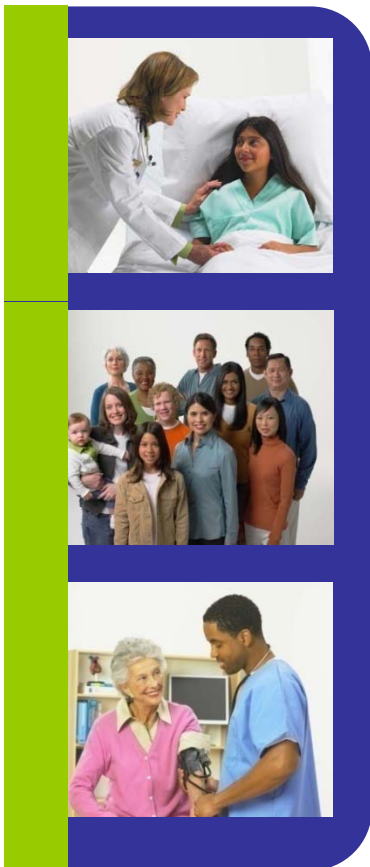




**Brent Antony, Chief Information Officer**  
**Regina V. Shepherd, Esq., Privacy Officer**

**SharedHealth**<sup>®</sup>  
Transforming Care

**Bruce H. Taffel, M. D.**  
**Vice President and Chief Medical Officer**  
**Jennifer Adams, J.D.**  
**Compliance, Privacy & Security Officer**





# Driving Adoption by Design



# Building Adoption: What Clinicians Tell Us

- **Clinically Relevant Data**

- Accurate
- Reliable
- Timely
- Meaningful
- Credible, evidence based (nationally vetted guidelines)

- **Rapidly Comprehended Information**

- Clear
- Concise

- **Tools That Do Not Degrade (Ideally Enhance) Workflow**

- Naturally integrates with practice processes
- Accelerates typical tasks within a patient encounter

- **Applications That Are Context Sensitive**

- Patient centered
- Practice centered



## What Does It Take to Make a Usable System?

- **Robust Repository of Timely Data – A Merge of:**
  - Administrative data (ubiquitous, “standardized” and **non-siloed**)
  - “Sparse” clinical data sets
- **Analytics Engine – Business Intelligence Applied to Health Care**
  - Library of nationally recognized, rules based algorithms
  - Sensitive to EBM compliance in both patient and population contexts
- **System Generated Alerts (Use Sparingly)**



## What Does It Take to Make a Usable System? (con't)

- **Rationally Summarized Data**
  - Analyze large volumes of data to return immediately actionable information
  - Enhance evaluative efficiency
- **Electronic Forms and Registries**
  - Guide data input and rendering based on patient condition context
  - Helps to assure the EBM collection and recording of condition specific data
- **Electronic Order Sets: Assure EBM Process Events and Therapies**
- **Pertinent and Constantly Updated Knowledge Base and Resources**



# Summary Screen: Critical Information

999586583 DOE John M/38 years 03/19/1970 Patient Summary 13:34 4/8

Showing all documents View By Date Look For Status All Clear

Mark selected document as unread  
Mark all documents as read

**Patient Demographics** **PCP Information**

DOB: 03/19/1970 Age: 38 years Gender: M SSN: 111009900 Home Phone: 423-222-3333 Address: 123 Main St Anytown TN 37413 Member ID: DEMO898100

PCP Name: Washington, George  
PCP Phone: 423-999-1001  
PCP Address: 1001 North St Anytown TN 37333

**Problem List** **Care Opportunities**

Information Availability Information Availability

**Problem** **Opportunity** **Disease** **Link**

Diabetes, Type 2 Eye (retina) exam done? Diabetes  
Flu vaccine given? Diabetes [More Info...](#)  
HbA1c due? Diabetes  
Lipid profile due? Diabetes [More Info...](#)

Print Results 1-1 Print Results 1-4

**Allergies**

Add

Allergy Agent	Date of Onset	Reaction	Source	End Date	Comments
Dust allergy	09/04/2007	Sneezing	Portal Entered Data		
Allergic reaction to bee sting	10/12/2006	Dizziness	Portal Entered Data		Stung four times

Print Results 1-2

**Medications**

Add

Source	Drug Name	Date Dispensed	Dose	Amount Dispensed	Prescribing Physician
Claimed	Lipitor 20 MG Oral Tablet	06/20/2006		90	GEORGE WASHINGTON
Claimed	Diabinese 250 MG Oral Tablet	06/20/2006		100	GEORGE WASHINGTON
Claimed	Lipitor 20 MG Oral Tablet	03/15/2006		90	GEORGE WASHINGTON
Claimed	Diabinese 250 MG Oral Tablet	03/15/2006		100	GEORGE WASHINGTON
Claimed	Lipitor 20 MG Oral Tablet	12/20/2005		90	GEORGE WASHINGTON
Claimed	Diabinese 250 MG Oral Tablet	12/20/2005		100	GEORGE WASHINGTON
Claimed	Diabinese 250 MG Oral Tablet	06/13/2005		100	GEORGE WASHINGTON
Claimed	Lipitor 20 MG Oral Tablet	06/13/2005		90	GEORGE WASHINGTON

