Your Personal Health Record

The Shared Care Plan

It's your health–
you can take charge!

Application Documentation & Guide

May 2006

NOTICE TO USER

This software and associated materials ("Licensed Product") is being licensed to you in the hope that more patients will have access to a patient-centric electronic health record. The Licensed Product is being provided subject to the End User License Agreement (a copy of which is enclosed), and AS IS and WITH ALL FAULTS. Licensor DISCLAIMS ALL WARRANTIES and has NO LIABILITY FOR ANY DAMAGES. Licensor has no obligation to provide support services or updates for the Licensed Product. Nothing in the Licensed Product is intended to be legal advice. You should direct any legal questions to your attorney.

Table of Contents

End User License Agreement

IMPORTANT -- READ CAREFULLY: BEFORE ACCESSING THE LICENSED PRODUCT (AS DEFINED BELOW), YOU MUST HAVE READ AND FULLY CONSENTED TO THIS END USER LICENSE AGREEMENT ("EULA"). YOUR USE OF THE LICENSED PRODUCT IS GOVERNED BY THIS EULA AND IS CONTINGENT ON YOUR ACCEPTANCE OF THE EULA. PLEASE READ THIS EULA CAREFULLY AND MAKE SURE THAT YOU FULLY UNDERSTAND IT. YOU MAY NOT USE THE LICENSED PRODUCT UNLESS YOU HAVE PROVIDED YOUR CONSENT TO ITS TERMS TO LICENSOR (AS DEFINED BELOW) EITHER THROUGH A CLICK-THROUGH AGREEMENT AVAILABLE ON LICENSOR'S WEBSITE OR BY PROVIDING LICENSOR WITH A SIGNED PHYSICAL COPY OF THIS EULA.

This EULA is an agreement you (either an individual person or a single legal entity, referred to in this EULA as "You") are making with PeaceHealth, located at 14332 SE Eastgate Way, Suite 300, Bellevue, WA 98007 ("Licensor") for the software product that accompanies this EULA ("Software"), including any associated media, printed materials, and electronic documentation (collectively, the "Licensed Product"). By installing, copying, downloading, accessing, or otherwise using the Licensed Product, You agree to be bound by the terms of this EULA. If You do not agree to the terms of this EULA, do not install, copy, download, access, or otherwise use the Licensed Product; instead, You must promptly destroy all copies of the Licensed Product in Your possession or return such copies to Licensor.

1. THE OBJECTIVES AND PRINCIPLES. The Software was created for the purpose of allowing patients to have an electronic health record that: promotes patient self-management and a team approach to patient-centric health care; can be used across the entire health care continuum and would not be owned or held by a single provider or organization; and could be shared by the patient, at the patient's discretion, with health care practitioners, family members, or other individuals or entities involved in the patient's care. The Software is designed to: facilitate patients' interactions with the health care system and communications with their health care professionals to support the virtual care team approach; offer patients a tool that fosters a sense of responsibility for their own health and that allows patients to feel safer because they are informed and in control; and give patients access to their clinical information from multiple health care systems so they may organize it into a single meaningful lifelong personal health record and make appropriate parts available to those who need it, in the patient's discretion. The Licensed Product was designed with the input of members of the community, employing a user-centered design philosophy. Licensor desires to distribute the Licensed Product to encourage the widespread use of the Licensed Product so that more patients will have an electronic health record that functions and was designed in a way consistent with these Objectives and Principles. Licensor requests that You attempt to uphold these Objectives and Principles in any use, derivation, or variation that You may make of the Licensed Product.

2. SOFTWARE PRODUCT LICENSE. Subject to the terms of this EULA, Licensor hereby grants to You a non-exclusive, nontransferable license to install, use, reproduce, distribute, display, and prepare derivative works from the Licensed Product; provided, however, that You exercise these rights in accordance with and otherwise comply with this EULA and that you have provided accurate and complete information to Licensor requested through Licensor's registration process for the Licensed Product. You may not sublicense the rights granted to You in this EULA and should direct licensing requests to Licensor. You shall not claim any patent rights with respect to the Licensed Product. This EULA shall terminate immediately upon any breach or other failure to comply with the terms of this EULA by You, without prejudice to any other rights Licensor may have. Upon termination of this EULA, You must destroy all copies of the Licensed Product and any works incorporating or derivative of any portion of the Licensed Product. Nothing in this EULA shall give You the right or license to use any trademarks, whether words or logos, that Licensor may use in connection with the Licensed Product, including, but not limited to, "Pursuing Perfection," "Shared Care Plan," or "PeaceHealth." LICENSOR SHALL HAVE NO OBLIGATION TO PROVIDE SUPPORT OR MAINTENANCE SERVICES TO, OR UPDATES FOR, THE LICENSED PRODUCT, AND YOU SHALL NOT CONTACT LICENSOR SEEKING SUCH SUPPORT OR MAINTENANCE SERVICES OR UPDATES.

3. U.S. GOVERNMENT LICENSE RIGHTS. All Licensed Product provided to the U.S. Government pursuant to solicitations issued on or after December 1, 1995 is provided with the commercial license rights and restrictions described elsewhere in this EULA. All Licensed Product provided to the U.S. Government pursuant to solicitations issued prior to December 1, 1995 is provided with RESTRICTED RIGHTS as provided for in FAR, 48 CFR 52.227-14 (JUNE 1987), or DFAR, 48 CFR 252.227-7013 (Oct. 1988), as applicable.

4. EXPORT RESTRICTIONS. You acknowledge that the Licensed Product is of U.S. origin. You agree to comply with all applicable international and national laws that apply to the Licensed Product, including the U.S. Export Administration Regulations, as well as end-user, end-use, and destination restrictions issued by U.S. and other governments.

5. NO WARRANTY. LICENSOR PROVIDES THE LICENSED PRODUCT ***AS IS*** AND ***WITH ALL FAULTS*** AND HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES, DUTIES, OR CONDITIONS OF: MERCHANTABILITY; FITNESS FOR A PARTICULAR PURPOSE; ACCURACY; RESULTS; LACK OF VIRUSES, TROJAN HORSES, DISABLING DEVICES, OR WORMS; OR LACK OF NEGLIGENCE. ALSO, THERE IS NO WARRANTY OR CONDITION OF TITLE, QUIET ENJOYMENT, QUIET POSSESSION, CORRESPONDENCE TO DESCRIPTION, OR NON-INFRINGEMENT. NOTHING IN THE LICENSED PRODUCT IS INTENDED AS LEGAL ADVICE OR GUARANTEES COMPLIANCE WITH ANY FEDERAL, STATE, OR OTHER LAW THAT MAY APPLY TO YOU. YOU SHOULD DIRECT ANY LEGAL QUESTIONS TO YOUR ATTORNEY.

6. EXCLUSION OF INCIDENTAL, CONSEQUENTIAL, AND CERTAIN OTHER DAMAGES.
NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS EULA, IN NO EVENT SHALL LICENSOR BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFITS, FOR BUSINESS INTERRUPTION, FOR PERSONAL INJURY, FOR LOSS OF PRIVACY, FOR FAILURE TO MEET ANY DUTY INCLUDING OF GOOD FAITH OR OF REASONABLE CARE, FOR NEGLIGENCE, AND FOR ANY OTHER PECUNIARY OR OTHER LOSS WHATSOEVER) ARISING OUT OF OR IN ANY WAY RELATED TO THE USE OF OR INABILITY TO USE THE LICENSED PRODUCT, THE PROVISION OF OR FAILURE TO PROVIDE SUPPORT OR MAINTENANCE SERVICES, OR OTHERWISE UNDER OR IN CONNECTION THIS EULA, EVEN IN THE EVENT OF NEGLIGENCE, STRICT LIABILITY, BREACH OF CONTRACT, OR BREACH OF WARRANTY OF LICENSOR, AND EVEN IF LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. LIMITATION OF LIABILITY AND REMEDIES. NOTWITHSTANDING ANY DAMAGES THAT YOU MAY INCUR FOR ANY REASON WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ALL DAMAGES REFERENCED ABOVE AND ALL DIRECT OR GENERAL DAMAGES), THE ENTIRE LIABILITY OF LICENSOR AND ANY OF ITS SUPPLIERS UNDER ANY PROVISION OF THIS EULA AND YOUR EXCLUSIVE REMEDY FOR ALL OF THE FOREGOING SHALL BE LIMITED TO REPLACEMENT OF THE LICENSED PRODUCT. THE FOREGOING LIMITATIONS, EXCLUSIONS, AND DISCLAIMERS (INCLUDING SECTIONS 5-7 OF THIS EULA) SHALL APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EVEN IF ANY REMEDY FAILS ITS ESSENTIAL PURPOSE. LICENSOR SHALL HAVE NO LIABILITY OR OBLIGATION IF THE FAILURE OF THE LICENSED PRODUCT HAS RESULTED FROM ACCIDENT, ABUSE, MISAPPLICATION, ABNORMAL USE, A VIRUS, OR ANY OTHER REASON.

8. INDEMNIFICATION. You shall be responsible for Your use of the Licensed Product and any derivative works or variations of the Licensed Product that You may create. You agree to indemnify, defend, and hold harmless Licensor and its members, owners, officers, directors, employees, and agents from and against any and all losses, expenses, damages, and costs, including attorneys' fees, arising from or relating to Your use of the Licensed Product or any derivative works or variations of the Licensed Product that You or Your sublicensees may create. Licensor shall have no obligation to indemnify You.

9. ENTIRE AGREEMENT. This EULA constitutes the entire agreement between You and Licensor pertaining to the subject matter hereof, and supersedes all prior or contemporaneous written or oral agreements existing between You and Licensor. Any modifications of this EULA must be in writing and signed by You and Licensor.

10. MISCELLANEOUS. This EULA shall be deemed made in the State of Washington, U.S.A. and shall be governed by the laws of Washington (without regard to its conflicts of law principles) and/or the United States, as applicable. You agree that any legal action between You and Licensor relating to this EULA will be brought only in a federal or state court sitting in Seattle, Washington. Failure by Licensor to enforce any part of this EULA does not waive that part of the EULA. Licensor may assign its rights and obligations under this EULA to any party at any time without notice to You. Upon such assignment, Licensor is relieved of any further obligation under this EULA. The provisions of this EULA are severable. If any part of this EULA is determined to be invalid or unenforceable, the remaining provisions stay in effect.

Shared Care Plan Principles of Design

The Shared Care Plan was created and continues to be developed using the User-Centered Design methodology. User-Centered Design is a philosophy and a process in which the tasks, needs, wants and limitations of the end user of a system are given extensive attention at each stage of the design process. Key end user rights (adapted from Jakob Nielsen):

- The right of users to be considered superior to technology. If there's a conflict between technology and users, then technology must change.
- The right of empowerment. Technology should permit users to understand what is happening with the system, thus enabling them to control the outcome.
- The right to simplicity. Technology should enable users to get their work done without excessive hassle.
- The right of users to have their time respected. Awkward user interfaces waste valuable time. Respect for a users' time is an expectation rather than a privilege.

- Every feature in the Shared Care Plan is based on input from users indicating that it is needed and useful in the current healthcare system. A feature is not added to the Shared Care Plan just because it is technologically possible to do so; a feature is only added when it is certain that most users will find it useful and that it makes sense conceptually with the existing tool.

- The vision of the Shared Care Plan is to offer patients a tool that they can utilize across the entire healthcare continuum, not embodied within a single organization, to create a more seamless healthcare experience. Specifically, the Shared Care Plan is designed to:

  - Facilitate patients' interactions with the healthcare system and communication with their healthcare professionals to support the virtual Care Team concept, planned care, and to ensure "nothing about me without me" from the patient perspective.
  - Offer patients a tool that fosters a sense of responsibility for their own health and to learn about and practice principles of self-management (such as maintaining a medication list), encouraging activated, educated, and engaged patients.
  - Provide a tool that enables patients to feel safer because they are informed and in control.
  - Give patients access to their clinical information from multiple community healthcare systems so they may download and organize it into a single meaningful lifelong personal health record and then make appropriate parts of that record available to those who need it at the patient-owner's discretion.

- In order to realize the vision of the Shared Care Plan the design process is transparent to community stakeholders and new partners are actively sought and encouraged. Clear understandings and expectations will be documented early in the engagement process for new partners to assure understanding, quality, and customer satisfaction.

- The Shared Care Plan is aligned with the *Institute of Medicine*'s 6 Aims:

  1. Safe
  2. Effective
  3. Patient-centered
  4. Timely
  5. Efficient
  6. Equitable

- The Shared Care Plan is aligned with the *Institute of Medicine*'s 10 Rules:

    1. Continuous healing relationships
    2. Customization
    3. Patient control
    4. Shared information
    5. Evidence-based decision-making
    6. Safety as a system property
    7. Transparency
    8. Anticipation of needs
    9. Continuous decrease in waste
    10. Cooperation among clinicians

- The Shared Care Plan should be conceptually clear and simple for all users, and any expectations for clinician involvement with this tool are aligned with clinical workflow, as much as possible.

- The Shared Care Plan has been designed and implemented in an environment of continuous learning and new learnings are actively sought and applied to future enhancements.

These principles endorsed by:

- Whatcom County Pursuing Perfection Staff (8/23/2005)
- Whatcom County Pursuing Perfection Leadership Board (9/12/2005)
- Whatcom County Patient and Family Council (9/14/2005)
- PeaceHealth AHRQ Patient Safety Project Oversight Group (8/29/2005)

History of the Shared Care Plan

1. Designing and Building the Shared Care Plan

In 2002 the community of Whatcom County, Washington was awarded one of seven competitive *Pursuing Perfection* grants from the Robert Wood Johnson Foundation to improve the quality of healthcare. The Shared Care Plan was one of many deliverables of this ambitious undertaking. Patients living with chronic conditions created the basic concept of the Shared Care Plan simply by being asked to imagine a tool that could help them self-manage and interact with the healthcare system. They worked with Pursuing Perfection staff to develop a document that captured the most relevant information patients need to track and share when working in partnership with their care teams. This use of this document was trialed on paper with real patients and Pursuing Perfection's Clinical Care Specialists (care managers) for several months to inform the design of the electronic version.

A work group that included clinicians, patients, and IT staff began the process of turning this paper document into a web-based application in July 2002, utilizing user-centered design methods. The Shared Care Plan Work Group met weekly over several months to design the underlying database structure and screen flow. After usability testing the user interface, the first real patients were loaded into the system in November 2002. The Shared Care Plan continued to rapidly iterate as the team received feedback on what was and was not working. The most recent version of the Shared Care Plan, V.2.5, was released in February 2006 and included powerful new privacy features.

2. Challenges

There were many challenges to overcome when building the web-based Shared Care Plan:

- **Security:** How can patients safely allow access to their private healthcare information over the Internet? How could this information still be shared in an emergency situation? How would clinicians log in? How will usage be audited?
- **Process:** Who is ultimately accountable for filling out the Shared Care Plan? Who will update it? How will users know what content has been changed or updated? What information do patients need to track and what information do clinicians need to know?
- **Design:** The concept of activated self-management is foreign to many patients, and many patients have no idea how dangerous the healthcare system can be. How could we make the purpose and usefulness of this tool more obvious to these people? Also, healthcare professionals had different ideas than patients about how the tool should be designed. Do the "doctors know best" when it comes to software design?
- **Implementation:** How will users be registered? How will accounts be granted and taken away? How will users be trained? The patients gave a clear requirement that the tool needed to work across the entire healthcare community – not just a single organization – so how could such collaboration occur?

3. Patient Participation

The content and use of the Shared Care Plan was developed and trialed on paper with real patients for several months preceding the creation of the electronic version. Patients participated in the work group to design the web-based tool. Patients also graciously participated in the usability testing of the application to make sure it was easy to use. Patient input throughout the

design process was invaluable because it ensured we kept on track with creating first and foremost a useful self-management tool for patients, instead of exclusively a tool for clinicians or "the system". They also helped us understand how to translate medicalese into language patients can actually use as information. Patient input is an integral part of the continued development of the application.

4. Implementation Strategies

- **Clinic Registration:** When the Shared Care Plan was first launched, the idea was that the Pursuing Perfection pilot site clinics would take on registering and creating SCPs for their patients. This idea was soon challenged when we discovered that, due to the breadth of content contained in the document, it took somewhere between 30 and 60 minutes to fill out a Shared Care Plan for a chronically ill patient. The SCP also initiated rich conversations between patients and providers that significantly contributed to the time to fill it out. Given the reality of the 15-minute office visit, this approach was quickly shelved.
- **Workshops:** The next approach developed was to invite patients to participate in a 2-hour long Shared Care Plan workshop held in a computer lab. The first hour is a general overview of what the SCP is and a tour of the sample John Doe care plan. During the second hour patients are registered and invited to begin filling out their own SCP online. We found that, while some people really like having this kind of support to begin their Shared Care Plan, not all needed or wanted a two-hour long orientation. We decided to create online registration to supplement the workshops.
- **Online Registration:** With online registration, patients can submit their demographic information to us online and receive their password to the SCP via regular mail. Due to proof-of-identity requirements, the information patients submit is compared to information stored in the hospital medical record. Patients who do not have a record with the hospital must attend a workshop so their identity can be verified.

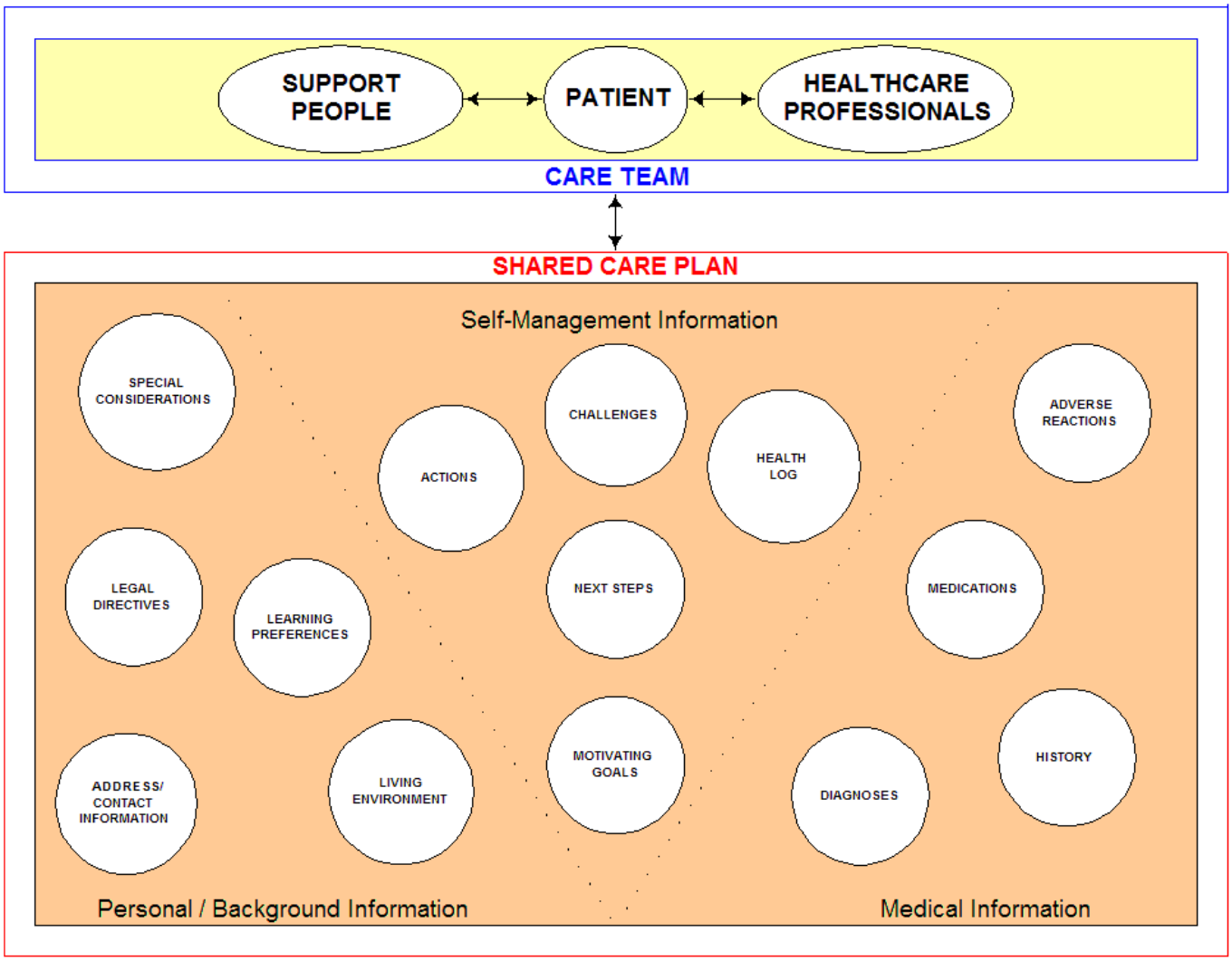
5. AHRQ Medication Safety Project

In 2003, PeaceHealth was awarded an AHRQ Patient Safety Challenge Grant to improve medication safety across the community. The Shared Care Plan was selected as the tool for patient participants to use in the project, extending the use of the Shared Care Plan to the community of Eugene, Oregon. For this grant we built interfaces to several community electronic prescription writers to display electronic medication and allergy data from across the community in one single view. This single view of conglomerate information was termed “On Record”. Patients can view medications, reactions, and immunizations that are “On Record” in their community through their Shared Care Plans; conversely, healthcare professionals use their own version of “Meds on Record” (which includes patients’ medication lists from their SCPs) to help them perform the task of medication reconciliation.

Please refer to the “On Record Functionality” section of this guide for more information about the On Record components of the Shared Care Plan.

Conceptual Model

The Shared Care Plan Work Group created the following conceptual model in 2002 to guide the development of the application.



SCP Conceptual Model 9-16-02

Security Model

The original implementation of the Shared Care Plan in Whatcom County is greatly enhanced by the presence of a collaborative local healthcare information exchange ("the Exchange") that allowed us to pre-register about 98% of all healthcare professionals in Whatcom County in the Shared Care Plan. These healthcare professionals are able to login to the SCP using their existing Windows NT logins and may look up patient SCPs for treatment purposes. Some entities in the community have even created alerts in their existing IT systems to identify patients who have SCPs.

This affiliation with the Exchange helps manage two aspects of the security model:

1. When employees quit or are terminated, their access to the Exchange is taken away. By default, this also removes their clinical access to the Shared Care Plan, making it unnecessary for our team to closely track and manage employment status of these users.
2. The Exchange also manages business association agreements in the community to facilitate the legal sharing of healthcare information. Furthermore, the Exchange requires all members to sign a yearly confidentiality agreement.

Along with the Exchange affiliation, the Shared Care Plan security model is also supported by robust auditing capabilities, as decribed in the "Audit Functionality" section of this guide.

1. Primary Application Roles

All users registered in the Shared Care Plan are first assigned a "Primary Application Role" based on what their main role will be. This information is used to facilitate usage reports and also to identify healthcare professionals who may be looked up by patients and added to Care Teams.

Primary Application Roles	Application Roles			
	Patient	Healthcare Professional	Care Team Member	Technical
Included in Care Team member search		X		
Excluded from usage statistics				X

2. Access Levels

Patients assign an Access Level to each Care Team Member on the Care Team to determine which level of access each Member has to a specific Shared Care Plan. Patients may also restrict any healthcare professionals not explicitly listed on their Care Teams ("community clinicians") from ever accessing their SCPs (see the "Care Team" section of this guide for more information).

Access Levels	Care Team Member Access Levels			
	Fully Edit	View Only	No Access†	Patient
Edit SCP	X			X
View SCP	X	X		X
View Privacy Summary screen				X
Add and edit Care Team members				X††
View "Who's access my Plan?" audit link				X
Adjust SCP tab display (thru "My Registration")				X

† This is currently only implemented to deny access to community clinicians who are not listed as individuals on the Care Team, but could also be used to "black list" individual clinicians from accessing an SCP.

†† Patients can look up anyone with a Primary Application Role of "Healthcare Professional" in the Person database to add to Care Teams; other users are filtered from view.

