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Embracing Change: A Proactive Training Intervention Ahead of a New Product Release

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A Proactive Training Intervention Ahead of a New Product Release

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Abstract

This paper describes an asynchronous training approach to introduce physicians to forthcoming user interface (UI) changes for a product they have been using in their patient care workflows. The UI changes are expected to impact users since the changes are so drastic, so training is needed to help users quickly learn how to perform critical job tasks without interrupting patient care or dissent in product use. Since the product is aimed at simplifying the physician workflow, any training materials need to do the same. A three-tier approach was developed that includes a brief introduction to the main UI areas that all users will see when they initially login to the updated version, a self-paced, user-controlled interactive module that lets users discover the areas of the UI by hovering over labels and view in-depth demonstrations of those areas, and a job-aid reference document that identifies the areas of the UI. Each of these training materials considers the value of physician's time, the need to quickly perform critical job tasks they could perform in the previous UI, and the company's mission of simplifying workflows and making tasks intuitive.

Keywords: workplace change, product training, asynchronous training, health care IT, non-formal training

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ANALYSIS PHASE

BACKGROUND INFORMATION

PatientCare[1] is a small software company that produces a physician-focused product designed to help its more than 60,000 users care for their patients. The core functionality is based around specific clinical, financial, and documentation and communication workflows in a hospital. The product is available via web-based portal and mobile applications for both iOS and Android devices. The company's mission is to simplify the physician workflow, and decisions within the company are always made with the goal of enabling physicians to focus on patients rather than technology.

The PatientCare user interface has always been designed to be intuitive and to minimize the amount of time user's need to spend thinking about how to use the product. This has proved to help save users time and ultimately helped to improve patient care. PatientCare's position in the physician workflow is unique because physicians do not need to use the product to do their job; the products intend to make their job easier so they do use our product. However, if the product fails to create a seamless, intuitive experience that does make parts of their job easier, they can use another method to perform the tasks we aim to streamline.

To continue efforts to improve the physician experience with PatientCare, a new product (Physician Dashboard) is being developed, which includes a re-designed user interface (UI). When hospitals upgrade their existing product to this new version, users will be looking at a new layout and will not be immediately familiar with how to perform tasks they had been performing in the previous version. This experience would be in direct

[1] The company name and the names of individuals used in this document are not their actual names.

contradiction with the company's mission to provide a product that is intuitive and let users fully focus on their patients rather than the technology they are using.

Working with Product Managers, Documentation Director, and the Vice President of Product Management as key stakeholders, we aim to develop a training intervention that aligns with the company mission and meets the user's needs.

Analysis Plan

Interviews. One-on-one interviews with three current PatientCare employees involved in the V9 project were conducted: Sam (Product Manager), Lee (Director of Product Management), Don (Senior Implementation Consultant). Interviews with Sam and Lee occurred through in-person interviews, and the interview with Don occurred over the phone. Each participant received an email requesting the meeting and, upon agreeing, received a meeting request via email along with the questions I had prepared to ask them. Each was asked the same series of questions to gain different perspectives of the topics. Questions were asked in the areas of: their history and experience with PatientCare, their insights on PatientCare users and their perceptions toward changes in the products and training, and finally questions related to concerns related to users upgrading to the new version. The interview audio was recorded and reviewed to contrast each participant's response. Samples of the surveys are available in *Appendix A*

One-On-One Interview Questions on page 34 and an overview of key takeaways is available in *Appendix B*

Summary of Interview Responses on page 36.

Project Documentation Review. Several internal project documents were reviewed to gain insight into the purpose of the project and details about users and their workflows.

Two documents, in particular, were used in creating the intervention plan. The *Patient Dashboard Specification* provided a clear goal for the Physician Dashboard, which is to provide "all the right data, in the right way, for their current workflow." The *Physician Dashboard Workflows* provided profiles of various PatientCare users and the workflows they perform in the products.

Relevant Research. A lot of relevant research exists related to workplace learning and change in the workplace. Below is a high-level summary of the research used, which is referenced in later sections of this document.

Germain and Grenier (2015) described the impact of a unique, non-formal learning arrangement that cigar factory workers used where the facililitaors had a great impact on how workers learned and personal development. This arrangement challenges the traditional role of a facilitor and their responsibility in a non-formal learning environment. Manuti, Pastore, Scardigno, Giancaspro, and Morciano (2015) compare and contrast formal and informal learning and explore the practice of novice users seeking out more experienced users in the performance context as a form of workplace learning. Research by Hetzner, Gartmeier, Heid, and Gruber (2009) shows how including those affected by change in the process can improve the chance of success. They also discovered that employees in their study who received formal training reverted to non-formal methods once they returned to the performance context. Elkjaer and Nickelsen (2016) provide a case study that demonstrates how workplace dynmanics can impact the type of intervention(s) that should be used. They focus on two types of interventions: Intentional (addressing needs directly) and Performance (addressing needs through human (facilitator or peer) and non-human (training materials or documents, etc.) that involves concepts of translation, intermediaries, assemblies, symmetry and non-humans). Goldman, Plack, Roche, Smith,

and Turley (2009) research learning in a chaotic environment, including characteristics that enable learning. Their paper discusses how chaotic environments are good for learning and ways to aid learning in these environments. Rule, Dunston, and Solomon (2016) discuss workplace change as a true organizational distruption and documents concerns shared by employees while their company goes through signifiacnt change. Applicable themes discussed include disruption, loss of control, under-estimating the impact of any change, and unresolved tensions. Finally, Fenwick (2008) provides great insight about informal learning being the process versus it being the outcome in formal learning settings. Also discussed is the importance of considering the whole system and not just teaching skills in a vacuum, and the relevance of the connectivist, transformative, and communities of practice learning theories.

Analysis Report

Through interviews with subject-matter experts and reviews of project-related documentation, a gap was identified between the current PatientCare user performance and the desired performance after users upgrade to the new product version. Right now, users are able to perform critical job tasks using the product. The new user interface is so drastically different from previous version that users will need to learn how to immediately perform critical jobs tasks such as selecting patients, viewing clinical results, and entering orders, notes, and charges for their patients. A substantial difference exists between how these tasks are performed in the current product version compared to how these tasks will be performed in the forthcoming product version.

Therefore, the problem this project seeks to address is that existing PatientCare users will not be familiar with how to perform critical job tasks they used to perform in the previous user interface after their hospital upgrades to the most recent product version.

Target Audience: General Characteristics. The target audience for this learning intervention is physicians upgrading to PatientCare's new product version who work in various roles in the hospital with varying workflows. It is important to physicians that PatientCare products be intuitive, easy to use, efficient, and customized to their needs.

PatientCare users are intelligent and their technical abilities vary on a spectrum of disinterested to technologically savvy. More advanced product users end up in a de-facto instructor/facilitator role among their peers as they become known as product experts. These advanced-level users find the most efficient way to perform tasks related to their role using the PatientCare product and then share their methods with other users in the same role.

For all PatientCare users, their time is extremely valuable to them and they want to spend as much of it as possible caring for patients; patient care is their absolute top priority. As one subject-matter expert explained about our product's role in the physician workflow, "their primary job is taking care of patients, not writing a note or entering a charge…" That is a humbling sentiment and puts the onus on PatientCare to earn the physician's trust and reliability. They use PatientCare to quickly and simply perform tasks associated with their role. An important consideration is that physicians do not need to use the product to do their job. They need to use something to maintain the patient record, but as PatientCare is a system overlay, there is always an underlying hospital information system or other method available as an alternative for documenting. As a result, physicians might find ways to use the PatientCare product that work for them without exploring other ways that may be more efficient, or they might find the product very useful in performing job-related tasks and rely on the product as part of their everyday workflows, or they might find it to cause more work for them and not use it at all. That is why it is especially

important with the new product release to not only quickly and seamlessly demonstrate how they can continue to perform their critical job tasks, but to show additional features that are available and how they can help the physician provide the best care to their patients.

Target Audience: Training and Learning. Training PatientCare users is complicated. Physician users do not prefer formal training such as workshops or organized group presentations; this is time away from their patients after all. Manuti, Pastore, Scardigno, Giancaspro, and Morciano (2015) described formal learning as "planned learning activities that are intended to help individuals acquire specific areas of knowledge, awareness and skills useful to perform their job well" (p. 4). This mostly involves an "institutionally sponsored and endorsed programmer" and occurs "in a context specifically intended for learning, which mostly suggests that the learning occurs away from the actual work setting" (Manuti et al., 2015, p. 4). PatientCare users, however, prefer to be shown how to do what they need to do in the moment. They also like to share best practices with each other; if one physician finds a fast way to do something using the product, they will tell others. Non-formal training methods seem to occur most often at a Physician-to-Physician level and an IT Support-to-Physician level (when a user requests support from someone with knowledge of how the hospital systems function). Manuti et al. (2015) described informal learning in contrast to formal learning stating, "the acquisition of knowledge and skills in the work setting does not occur from organized programmes alone. Indeed, learning occurs during critical moments of need embedded in the context of practice" (p. 5). According to the same article, "informal learning occurs in situations that are not usually intended for learning, most notably in the actual work setting…informal learning arises in situations where learning may not be the primary aim of the activity but is activated by

some anticipated or existing problem situation that requires resolution" (p. 5). In these moments of need, PatientCare users often seek assistance from more advanced product users. This element of informal learning may involve "seeking out certain individuals who are recognized to have higher levels of insight or competence on a topic" and is typically "unplanned and somewhat serendipitous in nature" (Manuti et al., 2015, p. 5). As a result, some physician users evolve as unofficial instructors to other physicians due to their advanced understanding and capabilities with the product. The role filled by these advanced users could be considered a blend of instructor, facilitator, and even influencer. In a formal learning scenario, the role of a facilitator is clear and has its own connotations, with upsides and downsides that could be argued. However, in a non-formal scenario, the role of a facilitator is not as clear and their responsibilities could extend beyond instructing and assisting other users in isolated interactions.