Print Results 1-8



# Drill Down: More Detail as Desired

9992 JANE SMITH F/66 years 04/13/1941 Clinical Documents 12:29 6/12

Showing all documents View By Date Look For Status All Clear

Reverse Order CBC (Cumulative) Cols 5

Test Description	3	4	5	6	7	Units	Ref. Range
Order Number	639263	639249	639242	639328	639251		
Date/Time Collected	2006-04-21 23:20:00	2005-03-23 00:15:00	2005-03-22 20:15:00	2005-03-22 16:16:00	2005-01-12 09:15:00		
Date/Time Received	2006-04-21 23:35:00	2005-03-23 00:29:00	2005-03-22 20:28:00	2005-03-22 16:30:00	2005-01-12 09:32:00		
Date/Time Reported	2006-04-21 23:50:00	2005-03-23 00:35:00	2005-03-22 20:32:00	2005-03-22 16:37:00	2005-01-12 09:38:00		
Source System	TEGH	TGH	TGH	TGH	TWH		
Specimen Source							
WBC	10.6	9.5	13.4	10.8	11.4	10 <sup>9</sup> /L	3.8-10.8
RBC	3.61	5.10	5.28	4.58	3.67	10 <sup>12</sup> /L	3.6-5.1
Hb	10.2	14.2	16.8	16.7	11.0	g/L	11.1-15.5
HCT	30.0	41.4	47.6	48.7	32.0	%	33-46
MCV	82.9	81.2	90.1	106.5	87.1	fL	80-100
MCH	28.3	27.9	31.7	36.5	29.9	pg	27.0-35.0
MCHC	34.2	34.4	35.2	34.3	34.3		32.0-36.0
RDW	12.6	12.5	11.8	16.8	12.3		11.0-14.5
PLT	570	262	233	204	304	10 <sup>9</sup> /L	130-400

Select All Deselect All

Charting method:  Normal  Group Same Unit  Single Axis  Single Series

X Axis:  Time Series  Patient Age

Chart:  All  Displayed

Chart Print Back





# Must Have Capability: EPSDT

999586583 DOE John M/37 years 03/19/1970 WellChild Forms 13:42 12/20

cpardue0 Help Home Logout

Patient Search

Patient Search ePrescribe Secure Messaging My Account Patient List Information Resources Notice of Information Availability Privacy and Security Help My Feedback Contact Us Worklists

Program/Task	Responsible	Targeted Date	Performed
WellChild/2 Year Visit		12/19/2007	12/20/2007

Interval and Developmental History

Gender M Age 37 yrs Section Status  Complete  Incomplete

Historian Relationship Mother Historian Jane Doe Membership # 55555555

Unable to obtain history

**Previously Documented Medications**

**Important Note** If prescribing new medications, please use the ePrescribe application entry point.

Recorded Medications

Drug	Date Dispersed	Dose	Amount Dispersed	Prescribing Physician
Weight Units <input type="radio"/> kg <input checked="" type="radio"/> lbs / oz	Weight 8	oz	3	3.71 kg
Head Circ. Units <input type="radio"/> in. <input type="radio"/> cm	Head Circ.			Please select a unit type
Length Units <input checked="" type="radio"/> in. <input type="radio"/> cm	Length 21			53.34 cm
Temp Units <input checked="" type="radio"/> °F <input type="radio"/> °C	Temp. 98.7			37.06 Å°C Temp. Location Oral



## 2007 Case Study Results

- Child Wellness Examination - 10.3% increase in services ('06 vs. '07)
- Emergency Department - 40% fewer services per visit and 21% lower cost per visit
- Electronic Prescribing – 16% shift toward generics
- Electronic Prescribing - \$8 less per script



# Opt In vs Opt Out Enrollee Notification



# Opt In vs Opt Out

## Other Considerations

### ➤ State Law – Tennessee

- Tennessee law does not require an Opt In vs Opt Out preference

### ➤ Federal Law – HIPAA, SAMHSA, GLBA, Medicaid regulations

- CHR purpose falls within definition of Treatment, Payment and Healthcare Operations (TPO)
- HIPAA does not require an Opt Out *per se*, but does require right to request restriction of access & notification for material change in privacy practices
- SAMHSA – Sensitive code data
- GLBA – Commercial applications, but does not apply to State Medicaid Plans



# Opt In vs Opt Out

## Other Considerations

- **Notice of use for TPO required by HIPAA (45 CFR 164.520)**
  - Notice of Privacy Practices
  - Separate notice
- **Timing**
  - Advance notice to allow patient to opt out before the go live date
  - Mail date 30 days prior to go live



# Developing Notifications

- Development Time Frame – 6 months
- Collectively determine language
  - Notice – “plain language” requirement, i.e., 6<sup>th</sup> grade reading level
  - Opt Out Form
  - Approval/Denial Letters
- Print Notice
  - Total population
- Mail Notice
  - Membership extract for mailing labels (not to contain SSN/ID)
- 30 day waiting period
- Process Opt Outs
- Go Live Date



# TennCare Opt Out Notice

<http://state.tn.us/tenncare/forms/tn246sh.pdf>

TN 246SH

**Do you need special help?**

- Call 1-866-311-4287 for free, or
- See the "Do You Need Special Help?" page with this letter.

Versión en español abajo

**State of Tennessee**  
Bureau of TennCare  
Nashville, Tennessee 37202

Bar code:  
Case Number: \_\_\_\_\_ Date: \_\_\_\_\_  
Envelope Name:  
Address:  
Address 2:  
City, State, Zip: \_\_\_\_\_

**This letter is not about your TennCare benefits. This letter is only about how we'll keep your health facts.**

We know you value the privacy of your Protected Health Information (PHI). PHI is information that identifies you. Use your name and date of birth. PHI is also information about your health kept in your health care records. We call PHI your health facts.

On October 1, 2009, TennCare will keep your health facts in a statewide electronic health record. It's your health facts including your health history that are kept in a computer. We can use it to send your health facts right to your doctor's office computers.

The electronic health record we'll use is called the Clinical Health Record™ by Shared Health. These pages tell you:

1. how an electronic health record can help you and your doctors
2. how it will be used in your health care record. They won't have to wait for paper copies. While you're in their office, your doctor can see:
3. how your health facts will be kept private

**How does this electronic health record help me?**

You probably go to more than one doctor for your health care. Sometimes it's important for your doctors to know about all of the care you're getting. This electronic health record lets your doctors see the health facts that are living in your health care record. They won't have to wait for paper copies. While you're in their office, your doctor can see:

- other health problems you have and treatment you've gotten
- the kinds of medicine you take and
- allergies you have to medicine, food, or things like bee stings or latex

Having these health facts helps you and your doctors make better choices about your care. Remember, the health facts must be in your record for your doctors to see them.