3. Security Roles

The Security Roles piece is the most important component of the security model, as it allows non-patient users to be assigned the minimum necessary level of access needed to perform their tasks. To help manage the assignment of these roles, only users who have Windows NT logins may be assigned these roles (with very few exceptions). Also, Security Roles may be combined to allow greater levels of access. For example, a full Shared Care Plan administrator would be assigned the following roles:

Administrator + Registrar + Reporting + Clinical Admin

Security Roles	Admin Roles			Clinical Roles	
	Administrator	Registrar	Reporting	Clinical Admin	Clinical
View private SCP records	X*				
View Privacy Summary screen	X*				
View hidden** SCPs	X*				
Confirm online public registrations	X‡				
Confirm online employee registrations	X‡				
Assign Administrator role	X‡				
Assign Reporting role	X‡				
View Administrator tab:	X				
Duplicate person tool	X				
Delete person tool	X				
Delete SCP tool	X				
Audit security roles	X				
Edit help content	X				
Audit SCP accesses	X				
View Registration tab:		X			
Edit existing registration records		X			
Add new registration records		X			
View Reporting tab:			X		
View SCP general statistics			X		
View SCP access counts			X		
View patient names on SCP access counts			X‡‡		
View SCP search box (view any non-hidden** SCPs)				X	X
Add Care Team members (can search all)*** & edit their access levels				X	
View home phone numbers of other clinicians				X	

***** Must be combined with the Clinical Admin role

****** A hidden SCP is one that has had the "Community Clinicians" Care Team member set to "No Access"

‡ Must be combined with the Registration role

‡‡ Must be combined with the Administrator role

******* When Clinical Admins add new Care Team members, their search results are not filtered to display healthcare professionals only; they can look up anyone in the Person database to add to Care Teams.

Registration

There are three methods of registration in the Shared Care Plan: Manual, Online, and Employee. Descriptions of each and a detailed flowchart of Online Registration follow below.

1. Manual Registration

Manual registration may be performed by users who are assigned the Registrar Security Role. Manual registration is available from the Registration tab by clicking on the "Add Registration" sublink and following the instructions there. The workflow of manual registration is determined by the type of user being registered, as specified by "Primary Role" on the first screen of the registration process. For **all** types of users the system will prompt the registrar to supply Personal Information, Address, Phone, and Login information; the system will prompt for additional information based on the Primary Role of the registrant:

When registering user with Primary Role of:	Registration process will also include:
Patient	Creating a Shared Care Plan
Healthcare Professional	Assigning Security Role(s)

Note 1: The system will not prompt to create SCPs for or assign Security Roles to registrants with Primary Role of *Care Team Member*. The system also will not prompt to create an SCP for a *Healthcare Professional* (although registrars may override these defaults after completing the initial registration).
Note 2: When assigning the Primary Role of *Technical* the system will not offer any prompts; fill in each Registration tab as needed when registering these people (should only be a handful).

2. Online Registration

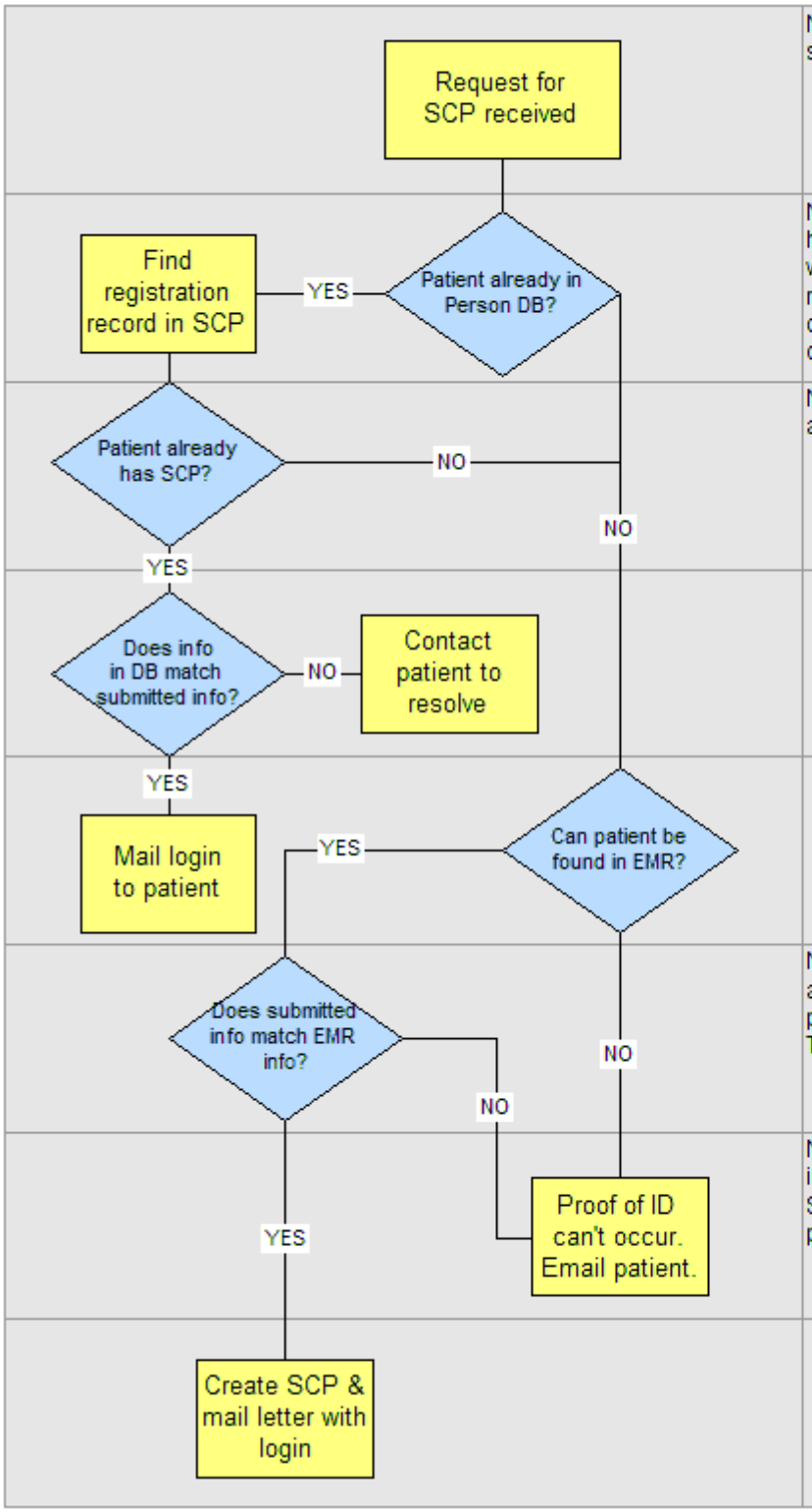
Since a Shared Care Plan gives patients access to their medical records online, it is necessary to include a "proof of identity" step before granting SCP user accounts. Online registration was designed as a way to allow people to securely request Shared Care Plans without having to come in to our offices and show picture identification.

Proof-of-identity is handled in Online Registration by comparing the demographic information submitted by the patient to information contained in the hospital's electronic medical record (EMR) system. This requires the patient requesting an SCP online to have an established and up-to-date medical record that can be used for the comparison. If the name, SSN, DOB, address, and phone number all match, proof-of-ID is reasonably established and the patient is mailed a login. Please refer to the flowchart on the following page for more information about Online Registration.

3. Employee Registration

We found that many people working in the healthcare industry are interested in having an SCP of their own, more so even than the general public. To make it easier for employees of sponsoring organizations to establish Shared Care Plans, we created Employee Registration. This is similar to Online Registration, except that the proof-of-ID step is handled by employees providing valid Windows NT credentials (username and password). The NT login is passed directly to the NT server for authentication, and after positive verification, the SCP is created on the spot. The employees' SCP logins are also always in sync with their NT logins. NOTE: The employee registration feature has been removed from the distributable source code for security reasons.

Online Registration Process



Notes: System emails SCP Team when request is submitted and needs to be processed.

Notes: Patient may already be in the Person DB as a healthcare professional or Care Team member without his/her own SCP. The original registration record should be used to prevent the creation of duplicate people, but proof-of-identity still must occur.

Notes: Sometimes patients forget they already have an SCP and will re-request one.

Notes: Registrar verifies that the SSN, DOB, address, and phone number submitted by the patient matches the information in the EMR system. **This step serves as the proof-of-identity check.**

Notes: Email instructs patients to either update their information with the hospital and then re-request an SCP, or to come in to our office to show photo ID as proof-of-identity.

Care Team

1. Overview

The Care Team tab is where a patient identifies his or her entire Care Team, emergency contacts, and insurance providers. This is also where patients manage other users' access to their Shared Care Plans. Consequently, the Care Team is one of the more complex sections of the Shared Care Plan application.

The Care Team serves the following purposes:

- Patients manage contact information for Care Team members and track appointments
- Care Team members can see who else this patient is working with by viewing the patient's Care Team
- Patients can set the level of access each Care Team member has to their SCP

Care Team Members and the Patient Authorization

The *Authorization to Use and Disclose Healthcare Information* that all patients must sign to use the Shared Care Plan includes the following reference to Care Team members:

> I AUTHORIZE… [t]hose persons **whom I formally designate as Care Team Members** [t]o use, and to disclose to, exchange with, and receive from other Care Team Members, my health care information … including past, present and future information through the Shared Care Plan program, at my request, for all purposes related to the Shared Care Plan program.

Because the Care Team is a dynamic way for patients to adjust the terms of the Authorization, this tab is required and cannot be inactivated (Care Team and Medications are the only required tabs). Also, **only Patients and Clinical Admin users may add new Care Team members** to help ensure explicit patient authorization of new members.

Other Information about the Care Team

- When a Shared Care Plan is first created, the Patient and Community Clinicians roles are default members of the Care Team
- Patients' default access level for their own Shared Care Plan is "Fully Edit" and cannot be adjusted (if the patient does not actually have an active login, the access level displayed is "No Access" so other CTMs are aware this patient does not log in and someone else is managing the SCP for him or her)
- Community Clinicians' default access level is "Fully Edit" and may be adjusted
- Only Patients and Clinical Admins can see and use the [Add New] button on the Care Team

Important Information about Whatcom County's use of the Care Team

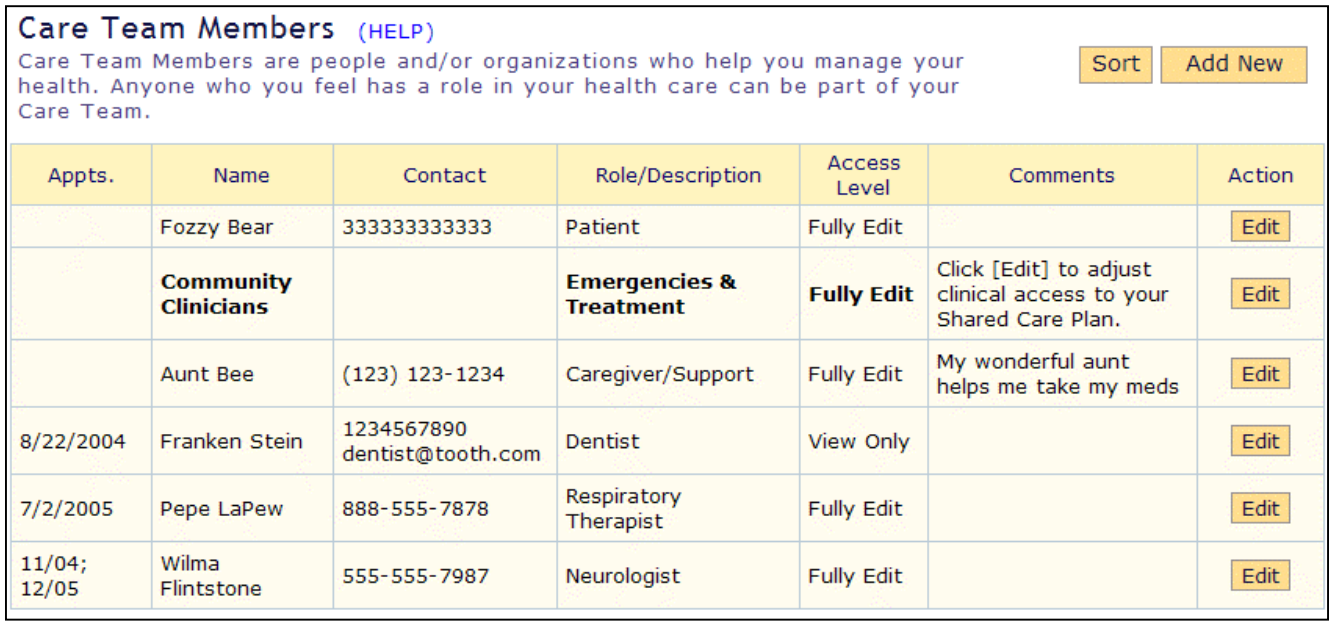
In Whatcom County, we were very fortunate to leverage a local health information exchange organization to load most local healthcare professionals into the *Person* database and make them available for patients to look up and add to their Care Teams. Collectively, these users are known as "Community Clinicians" and they can log in to the Shared Care Plan application using their existing network logins (the application authenticates these users directly against the NT servers).

When a patient adds an individual healthcare professional to the Care Team, s/he assigns an access level of "Fully Edit" or "View Only". All other clinician access to a Shared Care Plan is

managed by the default “Community Clinician” Care Team member. Although intended as a way to give any local clinician access to valuable information in cases of emergencies or treatment (access is governed by HIPAA), patients have the option of blocking general Community Clinician access to only allow access by Care Team members who are listed individually. In other words, patients may essentially opt out of the emergency access feature.

Because the Whatcom County implementation of the Shared Care Plan is so focused on community collaboration around shared healthcare data, it was necessary to enable clear associations between healthcare professionals and patients at the database registration record level. Other implementations may choose a less heavy-handed approach to Care Team functionality by emphasizing the ability to simply type names onto the Care Team (“manually add”) and the “invite Care Team member” functionality for cases when the patient wants to add someone who is willing and able to log in and utilize the Shared Care Plan online. In this kind of approach, the Community Clinicians member will probably not be necessary.

Care Team Screenshot:



Care Team Members (HELP)

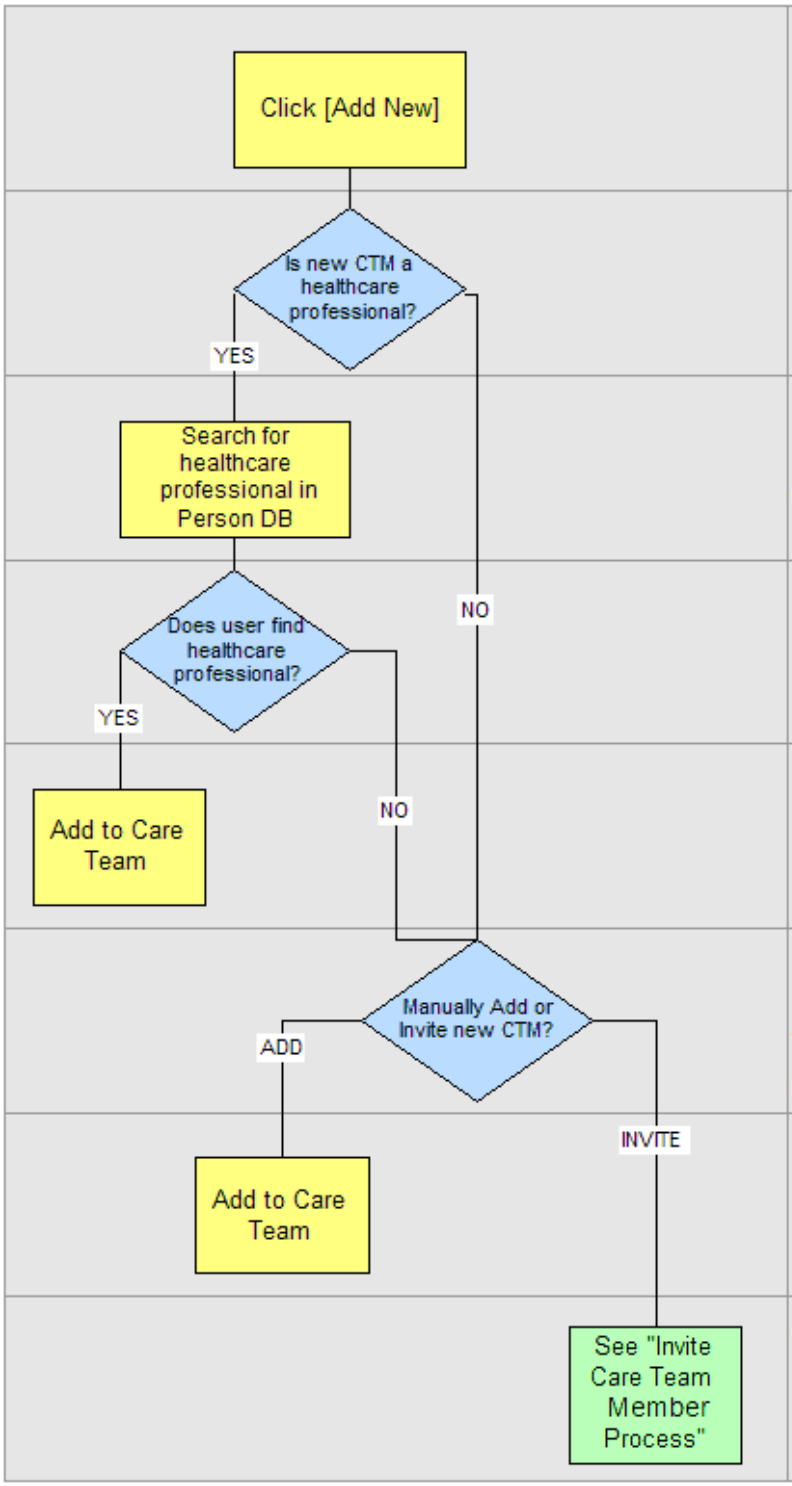
Care Team Members are people and/or organizations who help you manage your health. Anyone who you feel has a role in your health care can be part of your Care Team.

Sort | Add New

Appts.	Name	Contact	Role/Description	Access Level	Comments	Action
	Fozzy Bear	333333333333	Patient	Fully Edit		Edit
	Community Clinicians		**Emergencies & Treatment**	**Fully Edit**	Click [Edit] to adjust clinical access to your Shared Care Plan.	Edit
	Aunt Bee	(123) 123-1234	Caregiver/Support	Fully Edit	My wonderful aunt helps me take my meds	Edit
8/22/2004	Franken Stein	1234567890 dentist@tooth.com	Dentist	View Only		Edit
7/2/2005	Pepe LaPew	888-555-7878	Respiratory Therapist	Fully Edit		Edit
11/04; 12/05	Wilma Flintstone	555-555-7987	Neurologist	Fully Edit		Edit

2. Adding a New Care Team Member

Add New Care Team Member (CTM) Process



Notes: Besides patients viewing their own SCP, only users assigned the security role of Clinical Admin may see the [Add New] button on the Care Team tab due to legal constraints.

Notes: If the new CTM is a healthcare professional, the system directs patients to search in the Person Database among all users who are assigned a primary application role of "healthcare professional". Patients will be able to find most local providers registered and ready to add to Care Teams.

Notes: If user has the Clinical Admin security role assigned, s/he may look up ALL users in the Person Database, not just those assigned the primary application role of "healthcare professional". This allows the Clinical Admin user to add CTMs already in the Person DB without having to use the Invite CTM Process.

Notes: User fills in details for CTM and assigns an access level of "Fully Edit" or "View Only".

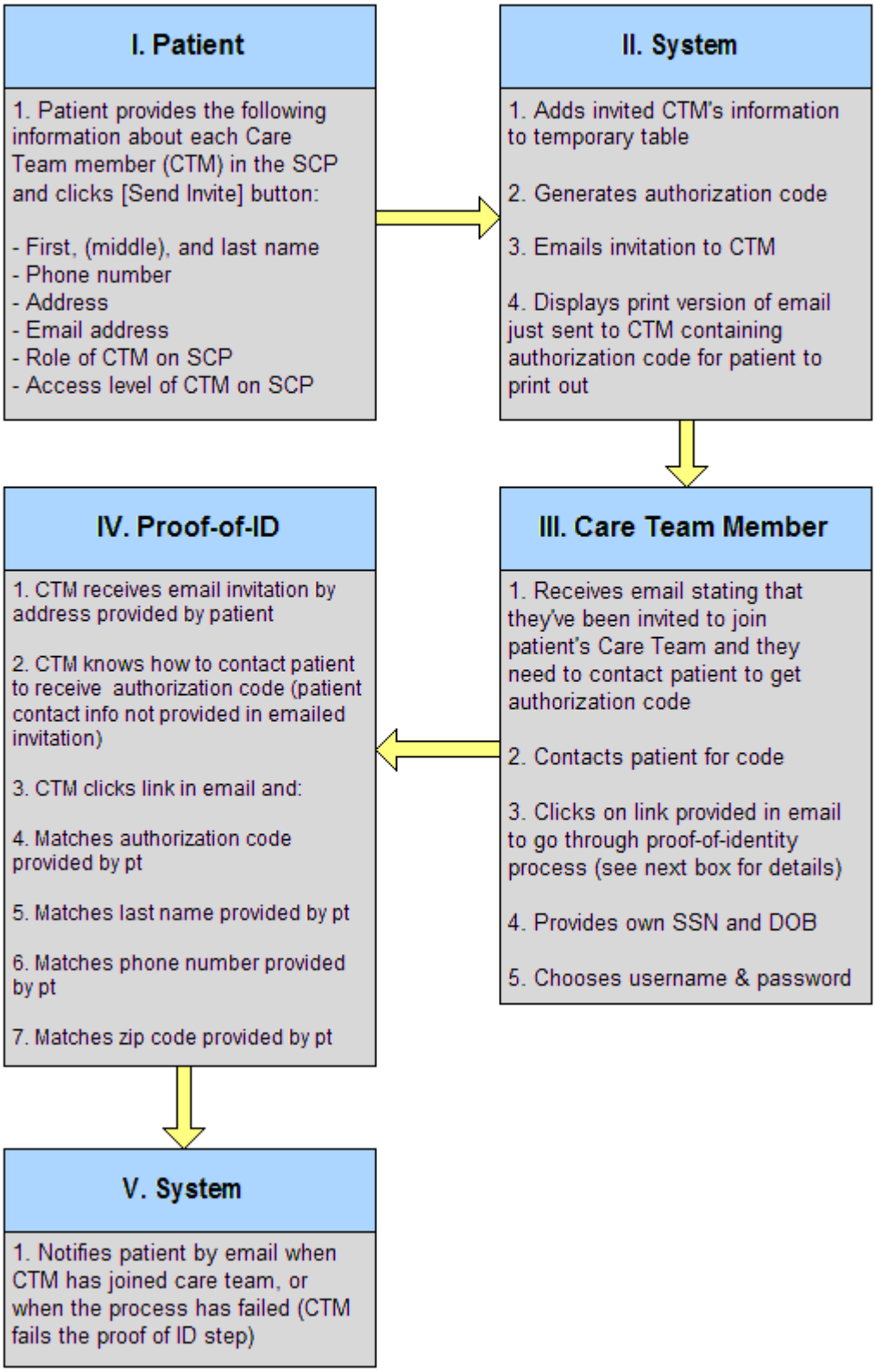
Notes: To "Manually Add" a CTM means that the person's name and information will be listed on the Care Team but will not be able to login and access this SCP.

The invitation process is a way to invite a new CTM to register and create a login in order to electronically access this SCP.

