



Center for Quality and  
Productivity Improvement  
University of Wisconsin-Madison



# Survey on EHR/CPOE for Geisinger ICU Physicians, PAs and NPs



1 year after the implementation...

## Letter to Geisinger Intensive Care Unit Staff

Dear Geisinger ICU Staff,

A group of University of Wisconsin researchers is working in collaboration with researchers from Geisinger's Center for Health Research on a study examining the impact of Computerized Provider Order Entry (CPOE) and Electronic Health Record (EHR) technologies on the work organization and quality of working life. This survey is part of an effort to evaluate the technology before and after its implementation. Like any intervention, use of an EHR may result in unintended consequences. We ask you to complete this survey to help us assess the implications, both positive and negative, of using the EHR (Epic). This will aid us in the ongoing task of making the EHR more useful to you.

We have already collected survey data twice:

- before implementation of the CPOE technology, and
- three months after implementation of the technology.

We are now collecting a final round of data 12 months after the technology has been in use. Your response is greatly appreciated.

**Completion of the survey is voluntary.** We are collecting information about your job, the quality of your working life, and your perceptions of the technology and your performance. The questionnaire will take about 15 minutes to complete. You can leave blank any questions you do not want to answer. **No one at your workplace will ever see your answers.** Your responses are strictly confidential and will be closely guarded. Research staff will be the only people to see your answers. Your name and other identifying information will not be associated with your survey answers. All results of this study will be reported in the aggregate so that no one person can be identified. No answers of individuals will ever be released.

It is our hope that through the information we obtain from this study, we can better understand how EHR technology affects employees. Thank you for your consideration.

Sincerely,

*Pascale Carayon*

*James M. Walker, MD*

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### Instructions

When completing the questionnaire, you can leave blank any questions that you do not want to answer. Remember that your responses are strictly confidential and will be closely guarded. This questionnaire has been designed to gather information about the work you do, the technology you use, and your quality of working life. Please try to answer all of the questions. To answer the questions, check the appropriate box on the scale. For example:

	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
1. Communication with people on this ICU is very open.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

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Some questions will require answers similar to the scale above, while other questions will require different responses. Please try to be as accurate as possible.

## Section A. About your job...

If you are a resident or intern, please answer the following questions for the ICU you worked on most recently.

1. Please check your current job position:

- <sub>1</sub> Physician Assistant (PA)      <sub>2</sub> Nurse Practitioner (NP)      <sub>3</sub> Attending  
<sub>4</sub> Fellow      <sub>5</sub> Resident (years 2 & 3)      <sub>6</sub> Intern (year 1)

2. How long have you worked for Geisinger? \_\_\_\_\_ years \_\_\_\_\_ months

3. What unit do you primarily work on? <sub>1</sub> Adult ICU <sub>2</sub> Cardiac ICU <sub>3</sub> Pediatric ICU <sub>4</sub> Neonatal ICU

4. How long have you worked on your current ICU? \_\_\_\_\_ years \_\_\_\_\_ months

5. How many hours do you work at your job in an average week? \_\_\_\_\_ hours per week

6. When during the week do you typically work? <sub>1</sub> Weekdays <sub>2</sub> Weekends <sub>3</sub> Both

7. When do you typically work? <sub>1</sub> Day (first shift) <sub>2</sub> Evening (second shift) <sub>3</sub> Night (third shift)

8. How long is your typical shift? <sub>1</sub> 8 hours <sub>2</sub> 12 hours <sub>3</sub> Other: \_\_\_\_\_

9. If you are a **resident**, please indicate which month you worked in the ICU:

- <sub>1</sub> January    <sub>2</sub> February    <sub>3</sub> March    <sub>4</sub> April    <sub>5</sub> May    <sub>6</sub> June    <sub>7</sub> July    <sub>8</sub> August    <sub>9</sub> September    <sub>10</sub> October    <sub>11</sub> November    <sub>12</sub> December

## Section B. About communication and coordination in the ICU...

If you are a resident, when answering the questions in this section, please think about the ICU that you worked on most recently.

