Iterative user centered design for development of a patient-centered fall prevention toolkit

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ABSTRACT

Due to the large number of falls that occur in hospital settings, inpatient fall prevention is a topic of great interest to patients and health care providers. The use of electronic decision support that tailors fall prevention strategy to patient-specific risk factors, known as Fall T.I.P.S (Tailoring Interventions for Patient Safety), has proven to be an effective approach for decreasing hospital falls. A paper version of the Fall T.I.P.S toolkit was developed primarily for hospitals that do not have the resources to implement the electronic solution; however, more work is needed to optimize the effectiveness of the paper version of this tool. We examined the use of human factors techniques in the redesign of the existing paper fall prevention tool with the goal of increasing ease of use and decreasing inpatient falls. The inclusion of patients and clinical staff in the redesign of the existing tool was done to increase adoption of the tool and fall prevention best practices. The redesigned paper Fall T.I.P.S toolkit showcased a built in clinical decision support system and increased ease of use over the existing version.

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1. Introduction

Falls are a serious public health problem both within and outside healthcare settings (Chen et al., 2009; Kannus et al., 2005). As a leading cause of injury and death, falls can lead to painful and costly injuries such as fractures, lacerations, or internal bleeding (Sondik, 2009; Ganz et al., 2013). Hospitalization can increase the risk for falls and fall related injuries (Evans et al., 2001) due to the unfamiliar environment, illnesses, or treatments. While falls have long been recognized as an important patient safety issue, the Centers for Medicare and Medicaid Services (CMS) added an additional incentive to prevent fall injuries when they announced in 2009 that treatment for injuries from falls occurring during hospitalization would no longer be reimbursable (Ganz et al., 2013). Approximately 700,000 to 1,000,000 inpatient falls occur annually in the U.S, and the associated healthcare utilization costs make falls an important patient safety issue nationwide (Ganz et al., 2013). Fall risk assessment is currently required by The Joint Commission, with fall prevention interventions targeting a multitude of patient problems or root causes including toileting, mobility, and impaired cognition (The Joint Commission, 2015). Prior research suggests that about 92% of hospital-based falls are “preventable” (Morse, 2008). The Fall T.I.P.S (Tailoring Interventions for Patient Safety) toolkit was developed and tested to address barriers to fall prevention in hospital settings. Fall T.I.P.S used health IT to link routine nursing fall risk assessment with evidence-based interventions. The Fall T.I.P.S toolkit integrated electronic fall prevention decision support into the clinical workflow by generating tailored fall prevention plans, patient education handouts, and bed posters with intervention icons based on patient-specific fall risk factors (Dykes et al., 1912–1918). Because the evidence-based fall risk interventions were automatically selected by Fall T.I.P.S software as

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the nurse completed the fall risk assessment, the chance of human error in the selection of fall interventions was minimized. Fall rates were 22% lower in the Fall T.I.P.S intervention units than in the control units. The Fall T.I.P.S intervention was particularly effective with patients 65 and older; the patients at greatest risk for falls (Dykes et al., 1912–1918). The Fall T.I.P.S toolkit was the first intervention to demonstrate a significant reduction in patient falls in acute care hospitals (Dykes et al., 1912–1918). While this study demonstrated a significant reduction in falls, further work is needed to integrate fall prevention decision support into settings without access to sophisticated electronic systems.

Recently an extension project, known as Developing a Patient-centered Fall Prevention Toolkit, was funded by the Agency for Healthcare Research and Quality (AHRQ). The goal of the project is to develop a suite of tools to support patient engagement in fall prevention practices in hospitals. One aspect of the project aims to revise a paper version of the Fall T.I.P.S toolkit. Since the original Fall T.I.P.S solution required electronic decision support and complicated informatics expertise, a redesigned paper Fall T.I.P.S toolkit with decision support will allow for broader adoption among hospitals that cannot implement the electronic solution. In addition, with the Joint Commission citing three of the most common contributing factors pertaining to patient falls - inadequate assessment, communication failures, and inadequate staff orientation – the redesigned paper Fall T.I.P.S toolkit must address these factors and not increase workload (Joint Commission, 2015).