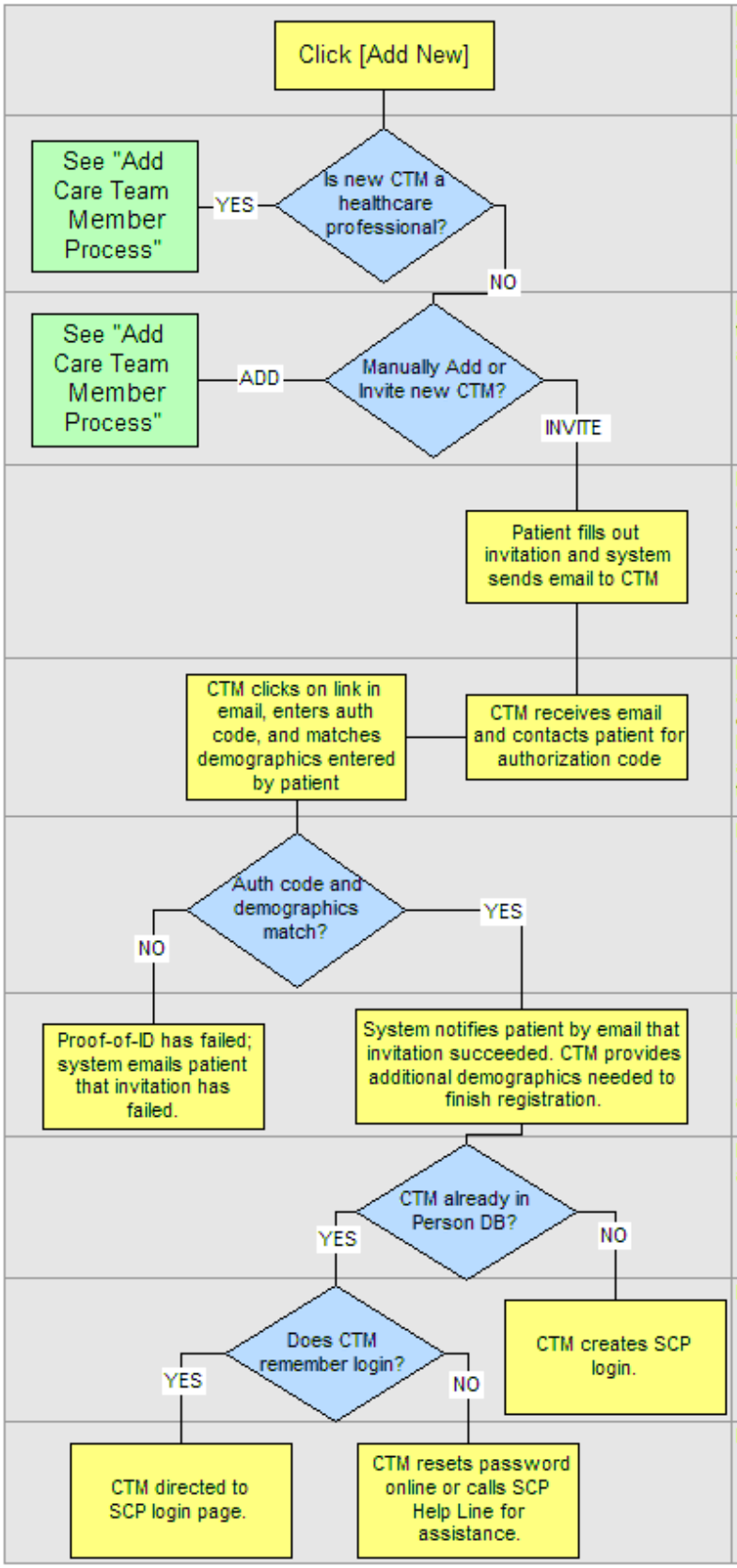
Notes: A "Manually Added" CTM's name and information will be listed on the Care Team but will not be able to login and access this SCP.

Notes: The invitation process is a way to invite a new CTM to register and create a login in order to electronically access this SCP.

Invite Care Team Member Process Overview



Invite Care Team Member (CTM) Process



Notes: Besides patients viewing their own SCP, only users assigned the security role of Clinical Admin may see the [Add New] button on the Care Team tab due to legal constraints.

Notes: The invitation process may be used with healthcare professionals who are not already registered in the SCP.

Notes: The invitation process is a way to invite a new CTM to register and create a login in order to electronically access this SCP.

Notes: Patient provides information about the CTM and clicks [Send Invite] button:
- First, (middle), and last name
- Phone number
- Address
- Email address
- Role of CTM on SCP
- Access level of CTM on SCP

Notes: CTM should know how to contact patient to receive authorization code (patient contact info is not provided in emailed invitation; this is part of the proof-of-ID process). In addition to the authorization code, invited CTMs must also match the last name, phone number and zip code that the patient provided for them on the invitation.

Notes: If correct authorization code is not provided on the first screen, process cannot continue.

Notes: In the case of a failed invitation, the patient may invite the same CTM again.

CTM provides DOB, SSN, gender, secret question and answer, and email preference.

Notes: System checks DOB and SSN to see if this CTM is already in the Person Database to prevent duplicates.

Notes:

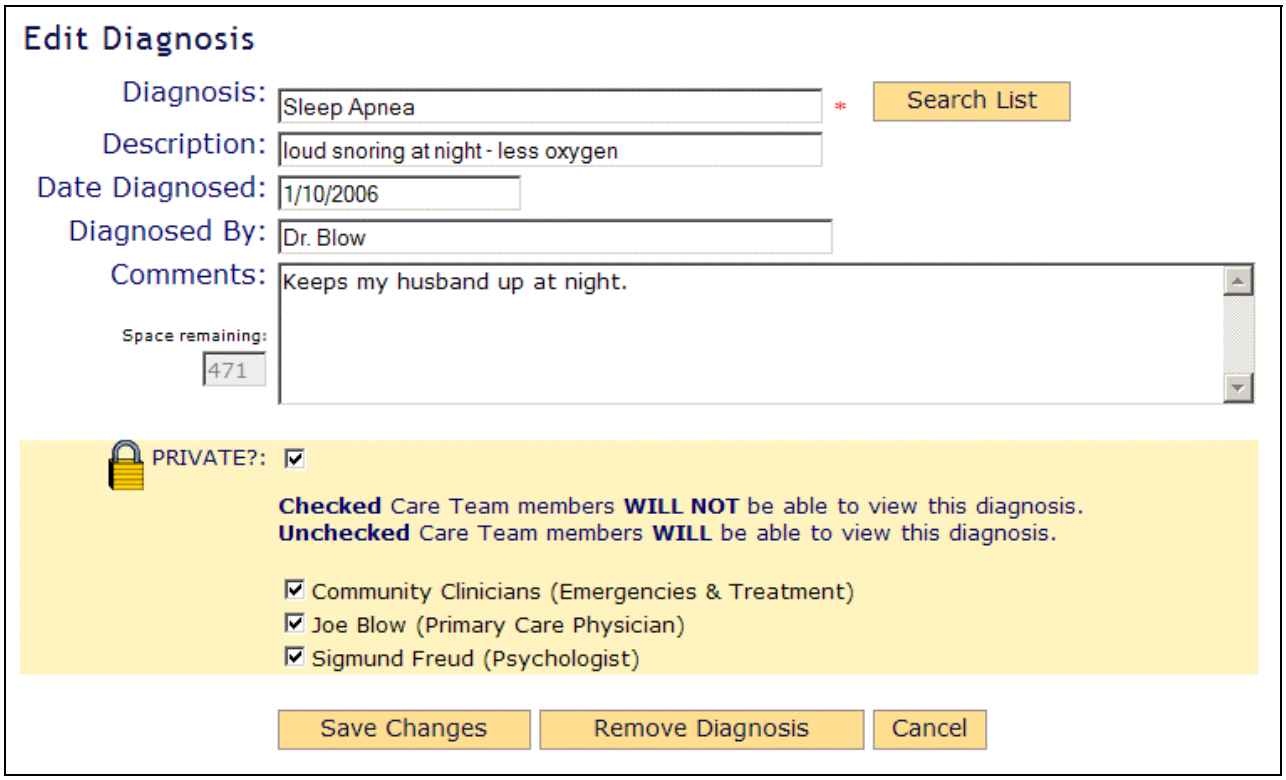
Notes:

Privacy Flags

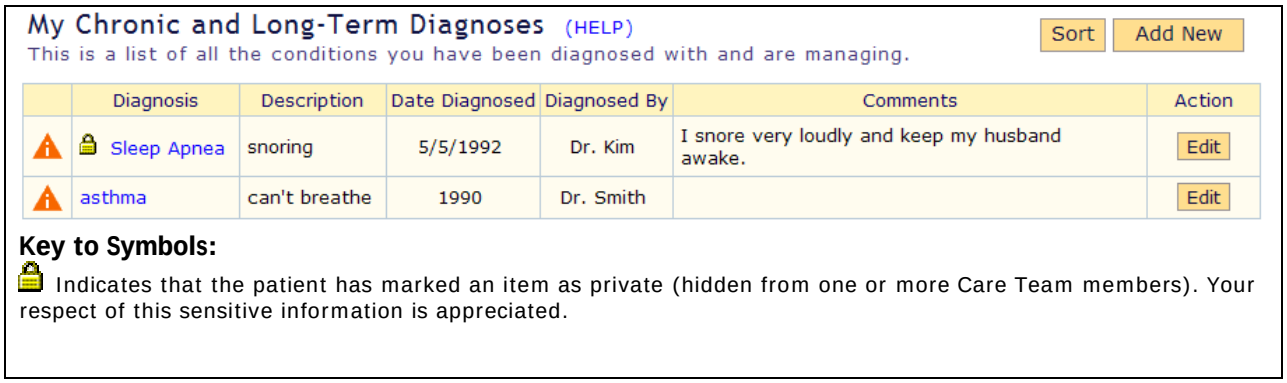
1. Overview

Patients can designate individual records as private, such as a specific diagnosis or medication. The intent of this feature is to encourage patients to maintain a complete and thorough PHR online without having to sacrifice the privacy of sensitive information with other Care Team members and on paper printouts. Private records are specified at the point of adding the record, or can happen after the fact by clicking on the [Edit] button.

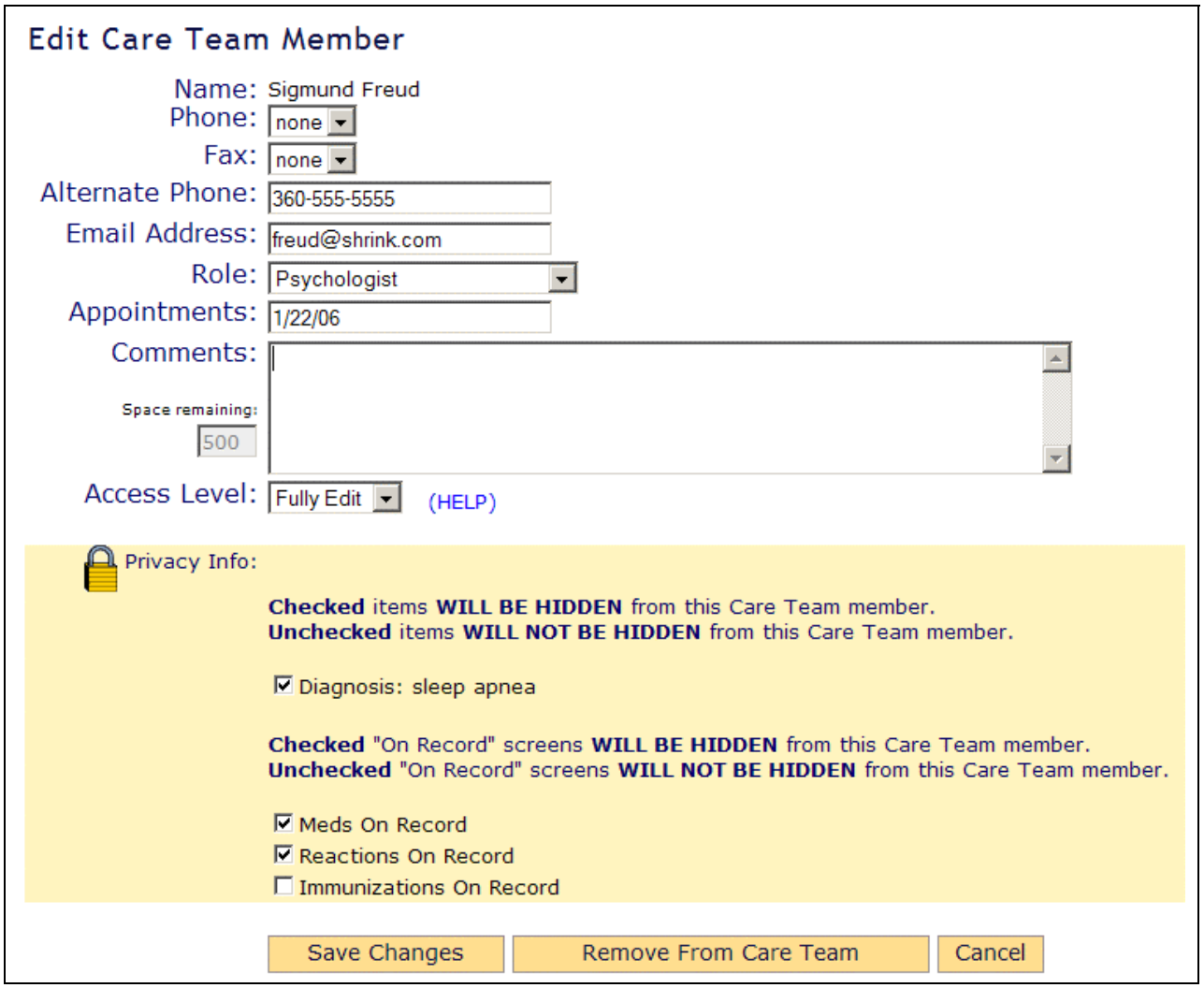
This patient wants to keep her snoring private. When she adds this diagnosis to her SCP, she checks the Privacy Flag. When the flag is checked, Care Team members are displayed and she can then select which (if any) of her Care Team Members can see this record. She can also decide if healthcare professionals who may view her SCP for emergency or treatment purposes (Community Clinicians) will see this record:



Records that are flagged as private show a padlock icon as a reminder. The padlock icon is hyperlinked to the "Privacy Summary" view of Care Team members and access levels, and private records/sections and who can see what. Patients can adjust some settings in this view.

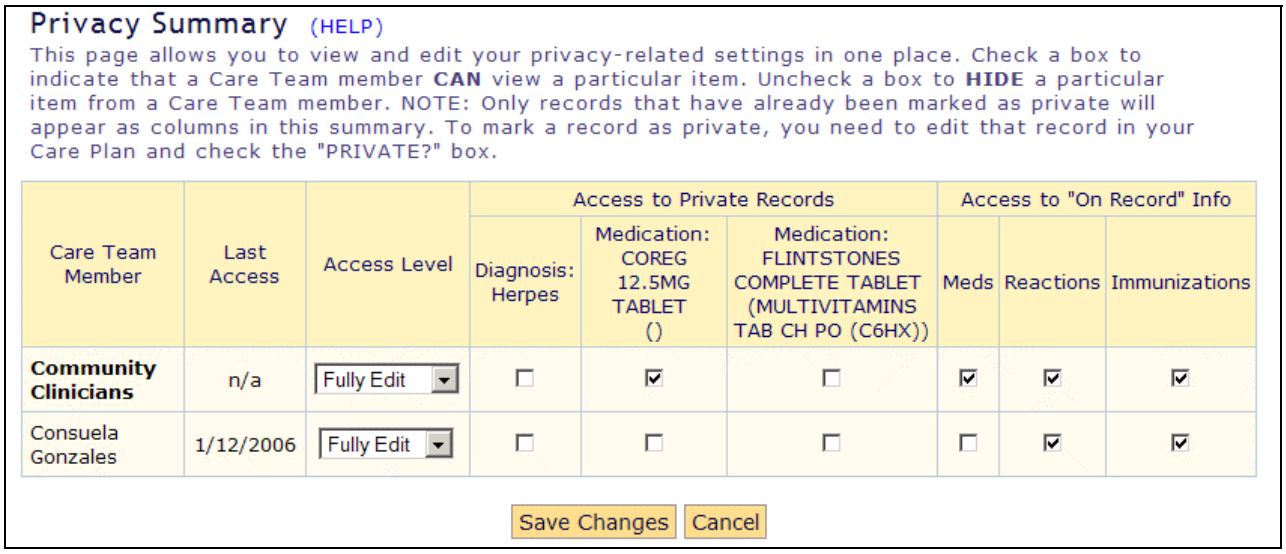


When adding or inviting a new Care Team Member, patients may decide which private SCP data the new person will have access to and whether or not the CTM can view the "On Record" links. This view is also useful for double-checking existing CTMs to see who has access to what. NOTE: When Clinical Admin users add a CTM, the new CTM will automatically inherit all existing privacy settings (Clinical Admin users cannot manage privacy settings; only patients can).



2. Privacy Summary

To help manage privacy settings and avoid accidental breaches, users will be able to review and adjust all privacy and access settings in one summary view. The Privacy Summary will be available by clicking any padlock icon next to a private record, or by clicking the "Privacy Summary" link in the upper right.



Privacy Summary (HELP)

This page allows you to view and edit your privacy-related settings in one place. Check a box to indicate that a Care Team member **CAN** view a particular item. Uncheck a box to **HIDE** a particular item from a Care Team member. NOTE: Only records that have already been marked as private will appear as columns in this summary. To mark a record as private, you need to edit that record in your Care Plan and check the "PRIVATE?" box.

Care Team Member	Last Access	Access Level	Access to Private Records			Access to "On Record" Info		
			Diagnosis: Herpes	Medication: COREG 12.5MG TABLET ()	Medication: FLINTSTONES COMPLETE TABLET (MULTIVITAMINS TAB CH PO (C6HX))	Meds	Reactions	Immunizations
Community Clinicians	n/a	Fully Edit	☐	☑	☐	☑	☑	☑
Consuela Gonzales	1/12/2006	Fully Edit	☐	☐	☐	☐	☑	☑

Save Changes Cancel

3. Administrator Access

There may be instances when SCP administrators need to see private records to provide support to patients or to solve a technical problem (NOTE: the Administrator role must be combined with the Clinical Admin role for this access). Since these instances are rare, and we desire to preserve privacy, we designed a two-tiered admin access where the default view for SCP admins is to NOT see private records, but can override this if absolutely necessary for support or technical troubleshooting. The placement of this link is in the sub-navigation of each tab. Clicking this link causes any private records on this page to be displayed, as well as the On Record link, if that has been marked private.

Administrators can override the privacy settings on a tab-by-tab basis:

4. Reporting

Records flagged as private may be used in de-identified reporting. For example, a query to see the top 100 most popular diagnoses entered into the SCP would still include records flagged as private.

5. Handling private data on the SCP printout options

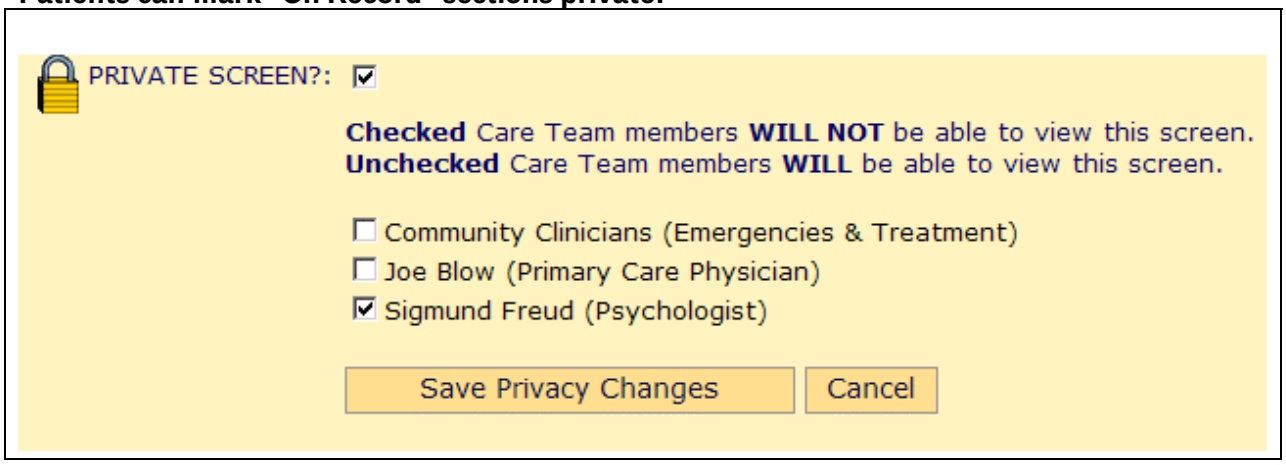
The full-size and wallet printouts have the option to include or exclude private information, based on how the patient has determined sharing. When private items are printed, the padlock icon is included so the sensitive nature of that information will also be acknowledged on paper.

6. Handling Privacy for Information "On Record"

Flagging a medication on the Active Meds as private isn't very helpful if Care Team members can see that sensitive medication through Meds on Record. Patients have the ability to mark an entire "On Record" section as private, which hides "On Record" sections from other users' views on both the application sublinks and the print options.

Patients can adjust these settings 1) at the bottom of On Record pages, 2) on the edit CTM page, and 3) on the privacy summary screen. The padlock icon appears next to the On Record sublinks to remind users that these sections are private.

Patients can mark "On Record" sections private:

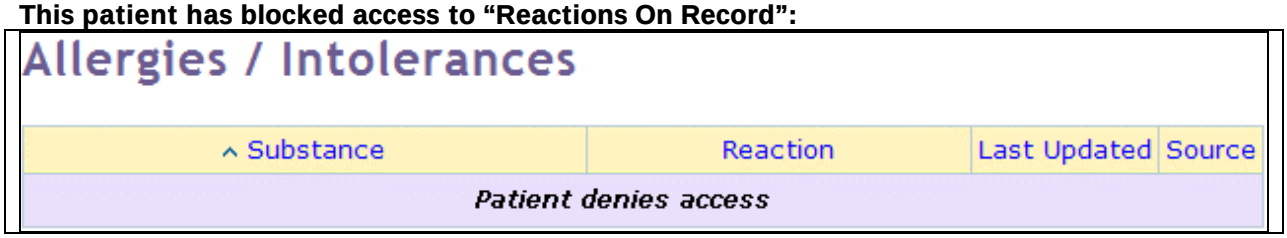


7. Clinician Meds On Record (MOR)

SCP records that patients mark as private are handled the same way in the clinician view of Meds On Record: private medication and allergy records are only shown (with the padlock icon) if the patient has given an individual Care Team member or Community Clinicians access to them.

If a patient blocks access to either Meds on Record or Reactions on Record for CTMs or Community Clinicians, when those users access the clinician MOR tool for that patient, the section that has been blocked is notated "patient denies access".

This patient has blocked access to "Reactions On Record":



If a patient has blocked access to both MOR and ROR, then the “patient denies access” message appears in both sections. Or, if a healthcare professional is using the search function in MOR, the search results specify “patient denies access”, like in the Shared Care Plan.

8. Sorting

The privacy flag applies to the sorting screens as well. Private records have the potential to cause some confusion if multiple users are trying to sort records, but this rarely occurs. Users may overwrite each others’ sorting orders, with or without seeing private records.

9. Auditing

All activity related to privacy settings is audited.

10. Section Messages

Currently, when there are no records added to a section, there is a message that reads: *“No diagnoses entered. Click the "Add New" button to add a new diagnosis. Or, check this box: I have no diagnoses.”*

If the user checks the box, the message changes to read: *“I have no diagnoses. (Click the "Add New" button to add a new diagnosis.)”*

These messages were added in an attempt to clarify whether patients had simply not filled out a section yet, or whether they actually do not have any records to add. The addition of the privacy flag may cause users to step on each other with these messages. For example, a patient enters only one sensitive diagnosis that she marks as private. What do other users see in the DX table now?

1. If the first message (I have no diagnoses) is displayed with the checkbox, another user may try and check the box indicating there are no diagnoses, which is in fact not true and conflicts with what’s really there.
2. If the first message is displayed without the checkbox, users may learn that the absence of the checkbox indicates that a private record is hidden from them, compromising the privacy of the patient.

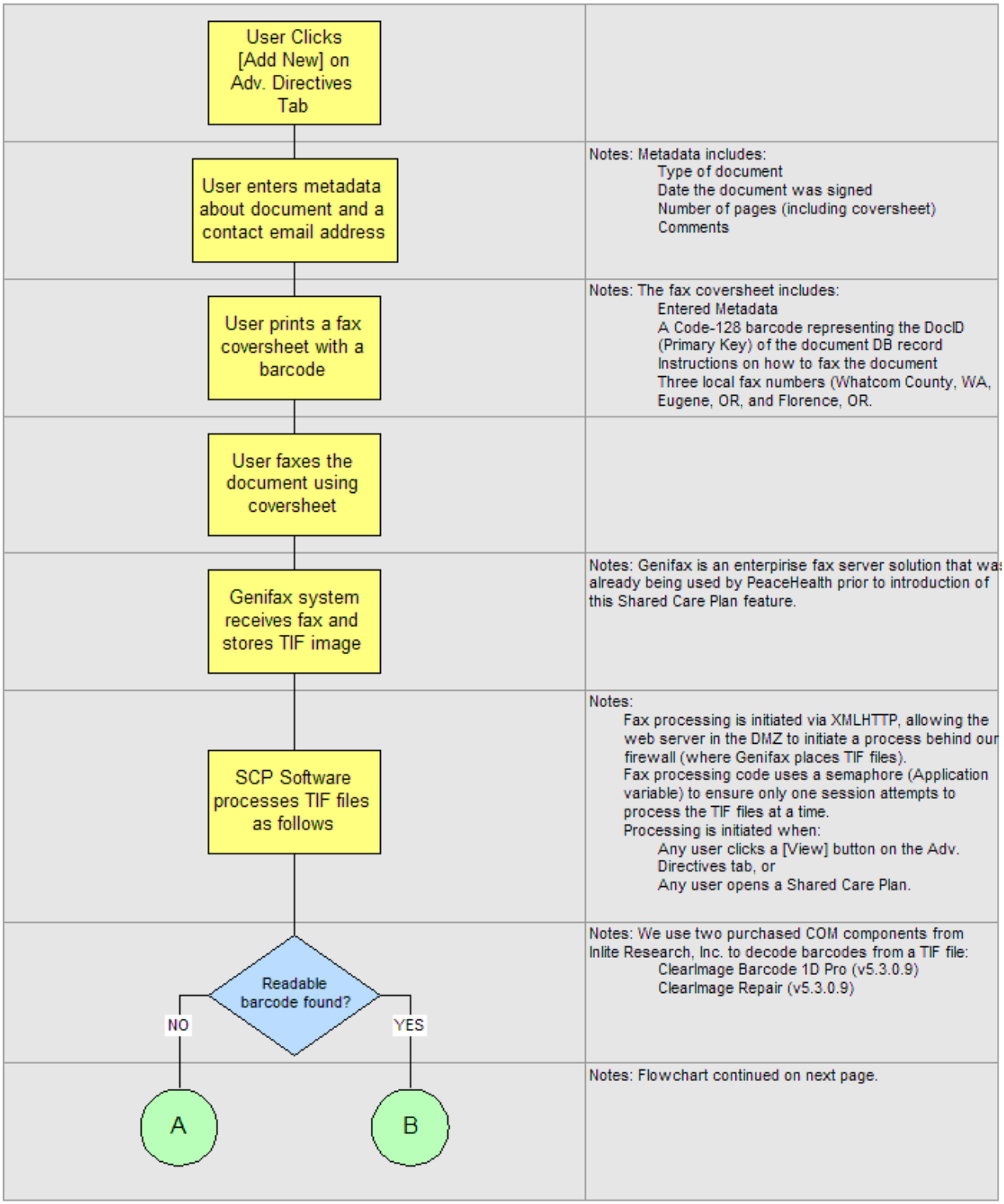
Without totally re-thinking/re-designing the sections messages, we chose option #2 above. It’s rare to have only one record in a section marked as private; and then users may not figure out that the lack of the checkbox means there is data hidden.