In a study about unique facilitator roles in a non-formal learning environment, Germain and Grenier (2015) described cigar factory workers in the late 1880's-early 1900's and the effects of lectores, who were people employees paid to read to them during their shifts, on the employees' learning in the workplace. The paper states, "Lectores read aloud to workers the news and works of literature and shaped a workplace that was socially conscious and politically powerful" (p. 367). The paper uncovered three relevant themes from this historical review:

> First, the cigar factories were a context for workplace learning that engage the mind of workers. Second, the lectores were facilitators of learning. Finally, the lectores acted as facilitators for social change initiated through a unique form of workplace learning. (p. 371)

This is relevant as hospitals are also a context for workplace learning. Goldman, Plack, Roche, Smith, and Turley (2009) described factors that support learning in emergency rooms as "working with supportive, experienced colleagues, approachable consultants, and on effective teams; rotating team roles; having the opportunity for supervised practice; getting feedback; and working with a clear vision with solid role models in an environment that promotes learning" (p. 560). While not all factors apply to PatientCare users, the study does identify both interpersonal and environmental factors as important in a non-formal learning environment. As Elkjaer and Nickelsen (2016) stated, "Workplace interventions may benefit from a simultaneous focus on individuals' learning and the situatedness of the workplace" (p. 276). This gives legitimacy to the physician users playing the unofficial facilitator role among their peers of PatientCare users as they have unique insight into the workplace environment. Fenwick (2008) described how the workplace environment plays a role in worker's learning:

> As workers, for example, are influenced by symbols and actions that touch their everyday work, they adapt and learn. As they do so, their behaviors, their meanings, and thus their effects on the systems connected with them change. The focus is not on the components of experience (which other perspectives might describe in fragmented terms: person, experience, tools, and activity) but on the relationships binding them together. Workplace learning is the continuous and dynamic invention within these relationships that enable a complex system to flourish in changing environments. (p. 21)

This analysis of non-formal learning in the workplace fits the description of a practice-based approach described in the article, which is comprised of concepts from constructivist, transformative learning, and communities of practice theories. According to

Fenwick 2008), in a practice-based learning system, the "individual and social learning processes are viewed as enmeshed" (p. 20). Based on these characteristics, it is safe to prescribe that physicians prefer a practice-based approach when learning to use PatientCare products.

Additionally, time for reflection and self-discovery could be helpful components in a non-formal learning environment. Findings by Goldman et al. (2009) showed that, in a chaotic environment like an emergency room, "components of contextually isolated learning are also part of the workplace learning process and are in fact required for individuals to perform with high levels of autonomy" (p. 569).

There are risks with a non-formal learning approach. Elkjaer and Nickelsen (2016) described a performative model of organizational development where commands are passed from one person to another through a process of translation, and the outcome depends on what each person does with the information (p. 272). Through translation, information could be misinterpreted, misused, or not even used at all. Alternatively, users could learn bad habits from facilitators through informal exchanges, which could negatively impact learning (Manuti et al., 2015).

All of this is useful in determining that the workplace is a valid learning environment, non-formal learning activities such as tips and feedback from others are legitimate forms of learning in the workplace, and unofficial facilitators are effective in teaching new skills and methods.

Changes to Product and Workflow. PatientCare users like to understand why a change is being made or at least be informed about it and how it might impact their workflow. In describing how changes in the product are communicated to users, one

interviewee said, "…it's all about the delivery of the change...I think this is really where this makes or breaks some trust between the vendor and the client..." Another interviewee stated, "…we'll do something that we think is innocuous and that means [users] have to click here now every single time, or move backwards, or spin around in a circle, so it's really better for us and for them if we get physicians to give feedback to get that positive reaction out of the gate…"

It is understood that change will occur, and, at the same time, users do not want their workflows disrupted. There is an effort made to maintain the delicate balance between enhancing the product and serving the users, as they are not always one-in-the-same. In a study of a retail bank going through a major system change, Hetzner, Gartmeier, Heid, and Gruber (2009) stated that in times of change, an individual's intention to "engage in workplace learning is determined by their interpretations of the situation. They then navigate and negotiate between learning opportunities, the organizational context and their personal dispositions to complete learning" (p. 409). In the case of this bank, employees were going through a significant change in their workplace that affected workflows. One of the key areas affected was employee work performance, which was impacted by changes to their level of participation or involvement in making decisions (Hetzner et. al., 2009). In analyzing survey results, the study noted that participants "had not been involved in the decision-making process leading up to the [Integrated Consulting Concept] implementation. Thus, they did not feel they 'had a voice' prior to the change" (p. 407). One of the conclusions reached by the banking employee study was that strong communication should be part of the learning strategy:

> A communication strategy is recommended that explains to the employees the learning requirements involved and the resulting individual benefits, such as

> professional development, rather than just the necessity and reason for change…workplace learning can be fostered through clear communication of what has to be learned to facilitate adaptation to the new working conditions, and communication of what support the organisation is able and willing to give. (p. 411-412)

This is relevant because it demonstrates a link between participation, communication, and learning, which a subject-matter expert at PatientCare mentioned as a key element in managing the impact of product changes on users.

The Product Managers and Implementation Consultants at PatientCare ask users for their feedback when changes to the product are being planned. When consulted, physicians can provide useful feedback about the product and features, so, in some case, they end up initiating changes. Hospitals also participate in early version testing, known as Alpha releases and Beta releases, to provide feedback; these are versions of the product made available to a select group prior to the generally available version. Communication processes are in place to facilitate this type of dialog. When a change helps their workflow, then they like it. If the change adds an extra click, or a step, or requires them to learn a new way of doing something, then they don't like it. Stated that way, it sounds straight forward as physicians do not want the products they use taking time away from their patients. However, a deeper analysis could classify an underlying cause of their displeasure as disruption, and this is a major reason that change can have a negative impact.

A research paper about learning and change at a healthcare institution where a new initiative was introduced found that a consistent and critical theme among interviewees was that the change they were experiencing was significant and causing disruptions, and that they had no control over it (Rule et al., 2016). According to this study, a number of

tensions arose as the result of the workplace changes that were never resolved, tensions between stability and instability ("the need for clarify about aims, rules and accountabilities vs. the impact of significant and frequent change, where existing stabilities easily become uncertainties" (p. 461)), and between opening new practices and closing change processes (there was a "genuine desire to create a space for change to happen…and then there was often a need to close down the change process to stabilise the situation and codify processes once aims of change have been realized" (p. 461)). While the change and disruption experienced by an institution-wide initiative rollout is going to have much more impact than the changes related to the PatientCare product upgrade, the macro themes discussed in the paper related to the scale of change, disrupting behaviors, control and autonomy, and tension are cautionary against underestimating the impact of change on PatientCare users.

Another potential underlying cause for displeasure that manifests itself during times of change through the all-encompassing taking-time-away-from-patients complaint is identity. Fenwick (2008) presented a compelling perspective on identity, which is described as "a representation or mental conception that we ascribe to ourselves and to others" (p. 22). Identity is important because it is tied to an individual's sense of their own knowledge and the value of their knowledge to peers, and how people recognize limitations in their identities (Fenwick, 2008). Knowledge or skills they lack may conflict with their perceived identity or the identity they project, and how do individuals rationalize that? Change could compromise someone's identity. Someone who is slow to adapt to changes in technology or resistant of technological advances may experience an identity conflict. One subject-matter expert mentioned that she had a difficult time getting feedback from users about a billing product PatientCare offers. Her sense was that it was related to a displeasure with entering

charges for care, and that the physicians were conflicted on a philosophical level. This could be attributed to their perceived identify as a care giver rather than a service provider.

In their paper on intervention as a workplace learning method, Elkjaer and Nickelsen (2016) describe addressing a conflict or need using an intentional intervention method. The method is described in relation to human behavior:

> All humans enact defensive reasoning and routines when threatened or embarrassed, and they cover this up by further defensive reasoning. This leads to a vicious circle that can only be broken through intervention aimed at installing awareness of how defensive routines act as a shield against feelings of threat. In the intentional model of intervention, human ignorance of defensive routines is the problem that needs to be defeated. (p. 272)

In considering how PatientCare users react to changes in the product and how to best provide instruction, the strategy should consider how change may conflict with user's intrinsic or perceived identity, or elicit a defensive reaction, or simply take time away from their patient.