Doctors can also write your prescriptions from their own computers and send them right to your pharmacy. It's called ePrescribe and is part of this electronic health record.

TC10813 Doc234606 Need to report a change? Have questions? Need help? Call us. 1  
Family Assistance Service Center 1-866-311-4287  
We're here to help you Monday through Friday, 7 a.m. to 5:30 p.m.

TN 246SH

Using ePrescribe will tell your doctors:

- the medicines TennCare pays for
- the medicines that need TennCare's OK and
- the kinds of medicines that can hurt you if you take them together.

**How do doctors see my electronic health record?**

Wherever you get care, doctors can see your health facts on a secure internet site. BUT, the public can't see them. Federal and state laws require all doctors and other health providers to keep your health facts private. Tennessee must choose the best way to secure your health facts.

**How will my health facts be kept private?**

Only people we OK (authorized users) can see them.

Doctors or other health providers can see your health facts they must:

- sign a promise to keep your health facts private
- use their password (your doctor or provider will have their own), AND
- follow the federal and state privacy laws

Your health facts can't be seen by:

1. the public or
2. by doctors or other health providers you don't OK

**What kinds of facts are part of the electronic health record?**

- Your name, age, address, telephone number, etc.
- Your TennCare ID number (on your TennCare card) and your Social Security Number
- Health problems you have now or have had in the past, including treatment you get
- Medicine you take now or have taken in the past, including medicine you get over the counter (unless a prescription if you didn't like them in your record)
- Children's shot records and Well Child check-ups
- Lab results
- Drugs you're allergic to if your doctor lists them in your record
- Doctorary care doctor's name and address
- Information on your TennCare health plan and benefits

**What kinds of facts are NOT part of the electronic health record?**

- Facts on state health claims that your doctor hasn't turned in yet
- Facts on state health claims below zero
- Dental facts unless your dental care was given in a hospital
- Over the counter medicine you get without a prescription that your doctor doesn't list in your record
- X-rays and other film and charts (like an EKG or MRI)
- Psychotherapy notes
- Health facts from providers that don't share information with TennCare or Shared Health
- Care you get from a health plan that does not use this electronic health record

**How do my health facts become a part of the electronic health record?**

When you get health care, your doctor turns in a "health claim" to TennCare. It shows the health problem(s) you were treated for and the care you got. Most of the facts in your electronic health record come from these health claims.

TC10813 Doc234606 Need to report a change? Have questions? Need help? Call us. 2  
Family Assistance Service Center 1-866-311-4287  
We're here to help you Monday through Friday, 7 a.m. to 5:30 p.m.

TN 246SH

Some health facts, like lab results or prescriptions, will be added right away. But, it may take several weeks for other kinds of health facts to be added.

And not all of your health facts will be used in the electronic health record. Your paper health records at your other doctor's offices may have other health facts. So, it's important that you talk with all of your doctors about your health facts.

Are any kinds of facts EXCLUDED from providers using the electronic health record? Yes. TennCare will NOT show some kinds of medical facts. These health facts will be blocked. Even your health providers won't have an OK to see your other health facts won't see:

- Genetic testing results—these say if you have a risk that runs in your family for certain health problems (like some kinds of cancer)
- Some kinds of drug and alcohol treatment at clinics who get money from the federal government
- Are you age 21 or older, HIV and sexually-transmitted disease (STD) tests and treatment you have at your county health department won't show. But, prescription drugs you get for HIV or STDs will show if TennCare pays for them.
- Are you under age 21? Wherever you get care, testing and treatment for things like pregnancy, HIV, or HIV won't show. And birth control and HIV medicines won't show. If you have health facts like these, you may want to tell your doctor. These kinds of health facts won't show in this electronic health record.

**Do I have to sign up to have an electronic health record?**

No. TennCare takes care of everything. TennCare will put health facts on all TennCare services into the electronic health record. But, no one will see the blocked health facts.

**What if I don't want my health facts shared in this electronic health record?**

TennCare will still have your health facts and can share them as allowed by privacy laws. BUT, you can decide not to share the medical health facts in this electronic health record. This is called **OPT OUT**. Health providers won't be able to see your medical health facts:

- when caring for you or
- if you are in an emergency or
- if you are hurt and can't take it to the health provider coming to you or
- if you can't get your health facts because of a natural disaster, like a flood or tornado.

**If I decide to opt out, what will health providers see?** They can still see other health facts like your name, date of birth, or ID number. But the record will say you have decided not to show your medical health facts.

To opt out, you must ask us in writing. We have an opt out page you can use. Call the Family Assistance Service Center at 1-866-311-4287. They can mail the page to you. OR, go to [www.tennshare.com/tenncare](http://www.tennshare.com/tenncare). Click on Members at the top.

You can also ask to opt out on your own paper. Mail it to: TennCare Privacy Office  
Bureau of TennCare  
P.O. Box 20007  
Nashville, TN 37202

**Remember: you only need to fill out the paper or write to us if you want to opt out.**

TC10813 Doc234606 Need to report a change? Have questions? Need help? Call us. 3  
Family Assistance Service Center 1-866-311-4287  
We're here to help you Monday through Friday, 7 a.m. to 5:30 p.m.

TN 246SH

The information on these pages may change without notice. To be sure you have up to date information, you can:

- Go to [www.tennshare.gov/tenncare](http://www.tennshare.gov/tenncare). Click on Members at the top. OR
- Call the Family Assistance Service Center for free at 1-866-311-4287.

**Do you need help with this letter?**

It is because you have a health, mental health, or learning problem or a disability? OR, do you need help in another language? If so, you have a right to get help, and DHS can help you. Call the Family Assistance Service Center for free at 1-866-311-4287.

- Do you have a mental illness? The TennCare Patient Advocacy Line can help you. Call them for free at 1-800-758-1638.