Advance Directives (Document Manager)

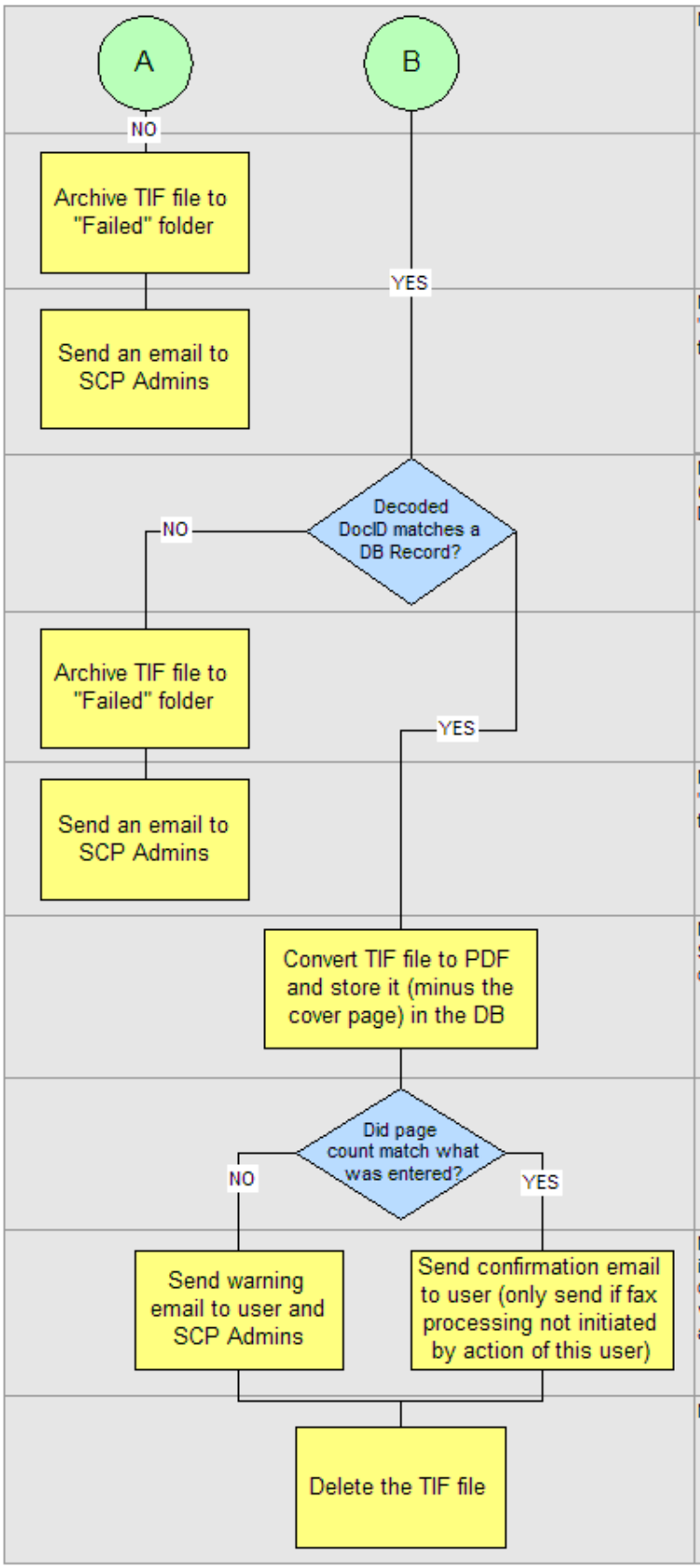
The fax-in technology used on the Advance Directives tab requires purchasing and installing additional components. Even though the scope in the SCP has so far only been legal directives, this technology could be easily generalized to a document manager.

A detailed flowchart showing how the Advance Directives feature works follows on the next two pages.

Advance Directive Fax-in Feature



Advance Directive Fax-in Feature (continued)



Notes: Continued from previous page.

Notes: This email provides the name of the file in the "Failed" folder so an administrator can manually inspect it to see if there is some way to resolve the issue.

Notes: Is there a record in our database with this DocID (created when the user clicked [Add New] on the Adv. Directives Tab)?

Notes: This email provides the name of the file in the "Failed" folder so an administrator can manually inspect it to see if there is some way to resolve the issue.

Notes: We use a purchased COM component from SEDTech (Pty) Ltd. to convert multipage TIF files to PDF documents:
iSEDQuickPDF (v4.41)

Notes: Page count mismatch email is only a warning. It instructs the user to look at the electronic version of their document and make sure it is as they expected. If they wish, they can fax the document again using the same, or a newly generated coversheet with the correct page count.

Notes: Successfully processed TIF files are deleted.

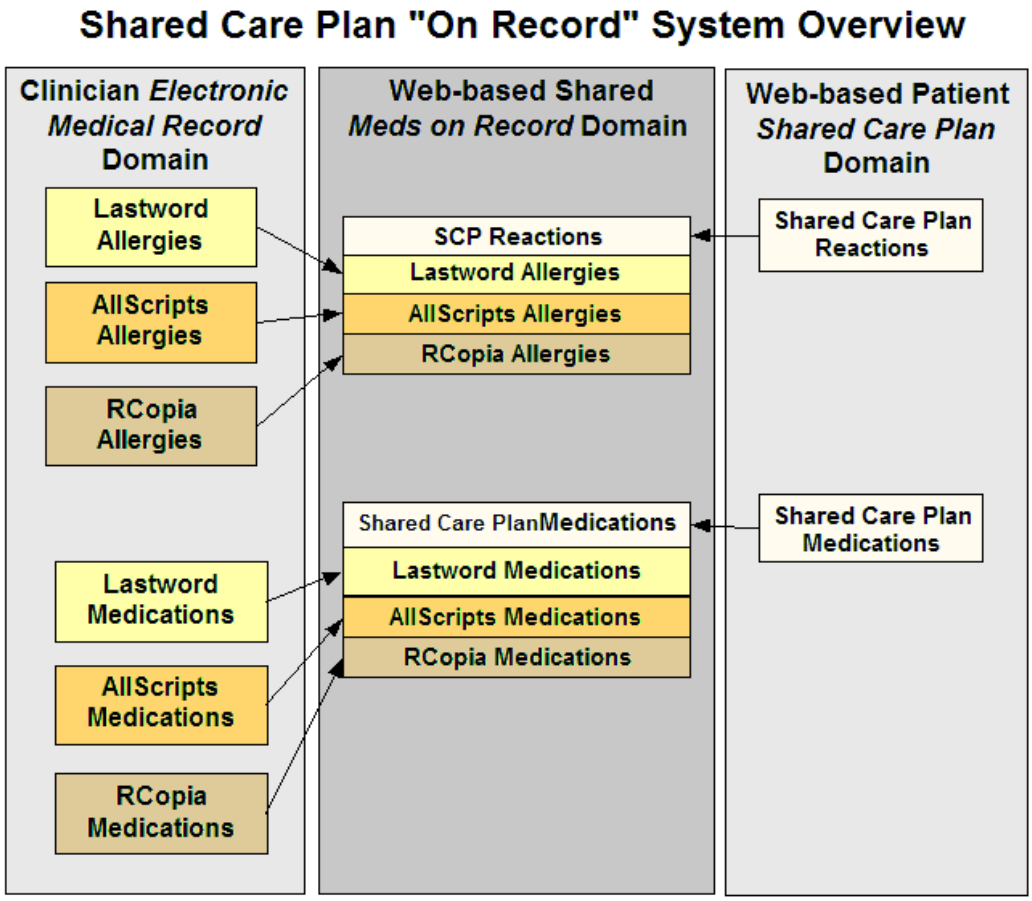
“On Record” Functionality

The “On Record” feature of the Shared Care Plan enables patients and healthcare professionals to share clinical information from disparate systems with one another. Please note: On Record functionality is included in this application guide for informational purposes only; the detailed implementation of the interfaces that make the On Record feature possible are not part of the code available on the CD.

The concept of collecting and displaying information “on record” resulted from an attempt to create a single, up-to-date, community-wide electronic medication list (from disparate systems) available to both patients and healthcare professionals. This vision was not fully achievable for the following reasons:

1. While everyone involved with the design process liked the idea of *accessing* and *using* a single medication list, no one was willing to give up using existing tools in order to help *maintain* one. For clinicians, electronic prescription writing tools are often closely integrated with larger EMR or practice management systems and it would be difficult to account for process disruptions resulting from using a separate tool.
2. Due to the lack of data and process standards for prescription medications, attempting to reconcile disparate medication lists into a single list automatically was seen as prohibitively difficult and potentially dangerous.

Even with these issues, participants agreed that it would still be very valuable to see any and all available clinical information in an unreconciled, conglomerate view; they wanted to see everything that was “on record.”



1. Clinician Meds On Record

The main task healthcare professionals are trying to accomplish is medication reconciliation in the context of a patient visit. This requires quick and easy access from the EMR into a single-page view of both allergy and medication information. From here, clinicians may print out the screen, sort the information on the screen, look up other patients, and visit patients' Shared Care Plans. All other functionality is strictly limited, as it is difficult for clinicians who already use a robust EMR to take on many other highly interactive tools for clinical work.

Screenshot of the clinician version of Meds On Record:

Meds On Record

SIGNED IN: Dawn Gauthier

Bugsy Bunny
8/15/1966, 39 years old

- Printer-friendly Version
- Find a Different Patient

Bugsy Bunny's SCP:
Care Team | About Me | Diagnoses | Next Steps | Health Log | Medications | Reactions | History | Advance Directives

Allergies / Intolerances

Substance	Reaction	Last Updated	Source
Allergies/Intolerances Reviewed/Updated			*LW*
BELLADONNA ALKALOIDS	Hives	3/28/2006 12:09:36 PM	SCP
BELLADONNA ALKALOIDS -J8AX	*DYSTONIA*		*LW*
Ceclor (cefaclor)	GI/NV PAIN		RC
Ceclor (cefaclor)	GI PAIN	3/28/2006 12:10:05 PM	SCP
Cipro (ciprofloxacin)	STOMACH/KIDNEY PAIN/DIARRHEA		RC
Cipro (ciprofloxacin)	STOMACH/KIDNEY PAIN/DIARRHEA	3/28/2006 12:10:31 PM	SCP
erythromycin ethylsuccinate	GI/NV PAIN		RC
erythromycin ethylsuccinate	GI PAIN	3/28/2006 12:10:51 PM	SCP

Prescription Medications

Name & Strength	Directions (Show English Directions)	Start Date	RXed By	Comments	Last Updated	Source
ACEON 2MG TABLET	*TAKE 1 TAB PO Daily*	*1/18/2005*	*MCKINLEY, GENA*			*LW - FIR*
ACEON 2MG TABLET	Take 1 tablet by mouth daily	1/18/2005	MCKINLEY, GENA		3/28/2006 11:50:46 AM	SCP
ADVAIR 100-50MCG DISKUS 60 DOSES	Take 1 puff(s) by mouth twice a day.	12/14/2003	Dr. Jones		3/28/2006 11:55:00 AM	SCP
Amidrine Capsule 325-65-100 mg		3/16/2006	Michael Geist	Take 1 to 2 capsules by mouth every hour if needed ***NOT TO EXCEED 5		RC
Amidrine Capsule 325-65-100 mg	Take one capsule as needed.	3/16/2006	Dr. Geist		3/28/2006 11:48:47 AM	SCP
CHILD TYLENOL COLD	*CHEW 1-2 TAB PO as dir*	*11/17/2004*	*RICHARDS,*	*testing*		*LW -*

2. On Record in the Shared Care Plan

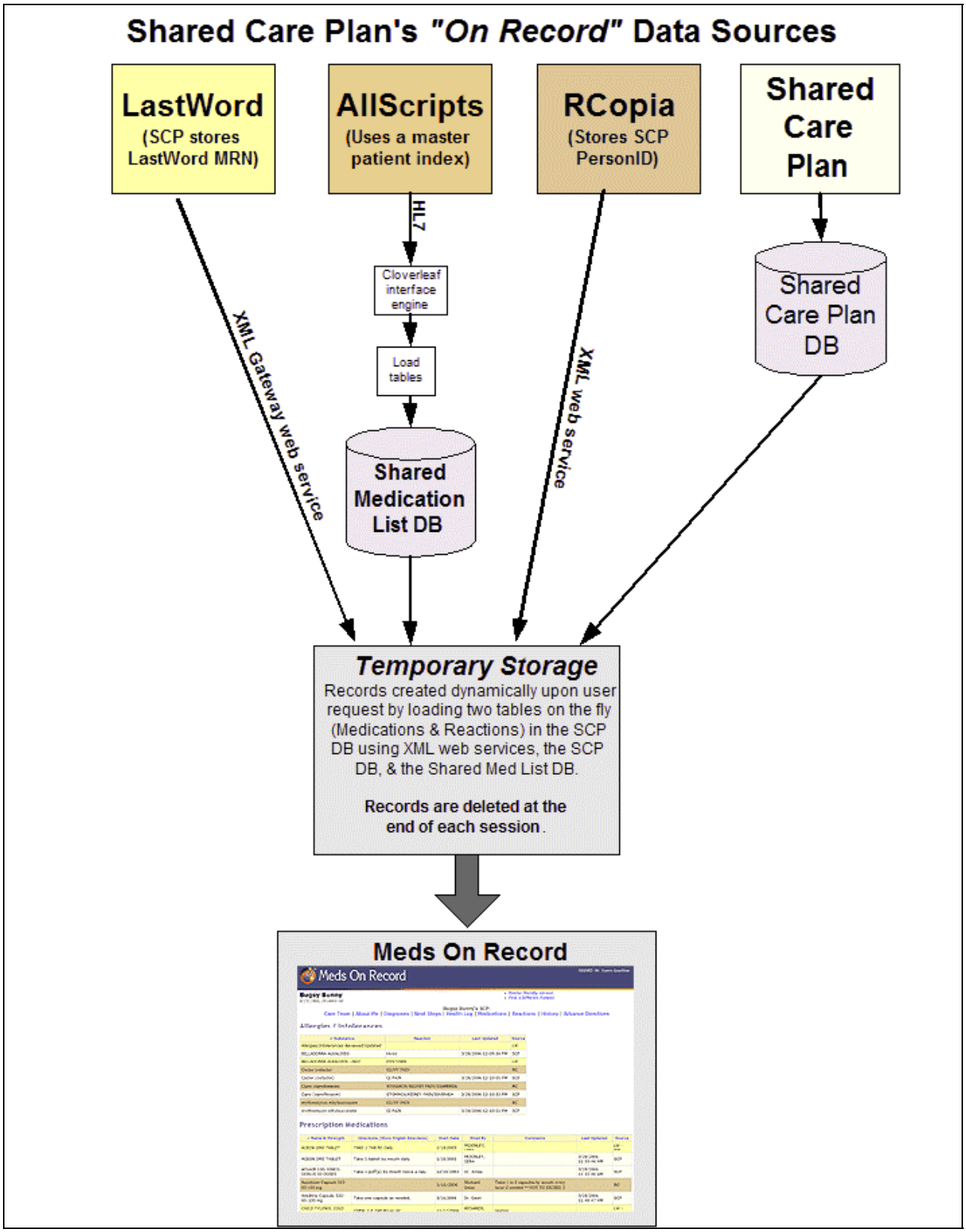
The concept of "On Record" is slightly different for patients in the context of their Shared Care Plans. Since patients are performing the tasks of filling out and maintaining a personal health record, On Record information is available in the Shared Care Plan as a sublink on each corresponding tab. "Meds On Record" is available from the Medications tab and "Reactions on Record" is available from the Reactions tab. In addition, immunization data from a single source system is available as "Immunizations On Record" from the History tab.

The On Record feature also has additional functionality for patients in the Shared Care Plan. Users may import clinical records they see On Record into their SCPs, where they can edit and add additional information to them. Patients also have the option of comparing the Active Meds list they maintain in their Shared Care Plans with the information On Record by clicking the [Compare] button at the top of each On Record screen.

Screenshot of the Shared Care Plan version of Meds On Record:

3. On Record Technology

The Shared Care Plan currently has data interfaces with three implementations of three different clinical systems: LastWord, RCopia, and AllScripts. Each clinical system is used by a variety of healthcare entities in Whatcom County, Washington and Eugene, Oregon. These interfaces were hand built by Shared Care Plan technical staff, with additional support from the clinical systems' technical staff. Due to the highly specific nature of these interfaces, it was not possible to include any functional code for this feature in the contents of this CD. Instead, we provide useful documentation about how we built these interfaces and presented the data to users. For more information about routine processes that support these interfaces, please refer to the "Regular Maintenance Activities" section in this guide.


Shared Care Plan's "On Record" Data Sources
LastWord
(SCP stores LastWord MRN)
AllScripts
(Uses a master patient index)
RCopia
(Stores SCP PersonID)
Shared Care Plan
HL7
Cloverleaf interface engine
Load tables
Shared Medication List DB
Shared Care Plan DB
XML Gateway web service
XML web service
Temporary Storage
Records created dynamically upon user request by loading two tables on the fly (Medications & Reactions) in the SCP DB using XML web services, the SCP DB, & the Shared Med List DB.
Records are deleted at the end of each session.
Meds On Record
Meds On Record

Audit Functionality

The security model of the Shared Care Plan derives significant strength from the robust auditing functionality. Full-content auditing makes it possible to give users as much access to the application as needed to easily perform their tasks, but with the understanding that a full report of their activities is always available. Additionally, patients are encouraged to review their own audit trails to see who has accessed their Shared Care Plans.

There are two different types of auditing that occur within the Shared Care Plan. Event auditing occurs when information is logged when users take certain actions (but do not change data). Data auditing occurs when the results of data operations (inserts, updates, and deletes) are logged. These two different types of auditing are described in more detail below:

1. Event Auditing

Some actions that users might take could be of interest in audit situations (searching for or investigating possible breaches of privacy). Other user actions are of interest when determining how the application is being used. The events that are audited in the Shared Care Plan are listed below, with the names of the associated audit tables listed in parentheses. See the Database Schema section later in this document for details on exactly what information is logged when each of these events occur:

- Logins (AUDIT_LOGIN)
- Searching for a Care Plan (AUDIT_SEARCH)
- Viewing a Care Plan (AUDIT_VIEW_CARE_PLAN)
- Viewing particular SCP screens (AUDIT_VIEW_PAGE)
- Viewing a user's registration information (AUDIT_VIEW_REG)

2. Data Auditing

This type of auditing is performed at the data access layer *(<Item>DataOp.asp* pages). See the Application Overview section later in this document for a detailed description of filenames and design patterns used throughout the Shared Care Plan. Each table in the Shared Care Plan schema that holds dynamic user-generated content has an associated audit table with the _AUDIT suffix. For example, the SCP schema includes a SHARED_CARE_PLAN table and an associated table called SHARED_CARE_PLAN_AUDIT, which holds the results of every data operation performed upon records in the SHARED_CARE_PLAN table. Within each *<Item>DataOp.asp* page, when a record is inserted, updated, or deleted, a call is made to the CreateAuditEntry subroutine (located in the *CreateAuditEntry.asp* file), which generates an entry in the associated audit table. The columns in the audit tables are the same as those in the associated main tables, but with three additional columns added:

- AuditID – primary key for the audit table
- AuditUserID – the PersonID of the user who made the change
- DataOpFlag – type of operation performed (I = Insert, U = Update, D = Delete)

By examining records in a data audit table, it is possible to reconstruct the entire history of changes to a particular record, including who made each change.

3. Potential Breaches

Following is a sample policy to handle any potential cases of breach.

POLICY TITLE: Evaluation of Alleged Breaches of Confidentiality in Shared Care Plan Use

SCOPE: Shared Care Plan users, employees of X, affiliated physicians and health care providers, their office staff, volunteers, vendors, students, contractors.

PURPOSE: X is committed to protecting the confidentiality of patient, employee and business information. This commitment is reflected in X's core values, standards of conduct, and in its policies. The following policy outlines appropriate, values driven, and consistent actions that should be taken when an alleged breach of security or confidentiality occurs.

POLICY:

Security of patient information and confidentiality is an integral part of quality and compassionate care and therefore, a breach in security or confidentiality is subject to formal progressive guidance as set forth in this policy. Confidential information includes data relating to patient, business and/or employee information as defined in X's Privacy and Security Policies. A breach of confidentiality occurs when an individual in any of the above mentioned applicable groups:

accesses or reviews patient information for any reason not related to the provision of care and treatment, payment, health care operations or another authorized purpose (role-based);

discusses with or reveals to any individual(s) confidential information about X or about others for purposes not related to patient care or other authorized purpose; or,

violates the provisions of any applicable policies on Confidentiality, Security and Privacy or Acceptable Use of information accessible via X or any state/federal laws related to the security, privacy, and confidentiality of patient information.

Levels of Breach

Level 1 - Minor breach or carelessness. This level of breach occurs when an employee or other applicable person outlined in this policy unintentionally or carelessly accesses, reviews or reveals information to him/herself or others without a legitimate "need to know" (role-based access). Examples include, but are not limited to:

- discussing patient information in a public area;
- leaving a copy of protected health information in a public area;
- leaving a computer unattended in an accessible area while logged on;
- sending a fax to an incorrect recipient by not verifying the correct number, or dialing the number rather than using a pre-programmed number.

Disciplinary measures for employees will be based on investigation of the facts and may include counseling, verbal warning, or written warning. The action taken will be documented in writing and maintained in the employee's associated Human Resources record. The employee will be given relevant policies and/or training modules for review to enhance understanding of X's commitment to confidentiality.

For others, remedial action may involve training, counseling, medical staff action, or a request or demand for compliance with access, confidentiality and related agreements.

Level 2 - Moderate breach or curiosity/concern. This level of breach occurs when an employee or other applicable

person outlined in this policy intentionally accesses or discusses information for purposes other than the care of the patient or other authorized purposes but for reasons unrelated to personal gain. Examples include but are not limited to:

- looking up birth dates, addresses of friends or relatives;
- accessing and reviewing a record of a friend or family member out of concern or curiosity;
- reviewing a public personality's record;
- repetitive level 1 breaches.

The employee will be given relevant policies and training modules for review to reinforce X's commitment to confidentiality. In addition, depending on the circumstance, action taken may include warning levels up to and including suspension or termination. For individuals who are not employees of X, the situation may lead to medical staff discipline, to a demand for assurances of performance with relevant agreements, suspension and/or termination of access.

Level 3 - Serious breach for personal gain/malice. This level of breach occurs when an employee reviews or discusses information for personal gain or with malicious intent. Examples include but are not limited to:

- reviewing a patient record to use information in a personal relationship;
- compiling a mailing list for personal use or to be sold;
- divulging confidential information to a newspaper for personal profit;
- accessing mental health notes on a co-worker or job applicant.