The paper version of the Fall T.I.P.S toolkit was revised using Microsoft’s conventional user-centered design cycle. User-centered design (UCD) can be defined as “design processes in which end-users influence how a design takes shape.” (Abrams et al., 2004) With the development of any application or tool, the design process should be user-centered. As seen in Fig. 1, the user-centered design cycle consists of four main components: study, design, build, and evaluate (Harper, 2008). The extent to which end users are involved can vary based on the scenario; however, it is critical that end-users are involved to at least some extent. In addition, universal principles of design including symmetrical alignment, use of distinctly separate colors, and prototyping were applied throughout the study (Lidwell et al., 2010).

For this study, paper versions of the Fall T.I.P.S toolkit intervention were developed and refined at Brigham and Women’s Hospital (BWH) in Boston, MA and Montefiore Medical Center (MMC) in Bronx, NY. Prior to arriving at the final version of the paper Fall T.I.P.S toolkit, multiple iterations were required, keeping universal principles of design in mind. The purpose of this manuscript is to describe the production of the final version of the paper Fall T.I.P.S toolkit through the use of the user-centered design cycle.

2. Materials and methods

2.1. Study: nursing workflow observations

The institutional review boards at BWH and MMC reviewed the study protocol and due to minimal risk for patients and staff, it was deemed exempt status. The first step in our user-centered design cycle was the observation of nursing staff at both BWH and MMC. The purpose of these workflow observations was to study the current state related to how nurses do fall risk assessment, how a fall prevention plan was established, and if the patient or family members were involved in the process. At baseline there was a lot of variation between the fall prevention practices at BWH and MMC. BWH used an existing paper version of the Fall T.I.P.S toolkit that was implemented after the original Fall T.I.P.S study, whereas MMC lacked an established tailored fall prevention tool. Workflow observations were conducted by members of the research team with designated nursing staff at each hospital. The research team took note of any fall-related workflow, while also probing nursing staff with questions related to fall risk assessment and tailored fall prevention plans.

2.2. Design: gathering user requirements

Prior to any physical redesign, initial user requirements were identified. Specifically, the elements that the users would like to see in the application or tool were gathered. In this study, our end users were nursing staff and patients from all adult oncology units at BWH. Ideally nursing staff complete the entire fall risk assessment and prevention plan with the patient; however, each end user should be able to understand the completed risk assessment and plan individually. Patient feedback at times was difficult to receive due to their acute illness or treatment schedule. Nursing requirements were gathered during informal interviews of staff on the patient care units, as well as at three nursing practice committee meetings. Interviews with nursing staff were conducted with varying group sizes, ranging from 1 to 20 nurses; whereas interviews with patients were always held with a single patient. In order to gain an appropriate amount of feedback from all nursing staff interviewed, the existing paper version of the Fall T.I.P.S toolkit was demonstrated (Fig. 2) to solicit feedback during the interview. Complete informal interview guides for gathering user requirements from both nurses and patients are included in Appendix A. Nursing and patient interviews were voluntary and kept to less than 10 min in length. All participants provided informal verbal consent to participate.

2.3. Design: icon content validity index (CVI) testing

In addition to gathering user requirements regarding the physical design of the prototype, user feedback was also gathered regarding the icons used to represent the risk factors and fall prevention interventions. The icons used in the original paper Fall T.I.P.S toolkit were developed by a commercial illustrator and were tested and validated by nurses and nursing assistants in four
Partners HealthCare (PHS) hospitals using content validity index (CVI) testing as part of a prior study (Lidwell et al., 2010). In this study we performed CVI testing to validate the icons with patients and families to ensure that they were understandable by this important group of end users. This approach incorporated the use of icon validity and ranking forms, with each icon being ranked on a 4 point Likert scale (1 = strongly disagree, 4 = strongly agree that the icon represents the concept). Multiple iterations of the icons were conducted until each icon received a mean CVI score of at least 3.0 by patients and families. For icons that received a score equal to or less than 3.0, patients and families were asked to provide feedback on how to improve the icon. This feedback was gathered, discussed by team members, and then relayed to the illustrator to iteratively refine the icons. CVI testing was then completed on the revised icons with nurses. Patient rankings were given a greater emphasis than nursing rankings due to the patients’ lower health literacy levels. Additional details about the icon validation methods have been described previously (Hurley et al., 2009).

