

# Self-Selector Attitudes in the Johns Hopkins Biocontainment Unit (BCU)

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## 1 Background

In March 2014, the largest outbreak of the Ebola Virus Disease (EVD) in history began in West Africa. In total, 27 patients with EVD received care in the United States and Europe (Uyeki et al., 2016). The handling of these patients resulted in a reevaluation of established protocols to treat patients with this disease, and the design of new procedures for treating patients with EVD.

A specially designed four-bed biocontainment unit (BCU) was created at Johns Hopkins Hospital (JHH) in which patients with highly infectious pathogens could be safely treated. A major concern in planning for any emergency response is whether health care workers will be able and willing to respond. Fear of contagion as well as competing personal obligations may cause health care workers not to report (Garrett et al., 2009). A survey of hospital personnel found that only 50% of workers responded that they would definitely report in the event of an avian influenza pandemic, and that fear of contracting the illness was the main deterrent (Gershon et al., 2010). A similar study of Johns Hopkins Hospital staff found that 72% of employees would respond if asked, and 82.5% would respond if required (Balicer et al., 2010).

In order to mitigate possible absenteeism on the BCU, the staff is entirely made up of self-selected volunteers. The main BCU team is composed of 32 physicians, 74 nurses, 11 clinical laboratory scientists, 4 radiology technician, and 7 respiratory therapists who work throughout the hospital and train quarterly and would be able to staff the unit upon activation (Garibaldi, 2016). Prior to initial training, all staff members were asked to complete surveys on their attitudes towards working on the unit as well as their motivation for joining the unit.

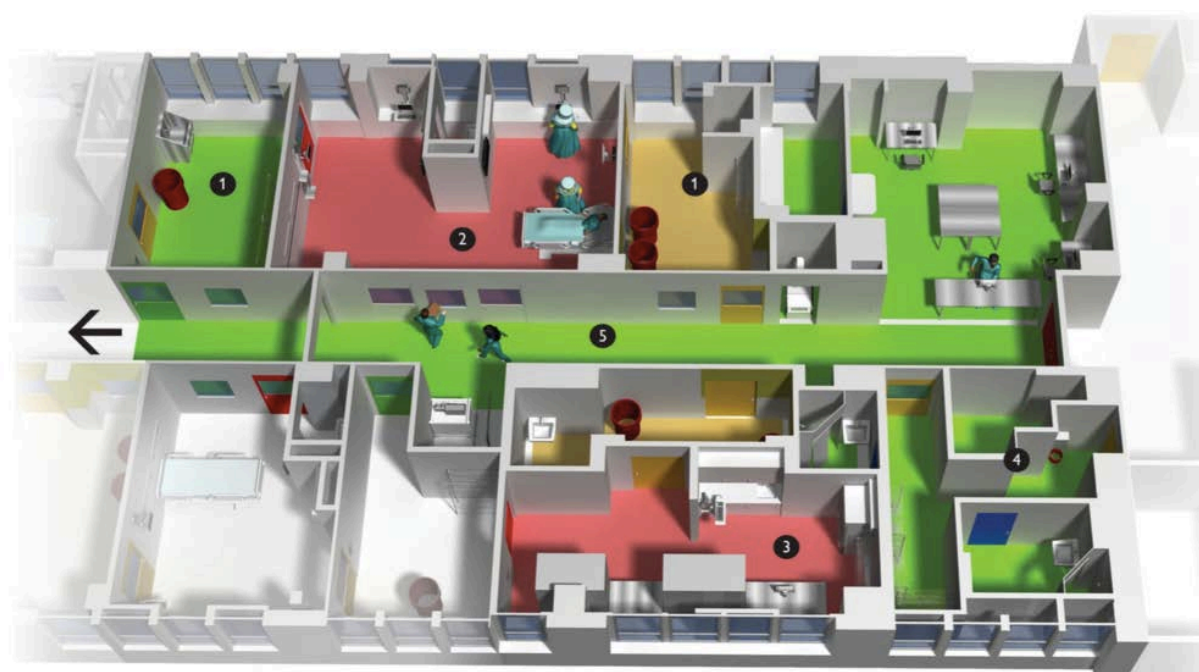


Figure 1. BCU layout

## 2 Objectives

- To assess BCU staff attitudes regarding their reasons for volunteering for the unit and whether they feel prepared to treat patients with infectious diseases.
- To compare staff's reported willingness to respond to previously published data.