Role-Specific Characteristics and Requirements. As part of the new product's project documentation, the *Physician Dashboard Workflows* document describes common PatientCare user roles in the hospital and their associated workflows. Below is a summary of the highlighted workflows.

Role	Types of Patients	Data They Need
Hospitalist	Large patient list that is not specializing in any particular area and sees a variety of different types of patients.	• Patient history • Input from the previous physician to prioritize who to see first • The most recent clinical results
Surgeon	Multiple types of patients: Pre-admit patients may be seen at the hospital or office. A surgeon would also see post-op patients.	• Review lab and test results, • Enter orders for additional labs/tests • Complete and/or review an H&P • Patient's medical history • Recent clinical results and notes • Adjusting medication, entering notes, and performing discharge tasks
Specialist (Pulmonologist)	ICU patients and less critical patients on the floor	• May need very detailed patient information • Other times may not need the same level of detail • Additional information depending on the patient's condition (have diabetes or are on a vent, etc.) • Determine who are the sickest patients that need to be seen first
OB/GYN	Varied inpatient and outpatient "subtypes"	• Navigating between different information, such as: - Patients in active labor - Patients on the antenatal floor - Postpartum patients - Inpatient consults from other services - Inpatient surgeries - Outpatient scheduled appointments - Outpatient surgeries

Available Resources. In the performance context, PatientCare users are at a computer or use a mobile device with internet access, as the product is web-based. While the technical capabilities of PatientCare users vary, they all have access to hospital IT staff who are responsible for providing support for the hospital systems, including PatientCare. Additionally, PatientCare provides online help, user guides, quick reference job aids, and a limited number of video tutorials to all users. Each of these existing resources is available to users in and out of the performance context. One resource that is universally in short supply for users is time, which must be a consideration regardless of all of the other available resources.

From an instructional design perspective, limited access to target users is a factor. Development resources are also strictly scheduled, so any deliverables that require assistance from Software Development resources at PatientCare could be problematic.

Proposed Delivery Methods. There were a number of factors identified through analysis guiding the direction of proposed delivery methods. In summary:

1. Users prefer non-formal learning methods in the moment, such as asking a resource or self-discovery
2. Autonomy, control, and maintained functional ability is important
3. Users want to understand the reason for change and the impact to them
4. Product Managers are concerned about the severity of the change users will face
5. Users function at different skill levels
6. Some users end up as unofficial instructors due to their advanced abilities

To accommodate these factors, delivery should be based around a non-formal learning approach. This may include electronic media available from within the application. Online help is already embedded in the product, so at the very least, new training developed to meet this need could be incorporated into the existing architecture. Based on the needs and characteristics of the physician users and their work environment, a formal, structured learning approach would likely be ineffective.

Instructional Goal. Physicians using PatientCare's new Physician Dashboard will become oriented to the new screen layout and perform the same critical job tasks that they performed using the previous product version.

DESIGN PHASE

PERFORMANCE OBJECTIVES

The two performance objectives below have been defined to address the instructional goal.

1. After viewing an overview of the Physician Dashboard user interface, users should be able to locate and identify the areas of the interface upon logging into the new product version, including the Patient List, Dashboard content display area, Dashboard Selector, and the Actions menu.
2. After viewing a video demonstration, users should be able to perform the following critical job tasks from the Patient screen:
    a. Select a patient in the patient list
    b. Locate patient and visit information in the header
    c. Start a note/order/charge for a patient
    d. View clinical results
    e. Change dashboards
    f. Change patient view
    g. Control the patient list display, including sort, filter, add, and change patient list.

INSTRUCTIONAL STRATEGY

This section describes the instructional and assessment approaches, applicable learning theories, and the units of instruction designed to meet the performance objectives.

Instructional Approach. The instructional approach targets the intellectual and psychomotor learning domains. Intellectual skills are required as physicians interpret data, apply rules, make decisions, and solve both structured and ill-structured problems (Dick, Carey, and Carey, 2009, p. 41-42). Psychomotor skills are utilized as physicians are performing repetitive actions in the PatientCare application, but a thought process is involved and it occurs quickly (p. 42).

As a result, the instructional approach is an asynchronous one that enables non-formal learning in the workplace, and can be utilized in the performance context or in a dedicated learning context. To appeal to the intellectual domain, instruction will utilize

scaffolding, where foundational concepts and skills are introduced prior to introducing tasks that utilize that knowledge. To appeal to the psychomotor domain, tasks that are part of a larger workflow will be clustered together.

Assessment Approach. Product managers do not want to require users to complete an assessment in order to use the new version, and an optional user assessment would likely not provide enough useful feedback. Therefore, the assessment approach focuses on gathering information from those in supporting roles for PatientCare users and utilizing report capabilities that are available since this is a web-based product.

To evaluate the effects of the training materials created for physicians on learning and behavior, a survey will be conducted among the administrative staff who support the PatientCare products at the hospitals. Below is an example of the types of questions that will be included in the survey.

Learning-Related Questions
Do users understand the new product (interface elements, icons, messages on-screen, etc.)?
What are commons questions you receive about the elements in the user interface?
What are some examples of questions you receive related to workflow or job-specific tasks?
Behavior-Related Questions
How would you rate user adaption to the new product? Where 1 is poor and 5 is excellent.
What are the most common questions users have related to the new version?
What are the most common problems users have when using the new version?

To further evaluate learning, new product client issues submitted to PatientCare support representatives will be analyzed to determine if the issue was an objective of the training.

Applicable Learning Theory. This instructional and assessment approach is rooted in three learning theories: constructivist, transformative, and communities of practice.

The constructivist theory describes learning through experience and creating connections based on knowledge, especially knowledge that is personally relevant (Merriam & Bierema, 2014, p. 36). Constructivist learning theory plays a key role in the instructional strategy as physician users already create connections based on experience through non-formal learning methods in the performance context, and this training seeks to nurture those methods.

Another learning theory that is applicable to this scenario is transformative learning, whereby adjustments are made to individuals' beliefs and behaviors through reflecting on their experience (Transformative Learning, n.d.). In workplace learning environments where non-formal methods are used, learning is more successful if there is a phase of reflection, providing an opportunity for behavior, thoughts, and beliefs to transform (Goldman et al., 2009). Changes in each PatientCare user's workflow could incite different reactions and feelings. The non-formal instructional approach and attention to autonomy incorporated into the training is insprired by transformative learning.

Communities of practice (CoP) is a third area that applies to this scenario. Through CoP, learning occurs in-context (Merriam & Bierema, 2014, p. 120), members share resources (CoP, n.d.), and members have various levels of skill and knowledge. The key is sharing with the group to help everyone improve. This result may not be in the forefront of physician's minds when they share ideas and methods with each other in-context, but it is a consideration in the design of the training effort.

Units of Instruction (based on objectives). Using the learning objectives, three modules have been defined. In the table below, each module is listed in the first column, with the module lessons in the second column, followed by the topics in each lesson in the third column. Finally, the objective addressed by each topic is noted in the final column.

Module	Topics	Objective
1: Locate areas of the interface	1: Locate Patient List	1
	2: Locate Dashboard content display area	
	3: Locate Dashboard Selector	
	4: Locate Actions menu	
2: Perform Critical Job Tasks	1: Select a patient in Single View mode	2a
	2: Select a patient in Multi View mode	
	3: Start a new note for a patient	2b
	4: View existing notes for a patient	
	5: Start a new order for a patient	2c
	6: View existing orders for a patient	
	7: Start a new charge for a patient	2d
	8: View existing charges for a patient	
	9: View clinical data in a dashboard	2e
	10: View clinical data in a pop-up window	
	11: Select a dashboard	2f
	12: Filter patient list	2g
	13: Sort patient list	2h
	14: Add patient to patient list	2i
	15: Switch patient list	2j
	16: View patient header	2k

INSTRUCTIONAL MATERIALS

Below is a summary of instructional materials to be developed to address the training need along with a description of content and its relevance.

Item	Description	Relevance	Objective
1	Welcome screen for login	To introduce a select number of important interface areas to users upon login, a Welcome screen will be developed, and required to appear for every user when they login for the first time. Users will be able to click through the screens, and the number of screens will be limited.	Addresses Performance Objective 1 and serves as Module 1 in the Units of Instruction
2	Video tour of user interface	To introduce users to the new interface and demonstrate critical job tasks that physicians need to perform, a video tour will be developed. This will orient users to the new layout and demonstrate critical job tasks, including: Select a patient, Start an action (Note/Order/Charge), View patient and visit information, View clinical	Addresses Performance Objective 1 & 2 and serves as Module 1 in the Units of Instruction

Item	Description	Relevance	Objective
		information, Change dashboards, Filter, Sort, and Switch patient lists, and Add patient to a list. The tour will incorporate both text captions that provide brief overview text and video demos that show how the feature works. Providing these two options accommodate users who prefer to read an overview and those who prefer to see a more in-depth demonstration. This will be a self-paced module so users can control how much time they spend interacting with each area.	
3	Quick Reference Cards (job aids)	To offer a static guide to the areas of the interface, Quick Reference Cards will be created to identify the areas of the interface described in the Interface Tour video. These Quick Reference Cards will follow the same format of existing Quick Reference Cards that are available with the product, and will be available as PDFs in the Online Help.	Addresses Performance Objective 2 and augments Module 2 in the Units of Instruction

These items align with the preferred methods of instruction currently used by physicians. The Welcome screen introduces users right away to the areas of the screen and relates the new layout to the concepts they are familiar with. The Tour videos provide users access to the information they need to know right in the moment so they can perform those tasks in-context. This aligns with the way physicians prefer to learn. Separating the tasks into standalone videos gives the user control in deciding their learning path, providing a touch of autonomy in a changing environment.