**We do not allow unfair treatment in TennCare.**

No one is treated in a different way because of race, color, birthplace, language, sex, age, or disability. Do you think you've been treated unfairly? Do you have more questions? Do you need more help?

You can make a free call to the Family Assistance Service Center at 1-866-311-4287. In Nashville, call 743-2096.

Attachments:  
Do You Need Special Help? TN A009  
Notice of Privacy Practices TN A109

TC10813 Doc234606 Need to report a change? Have questions? Need help? Call us. 4  
Family Assistance Service Center 1-866-311-4287  
We're here to help you Monday through Friday, 7 a.m. to 5:30 p.m.





# TennCare Notice of Privacy Practices

<http://state.tn.us/tenncare/forms/notice.pdf>

TR A110  
TennCare Notice of Privacy Practices  
Revised, effective September 1, 2006

This notice describes how medical information about you may be used and disclosed. It also tells you how you can get access to this information. Please review it carefully.

Your TennCare is NOT changing. You don't have to do anything. These papers tell you how we keep your health facts private. The federal government tells us we must give you these papers.

These papers tell you:

1. the kinds of health facts we have
2. how we share them
3. who we share them with
4. what to do if you don't want your health facts shared with certain people
5. AND your rights about your health facts

**Your Health Facts are Private**  
We know you value the privacy of your Protected Health Information (PHI). PHI is any information used to identify you and to record your health and medical history. We call this your health facts.

Federal law says we must follow privacy rules to keep your health facts private. This law started on April 14, 2003. Everyone who works with us and for us must also follow these privacy rules.

**1. The kinds of health facts we have**  
When you applied for TennCare you told us certain facts about you. Like your name, where you live, and how much money you make. We also have health facts like:

- A list of the health services and treatments you get
- Notes or records from your doctor, drugstore, hospital, or other health care providers
- Lists of the medicine you take now or have taken before
- Results from x rays and lab tests

**2. How we share your facts**  
We can only share your facts as the law lets us. The privacy rules let us share health facts for your care, to pay your health claims, and run our program. We share your facts to:

- Show you have TennCare and to help you get the health care you need.
- Use our internet based records to share health facts with your TennCare providers.
- Pay your health plan and health care providers.
- Check how TennCare benefits are being used. Health facts help us find insurance fraud.

**3. Who can we share your facts with?**

- With you. We can help you schedule check ups and send you news about health services.
- Other people involved in your care, like family members or caregivers. You can ask us not to share your facts with certain people.

And we can share your facts with everyone who works with TennCare like:

- Health providers like doctors, nurses, hospitals, and clinics
- Your health plan or other companies that have contracts with TennCare
- People helping with appeals if you file a TennCare appeal. Your appeal may be in person or over the phone. Sometimes other people may be with you in your appeal hearing.
- Federal, state or local government agencies providing or checking on health care.

rev:11July06 1  
Para información acerca de TennCare en español llame al 1-866-311-4287.

TR A110  
Who else can we share your facts with?

The privacy rules also say we can share health facts with people like:

- Coroners, funeral homes, or providers who work with services like organ transplants.
- Medical researchers. They must keep your health facts private.
- Public health agencies to update their records for births, deaths, or to track diseases.
- The court when the law says we must or when we're ordered to.
- The police or for other legal reasons. We can report abuse or neglect.
- Other agencies – like for military or veterans' activities, national security, jails.

We can also share your health facts if we take out the facts that tell who you are.

**But, we can't share your facts with everyone.**

Sometimes we'll need your OK in writing before we can share your health facts. We'll ask you to sign a paper giving us your OK if we need it.

**Can you take back your OK?**  
Yes. You can take back your OK anytime. But you must tell us in writing. We can't take back the facts we've already shared.

**4. What if you don't want all of your facts shared?**  
You must ask us in writing not to share certain facts about your health. You must tell us the facts you don't want shared and who you don't want us to share those facts with.

We'll say OK if we can. But we might not say OK if you are a minor child or in an emergency. If we can't say OK, we'll send you a letter that says why.

**5. Your health information Rights**

- You can take back your OK anytime but you must tell us in writing. We can't take back the facts we've already shared.
- You can see and get copies of your records. You must ask in writing to do so. You may have to pay money for the cost of copying and mailing your copies. If we can't give you the facts you want, we'll send you a letter that says why.
- You can talk to TennCare about how we share your health facts.

**And, you have the right to:**

- Ask us in writing not to share certain facts about your health.
- Ask us to not show your medical facts in certain records.
- Ask us to change health facts that are wrong. You must ask in writing and tell us why we need to change it. If we can't make the change, we'll send a letter that says why.
- Ask us in writing to contact you in a different way or in a different place. If writing or talking to you in one place puts you in danger, tell us.
- Ask us in writing for a list of who we've shared your health facts with. The list will say who got your health facts after April 14, 2003.

But it won't list the times we've shared when you've given us your OK. The privacy rules give other times that won't be on the list. Like when we use health facts:

- to help you get health care or
- to help with payment for your care or
- to run our program or
- to give to law enforcement. They must ask us in writing to keep them off the list.

rev:11July06 2  
Para información acerca de TennCare en español llame al 1-866-311-4287.

TR A110  
**Requests – ask us in writing**  
Your requests must be in writing. Be sure you tell us what you're asking us to do. Write your name and TennCare ID number or Social Security Number on your letter.  
Send your letter to: TennCare Privacy Officer  
Bureau of TennCare  
P.O. Box 20007  
Nashville, TN 37202

**Keep a copy of the letter for your records.**

Do you have questions? Do you need help making your request?  
Call the Family Assistance Service Center at 1-866-311-4287 for free.

**Changes in this Notice**  
TennCare's policies and procedures about requests may change without notice. We'll use the policies and procedures we have in place when you make your request.

Federal privacy rules and TennCare privacy practices may also change. If important changes are made, we'll send you the changes in writing. We have the right to apply the changes to all the health facts we have. Or only to new health facts we get.