## 3 Methods

In order to evaluate attitudes towards caring for patients on the BCU, staff members completed an anonymous survey consisting of thirteen close-ended and three open-ended questions. In order to analyze this survey, the close-ended Likert scale questions were dichotomized. A score less than or equal to 4 was deemed a positive response, and a score greater than 5 assigned as a negative response. Responses were analyzed by staff role on the unit using a Kruskal-Wallis One Way Analysis of Variance on Ranks. (Sigma Plot Software, Systat Software Incorporated, San Jose, Ca). The responses to the open ended questions were analyzed by establishing coding categories. Each response was labeled with one or multiple response categories. Overall trends were identified based on coded responses.

## 4 Results

Between February and March 2015, 79 staff members responded to the survey. Three incomplete surveys were not included in the analysis.

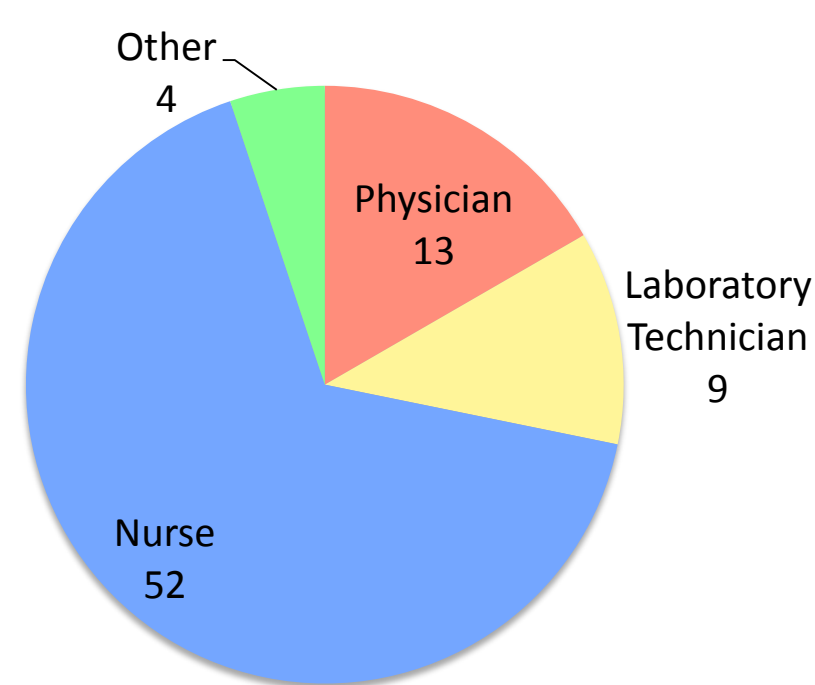


Figure 2. Respondents of the survey based on unit role

85% of staff agreed that the BCU would provide a safe place to care for patients with highly infectious diseases.

88% of staff agreed that they would report to duty in response to an infectious disease outbreak, regardless of its severity.

Training and education were the most commonly cited factors that would assist staff members in fulfilling their job requirements (62%).

Work conflicts were the most commonly mentioned barriers (24%).

Physicians most commonly cited a sense of duty as influencing their decision to join the BCU (54%).

Nurses more frequently cited the opportunity to make a difference in caring for others and to do something new (38%).