	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
1. Communication with <u>nurses</u> on this ICU is very open.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>
2. It is easy to ask advice from <u>nurses</u> on this ICU.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>
3. Communication with <u>physicians/PAs/NPs</u> on this ICU is very open.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>
4. It is easy to ask advice from <u>physicians/PAs/NPs</u> on this ICU.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>
5. I can think of a number of times when I received incorrect information regarding patient care from <u>nurses</u> on this ICU.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>
6. It is often necessary for me to go back and check the accuracy of information regarding patient care I have received from <u>nurses</u> on this ICU.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>

7. I can think of a number of times when I received incorrect information regarding patient care from <u>physicians/PAs/NPs</u> on this ICU.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. It is often necessary for me to go back and check the accuracy of information regarding patient care I have received from <u>physicians/PAs/NPs</u> on this ICU.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. I get information on the status of patients when I need it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. When a patient's status changes, I get relevant information quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. In matters pertaining to patient care, nurses call <u>physicians</u> in a timely manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. There is effective communication between <u>nurses</u> across shifts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. <u>Nurses</u> associated with the unit are well informed regarding events occurring on other shifts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14. There is effective communication between <u>physicians/PAs/NPs</u> across shifts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15. <u>Physicians/PAs/NPs</u> associated with the unit are well informed regarding events occurring on other shifts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Not at all effective	Slightly effective	Moderately effective	Effective	Very effective
16. To what extent does <u>one-to-one communication</u> between staff contribute to the coordination of staff activities <u>within your ICU</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. To what extent do <u>daily staff rounds</u> contribute to the coordination of staff activities <u>within your ICU</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Section C. About the EHR (Epic) in general...

*This section asks about the EHR or Electronic Health Record also known as the Inpatient Epic system.*

*Please rate the following characteristics of the EHR.*

1. Learning to operate the system	Difficult	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Easy
2. Exploring new features by trial and error	Difficult	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Easy
3. Remembering names and use of commands	Difficult	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Easy
4. Tasks can be performed in a straightforward manner.	Never	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Always
5. Help messages on screen	Unhelpful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Helpful
6. Experienced and inexperienced users' needs are taken into consideration	Never	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Always
7. Correcting your mistakes	Difficult	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Easy

8. Please check the box that best reflects your acceptance of the EHR:

Dislike very much and  
don't want to use

Like very much and  
eager to use

<sub>1</sub>    <sub>2</sub>    <sub>3</sub>    <sub>4</sub>    <sub>5</sub>    <sub>6</sub>    <sub>7</sub>    <sub>8</sub>    <sub>9</sub>    <sub>10</sub>

*The following five questions ask about specific parts of the EHR.*

9. What are your overall reactions to order entry (CPOE)?

a. Difficult    <sub>0</sub> <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub> <sub>5</sub> <sub>6</sub> <sub>7</sub> <sub>8</sub> <sub>9</sub> Easy

b. Frustrating    <sub>0</sub> <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub> <sub>5</sub> <sub>6</sub> <sub>7</sub> <sub>8</sub> <sub>9</sub> Satisfying

10. Order entry (CPOE) functions as I expect.

c. Never    <sub>0</sub> <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub> <sub>5</sub> <sub>6</sub> <sub>7</sub> <sub>8</sub> <sub>9</sub> Always

11. What are your overall reactions to the electronic medication administration record (eMAR)?

d. Difficult    <sub>0</sub> <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub> <sub>5</sub> <sub>6</sub> <sub>7</sub> <sub>8</sub> <sub>9</sub> Easy

e. Frustrating    <sub>0</sub> <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub> <sub>5</sub> <sub>6</sub> <sub>7</sub> <sub>8</sub> <sub>9</sub> Satisfying

12. The electronic medication administration record (eMAR) functions as I expect.

f. Never    <sub>0</sub> <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub> <sub>5</sub> <sub>6</sub> <sub>7</sub> <sub>8</sub> <sub>9</sub> Always

13. What are your overall reactions to the nursing flowsheet?

g. Difficult    <sub>0</sub> <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub> <sub>5</sub> <sub>6</sub> <sub>7</sub> <sub>8</sub> <sub>9</sub> Easy

h. Frustrating    <sub>0</sub> <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub> <sub>5</sub> <sub>6</sub> <sub>7</sub> <sub>8</sub> <sub>9</sub> Satisfying