Due to the severity of actions at level 3 and the negative impact on our patients, offenses at this level will result in termination of employment, privileges and/or access rights to X information. Reports will be made to applicable licensing boards. Violations of a criminal nature will be reported to the appropriate authorities.

REQUIREMENTS:

Process for Investigation and Applicable Progressive Guidance

(Exception: Any portion of this policy that is inconsistent with any applicable collective bargaining agreement shall be governed by such collective bargaining agreement.)

1. Initial Reporting- Use of the Chain of Command

Persons who observe or are aware of a breach should report initially to any one of the following:

- His/her immediate supervisor, manager or director
- Organizational Privacy Officer
- Director of X
- Shared Care Plan coordinator

Patient confidentiality is critical to our quality of care and therefore failure to report a breach, reporting of a breach in bad faith, or reporting of a breach for malicious reasons will result in progressive guidance.

2. Investigation

The necessary and appropriate investigation shall be proportionate with the level of the breach and may include interviewing the employee believed to have committed the breach, interviewing additional individuals, and reviewing documentation. Verification of a breach could include patient, employee, witness interviews, and/or audits of the electronic systems.

3. Process for Initiating Progressive Guidance

- **For Employees and Volunteers**, the management individual receiving the report shall, in conjunction with the breach team or process and the employee's department manager, investigate the alleged breach, identify and implement the appropriate action plan and report such action to the Director of X within 10 business days. The report should include the medical record breached, the person who committed the breach, date of the breach, summary of the breach and action taken.
- **For independent physicians and their office staff**, the management individual receiving the report shall, in conjunction with the regional breach team or process, investigate and report to the Chief of Staff or their designee to initiate the appropriate action. A report will be provided to the Regional Privacy Officer.
- **For students, vendors, contractors**, the management individual receiving the report shall, in conjunction with the regional breach team or process, investigate, and contact the X Legal Counsel for appropriate action. A report will be provided to the Regional Privacy Officer. All information on the alleged breach and all related written documentation shall be handled in a discreet manner. Disciplinary action and appropriate documentation shall be placed in the individual's applicable record. Individuals who dispute the action taken should refer to relevant policies, agreements or other documents to determine the action they may take.

Outgoing System Emails

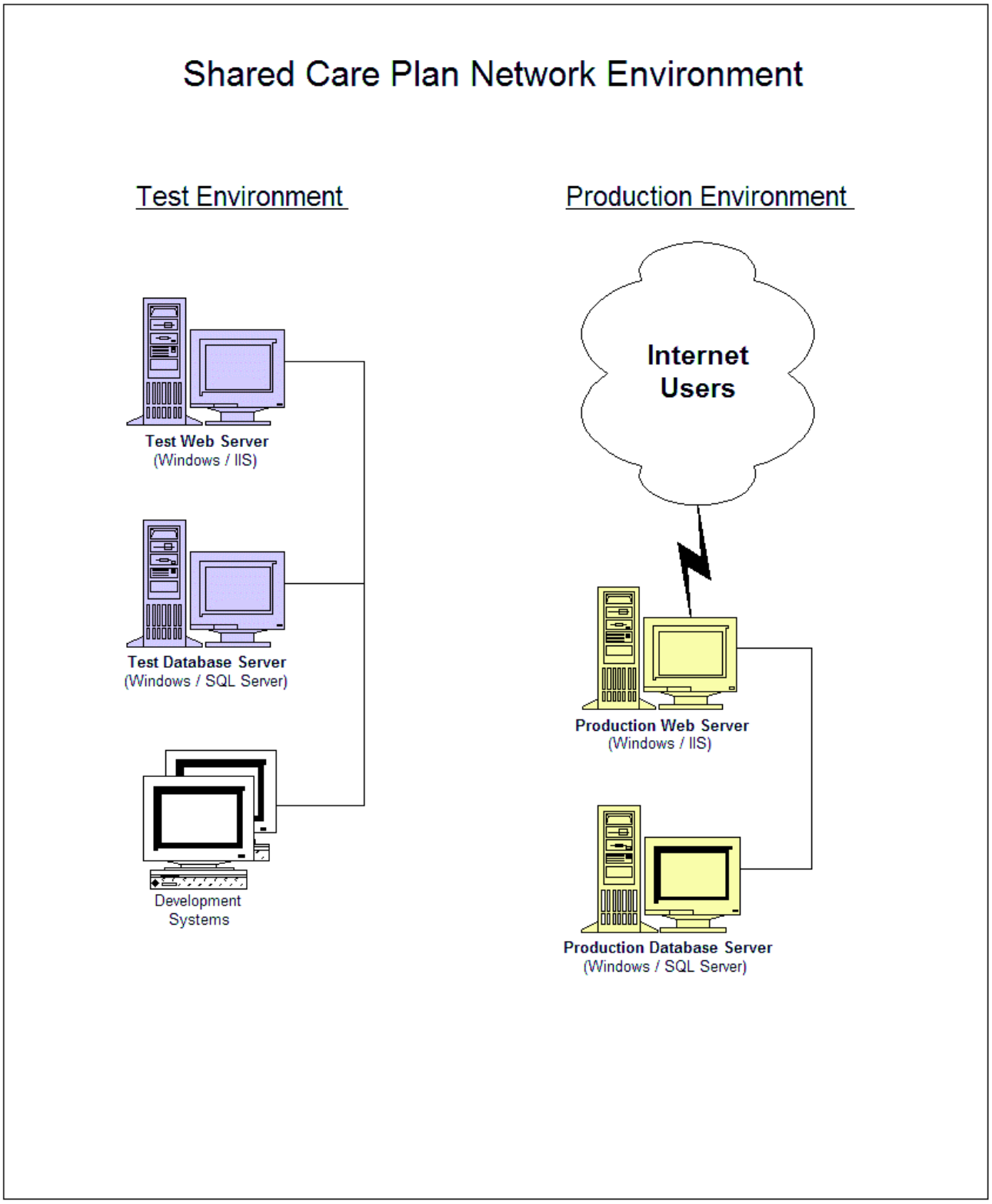
The Shared Care Plan generates a number of emails automatically related to features and registration. The following table summarizes outgoing system emails.

To: / BCC:	Email Content	Action
Patient	Notification that an invited CTM has successfully signed up and been added to the Care Team	
Patient / info@sharedcareplan.org	Notification that an invited CTM was unsuccessful in their 6 attempts to match the demographics.	Provides a heads-up for any calls for support with this
help@sharedcareplan.org	Notification that an invitee tried to sign up, but was found already in the system and they didn't know their login.	Provides a heads-up for any calls for support with this
Employee signing up / info@sharedcareplan.org	Notification that an employee successfully completed the employee registration process.	Notification that the LastWord MRN needs to be attached.
feedback@sharedcareplan.org	Feedback sent from our "Contact Us" page.	BCC the rest of the team when responding to feedback.
SCP User	Email for continuation of the reset password process.	
info@sharedcareplan.org	Notification that someone has signed up via public registration.	Notification that these need to be processed.
help@sharedcareplan.org	Found fax with no barcode	A document faxed with no barcode can be salvaged by looking at the document, determining who the owner is and contacting him/her. (Instruct to re-fax with coversheet)
help@sharedcareplan.org	Found Advance Directive with no matching DB record	This occurs when someone faxes in a coversheet with a barcode associated with a record that the user has deleted. User can be notified.
SCP User / help@sharedcareplan.org	Sent when the system receives more or less pages than user specified on fax coversheet (page count mismatch notification)	Provides a heads-up for any calls for support with this
SCP User	Fax received email (note: only sent if the fax is processed as a result of an action by some other user)	
help@sharedcareplan.org	Notification of potential security breach attempt. Generated by our SQL injection filter. (Such as using an apostrophe in an SCP lookup search).	Escalate anything that looks really malicious
help@sharedcareplan.org	Notification of error while processing faxes (processing triggered by someone clicking [View] button).	Provides a heads-up that the fax technology may be on the fritz
help@sharedcareplan.org	Notification of error while processing faxes (processing triggered by someone initializing [viewing] a Care Plan)	Provides a heads-up that the fax technology may be on the fritz
Invited CTM	Notification of being invited to join a patient's Care Team.	

Person using online registration	Sent by clicking the [Send Email] button in registration when we are unable to prove their identity due to no LW info on file. Invites user to come in to office for face-to-face proof of ID.	
Person using online registration	Sent by clicking the [Send Email] button in registration when we are unable to match their LW data with what they provided. Instructs user to call main admitting.	
info@sharedcareplan.org	Notification that a new SCP has been manually created.	

Description of the SCP's Current IT Environment

Below is a graphical depiction of the IT environment where the Shared Care Plan web application is developed and implemented.



Required COTS Software

The Shared Care Plan is integrated with and depends upon a number of Commercial Off The Shelf (COTS) software products. Some of these products are directly integrated into the code of the Shared Care Plan (COM components), while others provide peripheral functionality, upon which full functionality of the Shared Care Plan relies. These required software products are described below. Anyone wishing to create an instantiation of the Shared Care Plan would need to purchase these components. An alternative would be to purchase similar components from other vendors and make any required changes to the Shared Care Plan code to account for any differences.

IMPORTANT NOTE: Searching for the term "RECIPIENT:" in the code will help the receiving IT team locate areas where the code will definitely require changes.

1. Integrated Components

Component	Version	Vendor	Description/Purpose
ClearImage Barcode 1D Pro	5.3.0.9	Inlite Research, Inc.	Installed on the web server, this COM object is used by the Advance Directive Fax-in feature to decode barcodes.
ClearImage Repair	5.3.0.9	Inlite Research, Inc.	Installed on the web server, this COM object is used by the Advance Directive Fax-in feature to perform several clean-up tasks on fax TIF files.
iSEDQuickPDF	4.41	SEDTech (Pty) Ltd.	Installed on the web server, this COM object is used by the Advance Directive Fax-in feature and the Wallet Size SCP Summary feature for dynamically creating PDF documents.
Microsoft Soap Toolkit	3.0	Microsoft	Installed on the web server, this toolkit provides the necessary components needed by the application to construct, transmit, read, and process SOAP messages.
Healthwise ® Knowledgebase	Latest	Healthwise	Installed on the web server. Much of the dynamic content in the Shared Care Plan is hyperlinked to the knowledgebase. This allows users to simply click on items like diagnoses or medications to perform research using the knowledgebase.

2. Support Software

Component	Vendor	Description/Purpose
Genifax	Omtool	Can be installed on any server. This fax processing software is required in order to facilitate the Advance Directive Fax-in feature. The functionality required of this software is to store multipage TIF versions of faxes sent to specific phone numbers in a location that is accessible by the Shared Care Plan's fax processing code.
Gammadyne Mailer	Gammadyne	Can be installed on any server. This bulk email application is used in the administration of the Shared Care Plan. It provides a convenient platform for sending individualized mass emails to Shared Care Plan users and processing their opt-out requests.

Application Overview

This section presents an overview of the inner workings of the Shared Care Plan application. Topics covered include:

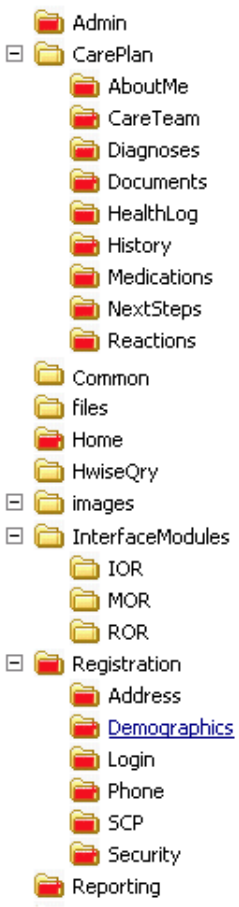
- Introduction (technologies used, naming conventions, steps for recipient IT team, etc.)
- Website folder structure and how it relates to the Graphical User Interface (GUI)
- GUI and ASP design patterns
- Folder-by-folder description of key information

1. Introduction

The Shared Care Plan is an Active Server Page (ASP) based web application written using Microsoft VBScript (server side code) and Javascript (client side code). The application runs on the Microsoft Internet Information Server (IIS) platform and accesses several databases stored on a separate server running Microsoft SQL Server 2000.

Throughout the application, variables are declared using Hungarian Notation (prefix indicates the type of data stored in the variable). This is a common naming convention for VBScript since it is a *typeless* language and will not complain if an inappropriate type of data is stored in a variable meant for data of another type.

IMPORTANT NOTE: Searching for the term "RECIPIENT:" in the code will help the receiving IT team locate areas where the code will definitely require changes.



2. Folder Structure

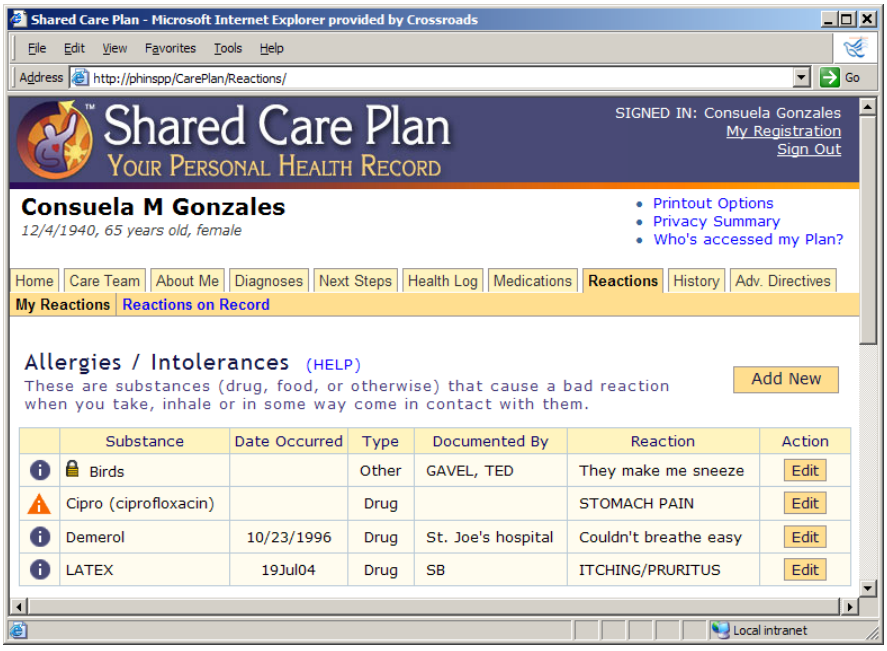
The folder structure of the Shared Care Plan website is depicted in the figure at left, while the screen shots below show several sets of tabs from the Shared Care Plan GUI. You'll notice that the folder structure is closely related to the GUI.

Each tab displayed in the Shared Care Plan GUI has a matching folder in the site structure. The folders that are highlighted in red are directly related to tabs within the GUI. The rest of the folders contain other support content.

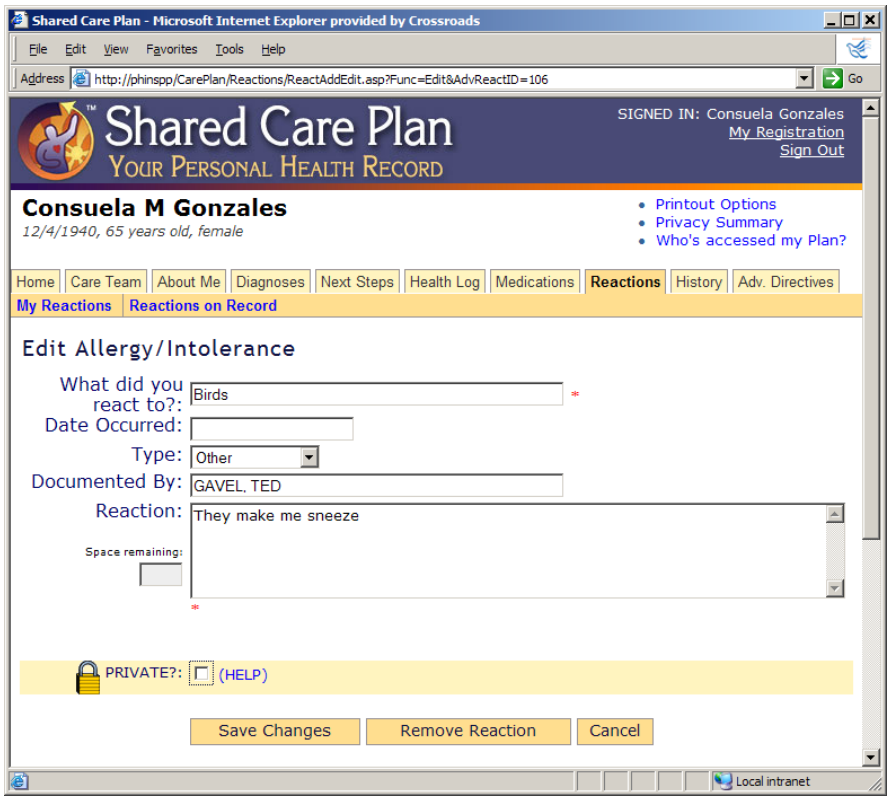
With a bit of perusing of the files in the various folders, it will become obvious quite quickly where to look for code based on what feature of the application you are interested in updating.

3. GUI and ASP Design Patterns

On a typical tab in the Shared Care Plan, there are one or more lists of items. Assuming the user has the appropriate permission, they will typically see an **[Add New]** button that allows them to add a new item to the list. They will also see **[Edit]** buttons for each item in the list.

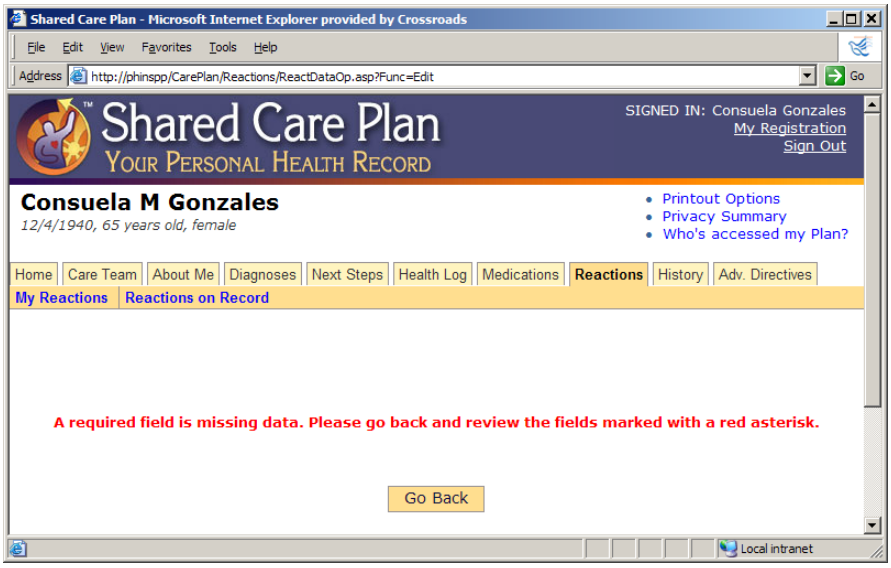


Clicking on an **[Add New]** or **[Edit]** button brings up the detail for that item in an editable form:

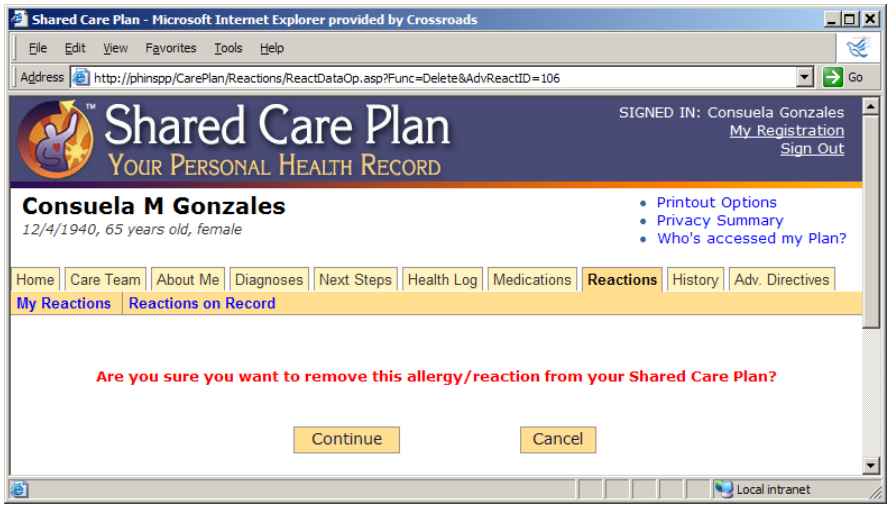


Clicking the **[Save Changes]** or **[Remove <Item>]** button causes a data operation to be performed. Clicking **[Cancel]** returns to the previous screen. If the user clicks **[Add New]** followed by **[Save Changes]**, an item is inserted into the database. Clicking **[Edit]** followed by **[Save Changes]** results in a database update. Finally, if the user clicks **[Edit]** followed by **[Remove <item>]**, the item is deleted from the database.

There are typically three ASP files involved in this display/edit/save process for a particular type of item. First, there is the ASP file that displays the list itself. It is often titled *default.asp*. Next, there is the Add/Edit screen. It is typically named *<Item>AddEdit.asp* (e.g., *ReactAddEdit.asp*). Finally, there is the data operation page, typically named *<Item>DataOp.asp* (e.g., *ReactDataOp.asp*). The data op page usually redirects back to the *default.asp* page without actually displaying anything when the data operation goes smoothly. However, if the user enters an invalid value for one of the fields on the Add/Edit page, an error message is displayed as in the example below. Clicking the **[Go Back]** button will return to the Add/Edit page, re-posting the original form data back to that page so the form fields can be re-populated.



If the requested data op is a remove, then the data op page presents the user with a confirmation screen, as in the example below:



A typical *default.asp* file is shown below with sections annotated:

Server side includes

```
<!--#INCLUDE VIRTUAL="/Utilities/SharedCarePlanLogon.asp"-->
<!--#INCLUDE VIRTUAL="/AppCommon.asp"-->
<!--#INCLUDE VIRTUAL="/Utilities/LogPageView.asp"-->
```

Subroutines & Functions

```
<% 'Procs
'================
Sub DispReactions(cnnConn, intCarePlanID, blnOkToEdit, dtmCPLastAccess)
'================
        ' Code removed for brevity: This subroutine retrieves data from the reactions
        ' database table and displays it as a list (table) with [Edit] buttons.
End Sub

.
.
%>
```

```
<% 'Main
If Not Session("OkToView") Then
        Response.Redirect "/SecurityMsg.asp"
End If

' Set NoKnownAllergies bit if requested

If Request.QueryString("Func") = "NoKnownAllergies" Then
        UpdateSCPBit Conn, Session("CarePlanID"), Session("UserName"), "NoKnownAllergies", True
End If

' Set NoContraindications bit if requested

If Request.QueryString("Func") = "NoContraindications" Then
        UpdateSCPBit Conn, Session("CarePlanID"), Session("UserName"), "NoContraindications", True
End If
%>
```

Main page code (prior to displaying anything). This is where we kick people out who shouldn't be here, load any recordsets needed by the page, etc.

Main display portion of page, intermixing HTML and VBScript to display the visible screen. Makes calls to Subs/Functions defined above as well as others defined in include files.

```
<%
'------------- main page begins -------------
DispHead
%>
<body onLoad="timeout()">

<%
DispBanner true
DispToolBar "CP", Session("PatName")
DispTabs "CP"
%>
<div id="main">
        <table width=98%">
                <tr>
<%
Response.Write "<td class=""containsHelp"">"
Response.Write "<h2>Allergies / Intolerances  "
DispHelp Conn, 8, True
Response.Write "</h2></td>"
%>
.
.
```

A typical *<Item>AddEdit.asp* file is shown below with sections annotated:

Server side includes

```
<!--#INCLUDE VIRTUAL="/Utilities/SharedCarePlanLogon.asp"-->
<!--#INCLUDE VIRTUAL="/AppCommon.asp"-->
```

Subroutines & Functions

```
<% 'Procs
'================
Sub CreateOpt(cnnConn, strSQL, intKey)
'================
        ' Code removed for brevity. This subroutine accepts a SQL SELECT command as an
        ' input and creates the HTML code for a drop-down, filled with the data.
End Sub
%>
```

```
<% 'Main
Dim objForm
If Not Session("OkToEdit") Then
        Response.Redirect "/SecurityMsg.asp"
End If

If Request.QueryString("AdvReactID") <> "" Then
        If Not Session("SuperUser") And RecordIsHidden(Session("CarePlanID"), Session("UserID"),
           Request.QueryString("AdvReactID"), "ADVERSE_REACTION") Then
                Response.Redirect "/CarePlan/PrivateRecordMsg.asp"
        End If
End If

If Request("Postback") = "Yes" Then
        Set objForm = Request.Form
ElseIf Request.QueryString("Func") = "Edit" Then
        Dim strSQL

        strSQL = "SELECT * FROM SharedCarePlan..ADVERSE_REACTION"
        strSQL = strSQL & " WHERE AdvReactID = " & Sanitize(Request.QueryString("AdvReactID"))
        strSQL = strSQL & " AND CarePlanID = " & Session("CarePlanID")

        Set objForm = Server.CreateObject("ADODB.Recordset")
        objForm.Open strSQL, Conn
Else
        Set objForm = Request.QueryString
End If
%>
```

Main page code (prior to displaying anything). Kick people out who shouldn't be here, get data to populate form, etc.