2.4. Build: prototype comparison interviews

Prior to beginning another round of nursing staff and patient interviews at BWH, multiple versions of the paper Fall T.I.P.S toolkit were discussed among the research team. After coming to a consensus on a specific prototype, members of the team then conducted interviews with patients, families, and nurses to gain feedback on ways to improve. If a consensus was not reached on one specific prototype among the team, multiple prototypes would be referenced in the interviews. Fig. 3 showcases four main versions of the prototype, each of which was developed based on patient and nursing feedback. Members of the research team gathered all feedback in order to discuss the potential changes, giving higher priority to recurring improvement ideas. These prototype comparison interviews were typically conducted in conjunction with icon CVI testing, as the new prototypes would feature the updated icons. This paper Fall T.I.P.S toolkit will serve as a care team communication tool and a patient education tool. Therefore, patient and family feedback was considered highly valuable. Patient and family feedback was important in evaluating if the toolkit could be seen from the bedside, as well as how effective the color mapping of risks and interventions was for helping end users understand which interventions would mitigate each individual risk factor. Additional patient and family feedback is included in Fig. 3. Root causes of inpatient falls include that patients do not believe they are at risk for falls and they do not know their fall prevention plan. To be most effective, the toolkit had to be easily understood by all team members, including patients and their family members.

2.5. Evaluate: usability testing

The final stage of the user-centered design cycle includes evaluation of what has been built. This evaluation should be completed by the targeted end users and in as realistic of an environment as possible (Abas et al., 2004). Ideally each prototype developed should incorporate some level of usability testing. For the purpose of this study, structured usability testing occurred only on the final paper Fall T.I.P.S toolkit at BWH due to limited availability of patients and nurses. While no structured usability testing occurred on the final paper Fall T.I.P.S toolkit at MMC, informal nursing and patient feedback was still gathered. The
structured format at BWH took place in an oncology nursing practice committee meeting, a group of approximately 15 nurses were asked to compare the existing paper Fall T.I.P.S toolkit to the newly redesigned final paper Fall T.I.P.S toolkit. The nurses were each presented with a scenario involving a patient who exhibited all fall risk factors. After reading the scenario, each nurse first completed the fall risk assessment and assigned fall interventions using the existing paper Fall T.I.P.S toolkit. They were then asked to do the same using the redesigned paper Fall T.I.P.S toolkit. In addition, the nurses were asked to rate each paper version using a modified version of the System Usability Scale (Brooke et al., 1996).

3. Theory

For the purpose of this project, the RE-AIM framework (Reach, Effectiveness, Adoption, Implementation, and Maintenance) (Glasgow, Mckay, Piette, Reynolds) was used to help facilitate the translation and use of this research into clinical practice. While the framework has a variety of potential uses, it has been used to

- Nursing feedback improved the alignment and organization of icons/text to better separate fall risks and interventions.
- Patient feedback led to elongated colors in order to cover the entire section of each risk/intervention.

- The final design includes distinctly separate risk and intervention sections.
- Colored intervention sections were used based on nursing suggestions to best link interventions to each risk and patient suggestions to help the tool “stand out”.

- This initial prototype was developed based on patient and nurse design requirements.
- Patients and nurses believed the design was too crowded and color mapping wasn’t obvious.

- Nursing feedback provided a change to black text and a black border. Risk assessment check boxes were made smaller.
- Increased patient feedback led to a complete color border for each risk and intervention to make the color mapping more obvious.

Fig. 3. The prototype was iteratively designed based on patient and nursing feedback.
support evaluation of healthcare informatics projects (Glasgow). Although this study does not deal directly with the electronic version of the Fall T.I.P.S toolkit, we determined this framework to still be acceptable. Table 1 illustrates the various measures examined for each component of the framework. For this publication, measures relating to implementation and maintenance will be examined after the redesigned paper Fall T.I.P.S toolkit is implemented on the clinical units.

