

Center for Quality and Productivity Improvement University of Wisconsin-Madison



Survey on EHR/CPOE for Geisinger ICU Nurses



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.

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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	Agraa	Strongly
	Disagree	Disagree	Nor Agree	Agree	Agree
1. Communication with people on this ICU is very open.		\square_2	X	\square_4	\square_5

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.

Se	ection A. About your job						
1.	How long have you worked for Ge	eisinger?	years _		_ months		
2.	What unit do you primarily work of	on? □1 Adult ICU [☐₂ Cardiac ICU	J □3 Pedia	atric ICU	□ ₄ Neonatal I	CU
3.	How long have you worked on you	ur current ICU?	years		months		
4.	How many hours do you work at y	our job in an <u>avera</u>	ige week? _		hours	per week	
5.	When during the week do you typi	cally work?	□1 Weekdays	\square_2	Weekends	□ ₃ Both	
6.	When do you typically work?	□ ₁ Day (first shift)	\square_2 Evening (second shift)	□ ₃ Nigh	t (third shift)	
7.	How long is your typical shift?	□ ₁ 8 hours	□ ₂ 12 hours		Other:		
~							
Se	ection B. About communication	on and coordina	ation in th	ie ICU			
			Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
1.	Communication with <u>nurses</u> on this	ICU is very open.		\square_2	\square_3	□4	□₅
2.	It is easy to ask advice from <u>nurses</u>	on this ICU.		\square_2	\square_3	\square_4	
	Communication with <u>physicians/PA</u> ICU is very open.			\square_2	\square_3	□4	
4.	It is easy to ask advice from physici this ICU.	ans/PAs/NPs on	\square_1	\square_2	\square_3	\square_4	\square_5
5.	I can think of a number of times wh incorrect information regarding panurses on this ICU.		 1	\square_2	\square_3	\square_4	D ₅
6.	It is often necessary for me to go ba accuracy of information regarding have received from <u>nurses</u> on this	patient care I		\square_2	\square_3	\square_4	D ₅
7.	I can think of a number of times wh incorrect information regarding pa physicians/PAs/NPs on this ICU.			\square_2	\square_3	\square_4	D ₅
8.	It is often necessary for me to go bat accuracy of information regarding have received from physicians/PA ICU.	patient care I	D 1	\square_2	\square_3	\square_4	\square_5
9.	I get information on the status of pa it.	tients when I need		\square_2		\square_4	
10	. When a patient's status changes, I information quickly.	get relevant		\square_2	\square_3	\square_4	
11	. In matters pertaining to patient car physicians in a timely manner.	e, nurses call		\square_2	\square_3	\square_4	

 \square_1

 \square_2

 \square_3

 \square_4

12. There is effective communication between <u>nurses</u>

across shifts.