Main display portion of page, intermixing HTML and VBScript to display the visible screen. Calls Subs/Functions defined above & in include files. Displays populated form.

```
<%
'------------- main page begins -------------
DispHead
%>
<body onLoad="init()">

<%
DispBanner true
DispToolBar "CP", Session("PatName")
DispTabs "CP"
%>
<div id="main">
<%
If Request.QueryString("Func") = "Edit" Then
        Response.Write "<h2>Edit Allergy/Intolerance</h2>"
.
.
```

A typical *<Item>DataOp.asp* file is shown below with sections annotated:

Server side includes

```
<!--#INCLUDE VIRTUAL="/Utilities/SharedCarePlanLogon.asp"-->
<!--#INCLUDE VIRTUAL="/AppCommon.asp"-->
<!--#INCLUDE VIRTUAL="/CreateAuditEntry.asp"-->
<!--#INCLUDE VIRTUAL="/Utilities/Postback.asp"-->
```

Data Op Subs & Functions

```
<% 'Procs
'================
Function ValidateData(objForm, ByRef strHTML)
'================
        ' Code removed for brevity: This function validates the data entered on the Add/Edit
        ' page. If something is amiss, it creates a hidden form to post the data back and then
        ' redirects back to the Add/Edit page.
End Function

'================
Sub InsertReaction(cnnConn, objForm, strUserName)
'================
        ' Code removed for brevity: This function is called to add a new reaction to the database.
        ' It also creates an audit entry in the associated reaction audit table.
End Sub

'================
Sub UpdateReaction(cnnConn, objForm, strUserName)
'================
        ' Code removed for brevity: This function is called to update an existing reaction in
        ' the database. It also creates an audit entry in the associated reaction audit table.
End Sub

'================
Sub DeleteAdvReact(cnnConn, intAdvReactID, strUserName)
'================
        ' Code removed for brevity: This function is called to remove an existing reaction from
        ' the database. It also creates an audit entry in the associated reaction audit table.
End Sub
%>
```

```
<% 'Main
If Not Session("OkToEdit") Then
        Response.Redirect "/SecurityMsg.asp"
End If

If Request.QueryString("AdvReactID") <> "" Then
        If Not Session("SuperUser") And RecordIsHidden(Session("CarePlanID"),
        Session("UserID"), Request.QueryString("AdvReactID"), "ADVERSE_REACTION") Then
                Response.Redirect "/CarePlan/PrivateRecordMsg.asp"
        End If
End If

Dim blnValidationOK, strHTML, strFunc
strFunc = Request.QueryString("Func")
If strFunc = "Add" Or strFunc = "Edit" Then
        blnValidationOK = ValidateData(Request.Form, strHTML)
        If blnValidationOK Then
                If strFunc = "Add" Then
                        InsertReaction Conn, Request.Form, Session("UserName")
                ElseIf strFunc = "Edit" Then
                        UpdateReaction Conn, Request.Form, Session("UserName")
                End If
                Response.Redirect "Default.asp"
        End If
ElseIf strFunc = "Delete" And Request.QueryString("Confirm") = "Yes" Then
        DeleteAdvReact Conn, Request.QueryString("AdvReactID"), Session("UserName")
        Response.Redirect "Default.asp"
End If
%>
```

Main page code (prior to displaying anything). This is where we validate the input data, perform the data op and redirect back (if no user input is required). If user input needed, fall through to the main page.

```
<%
'------------- main page begins -------------
DispHead
%>
<body onLoad="init()">

<%
DispBanner true
DispToolBar "CP", Session("PatName")
DispTabs "CP"
%>

<div id="main">

<%
If strFunc = "Add" Or strFunc = "Edit" Then
        If Not blnValidationOK Then
                Response.Write strHTML
        End If
ElseIf strFunc = "Delete" Then
        Response.Write "<CENTER>"
        Response.Write "<span class=""redbold"">Are you sure you want to remove this
           allergy/reaction from your Shared Care Plan?</span><br /><br /><br />"
        Response.Write "<table width=""50%""><tr align=""center"">"
        Response.Write "<td><button class=""bttn"" title=""Click here to delete the record.""
           onmouseover=""this.className='bttnHover';"" onmouseout=""this.className='bttn';""
           onclick=""Redirect('ReactDataOp.asp?Func=Delete&Confirm=Yes&AdvReactID=" &
           Request.QueryString("AdvReactID") & "');"">Continue</button></td>"
        Response.Write "<td><button class=""bttn"" title=""Click here to delete the record.""
           onmouseover=""this.className='bttnHover';"" onmouseout=""this.className='bttn';""
           onclick=""Redirect('Default.asp');"">Cancel</button></td>"
        Response.Write "</tr></table>"
        Response.Write "</CENTER><br /><br /><br />"
End If
%>

<% DispFooter False %>
</div><!--END main-->
</body>
</html>
```

Main display portion of page, intermixing HTML and VBScript to display the visible screen. Only executed when input validation fails (displays error screen) or when deleting a record (displays confirmation screen).

4. Folder-by-folder description of key information

\<root>

- The root folder of the application contains files that fit into one or more of these categories:
    - Are pertinent to the entire application. Some examples:
        - Main login screen (default.asp)
        - Global include files (e.g. AppCommon.asp)
        - Style sheets (screen.css)
        - Javascript library (lib.js)
        - Timeout display (AppTimeout.asp)
        - Application event handlers (global.asa)

- Allow visitors to access certain Shared Care Plan features without logging in. Some examples:
  - Exploring FAQs
  - Signing up for an SCP
  - Responding to an invitation to join someone else's Care Team
  - Requesting SCP information
  - Providing feedback

\Admin

- This folder contains the code associated with the "Administrator" tab, which is optionally displayed on a user's "Home" screen. The tab will appear if the user has the security role of "Administrator" assigned in their SCP registration.

\CarePlan

- This folder contains code pertinent to an entire Care Plan (as opposed to say just one tab). Examples include SCP initialization, auditing, printing, etc.

\CarePlan\AboutMe

- Code pertinent to the SCP "About Me" tab.

\CarePlan\CareTeam

- Code pertinent to the SCP "Care Team" tab. This includes the four major subsections on that screen:
  - Emergency Contacts
  - Care Team Members
  - Invited Care Team Members
  - Insurance Providers

\CarePlan\Diagnoses

- Code pertinent to the SCP "Diagnoses" tab.

\CarePlan\Documents

- Code pertinent to the SCP "Adv. Directives" tab. This includes the code necessary to display the list of downloadable blank forms as well as the list of Advance Directives that have actually been added to the SCP. This folder also includes the code necessary to generate PDF fax coversheets with barcodes and to display PDF versions of the documents that have been faxed in.

\CarePlan\HealthLog

- Code pertinent to the SCP "Health Log" tab.

\CarePlan\History

- Code pertinent to the SCP "History" tab. This tab includes the following submenu screens and subsections as well:
  - My History
    - Procedures & Surgeries
    - Hospital Visits
    - Immunizations
  - Family Health History
  - Immunizations On Record

\CarePlan\Medications

- Code pertinent to the SCP "Medications" tab. This tab includes the following submenu screens and subsections as well:
    - My Active Meds
        - Prescribed Medications
        - Additional Medications
    - My Discontinued Meds
    - Meds On Record.

\CarePlan\NextSteps

- Code pertinent to the SCP "Next Steps" tab, including the five major subsections on that screen
        - Where I am – My concerns
        - Where I want to be – Life goals
        - Achieved life goals
        - How I'm getting there – Next steps
        - Completed next steps

\CarePlan\Reactions

- Code pertinent to the SCP "Reactions" tab. This tab includes the following submenu screens and subsections as well:
    - My Reactions
        - Allergies/Intolerances
        - Contraindications
    - Reactions On Record

\Common

- This folder contains all of the application's utility code. The files in this folder contain reusable functions and subroutines. These files are included in other ASP files using server-side include statements. Some of these files are only used in a few places, and are therefore included directly where used. Others are used repeatedly throughout the application and are therefore included in the file *AppCommon.asp*, which is in turn included in most other ASP files in the application.

\files

- This folder contains the PDF and Word documents used/presented by the application.

\Home

- Code pertinent to the SCP "Home" tab. There are two separate files used for the home tab, depending on whether the user is logged in (Home.asp) or whether they are visiting as a "guest" (*Guest.asp*). This folder also contains an announcements page that is used to describe the most recent changes to the application.

\HwiseQry

- The files in this folder provide an SCP branded "wrapper" for the HealthWise® Knowledgebase. Hyperlinks created throughout the SCP application link to this page, passing the string that is hyperlinked to be used as the "search term" the knowledgebase.

\images

- This folder contains the images used throughout the application.

\InterfaceModules

- The SCP application currently supports viewing & importing three different types of data from external source systems. The data types supported are:
    - Immunizations
    - Medications
    - Reactions

  Throughout the application, we refer to these external interfaces as "On Record" data. In other words, we give the SCP user the ability to view their "Immunizations On Record", "Medications On Record", and/or "Reactions On Record" from a number of external source systems in the community. This folder contains code that is generic in that it provides functionality common to all three types of "On Record" data.

\InterfaceModules\IOR

- This folder contains code that handles importing immunization information from various external source systems into our generic schema, which is then used by the SCP application in presenting the data. This code invokes a number of SQL Server stored procedures.

\InterfaceModules\MOR

- This folder contains code that handles importing medication information from various external source systems into our generic schema, which is then used by the SCP application in presenting the data. This code invokes a number of SQL Server stored procedures.

\InterfaceModules\ROR

- This folder contains code that handles importing reaction/allergy information from various external source systems into our generic schema, which is then used by the SCP application in presenting the data. This code invokes a number of SQL Server stored procedures.

\Registration

- This folder contains the code associated with the "Registration" tab, which is optionally displayed on a user's "Home" screen. The tab will appear if the user has the security role of "Registration" assigned in their SCP registration.

\Registration\Address

- This folder contains the code associated with the "Address" tab, which is displayed when registering a new user or editing an existing user's registration information.

\Registration\Demographics

- This folder contains the code associated with the "Personal Info" tab, which is displayed when registering a new user or editing an existing user's registration information.

\Registration\Login

- This folder contains the code associated with the "Login" tab, which is displayed when registering a new user or editing an existing user's registration information.

\Registration\Phone

- This folder contains the code associated with the “Phone” tab, which is displayed when registering a new user or editing an existing user’s registration information.

\Registration\SCP

- This folder contains the code associated with the “Shared Care Plan Settings” tab, which is displayed when registering a new user or editing an existing user’s registration information.

\Registration\Security

- This folder contains the code associated with the “Security” tab, which is displayed when registering a new user or editing an existing user’s registration information.

\Reporting

- This folder contains the code associated with the “Reporting” tab, which is optionally displayed on a user’s “Home” screen. The tab will appear if the user has the security role of “Reporting” assigned in their SCP registration.

Database Schema

The Shared Care Plan application uses two different databases: *Shared Care Plan* and *Person*. The use of two databases physically separates personal health information from demographic information, adding another layer of security and privacy. The schema of both databases is included here for reference.

1. Shared Care Plan Database Schema

Table Name	Table Description	Column	Type	Length
ADVERSE_REACT_TYPE	Lookup table for reaction types (Drug, Food, Contrast Media, Other)	AdvReactTypeID	smallint	2
		AdvReactTypeDesc	varchar	15
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
ADVERSE_REACTION	Adverse reaction records	AdvReactID	int	4
		CarePlanID	int	4
		AdvReactTypeID	smallint	2
		AdvReactSubstance	varchar	50
		AdvReactResponse	varchar	500
		AdvReactOccurredDate	varchar	20
		AdvReactChgCode	char	1
		AdvReactAuthor	varchar	50
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
ADVERSE_REACTION_AUDIT	Audit table	AuditID	int	4
		AdvReactID	int	4
		CarePlanID	int	4
		AdvReactTypeID	smallint	2
		AdvReactSubstance	varchar	50
		AdvReactResponse	varchar	500
		AdvReactOccurredDate	varchar	20
		AdvReactChgCode	char	1
		AdvReactAuthor	varchar	50
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
AGE_DIAGNOSED	Lookup table for ranges of ages of diagnosis for family history diagnoses	AgeDiagnosedID	int	4
		AgeDiagnosed	varchar	50
APPLICATION_ROLE	Relates Users to one or more application roles (Admin, Clinical Admin, Registrar, etc.)	AppRoleID	int	4
		PersonID	int	4
		SecClassID	smallint	2

		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
APPLICATION_ROLE_AUDIT	Audit table	AuditID	int	4
		AppRoleID	int	4
		PersonID	int	4
		SecClassID	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
AUDIT_LOGIN	Audit table used for recording logins	AuditLoginID	int	4
		PersonID	int	4
		ASPSessionID	int	4
		AccessDate	datetime	8
AUDIT_SEARCH	Audit table used for recording searches performed	AuditSearchID	int	4
		PersonID	int	4
		SearchSQL	varchar	600
		ASPSessionID	int	4
		AccessDate	datetime	8
AUDIT_VIEW_CARE_PLAN	Audit table used for recording views of Care Plans	AuditViewID	int	4
		PersonID	int	4
		CarePlanID	int	4
		ASPSessionID	int	4
		AccessDate	datetime	8
AUDIT_VIEW_PAGE	Audit table for specific ASP page views. A "hit" is only recorded once per page per session.	AuditViewPageID	int	4
		UserID	int	4
		CarePlanID	int	4
		PageViewed	varchar	100
		ASPSessionID	int	4
		AccessDate	datetime	8
AUDIT_VIEW_REG	Audit table used for recording views of users registration information	AuditViewRegID	int	4
		PersonID	int	4
		RegPersID	int	4
		ASPSessionID	int	4
		AccessDate	datetime	8
BLOOD_TYPE	Lookup table for blood types	BloodTypeID	smallint	2
		BloodTypeDesc	varchar	3
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
CARE_TEAM_ASSIGN_INVITE	Info for "invited" Care Team members	CareTeamAssignInviteID	int	4
		CarePlanID	int	4
		FirstName	varchar	25
		LastName	varchar	40

		MiddleInit	varchar	1
		SocSecNum	varchar	9
		BirthDate	datetime	8
		Gender	varchar	1
		SecretQuestion	varchar	150
		SecretAnswer	varchar	25
		TelecomNumber1	varchar	3
		TelecomNumber2	varchar	3
		TelecomNumber3	varchar	4
		TelecomDevTypeID	smallint	2
		TelecomNumDescID	smallint	2
		Street1	varchar	50
		City	varchar	25
		State	varchar	2
		ZipCode	varchar	10
		EmailAddress	varchar	50
		EmailPrefFlag	bit	1
		CareTeamRoleID	smallint	2
		SecClassID	smallint	2
		MORAccess	bit	1
		RORAccess	bit	1
		IORAccess	bit	1
		AuthCode	varchar	6
		VerifyDemogCount	smallint	2
		InviteStatus	varchar	10
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		RecCreatePersonID	int	4
		RecCreateIP	varchar	19
CARE_TEAM_ASSIGN_INVITE_AUDIT	Audit table	AuditID	int	4
		CareTeamAssignInviteID	int	4
		CarePlanID	int	4
		FirstName	varchar	25
		LastName	varchar	40
		MiddleInit	varchar	1
		SocSecNum	varchar	9
		BirthDate	datetime	8
		Gender	varchar	1
		SecretQuestion	varchar	150
		SecretAnswer	varchar	25
		TelecomNumber1	varchar	3
		TelecomNumber2	varchar	3
		TelecomNumber3	varchar	4
		TelecomDevTypeID	smallint	2
		TelecomNumDescID	smallint	2
		Street1	varchar	50
		City	varchar	25
		State	varchar	2
		ZipCode	varchar	10
		EmailAddress	varchar	50
		EmailPrefFlag	bit	1
		CareTeamRoleID	smallint	2

		SecClassID	smallint	2
		MORAccess	bit	1
		RORAccess	bit	1
		IORAccess	bit	1
		AuthCode	varchar	6
		VerifyDemogCount	smallint	2
		InviteStatus	varchar	10
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		RecCreatePersonID	int	4
		RecCreateIP	varchar	19
		AuditUserID	int	4
		DataOpFlag	varchar	1
CARE_TEAM_ASSIGN_ORG	Manually entered Care Team members (i.e., no electronic access)	CareTeamAssignOrgID	int	4
		CarePlanID	int	4
		OrgName	varchar	50
		OrgDesc	varchar	50
		OrgPhoneNum	varchar	25
		OrgFaxNum	varchar	25
		OrgAltPhone	varchar	25
		OrgEmailAddress	varchar	50
		OrgNextAppt	varchar	25
		OrgAssignCmmnt	varchar	500
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
CARE_TEAM_ASSIGN_ORG_AUDIT	Audit table	AuditID	int	4
		CareTeamAssignOrgID	int	4
		CarePlanID	int	4
		OrgName	varchar	50
		OrgDesc	varchar	50
		OrgPhoneNum	varchar	25
		OrgFaxNum	varchar	25
		OrgAltPhone	varchar	25
		OrgEmailAddress	varchar	50
		OrgNextAppt	varchar	25
		OrgAssignCmmnt	varchar	500
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
CARE_TEAM_ASSIGNMENT	Relates SCPs to Users (i.e., indicates who's on an SCPs Care Team)	CareTeamAssignID	int	4
		PersonID	int	4
		CarePlanID	int	4
		CareTeamRoleID	smallint	2
		SecClassID	smallint	2
		MORAccess	bit	1
		RORAccess	bit	1
		IORAccess	bit	1
		PhoneNumID	int	4

		FaxNumID	int	4
		AltPhone	varchar	25
		EmailAddress	varchar	50
		NextAppt	varchar	25
		AssignCmmnt	varchar	500
		CareTeamPriority	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
CARE_TEAM_ASSIGNMENT_AUDIT	Audit table	AuditID	int	4
		CareTeamAssignID	int	4
		PersonID	int	4
		CarePlanID	int	4
		CareTeamRoleID	smallint	2
		SecClassID	smallint	2
		MORAccess	bit	1
		RORAccess	bit	1
		IORAccess	bit	1
		PhoneNumID	int	4
		FaxNumID	int	4
		AltPhone	varchar	25
		EmailAddress	varchar	50
		NextAppt	varchar	25
		AssignCmmnt	varchar	500
		CareTeamPriority	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
CARE_TEAM_ROLE	Lookup table for Care Team roles (e.g., Patient, Family Member, Cardiologist, etc.)	CareTeamRoleID	smallint	2
		CareTeamRoleName	varchar	50
		CareTeamRoleDesc	varchar	100
		CareTeamRoleCategoryID	tinyint	1
		DisplayOrder	smallint	2
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
CARE_TEAM_ROLE_CATEGORY	Lookup table for Care Team role categories (e.g., Patient, Health Professional, Personal)	CareTeamRoleCategoryID	tinyint	1
		CareTeamRoleCategoryDesc	varchar	50
COMMON_DISEASE	Lookup for common diseases for family history	CommonDiseaseID	int	4
		DiseaseName	varchar	50
		DiseaseHelp	varchar	100
CONTRAINDICATION	SCP Contraindications	ContraindID	int	4
		CarePlanID	int	4
		ContraindSubstance	varchar	50
		ContraindReason	varchar	500
		ContraindAuthor	varchar	50
		Private	bit	1

		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
CONTRAINDICATION_AUDIT	Audit table	AuditID	int	4
		ContraindID	int	4
		CarePlanID	int	4
		ContraindSubstance	varchar	50
		ContraindReason	varchar	500
		ContraindAuthor	varchar	50
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
DIAGNOSIS	SCP Diagnoses	DiagID	int	4
		CarePlanID	int	4
		DiagPriority	tinyint	1
		ICDCode	varchar	10
		DiagDesc	varchar	100
		DiagAltDesc	varchar	100
		DiagStartDate	varchar	20
		DiagEndDate	datetime	8
		DiagCmmnt	varchar	500
		DiagAuthor	varchar	50
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
DIAGNOSIS_AUDIT	Audit table	AuditID	int	4
		DiagID	int	4
		CarePlanID	int	4
		DiagPriority	tinyint	1
		ICDCode	varchar	10
		DiagDesc	varchar	100
		DiagAltDesc	varchar	100
		DiagStartDate	varchar	20
		DiagEndDate	datetime	8
		DiagCmmnt	varchar	500
		DiagAuthor	varchar	50
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
DIAGNOSIS_LOOKUP	Lookup table for diagnoses	DiagLookupID	smallint	2
		DiagDesc	varchar	100
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
DOCUMENT	Table where faxed-in Advance Directives are stored (PDF Format).	DocID	int	4
		CarePlanID	int	4
		DocEmail	varchar	100

		DocEmailFirst	varchar	25
		DocTypeID	smallint	2
		DocStatusID	smallint	2
		Document	image	16
		DocCreateDate	datetime	8
		DocFileName	varchar	100
		DocPageCount	int	4
		DocCmmnts	varchar	500
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
DOCUMENT_AUDIT	Audit table	AuditID	int	4
		DocID	int	4
		CarePlanID	int	4
		DocEmail	varchar	100
		DocEmailFirst	varchar	25
		DocTypeID	smallint	2
		DocStatusID	smallint	2
		Document	image	16
		DocCreateDate	datetime	8
		DocFileName	varchar	100
		DocPageCount	int	4
		DocCmmnts	varchar	500
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
DOCUMENT_STATUS	Lookup table for Advance Directive document statuses (Received, Awaiting Fax, etc.).	DocStatusID	smallint	2
		DocStatusDesc	varchar	100
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
DOCUMENT_TYPE	Lookup table for types of documents we accept via fax (Advance Directive, POLST, etc.)	DocTypeID	int	4
		DocTypeDesc	varchar	100
		LegalDocFlag	bit	1
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
DOWNLOADABLE_DOCUMENTS	Lookup table for blank forms we make available for download.	DownloadableDocID	int	4
		DownloadableDocTitle	varchar	200
		DocTypeID	int	4
		DownloadableDocFilename	varchar	50
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
EMAIL_REQUEST	Used to gather email addresses of interested persons on home page	EmailRequestID	int	4

		EmailAddress	varchar	100
		EmailPrefFlag	Bit	1
		RecCreateDate	datetime	8
		RecCreateUser	Varchar	50
FEEDBACK	Feedback submitted through our "Contact Us" link.	FeedbackID	int	4
		FeedbackText	text	16
		PersonID	int	4
		EmailAddress	varchar	50
		Role	varchar	50
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
GOAL_STATUS	Lookup table for Goal statuses (In Progress, Completed)	GoalStatusID	smallint	2
		GoalStatusDesc	varchar	15
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
HEALTH_IND_ENTRY	Measurements of a particular health indicator	HealthIndEntryID	int	4
		HealthIndGoalID	int	4
		HealthIndMeasureDate	datetime	8
		HealthIndValue	varchar	25
		HealthIndCmmnt	varchar	500
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
HEALTH_IND_ENTRY_AUDIT	Audit table	AuditID	int	4
		HealthIndEntryID	int	4
		HealthIndGoalID	int	4
		HealthIndMeasureDate	datetime	8
		HealthIndValue	varchar	25
		HealthIndCmmnt	varchar	500
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
HEALTH_IND_GOAL	Goal for a particular health indicator	HealthIndGoalID	int	4
		CarePlanID	int	4
		HealthIndID	smallint	2
		HealthIndGoalValue	varchar	100
		HealthIndGoalCmmnt	varchar	500
		HealthIndOther	varchar	100
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
HEALTH_IND_GOAL_AUDIT	Audit table	AuditID	int	4
		HealthIndGoalID	int	4
		CarePlanID	int	4
		HealthIndID	smallint	2