Changes in this notice start September 1, 2006 and apply to all health facts we have. If you need a new copy or want to check for changes, go to [www.tennessee.gov/tenncare](http://www.tennessee.gov/tenncare). Click on Members at the top. Or call the Family Assistance Service Center for free.

**Electronic Health Record**  
TennCare uses an electronic health record to keep your health facts. We can send health records from our computers right to your doctor's office computers. The health record is internet based. BUT, only your TennCare providers who have signed up and have our OK can see your records.

The public can't see your internet based health record.

The electronic health record can show doctors your health facts like medicines and lab tests. And, it can show any drug allergies or special health needs you have. This helps them give you get better health care.

BUT, you can decide not to show the medical health facts in this electronic health record. This is called **opt out**. There may be different kinds of **opt out** that you can choose. You must ask us in writing to opt out. We have a page you can use. To get one, call the Family Assistance Service Center at 1-866-311-4287.

**Questions or Complaints**  
We do not allow unfair treatment in TennCare. No one is treated in a different way because of race, color, birthplace, language, sex, age, or disability. You will not be punished if you complain or ask for help. Do you have questions? Do you think your privacy rights have been violated? Do you think you have been treated unfairly? Call the Family Assistance Service Center at 1-866-311-4287 for free.

Or you can write to:  
TennCare Privacy Officer OR U.S. Department of Health and Human Services  
Bureau of TennCare Office for Civil Rights  
P.O. Box 20007 Atlanta Federal Center, Suite 3 B70  
Nashville, TN 37202 61Foryth St. SW  
1-866-311-4287 Atlanta, GA 30303-8909  
1-404-562-7896

rev:11July06 3  
Para información acerca de TennCare en español llame al 1-866-311-4287.

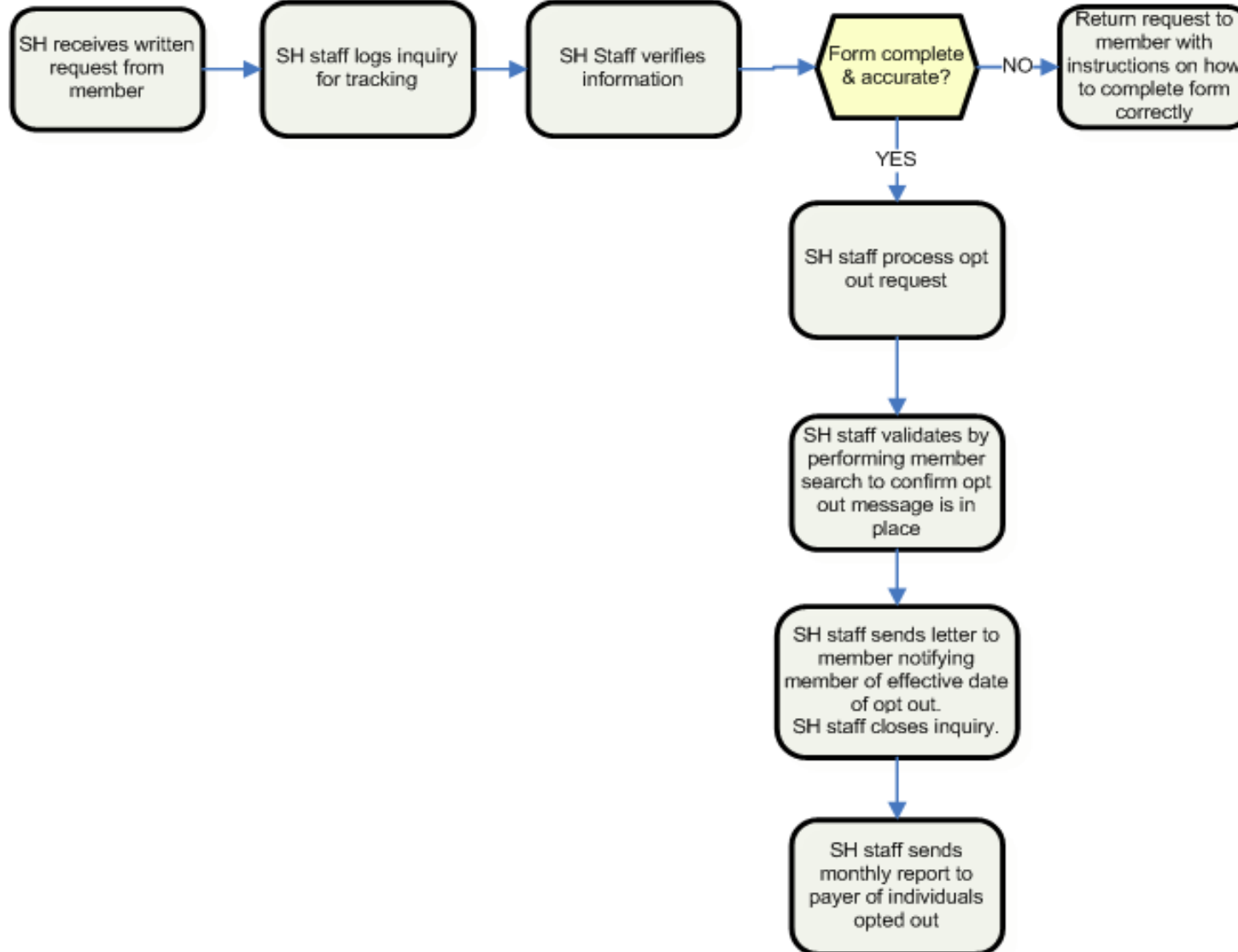


# Opt Out Methodology

- Enrollees information contained in CHR
- System Restriction Prohibits User Access to Opted Out Record
  - Opted Out record is identified with a locked symbol
  - User cannot open selected record
- Prevents user from adding an opted out patient through the Add Patient feature
- Complete record is available should the enrollee opt back in
- Complete record would be available IF “break the glass” capability allowed access to an opted out record in the event of an emergency



# Opt Out Process





# Privacy & Security

## Slide 19

---

A1

Administrative, Physical and Technical safeguards are contained in the security rule. I'd like to do a short slide on the Privacy Rule as well and/or just lay out "administrative simplification" reg. What do you think?