*The following questions ask specifically about the CPOE or order entry system of the EHR.*

	Never			It varies			Always
14. The order entry system is reliable – it does its job consistently.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
15. Order entry improves my productivity.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
16. Order entry has a negative impact on patient care.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
17. Order entry reduces patient care errors.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
18. The order entry system is easy to use.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
19. Compared to paper ordering, order entry slows me down.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
20. Order entry gives me the information I need to write better orders.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
21. I feel I had adequate training on order entry.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
22. Order entry improves the quality of patient care.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
23. System response time on order entry is slow.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
24. When I have a problem with order entry, I just ask someone for help.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>

	Never		It varies			Always	
25. I feel that I can benefit from refresher classes on order entry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. When I need help on order entry, I can find it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Overall, order entry improves the safety of care I provide.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Overall, order entry saves me time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Overall, I am satisfied with the order entry system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***The following questions ask about the usefulness of specific features in order entry (CPOE).***

	Not useful at all		It varies			Extremely useful		Never use this feature
30. Order sets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Writing orders from off the patient floor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Orders with pre-filled medication dose, frequency and indication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***How useful are the following features in identifying a problem with a medication order?***

	Not useful at all		It varies			Extremely useful	
33. Allergy warnings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Drug-drug interaction warnings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Duplicate medication order warnings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***How useful are the following features in correcting a problem with a medication order?***

	Not useful at all		It varies			Extremely useful	
36. Allergy warnings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. Drug-drug interaction warnings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. Duplicate medication order warnings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***The following questions ask about drug alerts in the EHR.***

39. How often do you override the drug alerts in the EHR?	Never	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Always
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**To what extent do you agree or disagree with the following statements about drug alerts?**

	Strongly Disagree	Moderately Disagree	Neither Disagree Nor Agree	Moderately Agree	Strongly Agree	Not Sure/Not Applicable
40. Drug alerts help me prescribe safely.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
41. Drug alerts often identify interactions which are clinically useful.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
42. Drug alerts identify clinical situations where an alternative medicine may be less of a risk	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>

**In your experience with EHR thus far, to what extent has each of the following factors limited your use of the EHR drug alert system in your practice?**

	A great deal	Moderately	Somewhat	A little	Not at all	Not sure
43. Too many non-relevant alerts	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
44. Lack of time to review alerts	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
45. Lack of trust in content of alert	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
46. Alert does not allow for tailoring to providers' individual needs (e.g., cannot turn alert function on/off)	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>
47. Poor visual presentation (e.g., too much information displayed, difficult to read)	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>

**Section D. About your quality of working life...**

*Please indicate to what extent you agree or disagree with the following statements.*

	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
1. In general, I am satisfied with the quality of care that I provide.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>
2. I have enough time to complete patient care tasks safely.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>
3. I usually have plenty to do; but I can always follow rules and procedures related to patient safety and standards of care.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>
4. We have patient safety problems in our unit.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>
5. I feel that it is just pure luck that more serious mistakes don't happen around here.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>

	Never	A few times a year or less, almost never	Once a month or less, rarely	A few times a month, some-times	Once a week, rather often	A few times a week, nearly all the time	Every day
6. How often does an error occur when a medication is ordered?	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
7. If an error occurs when a medication is ordered, how often is it detected before it can lead to an adverse event?	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>

*The following questions deal with the workload that you experience in your job. Please put an 'X' on each of the following six scales at the point that matches your overall experience of workload.*

	Low	High
8. <b>Mental demand.</b> How much mental activity is required to perform your job (thinking, deciding, calculating, remembering, looking, searching, etc...)?		
9. <b>Physical demand.</b> How much physical activity is required to perform your job (e.g., pushing, pulling, turning, controlling, activating, etc.)?		
10. <b>Temporal demand.</b> How much time pressure do you feel due to the rate or pace at which the tasks or task elements occurred?		
11. <b>Effort.</b> How hard do you have to work (mentally and physically) to accomplish your level of performance?		
12. <b>Performance.</b> How satisfied are you with your performance at your job?		
13. <b>Frustration level.</b> How insecure, discouraged, irritated, stressed and annoyed versus secure, gratified, content, relaxed and complacent do you feel about your job?		