4. Results

4.1. Study: nursing workflow

According to hospital policy, fall risk assessment is completed upon admission and during every shift at BWH and MMC. As noted earlier, there was no previous paper version of the Fall T.I.P.S toolkit in place at MMC. At MMC, nurses documented the fall risk assessments and fall interventions in their electronic health record system. At BWH, the previous paper version of Fall T.I.P.S toolkit was in place for patient education purposes, but nurses reported that it was rarely used with patients. Nurses at BWH would instead complete the fall risk assessment on the patient’s paper flowsheets.

The continued use of the intervention

As seen previously in Fig. 2, the existing paper Fall T.I.P.S toolkit presents detailed information regarding both patient fall risks and interventions, commonly displaying this information in complete sentences directed at the patient. Nursing staff, as well as a few patients, noted that a patient must be able to read the sign on the wall while sitting in bed. In addition, the sign should attract visitors’ attention allowing anyone who enters the room to be aware of the patient’s risk status and their tailored fall prevention plan. Nursing staff requested the sign be quick and intuitive to fill out in interest of time management. Nurses also reported that with the original paper Fall T.I.P.S toolkit, they had difficulty identifying which interventions should be selected for each area of fall risk. This led to variation in the fall prevention plans and lack of confidence that the plan selected was evidence-based.

4.3. Design: CVI testing

The icons which received the highest ratings generally referenced only a single concept (e.g. cane, walker); whereas icons which represented multiple concepts (e.g. bed alarm on, medication side effects) received the lowest ratings. Additional information about the CVI testing performed in this study is described and under review for publication elsewhere. The final version of the paper Fall T.I.P.S toolkit, along with the patient and nurse validated icons can be seen in Fig. 4.

4.4. Build: final paper Fall T.I.P.S

As seen in Fig. 4, the final version of the paper Fall T.I.P.S toolkit features two distinctly separate sections: fall risks and fall interventions. For each fall risk is a specific icon with a few words in a consumer level of health literacy describing the risk factor and the accompanying icon. Each fall risk also contains a colored check box, with distinct directions next to the section heading “check all that apply”. The colors of these check boxes directly correspond to the colors of the fall intervention boxes. Based on our previous study, and as stated previously, each fall risk factor has at least one evidence-based fall intervention associated with it. Therefore the color code system utilized is an example of a low level decision support system, allowing any user to complete the fall interventions piece based on the selected risk factors by simply matching colors. This decision support system should ideally
decrease the chance for human error through the decrease of cognitive load on the user. The elimination of the yellow background allows for greater contrast in seeing the text as well as icons. Lastly, the bright colors, large text, and large icon images are appealing and allow the poster to be seen and quickly understood from a distance.

4.5. Evaluate: usability testing

Table 2 includes the usability survey results, including each paper Fall T.I.P.S toolkit versions’ calculated mean, variance, and the corresponding p-values (assuming equal variance across the two samples). Due to multiple testing, a p-value of <0.01 was considered significant. For eight of the survey questions (p-values highlighted in red) the existing and redesigned paper Fall T.I.P.S toolkit versions showcased significant differences (p-value < α = 0.01) across several aspects of usability as reported by the oncology nursing practice committee members. Survey findings indicate that the redesigned paper Fall T.I.P.S toolkit is easier to use and is preferred by nurses over the existing paper fall T.I.P.S toolkit. The three usability survey questions which did not demonstrate significant results related to the fact that even the baseline toolkit was consistent with existing fall prevention practices, was relatively simple, and did not require a lot of training to use.

Table 2

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Old (N=27)</th>
<th>New (N=27)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I think that I would like to use these tools frequently.</td>
<td>2.333 0.846</td>
<td>3.704 1.217</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2. I find the tools unnecessarily complex.</td>
<td>3.148 1.746</td>
<td>1.667 1.077</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>3. I think the tools are easy to use.</td>
<td>2.692 1.502</td>
<td>4.222 0.949</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>4. I think that I would need the support of a fall prevention expert to be able to use these tools.</td>
<td>1.852 0.593</td>
<td>1.500 0.660</td>
<td>0.112</td>
</tr>
<tr>
<td>5. I find the various functions in the tools are well-integrated.</td>
<td>2.593 0.866</td>
<td>3.852 1.131</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>6. I think there was too much inconsistency in available tools.</td>
<td>2.704 1.293</td>
<td>2.111 1.179</td>
<td>0.056</td>
</tr>
<tr>
<td>7. I would imagine that most people would learn to use these tools very quickly.</td>
<td>2.889 1.333</td>
<td>4.296 1.063</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>8. I find the tools very cumbersome to use.</td>
<td>3.296 1.755</td>
<td>2.222 1.872</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>9. I felt very confident using these tools.</td>
<td>3.222 1.103</td>
<td>4.259 1.046</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>10. I needed to learn a lot of things before I could get going with these tools.</td>
<td>2.423 1.134</td>
<td>1.852 0.823</td>
<td>0.040</td>
</tr>
<tr>
<td>11. I am satisfied with the tools to support the fall prevention process at this hospital.</td>
<td>2.481 1.028</td>
<td>3.704 1.293</td>
<td>&lt;0.001</td>
</tr>
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</table>
5. Discussion and conclusion