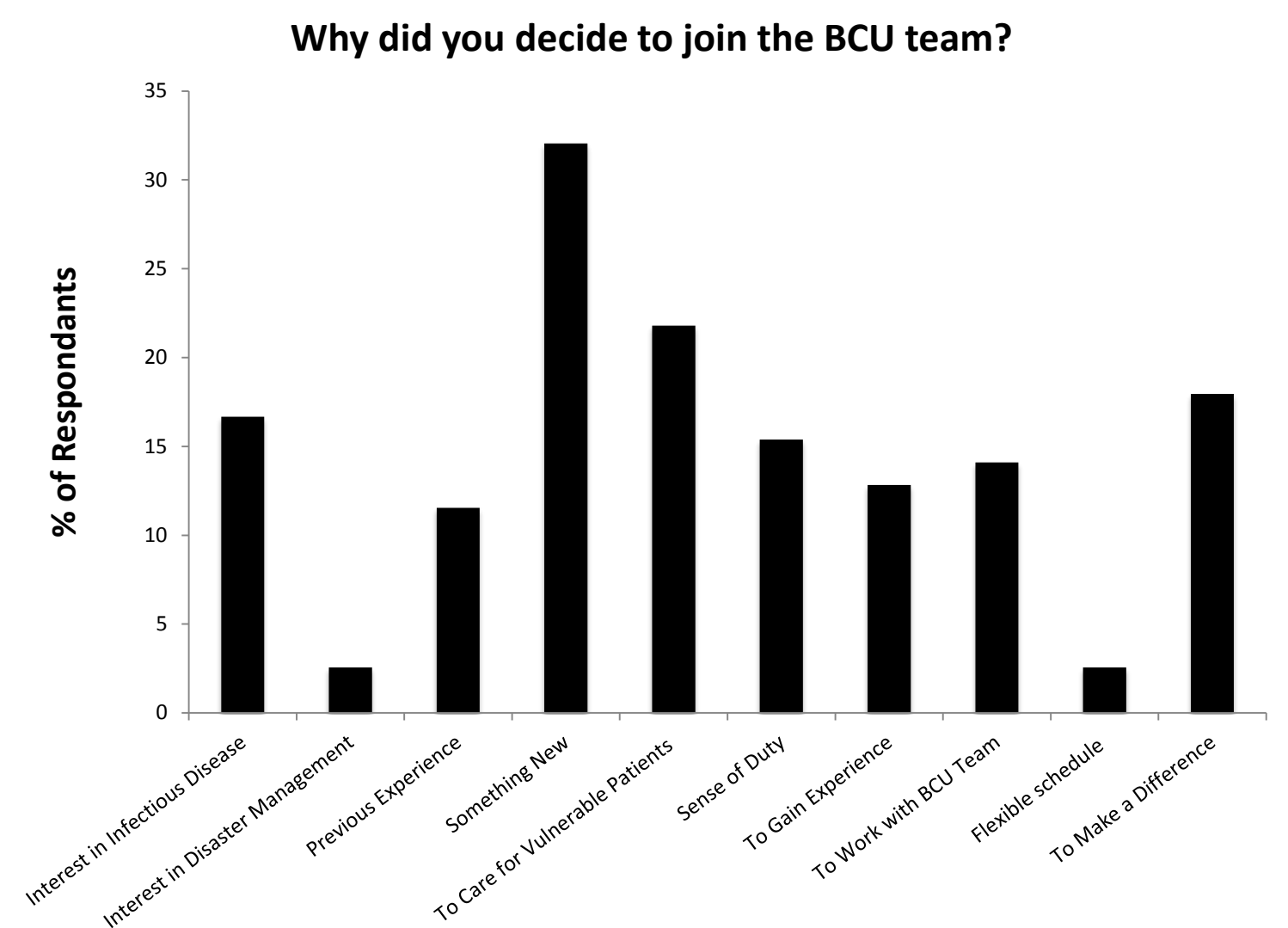


Figure 4. Staff responses to an open ended question regarding their reasons for joining the BCU.

## 5 Conclusions

- The majority of staff would report to duty on the BCU in the event of an outbreak, and feel that they would be working in a safe environment.
- While reasons for joining the unit differed by role, staff agreed that training and education would be the greatest aid in their ability to fulfill their responsibilities.

## 6 Future Directions

- A follow up survey is currently being drafted which will be distributed to all BCU staff members.
- This will contain the same questions asked in the original survey, as well as additional questions which will assess staff attitudes regarding the training they have received.