Physician's main motivation is caring for their patients, so there is an intrinsic desire to understand how to use products such as PatientCare so they can focus on providing care. Providing physicians with the necessary information in the most accessible, non-intrusive way can help them get back to focusing on patients and not technology.

DEVELOP PHASE

INTRODUCTION

During the analysis phase, important user characteristics and key stakeholder desires were discovered that guided the instructional material development. Three instructional materials were designed to orient users with the new interface and workflows: A Welcome Screen module that all users will see when they login to the new version for the first time, an Introductory Tour module, and a Quick Reference document.

INSTRUCTIONAL MATERIALS

The instructional materials were designed to be accessed and controlled by the users without additional instructions or supporting materials. The intent is to preserve physician's time and meet their learning needs in that very moment.

The Welcome Screen module is a high-level introduction to the main areas of the user interface. This concept came from a discussion while reviewing a draft of the Introductory Tour module. Product Management was concerned with the length of time needed to complete the Tour, and was hesitant to make it required viewing before users accessed the product. Thus, a brief, even higher-level introduction was discussed, and the result was a simple representation of the screens requiring minimal time and some user acknowledgement. The Welcome Screen was created in Adobe Captivate and published as an HTML file, which can be referenced by Engineering from within the backend code. An example of the Welcome Screen is available in *Appendix C*

Instructional Materials on page 38.

The Introductory Tour module is an interactive look at the user interface that includes text captions and video demonstrations. This Tour provides more details than the Welcome Screen and it lets viewers discover the areas of the interface on their own. The

topics were determined after Product Management identified important tasks, and the content was developed through analyzing product specifications and gathering Product Management feedback. The Introductory Tour started as a storyboard, evolved through Product Management review, was created in Adobe Captivate, with voiceover generated through an online text-to-speech utility, and produced as an HTML file. An example of the Tour is available in *Appendix C*

Instructional Materials on page 38.

The Quick Reference Card document is a job aid, known to existing users as a Quick Reference Card, which provides an overview of the screen areas that users can reference from within or outside the application. This is intended as a static version of the Introductory Tour that users can access through the Help system and even print to keep a physical copy nearby. This was created to match the layout of existing Quick Reference Card documents currently available through the Help system. The Quick Reference Card was created in Adobe FrameMaker and produced as a PDF file. As example is available in *Appendix C*

Instructional Materials on page 38.

IMPLEMENTATION AND EVALUATION PHASE

IMPLEMENTATION AND IMPROVEMENT PLAN

Implementation. The product release will not occur in time for an authentic implementation of the training materials that could be reported in this paper. Key stakeholders reviewed the materials that were developed and were useful in providing feedback on the design and content, as well as offering suggestions as the materials are

refined for the product release. In lieu of an implementation, a mock pilot was performed where stakeholders and volunteers were asked to review the materials as if they were users accessing the product for the first time after upgrading.

A simulation was created using Adobe Captivate that mimicked a user logging into the product and compiled all three training materials in a sequential and realistic sequence that users could experience. Below is an overview of the simulation sequence:

1. Participant opens an HTML file that displays the application login screen and they click the Login button, as they normally would to login to the product. The Welcome Screen displays.
2. Participant completes the Welcome Screen module. At the end, they choose to view the Introductory Tour. The Tour displays.
3. Participant reviews the areas of the interface in the Tour. When ready, they choose to exit the Tour and access the product interface.
4. In the interface, participant clicks a link to access the Quick Reference Card, and they review the content in the PDF file.

When the simulation design was complete and ready for use, a request to participate was either sent via email or extended in-person. For those who were able to participate, instructions were emailed along with step-by-step details and links to the needed files. The instructions also included an overview of the materials that were created, the training goal of each, and evaluation questions to keep in mind as they reviewed. To see an example of the instructions that were provided, see *Appendix D*

Mock Pilot Instructions on page 45.

At the end of the simulation scenario, a survey was conducted via Google Forms asking about the evaluation criteria that was described. These questions aimed to gather input based on Kirkpatrick's four evaluation levels (2006). The results are described in the section *Evaluation Plan on page 29*.

Improvement Plan. Feedback was received from participants in the mock pilot, which was reviewed, analyzed for conflicts or contradictions with other comments, and then organized into a list so the more useful suggestions could be incorporated before the Beta release date. Some planned improvements based on feedback are described next.

In the Welcome Screen module, multiple pilot participants remarked on having to click in the highlighted area to proceed to the next slide, and recommended an arrow or Next button instead (clicking in the highlighted area was a design decision to encourage user control in navigation and intended to mimic practice that should, in theory, improve user experience, but it did not translate that way in reality; Clark and Mayer discuss incorporating user control and practice into e-learning that mirrors the job (2016)). Another observation about the Welcome Screen was that it did not allow users to navigate backward, so addressing that by adding navigation arrows seems like a marked improvement. A suggestion from Product Management was to incorporate a comparison between the current screens and how they appeared in previous versions, as well as a suggestion to add one more screen showing another important area to users.

In the Introductory Tour module, one participant asked about the initial screen view, and if users would always see the same screen when they login. This is important to consider as the view may be different for some users, but the video would remain the same. This is something to follow up on and possibly address in the narration.

For Quick Reference Card, Product Management provided adjustments to the caption text, but all participants seemed to agree it was an effective training material.

The feedback received from the limited pilot provided useful and actionable suggestions that will improve the training materials for the Beta phase. Even though the

scope of the pilot was limited, the exercise offered an important perspective after a long research and development process where only a select number of people were contributing to the materials.

When the training materials are used during the Beta release phase, a system is in place at the company for reporting and tracking product defects and enhancement requests, so issues related to training materials can be entered into the system and fall into the established process for product maintenance. As with other maintenance issues, they will be assessed and prioritized, and then scheduled with a resource to perform the work.

Evaluation Plan

Of the three deliverables created, two of the training materials will be available to users, but they will not be required to complete the training. One module will be required. Evaluating users is not realistic, so an alternative option is to do so through proxies. One proxy is the mock pilot implementation performed with co-workers. Another proxy would be the hospital IT support at the hospital when the Beta product is released; at that time, genuine feedback will be available from users.

A range of options has been established to measure the training goals against the four evaluation levels described by Kirkpatrick (2006).

	Unacceptable	**Acceptable**	**Exceeds Expectation**
Level 1 Reaction	Impedes user, causes confusion or frustration. Ignored by user.	Required materials are completed and do not elicit feelings of disruption.	Users seek additional materials to review or access materials at a later time as a reference.
Level 2 Learning	Training material is not understood and areas of the screen are unfamiliar after viewing materials.	Users understand the content in the training materials and the interface elements are familiar to them after they view the materials.	Users are able to recall from training the areas of the screen and are familiar with the functionality.

	Unacceptable	Acceptable	Exceeds Expectation
Level 3 Behavior	Users are confused by the user interface and do not know how to reference the training materials.	Users are able to perform tasks in the product or are able to reference materials for assistance.	Users are able to perform tasks without assistance and are able to identify the areas of the screen.
Level 4 Results	Users are unable to perform tasks in the product and do not use the product.	Transitioning users to the new product does not interrupt their workflow and does not result in users feeling forced into undesired and ineffective training.	Users transition without interruption and find the available training effective and desire additional training materials to improve workflows.

Since the training materials are intended to be used asynchronously, formative evaluation strategies would not have a meaningful impact on the content that is being provided. Summative evaluation was used to gather input from participants in the mock pilot. At the end of the pilot, participants were asked to complete a survey, which was designed to represent the four evaluation levels. Below is a summary of the results, which indicate that the training materials meet the *Acceptable* or *Exceeds Expectation* at each evaluation level.

1. **Reaction**- Overall participants found the materials intuitive and easy to navigate, with slight confusion around expected screen behavior in the Welcome Screen module that aligned with other usability comments for that module.
2. **Learning**- Participants did not identify any impediments to learning.
3. **Behavior**- Participants felt the training materials could encourage use of the product and no one mentioned the materials discouraging use.
4. **Results**- Participants stated they were able to recall information from the training when they accessed the new user interface.

To see the full survey and the results, see *Appendix E*

Mock Pilot Evaluation Results on page 47.

When the Beta product version is released, further evaluation can occur of hospital administrative staff and those who support the product and other hospital systems using the same survey questions. Feedback regarding usage, and common questions or problems

could provide insight into user reaction, learning, behavior, and the overall results of the available training materials. If any of the training materials created are not meeting the *Acceptable* or *Exceeds Expectation* level, they should be reassessed and revised to improve their effectiveness. This training is important to Product Management because the new product version is such a drastic change for existing users, so continued support and resources to improve the training materials is expected.

