Name of virtual ICU: _____

Day: _____

Nurse number:_____

Gender: ☐ Male   ☐ Female

Time of interview: Beginning: _____   End:_____

Total duration of interview: _____

Interviewers (circle initials):   PC   PH   KM   AK   DW

Introduction:

Our research team at the University of Wisconsin received a grant from the National Science Foundation to study the work of virtual ICU nurses and the challenges they face when working with multiple ICUs.

You are being invited for this study because you are a nurse in a virtual ICU and we are interested in your work activities. Participation in this study is voluntary. You may change your mind at any time and discontinue your participation in this study. [Hand out the information sheet to the nurse.]

There is minimal risk associated with this interview. No identifying information will be collected. Only researchers associated with this project will have access to the data gathered.

Is it OK to audiotape the interview?

Do you have any questions about the study?

1. **Background**

   1.1. General background information
   - ☐ How long have you been working in the virtual ICU?
   - ☐ What is your typical work schedule?
   - ☐ How many ICUs do you typically monitor?
   - ☐ How many beds do you typically monitor?
   - ☐ Have you ever worked in any ICU you monitor? YES/NO
   - ☐ Are you currently working in an ICU you monitor? YES/NO
   - ☐ What are your critical care credentials?
   - ☐ What is your experience as an ICU nurse? (brief work history)

   1.2. Tell us about how you got started as a nurse in the virtual ICU.
   - ☐ Why did you decide to work in the virtual ICU?
   - ☐ What training did you receive? (methods and duration of training)
   - ☐ Positive aspects of training.
   - ☐ Negative aspects of training.
   - ☐ How prepared did you feel when you started as a virtual ICU nurse?

2. **Typical Shift**

   2.1. Tell us about your typical shift.
   - ☐ How do you organize your work shift?
   - ☐ What happens when you arrive?
   - ☐ What happens when your shift end?
   - ☐ Do you round on patients? How? Do you organize your rounding by ICU or by patient status?
   - ☐ Do you use any paper notes to keep track of patients?
   - ☐ Do you organize your work the way you were trained or by personal preference?

3. **Tools/Software**

   3.1. Tell us about the eCare manager.
   - ☐ Describe how you use the eCare manager.
   - ☐ Is it easy to use? Why? – Could you give us specific examples?
   - ☐ Is it difficult to use? Why? – Could you give us specific examples?
   - ☐ Please compare eCare manager to other software that you use.

   You interact with multiple ICUs that have different characteristics such as patient populations, organizations, structures, etc. We are interested in finding about challenges that you experience when interacting with different ICUs.

   3.2. How does eCare manager support your tasks of dealing with multiple ICUs?
   - ☐ Does it help or hinder your ability to multi-task across the various ICUs?
   - ☐ Could you give us specific examples?

   3.3. When you use eCare manager, how do you know which patients belong to which ICU?
   - ☐ How do you keep track of which patient you are monitoring? (e.g., software, hand written notes, paper list of patients)

   ➔ **Multiple ICUs**

4. Multiple ICUs

4.1. What are the challenges of interacting with multiple ICUs?

☐ Why is it easy? – Could you give us specific examples?

☐ Why is it difficult? – Could you give us specific examples?

☐ Different ICUs may have different cultures or organizations (e.g., intensivist versus no intensivist, level of involvement with virtual ICU). How do you deal with these differences in the ICUs that you monitor?

☐ How do you interact with ICU nurses that have different levels of expertise? Does the level of nursing expertise vary between ICUs? How do you change the way you interact with nurses with different levels of expertise? How does the level of nursing expertise affect how ICU nurses interact with you?

☐ How does the number of ICUs that you work with affect your workload?

☐ How does the number of ICUs that you work with affect your job satisfaction?

☐ How does the number of ICUs that you work with affect your job stress?

☐ How do you deal with different information systems (e.g., EHR) used by various ICUs and the interfaces of those systems with the eCare manager?

☐ Do you experience any challenge in dealing with multiple ICUs that use different equipment, such as ventilators?

☐ Is there anything else that you find challenging in dealing with multiple ICUs (e.g., one-way versus two-way video, protocols and guidelines used by different ICUs)?