		HealthIndGoalValue	varchar	100
		HealthIndGoalCmmnt	varchar	500
		HealthIndOther	varchar	100
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
HEALTH_INDICATOR	Lookup table of health indicators with ideal values for each	HealthIndID	smallint	2
		HealthIndDesc	varchar	50
		HealthIndGoal	varchar	100
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
HELP_CONTENT	Help topics and content for the application	HelpContentID	int	4
		HelpContext	varchar	50
		HelpContentSummary	varchar	1000
		HelpContent	text	16
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
HOSPITALIZATION	Patient's past hospitalizations	HospID	int	4
		CarePlanID	int	4
		HospAdmitDate	varchar	20
		HospDischargeDate	varchar	20
		HospDesc	varchar	100
		HospCmmnt	varchar	500
		HospPriority	smallint	2
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
HOSPITALIZATION_AUDIT	Audit table	AuditID	int	4
		HospID	int	4
		CarePlanID	int	4
		HospAdmitDate	varchar	20
		HospDischargeDate	varchar	20
		HospDesc	varchar	100
		HospCmmnt	varchar	500
		HospPriority	smallint	2
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
IMMUNIZATION	Patient's past immunizations	ImmunID	int	4
		CarePlanID	int	4
		ImmunDesc	varchar	60
		NumInSeriesID	smallint	2
		ImmunDate	varchar	20
		ImmunPriority	smallint	2
		Private	bit	1

		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
IMMUNIZATION_AUDIT	Audit table	AuditID	int	4
		ImmunID	int	4
		CarePlanID	int	4
		ImmunDesc	varchar	60
		NumInSeriesID	smallint	2
		ImmunDate	varchar	20
		ImmunPriority	smallint	2
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
IMMUNIZATION_LOOKUP	Lookup table for types of immunizations	ImmunID	smallint	2
		ImmunDesc	varchar	60
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
INSURANCE_PROVIDER	Patient's insurance information	InsID	int	4
		CarePlanID	int	4
		InsTypeID	smallint	2
		PolicyNum	varchar	25
		GroupNum	varchar	25
		CarrierName	varchar	50
		CarrierPhone	varchar	25
		CarrierStreet1	varchar	50
		CarrierStreet2	varchar	50
		CarrierCity	varchar	25
		CarrierState	varchar	2
		CarrierZip	varchar	10
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
INSURANCE_PROVIDER_AUDIT	Audit table	AuditID	int	4
		CarePlanID	int	4
		InsID	int	4
		InsTypeID	smallint	2
		PolicyNum	varchar	25
		GroupNum	varchar	25
		CarrierName	varchar	50
		CarrierPhone	varchar	25
		CarrierStreet1	varchar	50
		CarrierStreet2	varchar	50
		CarrierCity	varchar	25
		CarrierState	varchar	2
		CarrierZip	varchar	10
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4

		DataOpFlag	char	1
INSURANCE_TYPE	Lookup table for insurance types (Medical, Dental, Vision, etc.)	InsTypeID	int	4
		InsTypeDesc	varchar	25
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
INTERFACE_LOAD_STATUS_LOOKUP	Lookup of statuses for data we attempt to load from external systems (In Progress, Success, etc.)	LoadStatusID	tinyint	1
		LoadStatusDesc	varchar	15
INTERFACE_SOURCE	Lookup of supported external source systems (Lastword, Allscripts, Rcopia, etc.)	SrcSystemID	int	4
		SrcSystemDesc	varchar	15
IOR	Immunizations On Record (populated from external source systems and removed on session end).	SessionID	varchar	10
		PatientID	varchar	15
		SrcSystemID	tinyint	1
		SrcSystemKey	varchar	20
		ImmunizationName	varchar	50
		ImmunizationDate	varchar	20
		Private	bit	1
IOR_LOAD_STATUS	Statuses of attempts to load IOR by source system	SessionID	varchar	10
		PatientID	varchar	15
		SrcSystemID	tinyint	1
		UserID	int	4
		LoadStatusID	int	4
LANGUAGE	Lookup table of languages (English, Spanish, French, etc.)	LanguageID	smallint	2
		LanguageDesc	varchar	20
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
LIVING_ENVIRONMENT	Lookup table of living situations (alone, with family, etc.)	LivingEnvID	smallint	2
		LivingEnvDesc	varchar	25
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
LONG_TERM_GOAL	Patient's long term goals	LongTermGoalID	int	4
		LongTermGoalDesc	varchar	500
		CarePlanID	int	4

		GoalStatusID	smallint	2
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
LONG_TERM_GOAL_AUDIT	Audit table	AuditID	int	4
		LongTermGoalID	int	4
		LongTermGoalDesc	varchar	500
		CarePlanID	int	4
		GoalStatusID	smallint	2
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
MEDICATION	Patient's entered medications	MedID	int	4
		CarePlanID	int	4
		MedStartDate	datetime	8
		MedDCDate	datetime	8
		MedStatusID	smallint	2
		MedSelfRxFlag	tinyint	1
		MedRxProv	varchar	50
		MedPriority	smallint	2
		MedGenericName	varchar	50
		MedBrandName	varchar	50
		MedDirection	varchar	500
		MedUse	varchar	500
		OTCFlag	bit	1
		MedSchedBrkfst	varchar	5
		MedSchedLunch	varchar	5
		MedSchedDinner	varchar	5
		MedSchedBed	varchar	5
		MedNotTakenAsRxFlag	tinyint	1
		MedActualTakenCmmnt	varchar	500
		MedCmmnt	varchar	1000
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
MEDICATION_AUDIT	Audit table	AuditID	int	4
		MedID	int	4
		CarePlanID	int	4
		MedStartDate	datetime	8
		MedDCDate	datetime	8
		MedStatusID	smallint	2
		MedSelfRxFlag	tinyint	1
		MedRxProv	varchar	50
		MedPriority	smallint	2
		MedGenericName	varchar	50
		MedBrandName	varchar	50
		MedDirection	varchar	500
		MedUse	varchar	500
		OTCFlag	bit	1
		MedSchedBrkfst	varchar	5

		MedSchedLunch	varchar	5
		MedSchedDinner	varchar	5
		MedSchedBed	varchar	5
		MedNotTakenAsRxFlag	tinyint	1
		MedActualTakenCmmnt	varchar	500
		MedCmmnt	varchar	1000
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
MEDICATION_FREQUENCY	Lookup table of common medication frequencies (bid, tid, q4hr, etc.)	MedFreqID	smallint	2
		MedFreqAbbr	varchar	10
		MedFreqDesc	varchar	25
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
MEDICATION_LOOKUP	Lookup of medication name/strength, imported nightly from Lastword	MedCode	int	4
		MedTradeDescription	varchar	40
		MedStrengthName	varchar	40
MEDICATION_ROUTE	Lookup table of medication routes (by mouth, under skin, etc.)	MedRouteID	smallint	2
		MedRouteAbbr	varchar	10
		MedRouteVerb	varchar	15
		MedRouteLongDesc	varchar	50
		MedRouteShortDesc	varchar	25
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
MEDICATION_STATUS	Lookup of medication statuses. Either "Active", or one of a number of discontinued reasons.	MedStatusID	smallint	2
		MedStatusDesc	varchar	75
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
MEDICATION_UNIT	Lookup table of medication units (tablet, caplet, drop, etc.)	MedUnitID	smallint	2
		MedUnitDesc	varchar	25
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
MEDICATION_VALIDATION	Indication of when med list was last verified and by whom.	MedValID	int	4
		CarePlanID	int	4

		MedValDate	datetime	8
		MedValUser	varchar	50
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
MEDICATION_VALIDATION_AUDIT	Audit table	AuditID	int	4
		MedValID	int	4
		CarePlanID	int	4
		MedValDate	datetime	8
		MedValUser	varchar	50
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
MOR	Medications On Record (populated from external source systems and removed on session end).	SessionID	varchar	10
		PatientID	varchar	15
		SrcSystemID	tinyint	1
		SrcSystemKey	varchar	20
		ActiveMedFlag	varchar	1
		FacilityCode	varchar	5
		Facility	varchar	75
		MedStartDate	datetime	8
		MedStopDate	datetime	8
		MedExpirationDate	datetime	8
		MedGenericName	varchar	100
		MedTradeName	varchar	100
		MedStatus	varchar	3
		MedSelfRxFlag	varchar	1
		PrescriberLastName	varchar	50
		PrescriberFirstName	varchar	50
		PrescriberMI	varchar	1
		PrescriberDisplayName	varchar	75
		Verb	varchar	25
		Dose	varchar	25
		Range	varchar	25
		Units	varchar	25
		FrequencyCode	varchar	50
		RouteCode	varchar	25
		OrderComment	varchar	500
		AddnlComment	varchar	1600
		LatinDirections	varchar	500
		EnglishDirections	varchar	500
		PRNFlag	varchar	1
		LastUpdateDate	datetime	8
		LastUpdatedBy	varchar	75
		Private	bit	1
MOR_LOAD_STATUS	Statuses of attempts to load MOR by source system	SessionID	varchar	10
		PatientID	varchar	15
		SrcSystemID	tinyint	1
		UserID	int	4

		LoadStatusID	int	4
NEXT_STEP	Patient's next steps	NextStepID	int	4
		CarePlanID	int	4
		NextStepStatusID	smallint	2
		NextStepPriority	char	3
		NextStepDesc	varchar	500
		NextStepAuthor	varchar	50
		NextStepEntryDate	datetime	8
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
NEXT_STEP_AUDIT	Audit table	AuditID	int	4
		NextStepID	int	4
		CarePlanID	int	4
		NextStepStatusID	smallint	2
		NextStepPriority	char	3
		NextStepDesc	varchar	500
		NextStepAuthor	varchar	50
		NextStepEntryDate	datetime	8
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
NEXT_STEP_COMMENT	Patient's break-down of a next step into one or more "actions"	NextStepCmmntID	int	4
		NextStepID	int	4
		NextStepCmmnt	varchar	500
		NextStepCmmntAuthor	varchar	50
		CmmntEntryDate	datetime	8
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
NEXT_STEP_COMMENT_AUDIT	Audit table	AuditID	int	4
		NextStepCmmntID	int	4
		NextStepID	int	4
		NextStepCmmnt	varchar	500
		NextStepCmmntAuthor	varchar	50
		CmmntEntryDate	datetime	8
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
NEXT_STEP_STATUS	Lookup table of next step statuses (In Progress, Completed)	NextStepStatusID	smallint	2
		NextStepStatusDesc	varchar	25
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
NUM_IN_SERIES_LOOKUP	Lookup table for number in	NumInSeriesID	smallint	2

	series for immunizations (1, 2, 3, 4, 5, Booster)			
		NumInSeriesDesc	varchar	10
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateTime	varchar	50
PATIENT_AUTH_AGREEMENT	Record of patient's signing authorization agreement (either online or on paper)	PTAuthAgreeID	int	4
		PTAuthAgreeDate	datetime	8
		PersonID	int	4
		PTAuthAgreeState	varchar	2
		SignedOnPaper	bit	1
		PTAuthAgreeLoc	varchar	50
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PERSON_ROLE	Lookup table for primary user roles (Patient, Care Team Member, Health Professional or Technical)	PersonRoleID	int	4
		PersonRoleName	varchar	50
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PERSON_ROLE_ASSIGNMENT	Relates SCP users to a primary role	PersonID	int	4
		PersonRoleID	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PERSON_ROLE_ASSIGNMENT_AUDIT	Audit table	AuditID	int	4
		PersonID	int	4
		PersonRoleID	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
PRIVACY_ASSIGN_INVITE	Instances of privacy for invitees (relates invited Care Team Members to records marked private by the patient)	PrivacyInviteID	int	4
		CareTeamAssignInviteID	int	4
		CarePlanID	int	4
		TableID	smallint	2
		RecordID	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PRIVACY_ASSIGN_INVITE_AUDIT	Audit table	AuditID	int	4
		PrivacyInviteID	int	4
		CareTeamAssignInviteID	int	4
		CarePlanID	int	4
		TableID	smallint	2
		RecordID	int	4

		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
PRIVACY_ASSIGNMENT	Instances of privacy for Care Team Members (relates Care Team Members to records marked private by the patient)	PrivacyID	int	4
		PersonID	int	4
		CarePlanID	int	4
		TableID	smallint	2
		RecordID	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PRIVACY_ASSIGNMENT_AUDIT	Audit table	AuditID	int	4
		PrivacyID	int	4
		PersonID	int	4
		CarePlanID	int	4
		TableID	smallint	2
		RecordID	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
PRIVATE_TABLES	Lookup table for names of tables that can contain private data	TableID	smallint	2
		TableName	varchar	50
		TableDesc	varchar	500
		PrimaryKeyField	varchar	50
		DescSQL	varchar	500
		PrivacySQL	varchar	1000
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PROCEDURES	Patient's past medical procedures	ProcID	int	4
		CarePlanID	int	4
		ProcDesc	varchar	100
		ProcDate	varchar	20
		ProcCmmnt	varchar	500
		ProcPriority	smallint	2
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PROCEDURES_AUDIT	Audit table	AuditID	int	4
		ProcID	int	4
		CarePlanID	int	4
		ProcDesc	varchar	100
		ProcDate	varchar	20
		ProcCmmnt	varchar	500
		ProcPriority	smallint	2
		Private	bit	1

		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
PROCEDURES_LOOKUP	Lookup table for medical procedures	ProcID	smallint	2
		ProcDesc	varchar	100
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
REGISTERING_ORG	Lookup table for registering organizations	RegOrgID	int	4
		RegOrgName	varchar	50
		RegOrgAbbr	varchar	10
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
REGION_ZIPCODES	Relates zip codes to specific regions (Whatcom, Oregon, Lower Columbia, etc.)	RegionZipcodeID	int	4
		ZipCode	char	10
		RegionID	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
REGIONS	Lookup for regions	RegionID	smallint	2
		RegionDesc	varchar	25
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
REGISTERING_ORG_ASSIGNMENT	Relates SCPs to the organization who registered the patient for one	RegOrgID	int	4
		CarePlanID	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
REGISTERING_ORG_ASSIGNMENT_AUDIT	Audit table	AuditID	int	4
		RegOrgID	int	4
		CarePlanID	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
RELATIVE	Relative (for family history)	RelativeID	int	4
		CarePlanID	int	4
		RelativeTypeID	int	4
		RelativeName	varchar	100
		DeceasedFlag	bit	1
		AgeAtDeath	varchar	100
		RelativePriority	int	4
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
RELATIVE_AUDIT	Audit table	AuditID	int	4

		RelativeID	int	4
		CarePlanID	int	4
		RelativeTypeID	int	4
		RelativeName	varchar	100
		DeceasedFlag	bit	1
		AgeAtDeath	varchar	100
		RelativePriority	int	4
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
RELATIVE_CONDITION	Relative's condition (for family history)	RelativeConditionID	int	4
		RelativeID	int	4
		CommonDiseaseID	int	4
		DiseaseOther	varchar	100
		AgeDiagnosedID	int	4
		CauseOfDeathFlag	bit	1
		Comment	varchar	500
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
RELATIVE_CONDITION_AUDIT	Audit table	AuditID	int	4
		RelativeConditionID	int	4
		RelativeID	int	4
		CommonDiseaseID	int	4
		DiseaseOther	varchar	100
		AgeDiagnosedID	int	4
		CauseOfDeathFlag	bit	1
		Comment	varchar	500
		Private	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
RELATIVE_TYPE	Lookup for types of relatives	RelativeTypeID	int	4
		RelativeTypeName	varchar	50
		RelativeTypeHelp	varchar	50
		RecCreateDate	datetime	8
ROR	Reactions On Record (populated from external source systems and removed on session end).	SessionID	varchar	10
		PatientID	varchar	15
		SrcSystemID	tinyint	1
		SrcSystemKey	varchar	20
		ReactType	varchar	15
		ReactSubstance	varchar	50
		Reaction	varchar	500
		ReactDate	varchar	20
		InitDateDocumented	datetime	8

		InitDocumentedBy	varchar	70
		LastUpdateDate	datetime	8
		LastUpdatedBy	varchar	70
		Private	bit	1
ROR_LOAD_STATUS	Statuses of attempts to load ROR by source system	SessionID	varchar	10
		PatientID	varchar	15
		SrcSystemID	tinyint	1
		UserID	int	4
		LoadStatusID	int	4
SCP_DISPLAY_PREF	Indicates users preferences as to which tabs to display for each SCP	CarePlanID	int	4
		DispCareTeamFlag	bit	1
		DispAboutMeFlag	bit	1
		DispDiagnosesFlag	bit	1
		DispNextStepsFlag	bit	1
		DispHealthLogFlag	bit	1
		DispMedicationsFlag	bit	1
		DispReactionsFlag	bit	1
		DispHistoryFlag	bit	1
		DispAdvance_DirectivesFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
SECRET_QUESTION	Lookup table for secret questions used when a user resets his/her password	SecretQuestionID	int	4
		SecretQuestionDesc	varchar	150
		SortOrderNum	smallint	2
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
SECURITY_BREACH_LOG	Log of possible attempts at security breach using SQL injection	SecBreachID	int	4
		StrSQL	varchar	500
		LOCAL_ADDR	varchar	200
		LOGON_USER	varchar	200
		PATH_INFO	varchar	200
		PATH_TRANSLATED	varchar	200
		QUERY_STRING	varchar	200
		REMOTE_ADDR	varchar	200
		REMOTE_HOST	varchar	200
		REMOTE_USER	varchar	200
		REQUEST_METHOD	varchar	200
		SCRIPT_NAME	varchar	200
		SERVER_NAME	varchar	200
		SERVER_PORT	varchar	200
		SERVER_PORT_SECURE	varchar	200
		URL	varchar	200
		HTTP_USER_AGENT	varchar	200
		HTTP_COOKIE	varchar	200
		HTTP_REFERER	varchar	200
		RecCreateDate	datetime	8

SECURITY_CLASS	Lookup table for security classes (Clinical, Clinical Admin, Fully Edit, View Only, etc.)	SecClassID	smallint	2
		SecClassName	varchar	30
		SecClassDesc	varchar	100
		SecClassCategory	varchar	15
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
SHARED_CARE_PLAN	Shared Care Plan data	CarePlanID	int	4
		ContactPhoneID	int	4
		LanguageID	smallint	2
		LanguageCmmnt	varchar	500
		LivingEnvID	smallint	2
		BloodTypeID	smallint	2
		ClinicalAccessSecClassID	smallint	2
		ClinicalMORAccess	bit	1
		ClinicalRORAccess	bit	1
		ClinicalIORAccess	bit	1
		CarePlanCreateDate	datetime	8
		Emerg1ContactName	varchar	50
		Emerg1ContactPhone	varchar	25
		Emerg1AltPhone	varchar	25
		Emerg2ContactName	varchar	50
		Emerg2ContactPhone	varchar	25
		Emerg2AltPhone	varchar	25
		OneItem	varchar	500
		InternetAccessFlag	bit	1
		InternetAccessCmmnt	varchar	500
		ChallngVisionFlag	bit	1
		ChallngHearingFlag	bit	1
		ChallngMobilityFlag	bit	1
		ChallngTranslatorFlag	bit	1
		ChallngTransportationFlag	bit	1
		ChallngSpeechFlag	bit	1
		ChallngOtherFlag	bit	1
		ChallngCmmnt	varchar	500
		DietIssueFlag	bit	1
		DietCmmnt	varchar	500
		ReligionFlag	bit	1
		ReligionCmmnt	varchar	500
		LivingEnvCmmnt	varchar	500
		AdvDirFlag	bit	1
		POLSTFlag	bit	1
		PowerOfAttyFlag	bit	1
		LegalDocCmmnt	varchar	500
		LearnReadFlag	bit	1
		LearnTalkFlag	bit	1
		LearnShowFlag	bit	1
		LearnTapeFlag	bit	1
		LearnVisualFlag	bit	1
		LearnCmmnt	varchar	500
		WorrySelfMngFlag	bit	1

		WorryFinancialFlag	bit	1
		WorryCareAccessFlag	bit	1
		WorryEmotionalFlag	bit	1
		WorryFamilyFlag	bit	1
		WorrySpiritualFlag	bit	1
		WorryThinkingFlag	bit	1
		WorryEndOfLifeFlag	bit	1
		WorryOtherFlag	bit	1
		WorryCmmnt	varchar	500
		AdditionalInfo	varchar	500
		NewPlanEmailFlag	bit	1
		SCPInactiveFlag	bit	1
		ReasonForInactive	varchar	500
		InformedConsentWithdrawn	bit	1
		DateInformedConsentWithdrawn	datetime	8
		HIPAAAuthWithdrawn	bit	1
		DateHIPAAAuthWithdrawn	datetime	8
		NoInsurance	bit	1
		NoDiagnoses	bit	1
		NoPrescribedMeds	bit	1
		NoAdditionalMeds	bit	1
		NoKnownAllergies	bit	1
		NoContraindications	bit	1
		NoImmunizations	bit	1
		NoProcedures	bit	1
		NoHospitalizations	bit	1
		NoADs	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
SHARED_CARE_PLAN_AUDIT	Audit table	AuditID	int	4
		CarePlanID	int	4
		ContactPhoneID	int	4
		LanguageID	smallint	2
		LanguageCmmnt	varchar	500
		LivingEnvID	smallint	2
		BloodTypeID	smallint	2
		ClinicalAccessSecClassID	smallint	2
		ClinicalMORAccess	bit	1
		ClinicalRORAccess	bit	1
		ClinicalIORAccess	bit	1
		CarePlanCreateDate	datetime	8
		Emerg1ContactName	varchar	50
		Emerg1ContactPhone	varchar	25
		Emerg1AltPhone	varchar	25
		Emerg2ContactName	varchar	50
		Emerg2ContactPhone	varchar	25
		Emerg2AltPhone	varchar	25
		OneItem	varchar	500
		InternetAccessFlag	bit	1
		InternetAccessCmmnt	varchar	500
		ChallngVisionFlag	bit	1
		ChallngHearingFlag	bit	1

		ChallngMobilityFlag	bit	1
		ChallngTranslatorFlag	bit	1
		ChallngTransportationFlag	bit	1
		ChallngSpeechFlag	bit	1
		ChallngOtherFlag	bit	1
		ChallngCmmnt	varchar	500
		DietIssueFlag	bit	1
		DietCmmnt	varchar	500
		ReligionFlag	bit	1
		ReligionCmmnt	varchar	500
		LivingEnvCmmnt	varchar	500
		AdvDirFlag	bit	1
		POLSTFlag	bit	1
		PowerOfAttyFlag	bit	1
		LegalDocCmmnt	varchar	500
		LearnReadFlag	bit	1
		LearnTalkFlag	bit	1
		LearnShowFlag	bit	1
		LearnTapeFlag	bit	1
		LearnVisualFlag	bit	1
		LearnCmmnt	varchar	500
		WorrySelfMngFlag	bit	1
		WorryFinancialFlag	bit	1
		WorryCareAccessFlag	bit	1
		WorryEmotionalFlag	bit	1
		WorryFamilyFlag	bit	1
		WorrySpiritualFlag	bit	1
		WorryThinkingFlag	bit	1
		WorryEndOfLifeFlag	bit	1
		WorryOtherFlag	bit	1
		WorryCmmnt	varchar	500
		AdditionalInfo	varchar	500
		NewPlanEmailFlag	bit	1
		SCPInactiveFlag	bit	1
		ReasonForInactive	varchar	500
		InformedConsentWithdrawn	bit	1
		DateInformedConsentWithdrawn	datetime	8
		HIPAAAuthWithdrawn	bit	1
		DateHIPAAAuthWithdrawn	datetime	8
		NoInsurance	bit	1
		NoDiagnoses	bit	1
		NoPrescribedMeds	bit	1
		NoAdditionalMeds	bit	1
		NoKnownAllergies	bit	1
		NoContraindications	bit	1
		NoImmunizations	bit	1
		NoProcedures	bit	1
		NoHospitalizations	bit	1
		NoADs	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1

SIGN_UP	Information entered by users attempting online registration	SignUpID	int	4
		FirstName	varchar	50
		MiddleInit	varchar	1
		LastName	varchar	50
		BirthDate	datetime	8
		Gender	varchar	1
		SocSecNum	int	4
		EmailAddress	varchar	50
		EmailPrefFlag	bit	1
		RequestedLoginName	varchar	25
		Street1	varchar	50
		City	varchar	25
		State	varchar	2
		ZipCode	varchar	10
		PhysicalAddrDescID	smallint	2
		TelecomNumber	varchar	25
		TelecomDevTypeID	smallint	2
		TelecomNumDescID	smallint	2
		SecretQuestion	varchar	150
		SecretAnswer	varchar	25
		PersonRoleID	int	4
		Status	varchar	25
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		RecCreateIP	varchar	19
SIGN_UP_AUDIT	Audit table	AuditID	int	4
		SignUpID	int	4
		FirstName	varchar	50
		MiddleInit	varchar	1
		LastName	varchar	50
		BirthDate	datetime	8
		Gender	varchar	1
		SocSecNum	int	4
		EmailAddress	varchar	50
		EmailPrefFlag	bit	1
		RequestedLoginName	varchar	25
		Street1	varchar	50
		City	varchar	25
		State	varchar	2
		ZipCode	varchar	10
		PhysicalAddrDescID	smallint	2
		TelecomNumber	varchar	25
		TelecomDevTypeID	smallint	2
		TelecomNumDescID	smallint	2
		SecretQuestion	varchar	150
		SecretAnswer	varchar	25
		PersonRoleID	int	4
		PHEmployeeFlag	bit	1
		Status	varchar	25
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		RecCreateIP	varchar	19