Author, 9/12/2008



## Privacy Rule

- Business Associate Agreements
- Minimum necessary standard
- Privacy officer/contact person
- Privacy policies <http://state.tn.us/tenncare/leg-policies.html>
- Sanctions <http://tennessee.gov/tenncare/forms/hip06004.pdf>
- Training
- Administrative, Physical, and Technical Safeguards (Security Rule)



# Information Security - Core Concepts

- Overall goal: to safeguard the confidentiality, integrity and availability of information and systems
  - **Confidentiality** – ensuring that information and processing capability are protected from unauthorized disclosure or use
  - **Integrity** – ensuring that information held on information systems is not subject to malicious or accidental alteration and that system processes function correctly and reliably
  - **Availability** – ensuring that information systems, including stored information and processing capability, are always available to authorized users when needed



# Information Security - Core Concepts

- The five cornerstones of information security
  - **Security Policies and Procedures** – establishing, implementing and maintaining internal policies, procedures, practices, guidelines and standards
  - **Security Architecture** – establishing, implementing and maintaining technical and system applications, hardware and related technologies to support the secure collection, storage, use and disclosure of information
  - **Assessment and Audit** – establishing mechanisms to ensure that security risks are assessed and identified, appropriate protections are in place



# Information Security - Core Concepts

- The five cornerstones of information security (cont.)
  - **Accountability and Oversight** – establishing and assigning security responsibilities and monitoring compliance with security policies and procedures
  - **Training and Awareness** – ensuring that staff are aware of the importance of security and empowering staff with skills needed to conduct their work



# System Security Challenges

- Integrating security protocols with physician workflow
- Minimum Necessary Standards (Traditional vs Non-Traditional Staffing)
- Audits
- Penetration Testing/Annual Assessments



# Administrative Safeguards

- **Security Management**
  - System Activity Review – User Activity Reports Available
  - Risk Assessments
- **Provider User Agreement**
  - User Agreement Reminder (every 7 days)
- **Auditing**
  - Auditing triggers (i.e. geographic, specialty, high user volume, and high patient volume)
  - Patient Provider Relationship declarations
- **Information Access Management**
  - Two tiered authentication process
  - Role based access
- **Business Continuity Plan**
- **Incident Response Team**
- **On-site training and Support**



# Physical Safeguards

## ➤ Business Center

- Facility access controls include picture ID
- Visitor log
- Network & computing facilities require picture ID as well as biometric scans

## ➤ Data Center

- Hosted by IBM
- Facility access controls include biometric devices
- Data backups maintained in offsite storage facility in locked containers

## ➤ Security Controls at Business and Data Centers

- Managed Security Services – Provides 24x7 monitoring of all security events across the enterprise (final vendor selection now, will be implemented within 60 days)
- Network Intrusion Detection – Network monitoring for suspicious traffic
- Network Intrusion Prevention – Inline inspection system that blocks network attacks
- Host Intrusion Detection – Security software on each server that blocks and alerts upon intrusions
- Vulnerability Assessments – Monthly baseline checks on servers and weekly network scanning to identify configuration changes
- Logging and Alerting– All network and system logs are maintained for 7 years



# Technical Safeguards

## ➤ Access Controls

- Two-tiered registration and authentication process
- Role based access (varying access to PHI depending on job functions)
- New users defaulted to lowest level of access (clerical)
- User IDs without documented CHR activity deactivated
- Limited number of possible matches per search (5)
- SSN masking
- Automatic log off after inactivity
- 128 bit encryption
- Patient Provider Relationship determined prior to granting access to patient chart

## ➤ Sensitive Codes Restricted

- AIDS/HIV
- Alcohol & Drug related
- Family Planning (Under 21 years of age)
- Genetic Testing
- STDs treated by Health Department

## ➤ Member “Opt Out” Available



## User Registration

- **Clinician Registration – NPI based authentication**
  - **Step 1: Enter Your National Provider Identifier (NPI)**
    - If support staff, enter the NPI of your supervising clinician
  - **Step 2: Complete Your Account Information**
  - **Step 3: Accept the Terms and Conditions of Use**
  - **Step 4: NPI Associations**
    - Each NPI (facility or provider) will have a designated Entity Authority (EA). The EA will be responsible for managing and authorizing access for all of the users of the Shared Health application for that NPI.



# User Registration

## ➤ Entity Authority (EA)

- EA must have the PIN which is mailed to the address on file in the NPI database
- EA must execute an Entity Authority Agreement
- EA will determine whether the NPI is authorized to “add patients” to the system for ePrescribing purposes
- EA will approve appropriate level of user access
- User must request access to an NPI on registration
- User Management Tool allows EA to approve and/or remove a users association to their NPI



## User Registration

- **User Approved by EA**
  - User only has access to patient demographics
  
- **Finalize User Access**
  - **Role Based Access**
    - Clinical Outreach Team Onsite
    - EA approves role assignments
  
- **Role Upgrade Complete**
  - Details on Roles to Follow
  
- **User begins accessing CHR**



## Role Based Access

**Primary Roles** A clinical user is required to have one and only one of the following roles:

### **Physician, Non-Physician Practitioner, Clinical Staff**

- Access to all CHR data (which includes claims and clinical data, lab data, medications, immunizations, allergies, vitals, individual analytics and registries)
- Can update encounter data and clinical data

### **Pharmacist**

- Access to all CHR data, except for individual analytics
- Can update only medications, allergies and patient/practice lists in the CHR

### **Medical Records**

- Access to all CHR data, except for individual analytics
- Can update only patient/practice lists in the CHR

### **Medical View Only**

- Access to the same information as Medical Records, but not permitted to update any part of the CHR

### **Non-Clinical Staff**

- Access only to patient demographics, patient lists and benefit limits
- Can update only patient/practice lists in the CHR

### **Director**

- No access to the CHR
- Read-only access to Shared Health analysis tools



## Role Based Access

**Secondary Roles:** A clinical user can have one or more of these optional roles:

➤ **Prescribing Roles:**

➤ **Prescribe:** Can write scripts without supervision under their own DEA number. Restricted to those with a Physician primary role.

