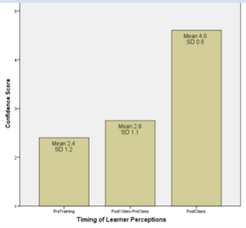
- **Training modalities**
  - Video, completed pre-class
  - Class content: Varied according to class length
    - Don/doff personal protective equipment (PPE)
    - Unique emergency procedures associated with care of patients with HRIDs
    - Participation in patient care scenarios created by and provided in the CEIC Simulation Lab
    - Debrief class content
- **Class length was stratified according to learner role**

Class Length	Learner Role	Class Content			
		Don-Doff PPE	Unique Procedures	Simulated Scenarios	Debrief
3-hour	Providers	Two times	x		x
4-hour	ED Staff	Four times	x		x
8-hour	Hot Team (Clinicians who volunteered for direct care of patients with Ebola)	Four times	x	x	x

- **Measures**
  - Learners completed an electronic survey reporting their perceptions:
    - Prior to training
    - Following video but prior to class
    - Following class
  - Survey items assessed training efficacy
    - Confidence to safely don/doff PPE
      5-point scale: 1=No confidence to 5=Fully confident
    - Confidence to remain safe while caring for patients with Ebola
      5-point scale: 1=No confidence to 5=Fully confident
    - Helpfulness of learning modalities
      5-point scale: 1=Not helpful to 5=Very helpful

RESULTS

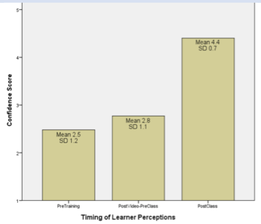
Confidence to Safely Don/Doff PPE (n=183)



$F(2,176) = 311.51$, $p < .001$, partial $n^2 = .781$; All post hoc pairwise comparisons $p < .001$

Findings were similar regardless of class length/learner role

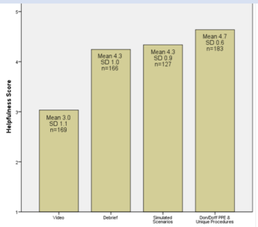
Confidence to Remain Safe while Caring for a Patient with Ebola (n = 179)



$F(2,178) = 230.39$, $p < .001$, partial $n^2 = .722$; All post hoc pairwise comparisons $p < .001$

Findings were similar regardless of class length/learner role

Helpfulness of Training Modalities



CONCLUSIONS

- Training helped learners feel confident in their ability to don/doff and to remain safe while caring for patients with Ebola
- Learners found little value in the videos, but the class interventions were markedly effective

IMPLICATIONS

- **Class length**
  - Since similar findings were obtained regardless of class length, the 4-hour class will be used for future refresher training, which will improve training time and costs
  - Training procedures for clinicians caring for patients with Ebola may be generalizable to training for other HRIDs
- **Evaluation of training efficacy**
  - Learners needed an average of 3 minutes to complete each survey, confirming the feasibility of conducting objective evaluations of training efficacy
  - Future evaluations should add behavioral outcomes to these attitudinal measures
- **Anecdotal update from Hot Team members** (April 2015)
  - Indicated that they felt safe while caring for a patient with a suspected diagnosis of Ebola using the PPE and care procedures provided during training

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