 \square_5

regarding events occurring on other shifts	nformed s.]1		2		\beth_3		\square_4		\square_5
14. There is effective communication between physicians/PAs/NPs across shifts.]1		2]3		\square_4		
15. Physicians/PAs/NPs associated with the well informed regarding events occurring shifts.]1		2]3		\square_4		
		Not effec	at all	Sligh effect	•		erately ctive		fectiv	e e	Very effective
16. To what extent does <u>one-to-one commun</u> between staff contribute to the coordinati activities <u>within your ICU</u> ?		_]1		2		\beth_3		\square_4		\square_5
17. To what extent do <u>daily staff rounds</u> cont the coordination of staff activities <u>within</u>]1		2]3		\square_4		
Section C. About the EHR (Epic) in This section asks about the EHR or Electro Please rate the following characteristics of the section is the section of the section in the section in the section is the section in the section in the section in the section is the section in the section in the section in the section is the section in t	nic Health I		l also	knowi	n as t	the In	patie	ent E	Epic s	ysten	ı.
1 Learning to operate the system], 🗆	. D .	٦ۦ	□,	\square_7	□。		D 10	Easy
1. Learning to operate the system 2. Exploring new features by trial and error	Difficult			$\Box_3 \Box_4$							
Learning to operate the system Exploring new features by trial and error Remembering names and use of commands				₃ □ ₄					□,		Easy Easy
2. Exploring new features by trial and error 3. Remembering names and use of	Difficult Difficult			\Box_3 \Box_4 \Box_4 \Box_4							Easy
Exploring new features by trial and error Remembering names and use of commands Tasks can be performed in a	Difficult Difficult Difficult			$ \begin{array}{cccccccccccccccccccccccccccccccccccc$					□ ₉ □ ₉		Easy
Exploring new features by trial and error Remembering names and use of commands Tasks can be performed in a straightforward manner.	Difficult Difficult Never			$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		\Box_6 \Box_6 \Box_6 \Box_6			□ ₉ □ ₉ □ ₉		Easy Easy Always
2. Exploring new features by trial and error 3. Remembering names and use of commands 4. Tasks can be performed in a straightforward manner. 5. Help messages on screen 6. Experienced and inexperienced users'	Difficult Difficult Difficult Never Unhelpful			$\begin{vmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \end{vmatrix}$ $\begin{vmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \end{vmatrix}$ $\begin{vmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \end{vmatrix}$	\square_5 \square_5 \square_5 \square_5 \square_5 \square_5	\Box_{6} \Box_{6} \Box_{6} \Box_{6} \Box_{6}					Easy Easy Always Helpful Always
2. Exploring new features by trial and error 3. Remembering names and use of commands 4. Tasks can be performed in a straightforward manner. 5. Help messages on screen 6. Experienced and inexperienced users' needs are taken into consideration	Difficult Difficult Difficult Never Unhelpful Never Difficult			$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	\square_5 \square_5 \square_5 \square_5 \square_5 \square_5	\Box_{6} \Box_{6} \Box_{6} \Box_{6} \Box_{6}					Easy Easy Always Helpful Always
2. Exploring new features by trial and error 3. Remembering names and use of commands 4. Tasks can be performed in a straightforward manner. 5. Help messages on screen 6. Experienced and inexperienced users' needs are taken into consideration 7. Correcting your mistakes	Difficult Difficult Difficult Never Unhelpful Never Difficult			$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	\square_5 \square_5 \square_5 \square_5 \square_5 \square_5	\Box_{6} \Box_{6} \Box_{6} \Box_{6} \Box_{6}					Easy Easy Always Helpful Always