## 7 References

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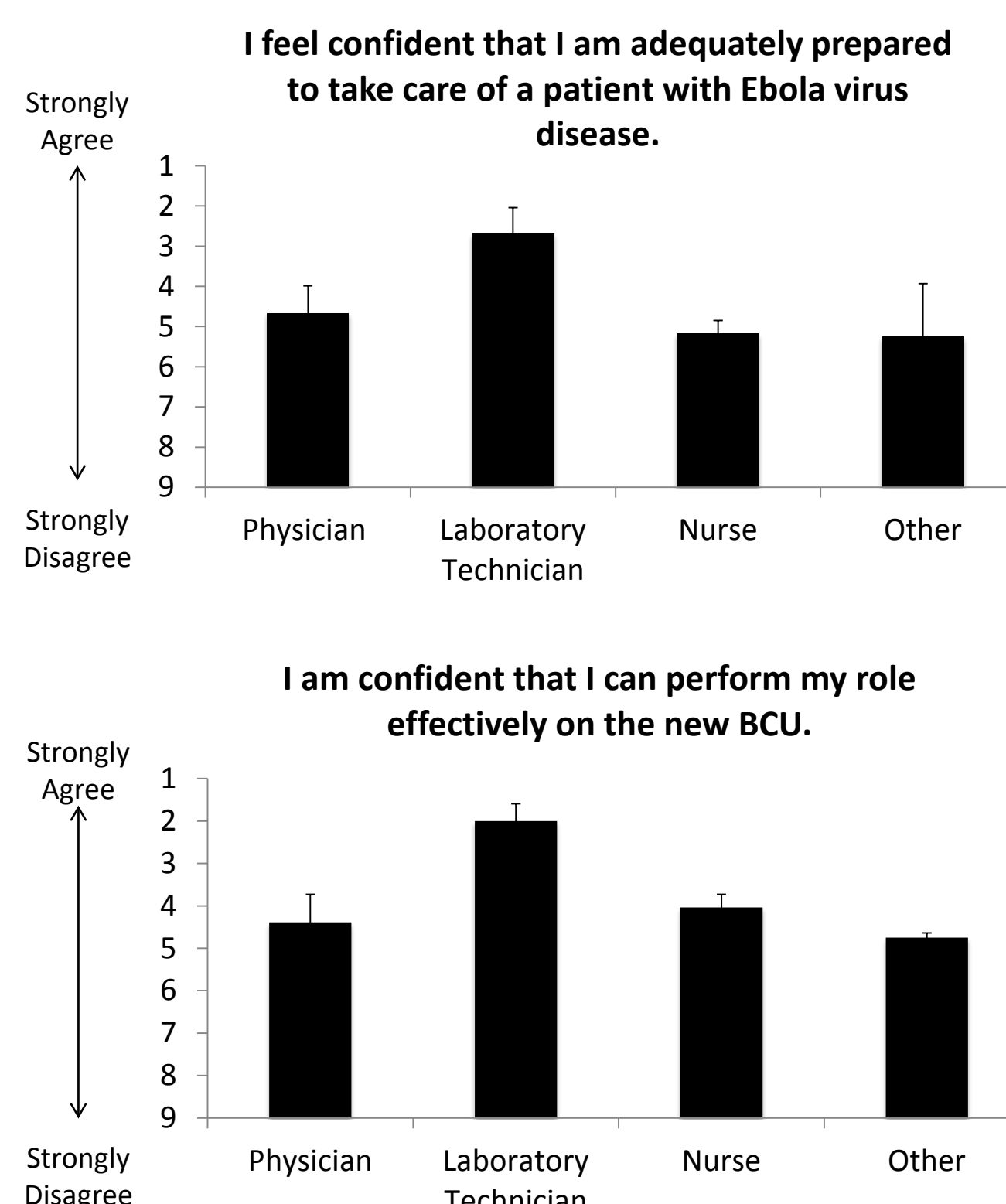


Figure 3. Staff members rated their agreement to questions on a scale from 1 (strongly agree) to 9 (strongly disagree). For the above two questions, responses differed significantly by group ( $p < 0.05$ ). Error bars represent standard error of the mean.