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APPENDIX A

ONE-ON-ONE INTERVIEW QUESTIONS

PRODUCT MANAGER INTERVIEW

About You

- How long have you been in your current role?
- What is your area of expertise/products you manage?

About Users

- Aside from patient care, what is most important to our users about their interactions and experience with PC?
- What is your perception of how our users adapt to changes in our products?
- How would you describe user's reactions or feelings when things change in their own workflow?
- Based on what you know about our users, what type of training do you think they prefer when changes in the product and their workflow occur?

About V9

- What are the main issues you anticipate users facing when they upgrade?
- What are your expectations for users based on the training we provide? What skills/knowledge/ability do you want them to acquire from the training? How quickly do you want them to adapt vs. how quickly you think they actually will adapt?
- What constitutes proficiency when measuring user ability?
- How will you know users are receiving the right type and amount of support as they learn the new product?
- Is user reaction or feelings towards our training important to you? How important is it that they *like* it?

IMPLEMENTATION CONSULTANT INTERVIEW

About You

- How long have you been in your current role?
- What is your area of expertise/products you manage?

About Users

- Aside from patient care, what is most important to our users about their interactions and experience with our products?
- What is your perception of how our users adapt to changes in our products?
- How would you describe user's reactions or feelings when things change in their own workflow?
- Based on what you know about our users, what type of training do you think they prefer when changes occur in the product and in their workflow occur?
- Have users ever expressed dissatisfaction with the type or amount of training or support resources available to them?

About V9

- What are the main issues you anticipate users facing when they upgrade?
- What are your expectations for users based on the training we provide? What skills/knowledge/ability do you want them to acquire from the training? How quickly do you want them to adapt vs. how quickly you think they actually will adapt?
- How will you know users are receiving the right type and amount of support as they learn the new product?
- Is user reaction or feelings towards our training important to you? How important is it that they *like* it?

APPENDIX B

SUMMARY OF INTERVIEW RESPONSES

Below is a summary of the key takeaways from one-on-one interviews with project stakeholders.

Interviewee Response			
Questions	**Sam**	**Lee**	**Don**
Q1: Aside from patient care, what is most important to our users about their interactions and experience with PC?	Compliance (accuracy for audits) Time saving Logical and intuitive Ease of use Customization to their preferences	Easy for physician to do their job Intuitive Our user's primary job is patient care, not doing the tasks they use PC for	Simplicity Usability Efficiency- Identify your patients quickly, make decisions, and move on
Q2: What is your perception of how our users adapt to changes in our products?	Can be hard if they don't understand the change or how to access it. If it is something that will help them they like it. If we add more work for them, they don't like it. Admin users concerned about training and disruptions.	Try to gather physician feedback before change- conscious of adding work	Depends on the delivery of the change. "…all about the delivery of the change...I think this is really where this makes or breaks some trust between the vendor and the client..."
Q4: Based on what you know about our users, what type of training do you think they prefer when changes in the product and their workflow occur?	Say they don't want training due to the time it takes Don't want anything formal or sit through anything Prefer for someone to show them how to do something (1-on-1 informal)	Don't yet know what works best Physicians don't like organized training- don't want to sit in a room, don't want to read a manual, they just want to know what to do while they're doing it One-on-one training has worked better where someone works side-by-side with physician to show them functionality Also training by peers where one doc shows another doc a better way to do something Quick tips might be useful in pointing out new features. Users tend to do things in ways that are harder than they need to be.	Communicate features ahead of time Demonstrate by product In a way where users can provide feedback and ask questions about features

Interviewee Response			
Questions	**Sam**	**Lee**	**Don**
Q5: What are the main issues you anticipate users facing when they upgrade?	Totally different look and feel Massive change Disorienting Need to know right away how they can do what they need to do Key workflows: • Enter orders • View results • Enter notes Need to ground users in their critical workflows to make them comfortable with exploring	How different it looks and feels compared to prev product All the same data is there but it's organized very differently	They're not sure what to expect Explain to them the change they're going to see Be able to show that they are not losing any function- they are gaining quite a bit Clearly communicate change to workflow from prev versions Key workflows: • Entering Orders • AMR • DMR • Writing Notes • Selecting Patients
Q6: What are your expectations for users based on the training we provide?	Immediate acquisition of knowledge for those crucial tasks Learning curve is acceptable for other tasks	Physicians who are comfortable with any current software will adapt quickly Some will want us to provide training to get them acclimated Some physicians will be kicking and screaming through this process	Expect smooth transition Expect that when we give them data in the dashboard they'll want more data or different data. So how do we understand what they want and where they want it to go?
Q7: What constitutes proficiency when measuring user ability?	Perform crucial tasks without assistance Lots of room to expand ability that could constitute advanced users- those who switch between dashboards, filter, sort	Direct feedback is difficult In Dashboard we'll use Google Analytics to see the screens users are hitting Rate of notes and charges remains the same as before- if it decreases they may be having trouble They have a backup plan since PC is an overlay if they need to use something else	Diff levels: • Complete basic workflows • Identify gaps or additions to data that would benefits their own workflow

APPENDIX C

INSTRUCTIONAL MATERIALS

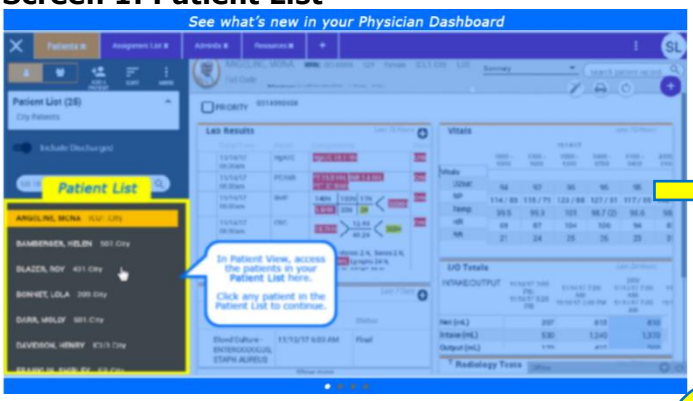
Below are examples of the instructional materials that were created:

WELCOME SCREEN MODULE

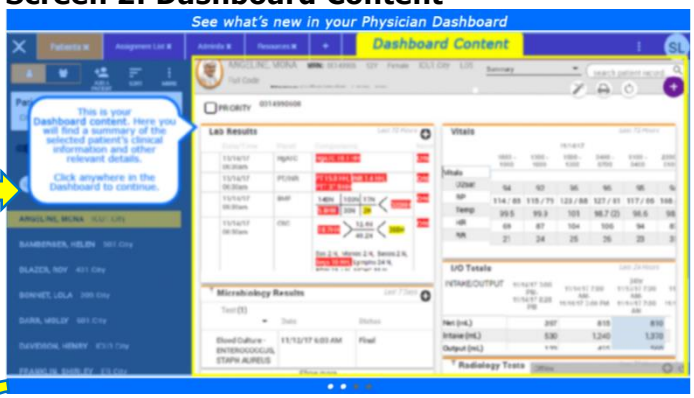
The Welcome screen is described in detail in the section *Develop Phase on page 25*. The final product is an HTML file that opens in the default web browser. Each screen highlights a different area of the interface and includes a brief description of that area. The next screen displays when the user clicks within the highlighted area. There are five total screens, which includes the final landing page.

> Note: The screen content has been intentionally obfuscated (all data that appears is simulated and does not originate from real patient data).