At BWH, the redesigned version of the paper Fall T.I.P.S toolkit exhibited improved usability and ease of use over the existing paper Fall T.I.P.S toolkit. Going forward, the team will evaluate the consistency of use by nurses as they complete the redesigned paper Fall T.I.P.S toolkit. As mentioned previously, nurses stated that the existing paper toolkit was rarely used; therefore by collecting how consistently the redesigned paper Fall T.I.P.S toolkit is completed, the team will be able to evaluate the effectiveness of the iterative design cycle. Nurses from the oncology practice committee stated that they thought the redesigned version was more aesthetically pleasing, simpler to use, and easier to gain an understanding of a patient’s fall prevention plan over the existing paper Fall T.I.P.S toolkit. Similar success with user-centered design work has been seen in the field of personal health records (PHRs) (Brennan and Hajopoulos, 2008). With PHRs emerging as a primary pathway for patients to maintain their health information outside of a healthcare setting, user-centered design is necessary to ensure the success of these tools. As was conducted in our study, primary users of these tools are incorporated into the iterative design process, ultimately leading to tools with greater usability and acceptance. Some of the challenges seen in user-centered design with PHRs can also be seen in the work conducted in this study due to the very diverse group of users within a healthcare setting, from patients with varying illness degree to busy clinical staff (Brennan and Hajopoulos, 2008).

In relation to the RE-AIM framework, the team addressed various measures related to reach, effectiveness, and adoption of the redesigned paper Fall T.I.P.S toolkit. Reach of the redesigned Fall T.I.P.S toolkit was achieved through BWH’s partnership with MMC and the inclusion of their patient population. This provided toolkit exposure to a more diverse and larger patient and clinical population than what would have been possible at BWH alone. The inclusion of the redesigned paper Fall T.I.P.S toolkit at another medical center enhances the likelihood of adoption of evidence-based fall prevention best practices in diverse settings. A greater absolute number of clinical staff exposed to this newly designed tool, may translate to improved adoption and spread (Bakken and Ruland). In terms of effectiveness, the team attended multiple Patient Family Advisory Council meetings to gain patient and patient family perspectives on the use of the newly designed Fall T.I.P.S toolkit. The feedback from these meetings was considered during the redesign. Implementation and maintenance measures will be tracked following full implementation of the redesigned paper Fall T.I.P.S toolkit in the pilot phases at BWH and MMC.

5.1. Limitations

While almost all user requirements were satisfied with the appearance of the paper Fall T.I.P.S toolkit, one user requirement was omitted due to a conflict with maintaining the integrity of the Morse Fall scale and the order of its risk factors and the preferred order of the risk factors on the paper Fall T.I.P.S tool from a usability perspective. As seen in Fig. 4, the fall risks shown on the left side are in consistent order, from top to bottom, that is consistent with the order in which they appear in the Morse Fall Scale risk assessment. Two users recommended that this order be adjusted to increase the ease of use of the tool by decreasing the distance between where a risk factor is checked off and where the corresponding fall intervention is circled. It was decided that keeping the risk factor order consistent with the Morse Fall Scale is crucial, given the fact it is a standardized scale for registered nurses and the order of risk factors was established during scale development. In addition, keeping the original order of risk factors increases ease of completion by the nursing staff that is familiar with the validated order of the Morse Fall Scale risk factors.