➤ **Unsupervised PA (Physician's Assistant):** Can write scripts without supervision under a supervising physician's DEA number. The PA's name will appear on the script.

➤ **Unsupervised PA:** Can write scripts without supervision under a supervising physician's DEA number. The physician's name will appear on the script along with the PA's name.

➤ **Prescribe on Behalf Of:** Can write scripts without supervision under a physician's name and DEA number, but cannot resolve DUR issues if they occur.

➤ **Patient Prep:** Can view and prep patients for scripts.

➤ **Add A Patient**

Can add patients to the CHR that are not currently in the Shared Health member base

➤ **Practice View:**

Can see practice-wide lists, reports and analytics

➤ **Entity Authority:**

Oversees the use of Shared Health at a practice and grants access to users at their practice



# Employing BI to Drive Adoption with Clinical Decision Support (CDS)



# BI Rationally Summarizing Data: Automated Problem List

999627304 F/53 years 09/09/1954 Patient Summary 12:51 2/29

Showing all documents View By Date Look For Status All Clear

Mark selected document as unread  
Mark all documents as read

**Problem List**

Condition	Date	Chronic
Hyperlipidemia, other	01/17/2007	No
Open wound, w/o surgery - head and face	05/21/2007	No
Oth minor ortho disorder - unspecified	12/27/2006	No
Screen & immunizations incidental - Pap test		No

Print

No documents were found.



# BI Providing EBM Guidance: Care Opportunities

999627304 F/53 years 09/09/1954 Patient Summary 12:50 2/29

Showing all documents View By Date Look For Status All Clear

Mark selected document as unread  
Mark all documents as read

Logout

Patient Search

Date	Title	Author
	Patient Summary	
	Configurable Patient Summary	
	Print Patient Summary	
	ePrescribe	
	Medications	
	Procedures	
	Diagnoses	
	Laboratory	
	Immunizations	
	Vitals	
	Allergies	
	Care Opportunities	
	Problem List	

No documents were found.

### Care Opportunities

Disease	Description	Link
CAD	Tobacco avoidance	<a href="#">More Info...</a>
CAD	LDL-C screening performed	<a href="#">More Info...</a>
CAD	Statin medication	<a href="#">More Info...</a>
CAD	Lipid profile or component testing (total cholesterol, LDL-C, HDL-C, triglycerides)	<a href="#">More Info...</a>
CAD	Drug therapy for lowering LDL Cholesterol	<a href="#">More Info...</a>
COPD	Tobacco avoidance	<a href="#">More Info...</a>
COPD	Inhaled bronchodilator therapy	<a href="#">More Info...</a>
COPD	Pneumococcal assessment and/or immunization	<a href="#">More Info...</a>
COPD	Influenza immunization ordered, received or recommended	<a href="#">More Info...</a>
Diabetes	Plus CAD: Statin therapy	<a href="#">More Info...</a>
Diabetes	Plus Hypertension: ACE-I, ARB, beta-blocker, diuretic, calcium channel blocker	<a href="#">More Info...</a>
Diabetes	Hemoglobin A1c (HbA1c) testing	<a href="#">More Info...</a>
Diabetes	LDL-C screening performed	<a href="#">More Info...</a>
Diabetes	Eye exam (retinal) performed	<a href="#">More Info...</a>
Diabetes	Medical attention for nephropathy: screening or evidence of nephropathy	<a href="#">More Info...</a>

Print >>



# Managing an Encounter with Condition Tracker™ (In Development)

999246778 WAUGH Steve M/42 years 04/10/1965 Clinical Documents 17:06 9/24

Condition Tracker - Steve Waugh Keyboard Mode

### Condition Tracker for Steve Waugh

SSN: 999246778 DOB: 4/10/1965

The Condition Tracker Matrix displays all known data items for the selected Clinical Conditions. To insert data, left-click on an empty cell. To view source information, right-click on a data item.

Values significantly exceeding Target are highlighted red. Measures missing expected values are indicated by a ⚠️.

Date Slider:

Measure	Target	Date Performed					
		8/17/06	10/28/06	12/1/06	1/13/07	3/26/07	4/30/07
Height		6'2"	6'2"	6'2"	6'2"	6'2"	
Weight		150		153	155	165	
BMI	18.5-24.9	19.26		19.64	19.90	21.18	
Pulse	80		123		80	88	
Blood Pressure	130/75		123/79		115/86	140/80	
Resp	20				20	18	
HbA1C	7.00%	Out-range					In-range
Total Chol.	< 200				180		
⚠️ HDL-C	40-59						
⚠️ LDL-C	< 129						
⚠️ Microalbuminuria							
⚠️ Foot Exam				Borderline			
⚠️ Dilated Retina Exam		Done					

Conditions:  Diabetes (System Identified)  Hypertension (System Identified)  Deselect Diabetes (System Identified)  Asthma  CHD



# Managing a Population with Clinical Insight™ (In Development)

New Subscription

Patient Panel: All Patients (dropdown menu open showing: <Select a Value>, All Patients, My EMR Patients, Payer1 Patients) | Measure Set: Payer1 P4P | View Report

1 | 0% | Find | Next | Select a format | Export

### Clinical Insight

SharedHealth® Transforming Care

Scoresheet Owner: Tammy Rodriguez, M.D.

**About this scoresheet**

This scoresheet can be used to manage patient care at the population level and project scores for performance-based quality initiatives. Patients are given a score based upon datapoints that can be confirmed or observed by data in the Shared Health xChange. Measures are derived from Evidence Based Medicine (EBM) guidelines, based upon the Problems identified for each patient.