Strongly Disagree

Disagree

Neither Disagree Nor Agree

Strongly Agree

Agree

The following five question	ons (ask about <u>spec</u>	ific p	<u>arts</u> (of the	e EH	R.							
9. What are your overall reactions to order entry (CPOE)?														
	a.	Difficult	\square_0		\square_2	\square_3	\square_4		\square_6	\square_7	\square_8	\square_9	Easy	
	b.	Frustrating	\square_0		\square_2	\square_3	\square_4	\square_5	\square_6	\square_7	\square_8	□ 9	Satisfying	
10. Order entry (CPOE) fu	unct	ions as I expec	t.											
	c.	Never	\square_0		\square_2	\square_3	\square_4	\square_5	\square_6	\square_7	\square_8	\square_9	Always	
11. What are your overall	11. What are your overall reactions to the electronic medication administration record (eMAR)?													
	d.	Difficult	\square_0		\square_2	\square_3	\square_4		\square_6	\square_7	\square_8	□9	Easy	
	e.	Frustrating				\square_3	\square_4		\square_6	\square_7	\square_8	□,	Satisfying	
12. The electronic medica	tion	administration	n reco	rd (el	MAR	() fun	ction	is as l	exp	ect.				
	f.	Never	\square_0		\square_2	\square_3	\square_4	\square_5	\square_6	\square_7	\square_8	\square_9	Always	
13. What are your overall	reac	ctions to the nu	ırsing	flow	sheet	?								
	g.	Difficult			\square_2	\square_3	\square_4		\square_6		\square_8	□,	Easy	
	h.	Frustrating			\square_2	\square_3	\square_4		\square_6	\square_7	\square_8	□,	Satisfying	
The following questions of	ısk s	specifically <u>ab</u>	out th	e CP	OE a	or ord	ler ei	ntry s	ysten	n of i	the E	HR.		
											Īŧ			
						Nev	er			V	It varies			Always
14. The order entry system consistently.	n is	reliable – it do	es its	job		Nev						0	5 □6	Always
			es its	job			l				aries			
consistently.	my j	productivity.									varies		₅ \square_6	
consistently. 15. Order entry improves	my j	productivity.					l L			i	varies		5 □ ₆ 5 □ ₆	
consistently. 15. Order entry improves 16. Order entry has a negative consistently.	my j	productivity. e impact on pat									varies	0	$ \begin{array}{ccc} & \Box_6 \\ & \Box_6 \\ & \Box_6 \end{array} $	
consistently. 15. Order entry improves 16. Order entry has a negative part of the consistently.	my jative	productivity. e impact on pat nt care errors. easy to use.	ient c	are.						i i	varies 04 04 04 04	0	$ \Box_{6} $	
consistently. 15. Order entry improves 16. Order entry has a negative form of the control of t	my j ative atien n is	productivity. e impact on patent care errors. easy to use. ng, order entry	ient c	are.	ee					; ;	varies □ 4 □ 4 □ 4 □ 4 □ 4 □ 4		5	
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consistently. 15. Order entry improves 16. Order entry has a negative section of the section o	my jative atien is derinthe i	productivity. e impact on patent care errors. easy to use. ng, order entry nformation I n	slows eed to	are.	re e	0, 0, 0, 0, 0,					raries □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4		5	
consistently. 15. Order entry improves 16. Order entry has a negative section of the section o	my justive attention is derinthe i	productivity. e impact on patent care errors. easy to use. ng, order entry nformation I n	slows eed to	are.	e						raries □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4		5	
consistently. 15. Order entry improves 16. Order entry has a negative section of the section o	my m	productivity. e impact on patent care errors. easy to use. ng, order entry nformation I noting on order enquality of patients	slows eed to try. ent can	are. s me write	ee e						raries □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4		5	
consistently. 15. Order entry improves 16. Order entry has a negative form. 17. Order entry reduces part of the form of the	my m	productivity. e impact on patent care errors. easy to use. ng, order entry information I noting on order entry quality of patients order entry is so	slows eed to try. ent can low.	are. s me write							raries □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4		5	
consistently. 15. Order entry improves 16. Order entry has a negative section of the section o	my justive attention is derinthe in the interval on community of the interval on the interval	productivity. e impact on patent care errors. easy to use. ng, order entry nformation I noting on order enquality of patients order entry is so ith order entry.	slows eed to try. low. I just	are. s me o write							raries □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □ 4 □		5	

provide.

				It	
	Never			varies	Always
28. Overall, order entry saves me time.	 1		\square_3	\square_4	\Box_6 \Box_7
29. Overall, I am satisfied with the order entry system.			\square_3	\square_4	\square_6 \square_7
Section D. About your quality of working life					
Please indicate to what extent you agree or disagree with	the follow	ino sta	tem en	ets.	
Trease maneure to man extent you agree or ansagree man	ine jono n	mg sm		Neither	
	Strongly			Disagree	Strongly
	Disagree		agree	Nor Agre	
1 In general Lam satisfied with the quality of care that I					