4.2. How would you describe the relationship between your knowledge regarding a particular patient and the knowledge that nurses on the unit have about the same patient? [Note: can be skipped if lack of time.]

☐ Do you know more/less than the ICU nurse? Why? Could you give us specific examples?

☐ Do you know different things about the patient? Why? Could you give us specific examples?

☐ Does this change over the length of stay of the patient?

☐ How do you know if you have a common understanding of patients and their status and needs?

☐ Does this vary across ICUs that you monitor? In what way? Could you give us specific examples?

➔ **Communication & Relationship**

5. Communication

    5.1. Tell us about how you communicate with the ICUs.

- ☐ How often?
- ☐ What for?
- ☐ How? (e.g., phone, email, fax, camera)
- ☐ Routine/structured or ad hoc communication
- ☐ With whom? (**Note**: does the VICU nurse communicate only with ICU nurses or with other ICU staff such as ICU physicians, pharmacists, respiratory therapists, unit clerks, charge nurse and ICU nurse manager?)
- ☐ Could you give us specific examples?

    5.2. Do you communicate with some ICUs more often than others? Why?

    5.3. Do you adapt your communication to different ICUs?

- ☐ How does it change? (e.g., content, style, method, frequency)
- ☐ Could you give us specific examples?

6. Relationship

    6.1. Tell us about your relationship with nurses in the ICUs.

- ☐ Are you able to develop relationships with nurses in the ICUs?
- ☐ How do you develop relationships with nurses in the ICUs?
- ☐ Does your relationship with ICU nurses vary by ICU?
- ☐ Could you give us specific examples?

    6.2. Have you visited ICUs that you monitor?

- ☐ When?
- ☐ What was the purpose of the visits?
- ☐ Have you visited some ICUs more than once?
- ☐ How have the visits influenced your relationship with nurses in these ICUs?

    6.3. Have nurses in the ICUs you monitor visited you and your colleagues in the virtual ICU?

- ☐ When?
- ☐ Who visited you?
- ☐ What was the purpose of the visits?
- ☐ How have the visits influenced your relationship with nurses in these ICUs?

➔ **Trust and Quality of care**

7. Trust

    7.1. Is trust important in the relationship that you have with ICU nurses?

- ☐ What role does trust play in the relationship you have with the ICU nurses you work with?
- ☐ How do you build trust with ICU nurses?
- ☐ Does it exist both ways? If yes, why do you need to trust the ICU nurse?
- ☐ How would you describe trust? What is your definition of trust?
- ☐ Does it vary by ICU? Why?
- ☐ Are there certain ICUs that trust you more? Or are there certain ICUs that <u>you</u> trust more? Why?
- ☐ Does it vary by shift? Why? [Note: ask this question only if virtual ICU nurses work both day and night shifts.]
- ☐ Are there any other factors that affect trust? If yes, could you provide specific examples?
- ☐ Does it vary by ICU nurse? Are there some ICU nurses that you trust more than others? Why?
- ☐ Does trust vary over time? Are there situations where trust is more or less important? Could you provide specific examples?

    7.2. Do ICU nurses consider your patient care recommendations?

- ☐ Why?
- ☐ How do you know?
- ☐ Does it vary by ICU?
- ☐ What role does trust play in whether ICU nurses consider your patient care recommendations?
- ☐ If there is a disagreement with the ICU staff regarding patient care, how do you handle it?

8. Quality of care

    8.1. What do you think is the impact of the virtual ICU on quality of care?

- ☐ **Please ask about each of the following indicators:**
  - ☐ Appropriate use of DVT prophylaxis
  - ☐ Appropriate use of SUD prophylaxis
  - ☐ Ventilator day performance
  - ☐ Low tidal volume ventilation compliance
  - ☐ Glycemic control
  - ☐ Family/patient satisfaction

    8.2. What do you think is the impact of the virtual ICU on patient safety?

- ☐ **Please ask about each of the following indicators:**
  - ☐ Patient falls
  - ☐ Self-extubation
  - ☐ Medication safety

9. Conclusion

We are getting close to the end. I have some wrap up questions.

    9.1. What is it about your job at the virtual ICU that you like?

    9.2. What is it about your job at the virtual ICU that you dislike?

    9.3. Would you like to add anything else to our discussion?

Thank you for your participation.