SURVEY

UWHC – Smart IV Pumps

Right after the implementation…
Dear UWHC employee,

A group of UW-Madison researchers are working on a study of the impact of the introduction of the smart IV pump technology on work organization and quality of working life. This survey is part of the effort to evaluate the technology before and after its implementation. We are collecting questionnaire data before the implementation of the smart IV pump technology and after the implementation of the technology and a period of its use. You will receive this survey before the Smart pumps are implemented, one month after implementation and one year following implementation. Your response for each survey round is appreciated.

Participation in the study is voluntary, and there is no requirement for you to be a participant. If you do agree to be in the study, you are asked to fill out the enclosed questionnaire, which will tell us about your job, your quality of working life, your perceptions of the technology and your performance. The questionnaire will only take about 15 minutes to fill out. When completing the questionnaire, you can leave blank any questions that you do not want to answer. **No one at your work place will ever see your answers.** Your responses are strictly confidential and will be closely guarded. My students and I will be the only people to ever see your answers. All reports from this study will use responses from all of the participants so that no one person can be identified. My research staff and I will be the only people to ever see your answers. No answers of individuals or small groups of individuals will ever be released.

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

Sincerely,

Pascale Carayon

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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, circle the appropriate response on the scale. For example:

How satisfied are you with the computer you use?
Not Satisfied ↔ ⬅ ▶ Very Satisfied
1 2 3 4 5 6 7

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

We appreciate the time you are taking to complete this questionnaire and hope that the information will help us better understand how new technology influences people.
Section A. About your job…
1. Please, check your current job position: □ 1 RN □ 2 Float/Agency RN □ 3 CRNA □ 4 MD □ 5 Other

2. How long have you worked for your present employer? _________ years _________ months

3. How long have you worked in your current job (position)? _________ years _________ months

4. What unit do you work in?
   □ 1 B4/6 □ 2 B6/4 □ 3 B6/5 □ 4 B6/6 □ 5 B6N3 & B6S3 TLC □ 6 B4/3 □ 7 D4/4 □ 8 D4/C4 □ 9 D4/6
   □ 10 D6/4 □ 11 D6E4 □ 12 D6/5 □ 13 D6/6 □ 14 D6C6 □ 15 F4/5 & F6C5 □ 16 F4/6 □ 17 F4M5
   □ 18 F4P4, F4/4 & F6/4 □ 19 F8/4 □ 20 F6/5 □ 21 F6/6 □ 22 Emergency Dept □ 23 PACU / Operating Room
   □ 24 Radiology □ 25 Ambulatory Procedure Center □ 26 Outpatient clinics □ 27 Other ________________

5. What is the shift that you typically work? □ 1 Day □ 2 pm □ 3 Night

Section B. About your perceptions of the smart IV pump technology…
1. What do you think about the information you received about the smart IV pump technology implementation?
   a. Sufficient 1 2 3 4 5 6 7 Insufficient
   b. Complete 1 2 3 4 5 6 7 Incomplete
   c. Timely 1 2 3 4 5 6 7 Non-timely
   d. Precise 1 2 3 4 5 6 7 Vague
   e. Useful 1 2 3 4 5 6 7 Useless

2. What do you think about your inputs in decisions regarding the implementation of the smart IV pump technology?
   a. Timely 1 2 3 4 5 6 7 Non-timely
   b. Sufficient 1 2 3 4 5 6 7 Insufficient
   c. Useful 1 2 3 4 5 6 7 Useless
   d. Meaningful 1 2 3 4 5 6 7 Meaningless
   e. Good 1 2 3 4 5 6 7 Bad/poor
   f. Productive 1 2 3 4 5 6 7 Non-productive

Using the smart IV pump…

<table>
<thead>
<tr>
<th>Number</th>
<th>Strongly agree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>6</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<td>7</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

9. Because of the smart IV pump technology, patients feel they receive safer care.
10. Please circle the number that best reflects your acceptance of the smart IV pump technology:

<table>
<thead>
<tr>
<th>Dislike very much and don’t want to use.</th>
<th>Like very much and eager to use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

11. What are your reactions to the interface of the smart IV pump?

a. Difficult  
   0 1 2 3 4 5 6 7 8 9  Easy
b. Frustrating  
   0 1 2 3 4 5 6 7 8 9  Satisfying
c. Rigid  
   0 1 2 3 4 5 6 7 8 9  Flexible

12. Learning to operate the smart IV pump.  
   Difficult 0 1 2 3 4 5 6 7 8 9  Easy

   Difficult 0 1 2 3 4 5 6 7 8 9  Easy

   Difficult 0 1 2 3 4 5 6 7 8 9  Easy

15. Tasks can be performed in a straightforward manner.  
   Never 0 1 2 3 4 5 6 7 8 9  Always

16. Alarm messages for pump functioning.  
   Frustrating 0 1 2 3 4 5 6 7 8 9  Acceptable

17. Alert messages for the drug library.  
   Frustrating 0 1 2 3 4 5 6 7 8 9  Acceptable

   Confusing 0 1 2 3 4 5 6 7 8 9  Clear

19. Speed of programming smart IV pump.  
   Too slow 0 1 2 3 4 5 6 7 8 9  Fast enough

20. Reliability of smart IV pump.  
   Unreliable 0 1 2 3 4 5 6 7 8 9  Reliable

21. Smart IV pump tends to be…  
   Noisy 0 1 2 3 4 5 6 7 8 9  Quiet

22. Correcting your mistakes.  
   Difficult 0 1 2 3 4 5 6 7 8 9  Easy

23. Designed for all levels of users.  
   Never 0 1 2 3 4 5 6 7 8 9  Always

24. Smart IV pump functions as I expect.  
   Never 0 1 2 3 4 5 6 7 8 9  Always

Section C. About your quality of working life…

The following 4 questions are designed to help determine your moods, since the way you feel is a part of your quality of working life. The list of words below describes feelings people have. Please read each item and circle one number for each word, which describes how you have been feeling during the past week, including today.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. Fatigued
2. Exhausted
3. Nervous
4. Tense
Section D. About your perceptions of your performance…

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

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree, nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In general, I am satisfied with the quality of care that I provide.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I have enough time to complete patient care tasks safely.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I usually have plenty to do; but I can always follow rules and procedures related to patient safety and standards of care.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Section E. About you…

1. What is your gender?  
   - ☐ Male  
   - ☐ Female

2. What is your education level?  
   - ☐ Some college or technical training beyond high school (1-3 years)  
   - ☐ Graduated from college (BA, BS)  
   - ☐ Some graduate school  
   - ☐ Graduate degree (Masters, Ph.D., M.D., )

3. How old are you?  
   - ☐ less than 34  
   - ☐ 35-44  
   - ☐ 45-54  
   - ☐ 55+

In order to be able to keep track of your answers to the questionnaire over time, we ask that you provide us with an identifier. Please write down below the last four digits of your Social Security Number:

____________________ (last four digits of your SS number)
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