Tieuse indicate to what extent you agree	or aisa	gree wun in	e jouowing	z siaiemen	us.		
			Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
1. In general, I am satisfied with the qual provide.	ity of ca	are that I		\square_2	\square_3	\square_4	
2. I have enough time to complete patien	t care ta	sks safely.	\square_1	\square_2	\square_3	\square_4	\square_5
3. I usually have plenty to do; but I can a rules and procedures related to patier standards of care.	•			\square_2	□3	\square_4	
4. We have patient safety problems in ou	r unit.		\square_1	\square_2	\square_3	\square_4	\square_5
5. I feel that it is just pure luck that more don't happen around here.	serious	mistakes		\square_2	\square_3	□4	
	Never	A few times a year or less, almost never	Once a month or less, rarely	A few times a month, sometimes	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?		\square_2	\square_3	□₄	\square_5	\square_6	\square_7
7. If an error occurs when a medication is ordered, how often is it detected before it can lead to an adverse event?		\square_2		\square_4		\square_6	

		kload that you experience in yo atches your overall experience	-	out an 'X' on each of
			Low	High
		vity is required to perform your bering, looking, searching, etc	·	
		ctivity is required to perform your rolling, activating, etc.)?	our []]	
_	d. How much time preetasks or task eleme	ressure do you feel due to the rat nts occurred?	te []	
	lo you have to work ovel of performance?	(mentally and physically) to	ليليليا	
12. Performance. How	v satisfied are you wi	ith your performance at your job	o? [_ _	
	eure, gratified, conten	uraged, irritated, stressed and at, relaxed and complacent do yo	ou []]]]	
14 In general how mi	ich influence do vou	have over work and work-relate	ed factors?	
Very little	A little	Moderate amount	Much	Very much
	\square_2	\square_3	\square_4	
		A few		A few

Very little	A little	Moderate an	Moderate amount		Much		Very much	
\square_1	\square_2	\square_3	\square_3				\square_5	
		Never	A few times a year or less, almost never	Once a month or less, rarely	A few times a month, sometimes	Once a week, rather often	A few times a week, nearly all the time	Every day
15. I feel emotionally da	rained from my work.		\square_2		\square_4	□ ₅	\square_6	
16. I feel used up at the	end of the workday.		\square_2	\square_3	\square_4		\square_6	\square_7
- C	I get up in the morning other day on the job.			□3	□4		\square_6	
18. Working all day is r	eally a strain for me.		\square_2	\square_3	\square_4		\square_6	\square_7
19. I feel burned out fro	m my work.		\square_2	\square_3	\square_4		\square_6	\square_7

20. All in all, how satisfied would you say you are with your job?							
Not at all satis	fied	Not too satisfied		Somewhat satisfied	,	Very satisfied	
		\square_2		\square_3		\square_4	
21. How likely is	it that you wi	ll actively look for	a new job in	the next year?			
Not at all likely		Somewhat likely		Quite likely		Extremely likely	
\square_1	\square_2	\square_3	\square_4	\square_5	\square_6	\square_7	

Section	E. About	you

1. What is your gender?	\square_1 Male	\square_2 Female
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2.	What	is your	education	level?	(Check	only one)
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					•		
□ ₁ Some college or	technical	training	beyond	high	school	(1-3)	years)

 \square_3 Some graduate school

\square_2	Graduated	from	college	(BA,	BS)
			\mathcal{C}	, ,	,

□₄ Graduate degree (Masters, Ph.D., M.D.)

3. How old are you?	\square_1 34 or less	\square_2 35-44 \square_3 45-54	□ ₄ 55+						
4. Are you of Hispan	nic or Latino orig	gin? \square_1 Yes \square_2	₂ No						
\square_2 Asian	al background? (ndian / Alaska Nativ vaiian or Other Pacif	e	□4 Blac □5 Whi	ck / African American te er (please specify):					
6. How many years Less than 1 year □₁	of computer experiments of co	erience do you have 4-5 years \$\square\$_3\$? 6-10 years □ ₄	11-20 years □ ₅	More than 20 years □ ₆				
7. How much experi	ience do you have	e with the EPIC in the	he Outpatient sett	ing?					
None, or very little \square_1	A little \square_2	Moderate □		Much □₄	Very much □₅				
8. How much experi	ience do you have	e using computers?							
I never use it \square_1	\square_2	Occasion □₃ □		\square_6	I am a regular and expert user □ ₇				
Please write any cor	Please write any comments you may want to share with the research team.								

Thank you very much for your participation in this study.