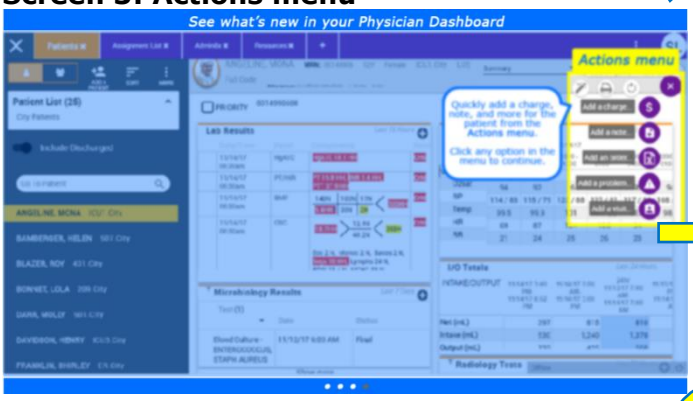
Screen 1: Patient List



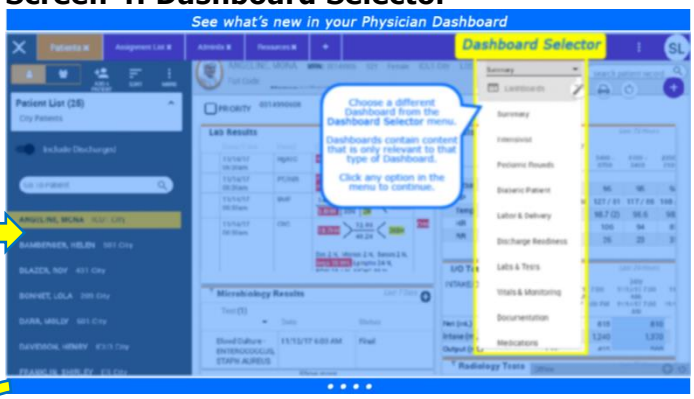
Screen 2: Dashboard Content



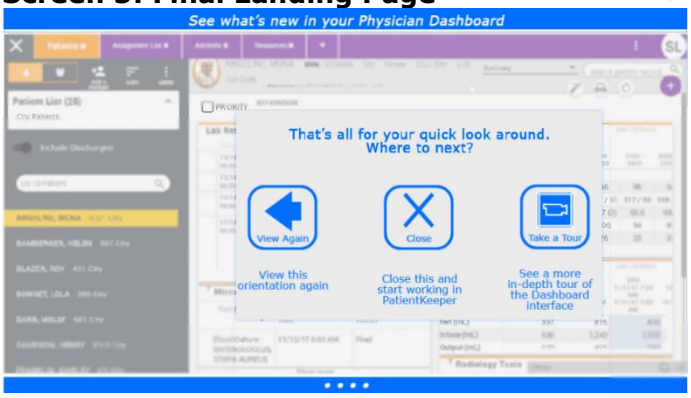
Screen 3: Actions menu



Screen 4: Dashboard Selector



Screen 5: Final Landing Page



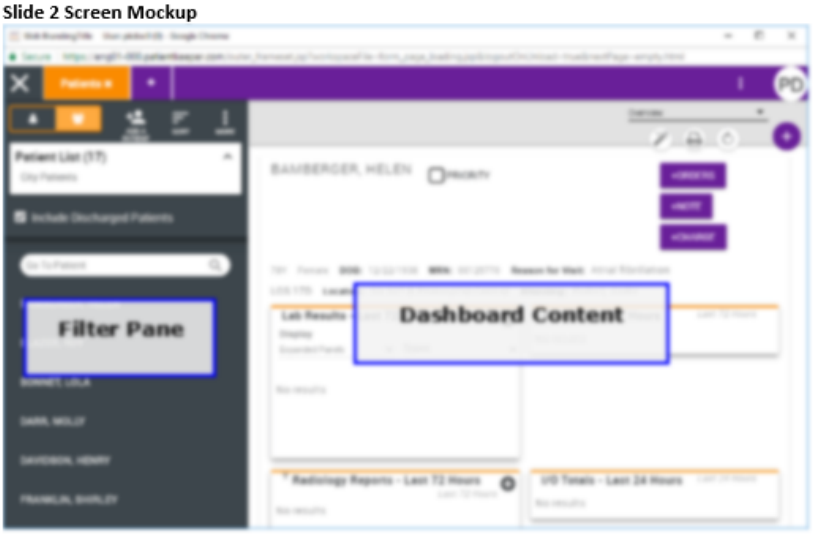
Introductory Tour Module

The Introductory Tour is described in detail in the section *Develop Phase on page 25*. The Tour went through many iterations based on Product Management feedback. While the final product evolved into something more dynamic than the original plans called for, the storyboards were very useful in eliciting feedback early in the process when the content and sequence were being solidified. Below is an example of one of the earliest storyboard slides created.

Note: The screen content has been intentionally obfuscated (all data that appears is simulated and does not originate from real patient data).

Module	Lesson	Topic
1: Introduction to V9 user interface	1: Locate areas of the interface	1: Areas of Patient Tab

Slide 2 Screen Mockup



On-screen Actions

1. Patient List Dashboard View.
2. Dashboard Content caption displays.
3. Filter Pane caption displays
4. Clickable area appears in Dashboard area. Click action to go to that slide.

Voiceover

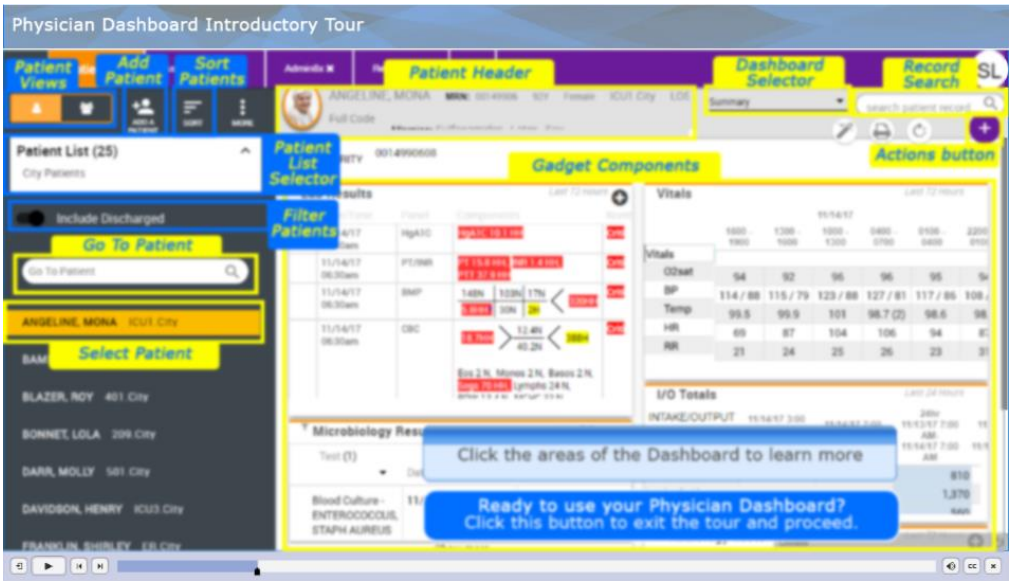
Your physician dashboard is a way to see all of the relevant patient information you want, just the way you want it.

Dashboard Content fills most of your screen. On the left is the Filter Pane, a collapsible panel with options to control the Dashboard display.

Click the Dashboard Content area of the screen to learn more about it.

The final product is an HTML file that opens in the default web browser. Users can access the Tour after viewing the Welcome screens, or through the online help system within the product.

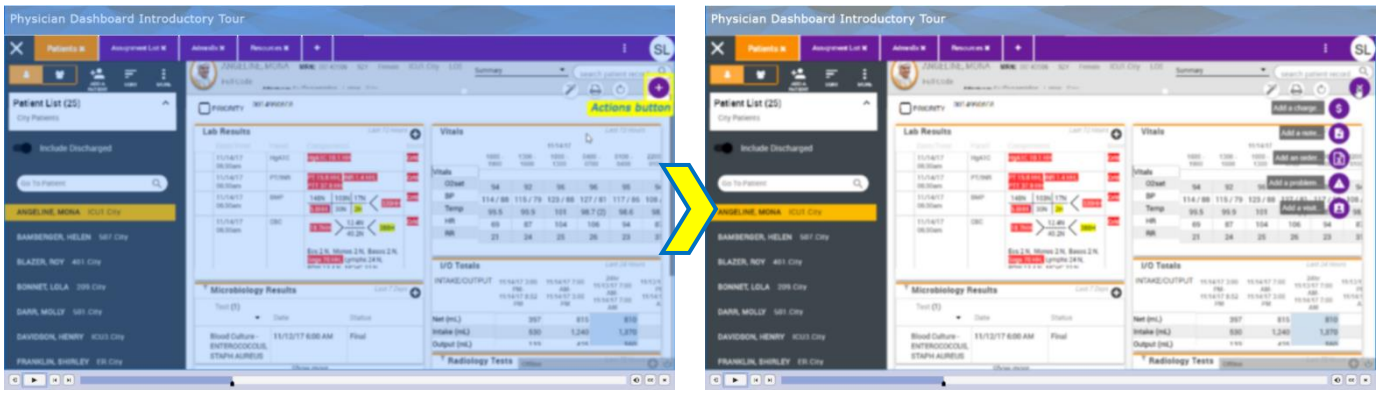
After an introduction, areas of the interface are sequentially highlighted and labeled until all of the areas are visible on-screen. Below is an example of the screen after all of the highlighting and labels have populated on the screen.



When a viewer hovers over one of the labels, a brief description of that area displays in a pop-up window in close proximity to that area.

Note the cursor is over a label and a text pop-up displays below

If the viewer clicks the label, a video demonstration with narration plays describing the feature.



After the demonstration of that area ends, viewers are returned to the overview page where all of the areas are highlighted and labeled. They can continue to discover the areas of the interface and can close the Tour at any time.

Quick Reference Card Document

The Quick Reference Card is described in detail in the section *Develop Phase on page 25*. The final product is a three-page PDF file. Users can access the file through the online help system within the product; this is how all other existing Quick Reference Cards are accessed.

Note: The screen content has been intentionally obfuscated (all data that appears is simulated and does not originate from real patient data).


PatientCare
Dashboard Content in Patient List View
a Patient View buttons
Patient List View selected
b Patient List
Select a patient to jump to them in the Dashboard
c Dashboard Selector
Choose the Dashboard you want to view. The selected Dashboard controls content that displays.
d Quick Action buttons
Take an action on the patient such as add a note, charge, or more.
e Gadget Components
Display data based on specified filters and timeframe providing useful information about the selected patient. Gadgets are part of the Dashboard design. You can add, remove, and adjust the parameters of a gadget to meet your needs.