**Average Score**

Average score for 50 patients = 44.3 %

Measure	Score
Cervical Cancer Screen	47.4 %
Colorectal Cancer Screen	46.0 %
Diabetic Foot Exam	42.9 %
Dilated Retina Exam	71.4 %
HbA1c	57.1 %
Mammography Screen	44.7 %
Nephropathy	28.6 %

Local intranet | 100%



# Clinical Insight™

(In Development)

New Subscription

Patient Panel: All Patients | Measure Set: Payer1 P4P | View Report

1 of 1 | 100% | Find | Next | Select a format | Export

**Average Score**  
Average score for 50 patients = 42.4 %

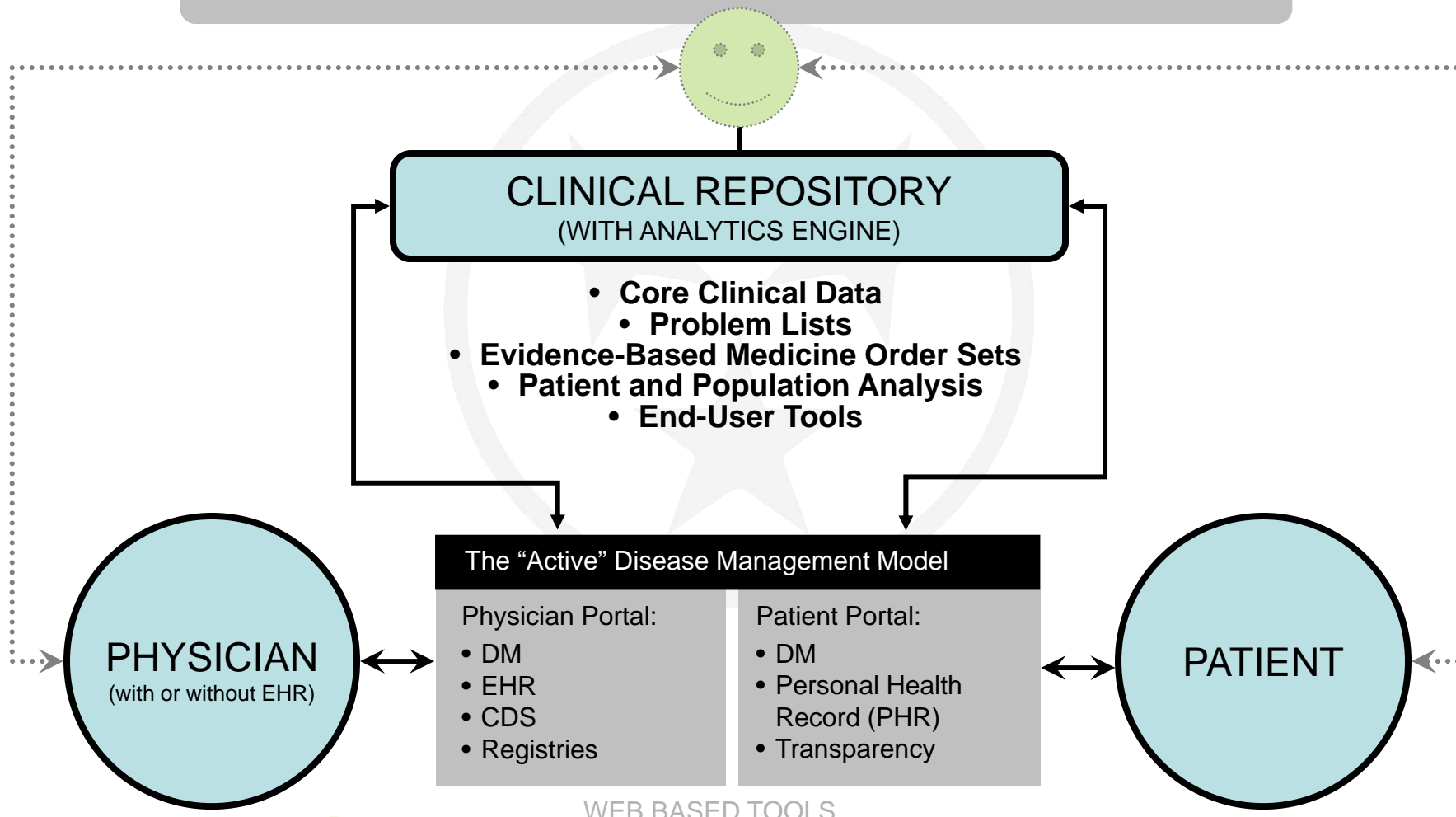
Measure	Score
<input checked="" type="checkbox"/> Cervical Cancer Screen	44.7 %
<input checked="" type="checkbox"/> Colorectal Cancer Screen	44.0 %
<input checked="" type="checkbox"/> Diabetic Foot Exam	42.9 %
<input checked="" type="checkbox"/> Dilated Retina Exam	57.1 %
<input checked="" type="checkbox"/> HbA1c	42.9 %
<input checked="" type="checkbox"/> Observed (4)	
<input type="checkbox"/> Not Observed (9)	
Hobbs, Audrey	<a href="#">Add Data</a>
Pillar, Amber	<a href="#">Add Data</a>
Markland, Shawn	<a href="#">Add Data</a>
Frey, Samuel	<a href="#">Add Data</a>
Kear, Aronna	<a href="#">Add Data</a>
Hubey, Gayle	<a href="#">Add Data</a>
Rich, Susan	<a href="#">Add Data</a>
Collins, Christine	<a href="#">Add Data</a>
Somirs, Thomas	<a href="#">Add Data</a>
<input checked="" type="checkbox"/> Mammography Screen	44.7 %

Done | Local intranet | 100%



# The Key Goal: Engaging the Doctor - Patient Relationship in Active Disease Management

HEALTH PLAN DISEASE / CARE MANAGEMENT NURSE





# Questions

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