A second limitation of this study deals with the co-design process and evaluation of the prototypes throughout the user-centered design cycle. For future studies usability testing should be conducted on prototypes throughout the cycle, rather than just on the final version. In addition, the co-design process should consist of a more structured approach in order to better collect informal and formal feedback, as well as design ideas from both patients and nurses. One possible method which our team could follow can be seen in Lang, AR et al. (2014) (Lang et al., 2014). The co-design process could also incorporate a “contextual inquiry method” as seen in Viitanen, J (2011) in order to allow the team to better understand the working environment and how the toolkit is used by nurses, patients, and family members (Viitanen, 2011).

A third limitation is that we did not formally evaluate the usability of the existing and redesigned paper Fall T.I.P.S toolkit with patients or nurses at Montefiore Medical Center. We however collected qualitative feedback from MMC nurses on the appearance of the redesigned tool. We anticipate piloting the redesigned tool at MMC and will collect feedback regarding the implementation of the tool within this diverse hospital setting.

5.2. Future work

As previously stated, the paper version of the Fall T.I.P.S toolkit is only one component of a suite of tools that our team is developing in the Patient-Centered Fall Prevention Toolkit project funded by AHRQ. Our team is also working on developing electronic tools to engage patients and the care team members in building evidenced-based fall prevention plans tailored to individual patients’ determinants of risk. This suite of tools will be available for all patients in the study units, regardless of their comfort level with technology and devices. The tools will provide access to evidence-based fall prevention practices facilitated either through the paper or electronic Fall T.I.P.S tools. An improved user-centered design approach, addressing the stated limitations, will be used for the development of the electronic Fall T.I.P.S tools with Microsoft’s conventional user-centered design cycle as the underlying concept.

Acknowledgments

We would like to thank the nursing staff from all adult oncology units at BWH and MMC for their cooperation and insightful feedback throughout the design process. This project was supported by grant number P30HS023535 from the Agency for Healthcare Research and Quality. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Agency for Healthcare Research and Quality.
Appendix A

Informal Interview Guide: Nurse Perspective on the Current Paper Fall TIPS Design

Dear Sir / Madam,

We are researchers affiliated with Brigham and Women’s Hospital, and are conducting a study to get a better understanding of how to promote safer care at the hospital. In particular, we are interested in learning how to reduce fall and fall injuries. To do so, we are interviewing nurses as well as patients for about 10 minutes about design improvements for a fall prevention plan tool we’re developing.

Your participation is voluntary and you are free to decide whether or not to participate and to end it at any time. Please be assured that all of your responses will be kept confidential and will not affect your job or role at this hospital, so be as open and honest as you can.

Nurse Interview: Would you be willing to participate in this interview?  
☐ Yes  ☐ No

Do you have any questions before we begin?

Thank you for your cooperation.

If you have further questions regarding this study or the interview, please contact Dr. Patricia Dykes at dykes@partners.org or 617-732-8925.

If you’d like to speak to someone not involved in this research, contact the Partners Human Research Committee at 617-424-4100.

<table>
<thead>
<tr>
<th>General Information</th>
<th>Name of Interviewer #1: ____________________________</th>
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<tr>
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<td>Date of Interview: _____________________________</td>
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<td>• We are in the process of doing a separate study that looks at validating these icons to ensure they are patient-centered and easily understood. Do any of the current icons seem confusing or obviously inaccurate for the stated concepts? Examples?</td>
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<td>• What do you think about the yellow background color? Any suggestions?</td>
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<td>• We are looking to incorporate decision support into a redesigned tool with a distinct color representing each risk area/ intervention. Do you believe this design would assist you in choosing the correct intervention? Suggestions to improve upon this idea?</td>
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<td>• In general what would you like to see done in order to improve this tool? What do you like about this current tool? What can do you dislike about this current tool?</td>
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<td>• Any other comments/suggestions for improvement?</td>
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Your participation is voluntary and you are free to decide whether or not to participate and to end it at any time. In this interview, we will not ask you for any medical information. Please be assured that all of your responses will be kept confidential and will not affect ongoing or future care, so be as open and honest as you can.

**Patient Interview:** Would you be willing to participate in this interview?  
☐ Yes  ☐ No

Do you have any questions before we begin?

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