PatientCare
Controlling Your Patient List
a Patient Views button
Switch between Patient View (L) and Patient List View (R)
b Add A Patient button
Manually add a patient to your Patient List
c Sort button
Change the sort order of the Patient List
Patient List Selector
Change Patient Lists and access recently viewed patients
d
Filters
Set criteria for to limit the Patient List display
e
Go To Patient
Search for a patient in the current Patient List
f
List of Patients
For Patient View, a mini Patient List displays. For Patient List View, quickly navigate the Patient List Dashboard.
g
Patient List (10)
Recent Patients
Include Discharged
Go To Patient
BARWICK, VIRGIL
CHAMBERLAIN, LIZ
HOWELL, ANNIE P
BARWICK, VIRGIL
Lab Results
No results
Radiology Reports
No results

APPENDIX D

MOCK PILOT INSTRUCTIONS

Below is an example of the instructions that were sent to participants in the mock pilot.

Dashboard Training Mock Pilot Instructions

Thank you for participating in this mock pilot of the Physician Dashboard orientation training materials. Please complete each step fully before moving on to the next step.

Note that the instructional materials have been created to meet my capstone project deadline and are more of a proof-of-concept for the materials we will ultimately create for Dashboard users. As you know, the UI is not frozen yet, so what you will see in the materials is just the current state of the product.

1. Review the **Overview of Training Deliverables** (described below). This describes what you'll be looking at, and the purpose of each item.
2. Review the **Training Materials Evaluation** (described below). Evaluation is a key part of the improvement process, so there are a few questions for you to keep in mind as you review the training materials.
3. Perform the training simulation. Below is a link to the HTML file that will guide you through the scenario as if you were a PC user logging into the Dashboard for the first time.
   Access the file here and follow steps a-d below as you proceed through the screens:
   [redacted]
   a. Click the **Login** as a user would.
      Note, when you click the Login button to access PC you will likely see a Pop-Up Blocked notice in the address bar. Click the icon, choose Allow, and refresh the page (this is an extra step due to the make-shift simulation I strung together).
   b. Review the "Welcome screen" training as a user would. At the end, please choose **Take a Tour** to access the second module.
   c. Review the "Introductory Tour" as a user would. When ready, click the **Exit to PC** button at the bottom of the Overview screen to access the third module.
   d. When you return to PC open the **Dashboard Quick Reference Card** from the Help gadget. Review it as a user would.
4. Complete the **Training Materials Evaluation**. This is a survey to address specific evaluation areas: [redacted]

Overview of Training Deliverables

Training Material	Description	Training Goal
1. Welcome screen	High-level introduction that appears upon initial login. This is a brief snapshot of four important areas that users click through before entering the Dashboard.	Orient users to four key areas of the Dashboard: 1. Patient List 2. Dashboard content 3. Actions menu 4. Dashboard Selector
2. Introductory Tour	Tour of the interface that lets users discover important areas of the screen. This is a view of the interface with labeled areas users can learn about by viewing a summary and also viewing a demo.	Orient users with the interface and provide information on how to perform the following tasks: • Select a patient • View clinical data • Perform actions (Notes, Charges, etc.) • Search patient record • Change Dashboard • Control patient list (sort, filter, add patient, change Patient List) • Switch to Patient List View
3. Dashboard Quick Reference Card	A Quick Reference Card showing the areas of the interface, resembling existing Quick Reference Cards provided in Help.	Provide a reference to the UI areas described in the Tour

Training Materials Evaluation

Evaluation is a key part of the instructional development process, and there are four levels to consider in fully evaluating training materials:

1. Reaction
2. Learning
3. Behavior
4. Results

With that in mind, please respond to these questions after you view all of the materials. Try to keep these questions in mind as you viewing each one.

Reaction

- Is the training intuitive and easy to navigate?
- Do you have comments or feedback that describe your reaction to the training materials (did you like/dislike any part? Were you distracted by any parts, etc.?)

Learning

- Can you anticipate any impediments to learning associated with this method of training?
- Do you feel the materials were able to meet the training goals for that material? (reminder of goals)

Behavior

- Do you think these training materials could impact usage of the product in any way, either by encouraging or discouraging use?

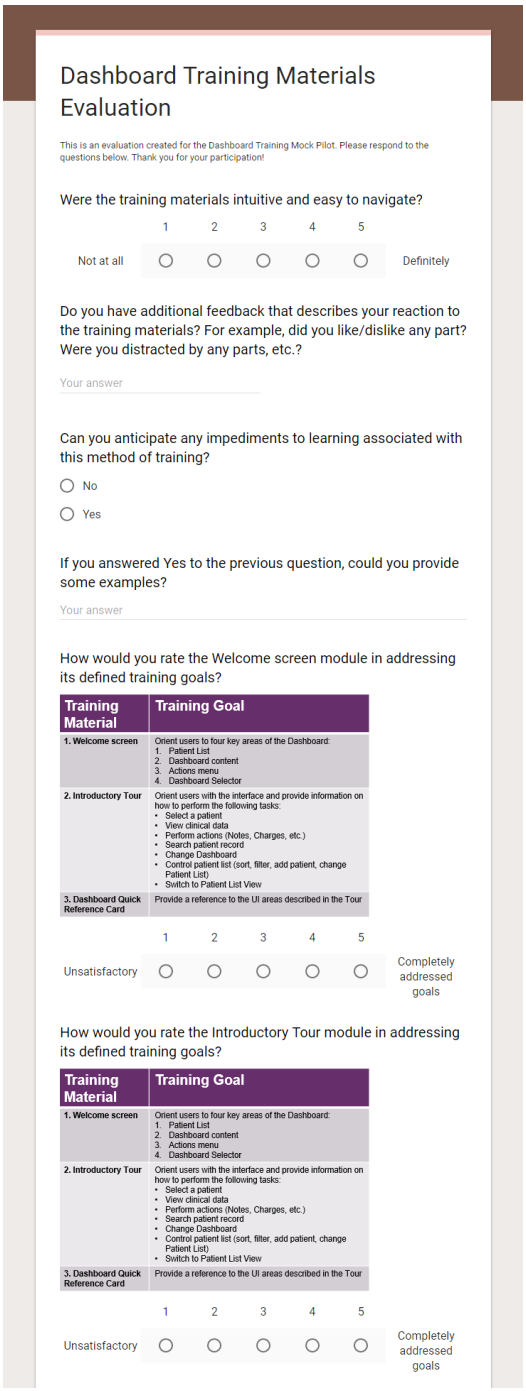
Results

- After viewing the training materials, were you able to recall any of the information when you saw the interface?
- Do you have any concerns about familiarizing users with V9 that are not addressed in this training?

APPENDIX E

MOCK PILOT EVALUATION RESULTS

Below is the survey that was provided to mock pilot participants and the results. Feedback was also provided from one participant via email only. For an analysis of all results, see *Implementation and Improvement Plan on page 26*.



Dashboard Training Materials Evaluation

This is an evaluation created for the Dashboard Training Mock Pilot. Please respond to the questions below. Thank you for your participation!

Were the training materials intuitive and easy to navigate?

	1	2	3	4	5	
Not at all	○	○	○	○	○	Definitely

Do you have additional feedback that describes your reaction to the training materials? For example, did you like/dislike any part? Were you distracted by any parts, etc.?

Your answer

Can you anticipate any impediments to learning associated with this method of training?

- ○ No
- ○ Yes

If you answered Yes to the previous question, could you provide some examples?

Your answer

How would you rate the Welcome screen module in addressing its defined training goals?

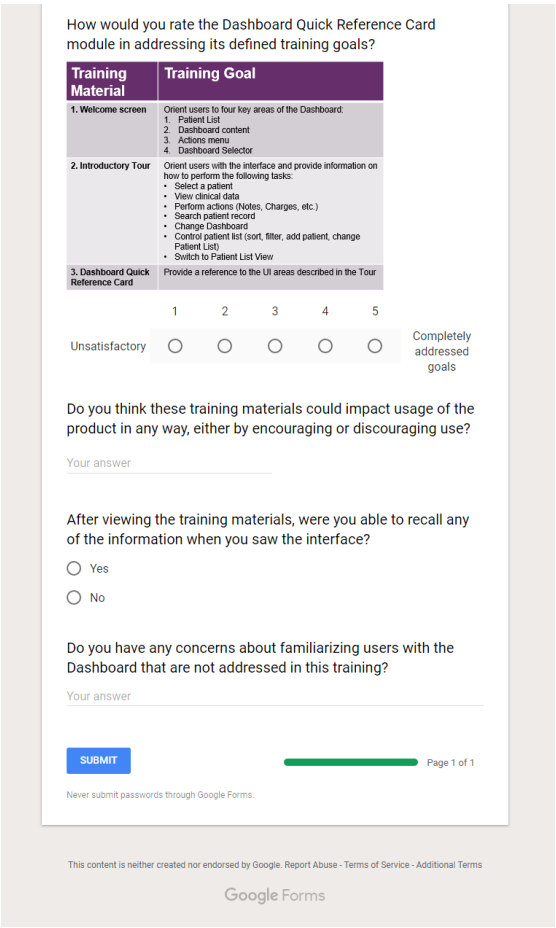
Training Material	Training Goal
1. Welcome screen	Orient users to four key areas of the Dashboard: 1. Patient List 2. Dashboard content 3. Actions menu 4. Dashboard Selector
2. Introductory Tour	Orient users with the interface and provide information on how to perform the following tasks: • Select a patient • View clinical data • Perform actions (Notes, Charges, etc.) • Search patient record • Change Dashboard • Control patient list (sort, filter, add patient, change Patient List) • Switch to Patient List View
3. Dashboard Quick Reference Card	Provide a reference to the UI areas described in the Tour

	1	2	3	4	5	
Unsatisfactory	○	○	○	○	○	Completely addressed goals

How would you rate the Introductory Tour module in addressing its defined training goals?