		AuditUserID	int	4
		DataOpFlag	char	1
TERMS_OF_USE_AGREEMENT	Record of patient's online "signing" (clicking) of the web application's terms of use legal document	TOUAgreeID	int	4
		TOUAgreeDate	datetime	8
		PersonID	int	4

2. Person Database Schema

Table Name	Table Description	Column	Type	Length
EMAIL_ADDRESS	Users' email addresses and preference as to whether they want to receive periodic updates	PersonID	int	4
		EmailAddress	varchar	50
		EmailPrefFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
EMAIL_ADDRESS_AUDIT	Audit table	AuditID	int	4
		PersonID	int	4
		EmailAddress	varchar	50
		EmailPrefFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
EMR_PROVIDER_FAC	Lookup table of Facilities using EMR	EMRProvFacID	int	4
		FacilityName	varchar	100
		InactiveFlag	bit	1
		SortOrderNum	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		StorageForm	varchar	50
		InputForm	varchar	100
EMR_USER	Relates users to their EMR user numbers	PersonID	int	4
		EMRUserNum	varchar	10
		EMRUserNumInt	int	4
		EMRProvFacID	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
EMR_USER_AUDIT	Audit table	AuditID	int	4
		PersonID	int	4
		EMRUserNum	varchar	10
		EMRUserNumInt	int	4
		EMRProvFacID	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1

PERSON	SCP users	PersonID	int	4
		SocSecNum	varchar	9
		FirstName	varchar	25
		LastName	varchar	40
		MiddleInit	char	1
		BirthDate	datetime	8
		Gender	char	1
		SecretQuestion	varchar	150
		SecretAnswer	varchar	25
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PERSON_AUDIT	Audit table	AuditID	int	4
		PersonID	int	4
		SocSecNum	varchar	9
		FirstName	varchar	25
		LastName	varchar	40
		MiddleInit	char	1
		BirthDate	datetime	8
		Gender	char	1
		SecretQuestion	varchar	150
		SecretAnswer	varchar	25
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
PERSON_ID_CROSSWALK	Crosswalks PersonID (used within SCP) to EMR Medical Record Number & EMR Patient Pointer	PersonID	int	4
		EMRMRN	varchar	10
		EMRPtptr	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PERSON_ID_CROSSWALK_AUDIT	Audit table	AuditID	int	4
		PersonID	int	4
		EMRMRN	varchar	10
		EMRPtptr	int	4
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
PHYSICAL_ADDRESS	Users' physical addresses	PhysicalAddrID	int	4
		PersonID	int	4
		Street1	varchar	50
		Street2	varchar	50
		City	varchar	25
		State	varchar	2
		ZipCode	varchar	10
		PhysicalAddrDescID	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
PHYSICAL_ADDRESS_AUDIT	Audit table	AuditID	int	4

		PhysicalAddrID	int	4
		PersonID	int	4
		Street1	varchar	50
		Street2	varchar	50
		City	varchar	25
		State	varchar	2
		ZipCode	varchar	10
		PhysicalAddrDescID	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
PHYSICAL_ADDRESS_DESC	Lookup of physical address descriptions (Home, Work, Mailing)	PhysicalAddrDescID	smallint	2
		PhysicalAddrDesc	varchar	25
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
RESET_PASSWORD	Used for reset password process	ResetPasswordID	uniquidentifier	16
		PersonID	int	4
		EmailAddress	varchar	50
		HasBeenReset	bit	1
		RecCreateDate	datetime	8
		PasswordResetDate	datetime	8
SYSTEM_LOGIN	Users' login information (including whether theirs is a native SCP login or an NT Domain login (for employees).	PersonID	int	4
		LoginName	varchar	15
		LoginPassword	varchar	60
		ChangePasswordFlag	bit	1
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
SYSTEM_LOGIN_AUDIT	Audit table	AuditID	int	4
		PersonID	int	4
		LoginName	varchar	15
		LoginPassword	varchar	60
		ChangePasswordFlag	bit	1
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
TELECOM_DEVICE_TYPE	Lookup table for telecom device types (Telephone, Fax, Cell Phone, Pager)	TelecomDevTypeID	smallint	2
		TelecomDevTypeDesc	varchar	25
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
TELECOM_NUMBER	Phone numbers	TelecomNumID	int	4

		PersonID	int	4
		TelecomNumber	varchar	25
		TelecomDevTypeID	smallint	2
		TelecomNumDescID	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
TELECOM_NUMBER_AUDIT	Audit table	AuditID	int	4
		TelecomNumID	int	4
		PersonID	int	4
		TelecomNumber	varchar	25
		TelecomDevTypeID	smallint	2
		TelecomNumDescID	smallint	2
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50
		AuditUserID	int	4
		DataOpFlag	char	1
TELECOM_NUMBER_DESC	Lookup table for telecom device descriptions (Home, Work)	TelecomNumDescID	smallint	2
		TelecomNumDesc	varchar	25
		InactiveFlag	bit	1
		RecCreateDate	datetime	8
		RecCreateUser	varchar	50

Regular Maintenance Activities

1. Maintenance Activities Performed Manually

Task	Method	Schedule
Remove Duplicate People: A variety of circumstances regularly occur that may introduce duplicate people into the Person database (inviting Care Team members, name changes, importing user records, etc.).	"Duplicate Person Tool" available from the Administrator tab	Every 6 months
Purge Unauthorized Shared Care Plans: Sometimes people register for a Shared Care Plan and then never login. In these cases, SCPs end up sitting in the database empty and unauthorized.	First, make an attempt to contact users either by email or US mail to urge them to log in and authorize their SCPs. If users do not respond after a set amount of time, delete their SCPs and registration records from the system.	Every 6 months
Audit Security Roles: Review the assignment of the Security Roles to make sure only appropriate users have been assigned these roles (especially the Administrator and Registrar roles).	"Audit Security Roles" tool available from the Administrator tab	Every 6 months
Audit Shared Care Plan Usage: Two different types of usage audits should be performed: 1) random audits and 2) routine audits. For more information about auditing, please refer also to the "Audit Functionality" section in this guide.	Random audits consist of randomly choosing several Shared Care Plans and reviewing the audit trails for any suspect activity. Routine audits are more targeted and involved reviewing audit trails for any patients that may be of public interest, patients who have family members with clinical access to the Shared Care Plan, and other likely scenarios for breach of confidentiality.	Every 3 months

2. Maintenance Activities Performed Automatically by System

Task	Method	Schedule
Export list of electronic medical record (EMR) medical record numbers (MRNs) for patients who have SCPs (used by the EMR to display a message when one of these patients is activated)	DTS Package	Daily, 11:00 PM
Export SCP demographics information for upload to Dr First RCopia (in order to display RCopia data in the SCP)	Stored Procedure	Daily, 2:15 AM

Import medication-related lookup tables from our EMR Data Warehouse (ROUTE, UNITS, FREQUENCY, FACILITY)	Stored Procedure	Daily, 4:00 AM
Import List of Medications from our EMR Data Warehouse	DTS Package	Daily, 5:00 AM
For non-XML based interfaces, perform any processing required to bring the data into a format that can be utilized by the SCP (e.g., AllScripts)	Stored Procedures	Daily, 5:00 AM

Marketing Ideas

The following informational and marketing materials were developed to promote the Shared Care Plan.

Brochure – Explains the SCP in some detail with bullet points, pictures and user comments.

Paper SCP – Print version of the SCP, also available to download online.

Logo label – 2.5" round label with the SCP logo.

Contact card – User support card that is sent to people as they are registered which gives them a list of places to go to for help and also provides them a place to keep their username and password.

Table tent – Has SCP tag lines and directs viewer where to go for more information or to sign up on one side, provides information about the SCP on the other.

Med card – A foldable card with SCP tag lines which directs viewer where to go for more information or to sign up on one side, promotes the SCP on the other and has a blank wallet size med list on the inside.

Rx Sticker – The clinician "prescribes" a Shared Care Plan by placing one of these stickers on a prescription pad, signing it and giving it to the patient.

Rx sticky notepad – Similar to the Rx sticker except in a pad of sticky notes. Each sheet can be torn off and handed to the patient like a prescription.

Button – 2" square button with the SCP logo and the words "ASK ME how to get your own Shared Care Plan Personal Health Record" around the outside.

Poster – Glossy poster has SCP tag lines and directs viewer where to go for more information or to sign up. Available in two sizes, **18" x 24"and 11" x 17".**

Window cling – The words "We Support Your Personal Health Record The Shared Care Plan" surround the SCP logo. Removable cling with static on the face to be placed inside a window.

Name label – A label with the Shared Care Plan title and tag line along with space for the patient's name is perfect for the outside of a folder, envelope or packet of some sort.

Shared Care Plan Credits

Shared Care Plan Team:

- Dawn Gauthier - technical manager and lead designer
- Tom Highfield - web and database developer

Previous Shared Care Plan Team members:

- Kelly Hawkins - graphic designer and end user support specialist
- Jonathan King - web and database developer
- Jayson Olson - web and database developer
- Annie Gort - web content coordinator

Additional Support:

- Patients and healthcare professionals in the communities of Whatcom County, Washington, and Eugene, Oregon
- Participants and staff of the Whatcom County Pursuing Perfection Program
- Participants and staff of the PeaceHealth AHRQ Medication Safety Project
- PeaceHealth Information Services (HID)
- Whatcom Health Information Network, LLC (HInet)

Known Issues and Future Enhancements

Section	Short Description	Long Description	Priority
Medications	New way to deal with historic comments when changing a med (directions, dose, etc.).	Several potential enhancements were discussed: 1) Allow a Comment to be entered when DC'ing a med. 2) Have a separate subtab (or some other way to show it) for "Changed Meds". Users feel that doctors won't look under "Discontinued Meds" to see changes. 3) Want a way to "copy" a DC'd med to the Active list, to avoid excess data entry.	1 (Critical)
System	Create Bulk Email Bounce-Back Process	When we send a bulk email, we should have a process in place to deal with the undeliverable messages. This process might involve contacting those individuals in another way to encourage them to update their information. The process would most likely involve development of a Gammadyne program for processing bounce-backs.	2 (High)
Printout	Add patient's home address to printout version	Add patient's home address to the About Me section.	2 (High)
System	Reduce or eliminate use of SSN in application		2 (High)
Reporting	Deleting Persons or SCPs doesn't affect Reporting	The stats look at records from the audit tables (AUDIT_VIEW_CARE_PLAN) which are not altered when a person or SCP is deleted. However, when we do our queries, we use SQL JOINS, to check for things like the users' roles. Currently, it uses LEFT OUTER JOINS, meaning that a record doesn't have to exist in the PERSON_ROLE_ASSIGNMENT table to end up with a record in the result set. We could use an INNER join instead, which would mean that there would have to be a current record in the PERSON_ROLE_ASSIGNMENT table to end up with a record in the result set. And I believe that a person's record in the PERSON_ROLE_ASSIGNMENT table IS deleted when the person is deleted.	2 (High)
System	Replace vbcrlf chars with HTML line breaks when displaying comments	In a number of places, carriage returns entered by the user are ignored when displaying their data. Should display/print the data the way they entered it.	2 (High)
System	Minimize ability to spawn child browser windows	If a browser window is spawned (using File > New Window OR when we "_BLANK" or "_NEW" when opening a URL) they two browser windows will share session variables. So then, if either one of the windows is used to switch to a different care plan, they are both switched. The problem is, until the screen is refreshed, the original window will still show the patient information for the first care plan and it is easy to edit the information, thinking you are still editing for the original care plan.	2 (High)
Reactions, Next Steps	Add Sort buttons where they make sense	There are still a number of tables on tabs that don't have Sort buttons (e.g., Reactions, Contraindications, Next Steps, etc.). Add Sort buttons to any of these tables where they make sense.	2 (High)

System	Redesign checkboxes	1) Use radio buttons for single select and checkboxes for multiple select 2) Get rid of open list boxes (replace with radio buttons) 3) Use DHTML to have label next to check box clickable to check the box (larger target is easier for elder users). Highlight labels as user floats mouse cursor over them so it's easy to tell what will be checked.	2 (High)
Printout	Consider giving option to print out SCP with extra blank lines to facilitate interim "manual" usage		2 (High)
Medications	Be able to record specific doses of PRN meds	This is an interesting idea, but needs discussion. It adds robustness to the tool, but may only be useful to a subset of users.	2 (High)
New Feature	Add archiving functionality	Idea to support long-term SCP usage: provide ability to archive information at record level using an "archive" flag. This way the SCP can still be a perpeptual PHR and also still support day-to-day healthcare usage without becoming unwieldy. (Particularly health indicators.) May need to use sublinks to access archived items.	2 (High)
System	Consistentize all data entry forms for dates, phone numbers, SSN	Use data masks, auto tabbing, and idea for flexible date entry (allowing approx. dates). Add extension field for phone numbers. Definitely don't require the use of slashes for dates!	2 (High)
Registration	Pull "My Registration" content into SCP Home for easier access	Discuss in context of Registration redesign	2 (High)
System	Limit width of text blocks	Limit width of text blocks in CSS for easier on-screen reading.	2 (High)
System	Freshness dating	Revamp "freshness dating" information. Have patient date stamp own info? More discussion needed.	2 (High)
Printout	Generate intake form	Explore opportunity to generate an intake form out of the SCP that can be used anywhere in the community. Would add huge value for patients and healthcare professionals.	2 (High)
New Feature	Next visit notes feature	Create way in SCP to facilitate management of items to discuss with doctor at next visit. Be able to flag records as "discuss with doctor"? Could print out a brief report of everything you want to discuss with your doctor. Or, try to highlight these flagged items somehow in the full-size printout. A great idea to have the SCP support interactions with healthcare professionals: provide a way for users to flag any record in the SCP as an item they would like to discuss with their doctor(s) at the next visit. They could attach a comment to that record and be able to print out the contents of the "shopping cart" with all the items and comments they want to discuss before going to the visit. Shopping cart analogy is probably not totally appropriate, but is certainly a well-known concept on the web. Huge self-management potential.	2 (High)
Medications	Find source for medication lookups that includes pictures of meds		2 (High)
Care Team	Tweaks to invite Care Team Member process	A couple things to improve: 1) The error message the invited CTM gets after not matching the demographics is smashed up against the top banner and looks bad. 2) Add a "resend this invitation" function so that patients can make corrections and send an invite again after a failure.	3 (Medium)

Medications	Double postback when discontinuing a med	If Discontinuing a med and you forget to put in a reason, hitting "go back" takes you back to the meds screen, not the discontinue screen as expected.	3 (Medium)
System	Change [Save Changes] buttons to just [Save]	The term [Save Changes] can confuse when adding *new* information.	3 (Medium)
System	Review data entry screens for consistency	Make sure field order is consistent when possible (dates always first, etc.), examine which fields are required and why, and add asterisks to all required fields.	3 (Medium)
Registration	Streamlined registration tabs sometimes persist in inappropriate contexts	In "streamlined" registration (leads the registrar through tab-by-tab to manually register a new user), the address and phone tabs do not highlight when you're on those tabs like the other ones still do (it might be disorienting to not indicate by the tabs where users are in the process). Also in streamlined registration, if a user navigates away before completing the workflow, other tabs in the application pick up the streamlined registration tab behavior. The tabs only returned to normal when starting a new session.	3 (Medium)
Advance Directives	Clean up Advance Directives page	In the spirit of moving more content nearer to the top of the screen: 1) Move Acrobat notice below the table 2) put downloadable documents side by side without numbering and directly beneath "If you don't already have..." (eliminate as much white space as possible)	3 (Medium)
About Me	Include height, weight, and photo of patient on About Me page		3 (Medium)
HealthWise	Add hyperlinks to HealthWise in add/search sections	Hyperlink the lists of DXs, Meds, procedures, immunizations, and family health history into HealthWise so patients can get more info BEFORE adding these to their SCP.	3 (Medium)
System	Control "Key to symbols" portion of footer by code	So it only shows up when relevant.	3 (Medium)
Care Team	Changes to Invite Care Team Member process	A few things that could be improved: 1) Auto-populate the CTM's phone number when invited/added to Care Team 2) Auto-populate the CTM's email address when invited/added to Care Team, 3) if an invitation fails, allow patient to modify (if necessary) and re-send the original invitation, instead of having to delete the original and re-create another one	3 (Medium)
On Record	Remove buttons from "On Record" page for view-only Care Team Members	Function buttons are still visible for view-only CTMs in the On Record pages. (Even though they seem to be inactive) The "add to..." column and function buttons along the bottom should be hidden from view-only CTMs.	3 (Medium)
Printout	Add printout options for audit trail and on each tab	1) Add ability to print out audit trail. 2) Provide a button to quickly print out just a single tab of content right from the each of the tabs.	3 (Medium)
New Feature	Create notarizable registration form	Patients can print and fill out, get notarized, and mail in. Accommodates users without an EMR account for proof of ID.	3 (Medium)
System	Add information icons throughout application	Could be added to Care Team, About Me, Goals, etc.	3 (Medium)
System	Make gender fields consistent	Spell out words, use list box format.	3 (Medium)

Printout	Add ability to print out the On Record Comparison pages	Probably makes sense to offer this print option right from the "On Record" page only. Might make sense to offer the print version of "On Record" info only from this page as well to unclutter the main printout option screen.	3 (Medium)
Next Steps	Adjust layout of Next Steps	Re-think the order of sections on this page. Remove the word "action" from Next Steps. Re-design display for clarity.	3 (Medium)
About Me	Redesign About Me tab	Put content into tables. Allow comments for each check box item. Add field to specify "other" challenges. Do not show unchecked content on main page. Add triangles to each question.	3 (Medium)
New Feature	Add "approximate date" functionality	Since many patients are uncomfortable "fudging" an exact date (sometimes they won't add important information at all if they can't come up with the required exact date), and date formats need to be standardized for data quality, add ability for patients to mark an exact date as "approximate". For example, the date diagnosed would be 1/1/1940, but the patient could check a box that would indicate that the date is approximate. We were amazed at the positive feedback we got from patients when we suggested this simple approach to them.	3 (Medium)
System	Obviate upper right-hand links more	Make them bold, stand out from the banner more somehow.	3 (Medium)
Health Log	Redesign Health Log Table Layout	Several people have had some confusion over the layout of the Health Log table (different types of rows, no column headings, etc.). Alter the design to be a more clear. It is especially confusing until a person has entered multiple results. Then, it starts to look a little more obvious what's going on. One additional suggestion was to expand the list of Health Indicators, i.e., blood tests, by making a search window available (similar to other areas in the web site).	3 (Medium)
Printout	Ideas to enhance wallet-size summary	1. Shading behind section headers to make them more prominent but not easily confused with data. 2. Page #'s on the cells.	3 (Medium)
New Feature	Make SCP compatible with screen reading software	Make SCP compatible with screen reading s/w. Look into Adobe 508 compatible reader.	3 (Medium)
New Feature	Add health indicator graphing capability	Add graphing capabilities for health indicators on the Health Log tab.	3 (Medium)
Diagnoses	Auto-populate diagnosis descriptions	Auto-populate available diagnoses with brief, editable, plain-language descriptions.	3 (Medium)
History	More patient-friendly lookup table for procedures	Use a more patient-friendly lookup list for the "Procedures and Surgeries" section of the History tab.	3 (Medium)
Registration	Change "My Registration" to "Edit My Account" or "Edit My Settings"	Make sure to find all occurrences of "My Registraton" in code, help content, screen shots, hard copy material, etc.	3 (Medium)
System	Tabs need to still be hyperlinked in certain contexts	Throughout application, tabs should not be hyperlinked ONLY when user is on that EXACT page. Users often try to use tabs to escape from edit pages, but tab link is inactive.	3 (Medium)
New Feature	Add Proxy access level	Proxy access, while needed, is a ton of legal and process work for a very small ROI, as the requirements usually end up so onerous that users just do an end-run around them.	3 (Medium)
System	Stop people who don't have javascript enabled	Users need to have javascript for the SCP to work. Redirect users who do not have javascript to a page that explains the requirements.	4 (Low)

Registration	Adding a "Technical" person aborts "Streamlined Registration"	This is a "legacy" bug. There are a number of decision points based on a session variable, "RegType" having the substring "Add" in it. The problem is...in AddRegDataOp it's set as follows: Patient = "AddPatient" Health Professional = "AddClinician" Care Team Member = "AddOther" Technical = NULL (never set) There's a little more to this change than might first appear, because there are quite a few decision points based on this and I need to determine the best way to solve the problem so I don't break something else.	4 (Low)
Announcements	Link on Announcements page should return to Guest.asp not Default.asp under guest login	Link is "return to home"	4 (Low)
New Feature	Spirituality Tab	Investigate & create a spirituality tab. Possibly include tools for research.	4 (Low)
Printout	Allow user to exceed 200 char limit on wallet size printout	Currently, only the first 200 chars of any field are duplicated on the wallet size printout followed by the phrase "...". If a patient wants the entire field on their wallet size printout, they should be able to have it. One idea would be to prompt them when they exceed 200 chars. Another idea would be to make it a settable preference.	4 (Low)
Administrator	Enhancements to duplicate person tool	Be able to compare registration summaries; merge function; delete the duplicate in same workflow. Only show one instance of duplicate (currently shows duplicates for each record); zebra stripe the found duplicates for easier viewing; figure out why some dupes show a blank name	4 (Low)
Registration	Make sure [continue] button is directly below last field on screens	Annoying to have to scroll down each time to click these buttons	4 (Low)
System	Reconsider "open selection box" design	Unusual data entry easily confuses users.	4 (Low)
New Feature	Emergency access login	Allow patient to create an "emergency login" for their SCP. Patient could carry in wallet and use as needed. Login would be audited as "on the behalf" of a specific patient with clear understanding that the patient giving this card for access indicates their consent. Low priority because these "emergency logins" already exist with many PHRs out there and our ER manager claimed they NEVER actually see or much less use these in the ER.	4 (Low)
Next Steps	Remove ghost column seen by view-only users	View-only users see a "ghost column" (the column where the action buttons usually are) on Next Steps	4 (Low)
System	Change [continue] button to [yes] where appropriate	When deleting a record, the confirmation screen asks "Are you sure you want to remove this XXX from your Shared Care Plan?" "Yes" is the correct syntax.	4 (Low)
New Feature	Allow Clinicians to "Check Out" an SCP to their PC	Clinicians are doing a lot of redundant data entry when they have to go out "in the field" to a patient's residence and take notes, then come back to the office and enter the information into their SCP. Create ability to syncronize disconnected record sets.	4 (Low)
Care Team	Simplify Care Team Member add process	Redesign add Care Team Member process to simplify workflow.	4 (Low)
Printout	PDF print version	Convert full SCP print version to use PDF. Helps standardize printouts.	4 (Low)

New Feature	Add save changes and timeout warnings	Alert "Are you sure you want to change tabs without saving changes?" when navigating to another tab without clicking [save changes]. Use javascript to detect any changes in form. Also give warning when application is about to time out on users so if they've been working on something for 30 minutes they can prevent loosing it.	4 (Low)
New Feature	Make your own tab	Build utility for users to create their own tabs to track/record anything they want.	5 (Very Low)
New Feature	Allow users to choose order of tabs.	Which page plan defaults to is set by user. User can set a global default for all SCPs.	5 (Very Low)
Medications	Add place to track the time left before refill needed on meds	Ideally, would be able to alert patient about refills and needing new RXs.	5 (Very Low)
New Feature	Palm synchronization	Synch the SCP to a palm or cell phone.	5 (Very Low)
New Feature	Email alerts	Robust reminders for patients via email. They can select which ones and create their own.	5 (Very Low)
System	Relative positioning for banner, toolbar, & tabs	Redo styles using relative positioning so banner and tab areas can grow if necessary to accommodate large fonts and tab wrap-around.	5 (Very Low)
Printout	Auto-sync printable version with rest of app	Rebuild the printable version so it auto-synchs with any changes in the app. Saves time.	5 (Very Low)
HealthWise	Better Healthwise KB usage	Improve usage of Healthwise KB in application. More precise linking; more obvious access, etc.	5 (Very Low)
Advance Directives	Generalize the Advance Directives page to become a healthcare document manager.	There are many paper forms that patients would like to keep handy in their SCPs, not just AD forms. (Document management was the original intent of this tab, but the scope was tightly controlled for research purposes)	3 (Medium)