14. In general, how much influence do you have over work and work-related factors?	Very little	A little	Moderate amount	Much	Very much
	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>

	Never	A few times a year or less, almost never	Once a month or less, rarely	A few times a month, some-times	Once a week, rather often	A few times a week, nearly all the time	Every day
15. I feel emotionally drained from my work.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
16. I feel used up at the end of the workday.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
17. I feel fatigued when I get up in the morning and have to face another day on the job.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
18. Working all day is really a strain for me.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>
19. I feel burned out from my work.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>



20. All in all, how satisfied would you say you are with your job?

Not at all satisfied	Not too satisfied	Somewhat satisfied	Very satisfied
<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

21. How likely is it that you will actively look for a new job in the next year?

Not at all likely	Somewhat likely	Quite likely	Extremely likely
<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>	

## Section E. About you...

1. What is your gender?     <sub>1</sub> Male     <sub>2</sub> Female

2. What is your education level? (Check only one)

<sub>1</sub> Graduated from college (BA, BS)     <sub>2</sub> Some graduate school     <sub>3</sub> Graduate degree (Masters, Ph.D., M.D.)

3. How old are you?     <sub>1</sub> 34 or less     <sub>2</sub> 35-44     <sub>3</sub> 45-54     <sub>4</sub> 55+

4. Are you of Hispanic or Latino origin?     <sub>1</sub> Yes     <sub>2</sub> No

5. What is your racial background? (Check all that apply)

<sub>1</sub> American Indian / Alaska Native

<sub>2</sub> Asian

<sub>3</sub> Native Hawaiian or Other Pacific Islander

<sub>4</sub> Black / African American

<sub>5</sub> White

<sub>6</sub> Other (please specify): \_\_\_\_\_

6. How many years of computer experience do you have?

Less than 1 year	2-3 years	4-5 years	6-10 years	11-20 years	More than 20 years
<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>


7. How much experience do you have with the EPIC in the Outpatient setting?

None, or very little	A little	Moderate amount	Much	Very much
<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>

8. How much experience do you have using computers?

I never use it			Occasional user			I am a regular and expert user
<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>	<input type="checkbox"/> <sub>5</sub>	<input type="checkbox"/> <sub>6</sub>	<input type="checkbox"/> <sub>7</sub>

Please write any comments you may want to share with the research team.

A large, empty rectangular box with a thin black border, intended for participants to write their comments. The box is currently blank.

Thank you very much for your participation in this study.

When utilizing this document please cite:

1. Hoonakker, P. L., Carayon, P., Brown, R. L., Cartmill, R. S., Wetterneck, T. B., & Walker, J. M. (2013a). Changes in end-user satisfaction with Computerized Provider Order Entry over time among nurses and providers in intensive care units. *Journal of the American Medical Informatics Association*. 20(2): 252-259. PMID: PMC3638190
2. Hoonakker, P. L., Carayon, P., Walker, J. M., Brown, R. L., & Cartmill, R. S. (2013b). The effects of computerized provider order entry implementation on communication in intensive care units. *International Journal of Medical Informatics*. 82(5): e107-e117. PMID: PMC3624062
3. Carayon, P., Cartmill, R., Blosky, M. A., Brown, R., Hackenberg, M., Hoonakker, P., Hundt, A.S., Norfolk, E., Wetterneck, T.B. & Walker, J. M. (2011). ICU nurses' acceptance of electronic health records. *Journal of the American Medical Informatics Association*. 18(6): 812-819. PMID: PMC3197984
4. Hoonakker, P. L., Cartmill, R. S., Carayon, P., & Walker, J. M. (2011). Development and psychometric qualities of the SEIPS survey to evaluate CPOE/EHR implementation in ICUs. *International Journal of Healthcare Information Systems and Informatics*. 6(1): 51-69. PMID: PMC3070305