Training Material	Training Goal
1. Welcome screen	Orient users to four key areas of the Dashboard: 1. Patient List 2. Dashboard content 3. Actions menu 4. Dashboard Selector
2. Introductory Tour	Orient users with the interface and provide information on how to perform the following tasks: • Select a patient • View clinical data • Perform actions (Notes, Charges, etc.) • Search patient record • Change Dashboard • Control patient list (sort, filter, add patient, change Patient List) • Switch to Patient List View
3. Dashboard Quick Reference Card	Provide a reference to the UI areas described in the Tour

	1	2	3	4	5	
Unsatisfactory	○	○	○	○	○	Completely addressed goals



How would you rate the Dashboard Quick Reference Card module in addressing its defined training goals?

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1. Welcome screen	Orient users to four key areas of the Dashboard: 1. Patient List 2. Dashboard content 3. Actions menu 4. Dashboard Selector
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3. Dashboard Quick Reference Card	Provide a reference to the UI areas described in the Tour

	1	2	3	4	5	
Unsatisfactory	○	○	○	○	○	Completely addressed goals

Do you think these training materials could impact usage of the product in any way, either by encouraging or discouraging use?

Your answer

After viewing the training materials, were you able to recall any of the information when you saw the interface?

- ○ Yes
- ○ No

Do you have any concerns about familiarizing users with the Dashboard that are not addressed in this training?

Your answer

SUBMIT

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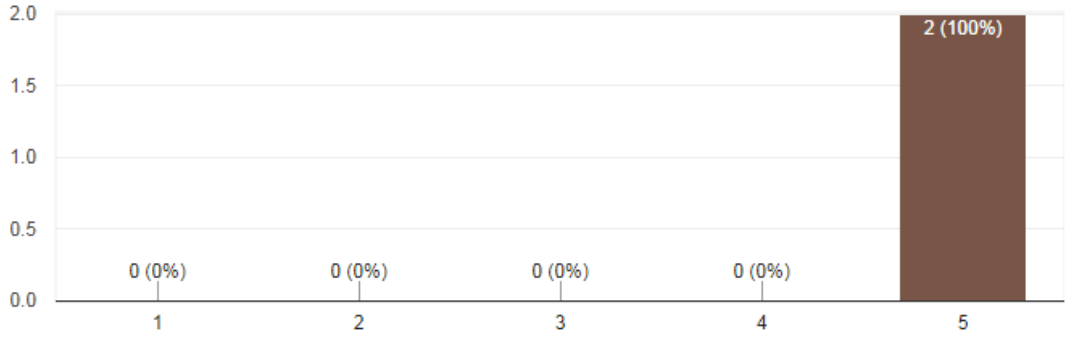
Were the training materials intuitive and easy to navigate?

2 responses



Do you have additional feedback that describes your reaction to the training materials? For example, did you like/dislike any part? Were you distracted by any parts, etc.?

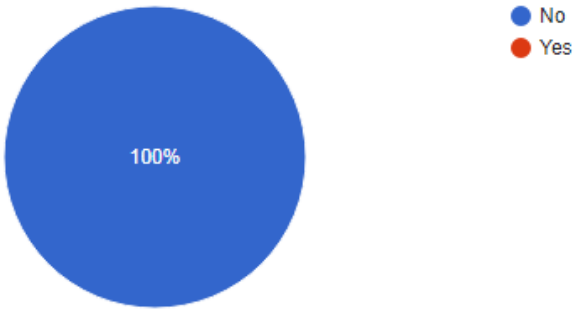
2 responses

Question - will the user always come into the Patient tab with Patient View selected when starting/logging in? This was not gone over in the tour but might not be needed. Also, help gadget - maybe this should be called out to user how to access help when needed?

I was slightly distracted in the Welcome screen when it said "click any patient to continue." I clicked a patient name expecting that patient's information to be shown, but instead the current patient's information was shown. I would consider changing this to "click the Next button to continue" or "click anywhere to continue" (and similar for the other sections of this tour).

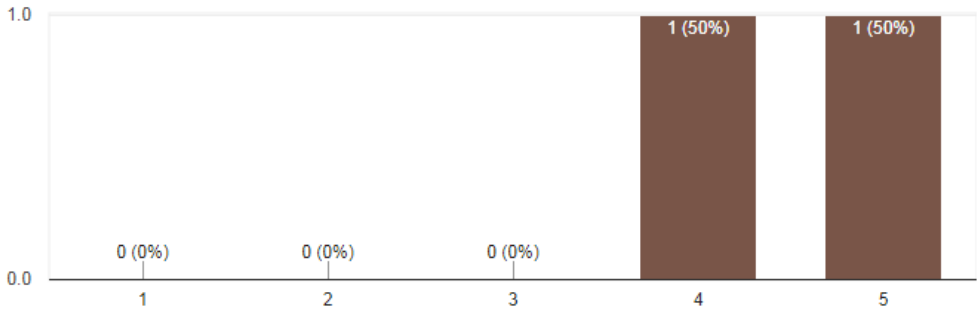
Can you anticipate any impediments to learning associated with this method of training?

2 responses



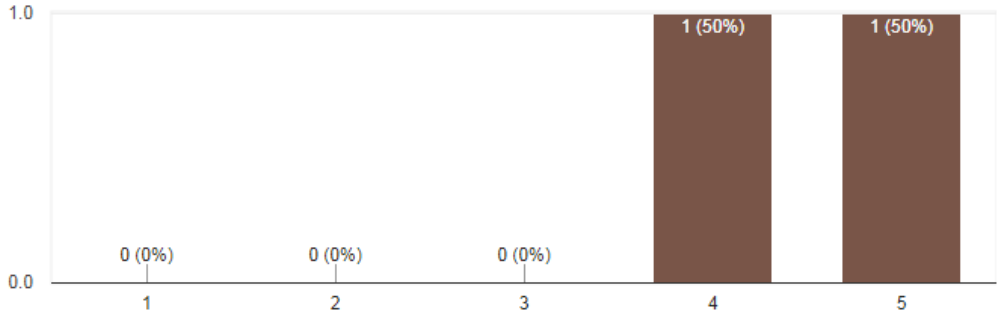
How would you rate the Welcome screen module in addressing its defined training goals?

2 responses



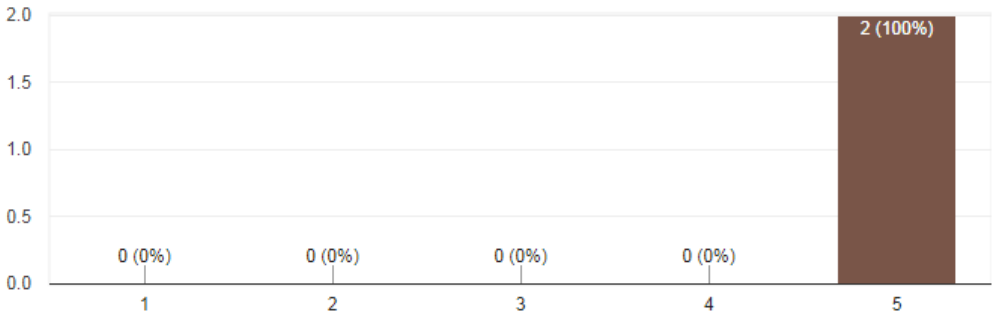
How would you rate the Introductory Tour module in addressing its defined training goals?

2 responses



How would you rate the Dashboard Quick Reference Card module in addressing its defined training goals?

2 responses



Do you think these training materials could impact usage of the product in any way, either by encouraging or discouraging use?

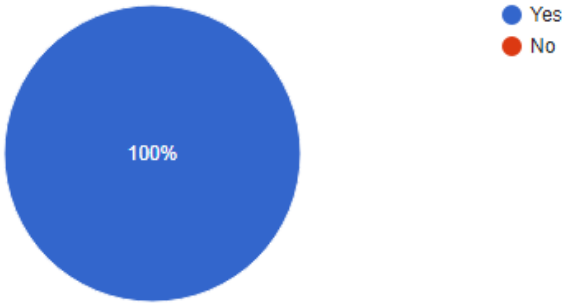
2 responses

For either a new user or an existing one who needs to figure out how to start using the product, this will be very helpful.

Yes, I think it could encourage use of all the features, that a new user might otherwise overlook or never try.

After viewing the training materials, were you able to recall any of the information when you saw the interface?

2 responses



Do you have any concerns about familiarizing users with the Dashboard that are not addressed in this training?

2 responses

See my questions above regarding accessing help and patient tab/patient view.

No