

The Importance of Medication Adherence

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“Drugs don’t work in patients who don’t take them.” –C.Everett Koop, MD



Typical Quality Measure

- Treatment.
- Adherence.
- Outcomes.

Definitions

- **Adherence:** the extent to which a person's behavior taking medication, following a diet, and/or executing lifestyle changes corresponds with agreed recommendations from a health care provider.
- **Medication Adherence:** is a collaborative process of communication and understanding between the patient and their health care professionals that promotes optimal usage of medication therapies.

$$\frac{\text{Number of pills absent over a period of time}}{\text{Number of pills dispensed over a period of time}} \times 100\% \geq 80\%$$

World Health Organization, 2003; Mayo Clinic, 2011; Osterberg L, Blaschke T, 2005; Winkler A, et al., 2002

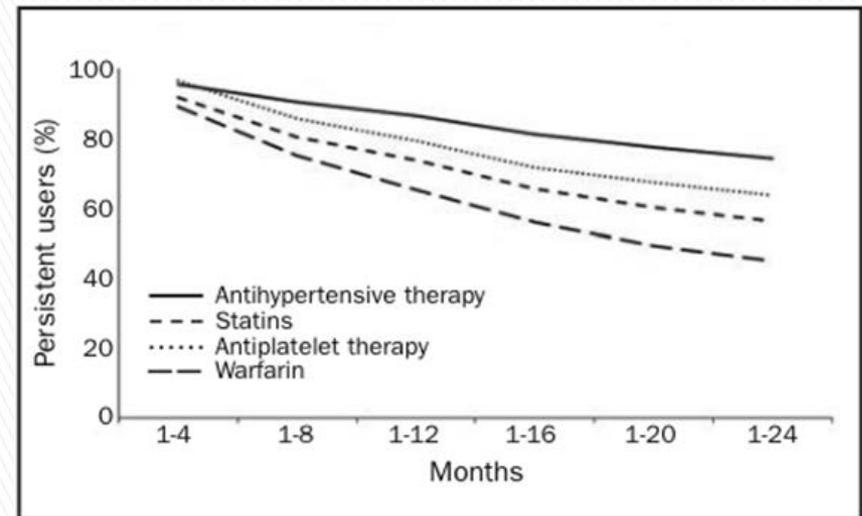
Non-Adherence

- For every 100 medications prescribed in a clinic or office:
 - 88% of the prescriptions are dispensed.
 - 76% are started.
 - 47% are continued.
- Return to Stock:
 - Overall 4.4%.
 - Per-site average is 4% to 8%.

Non-Adherence (cont.)

Persistence with secondary prevention medication in the 24 months after ischemic stroke in Sweden. Persistent use of secondary preventive drugs declines rapidly during the first two years after stroke.

Glader, 2010;
World Health Organization, 2003;
Lee, Grace, and Taylor, 2006;
Spertus JA, et al. 2006;
Airoldi F, et al., 2007



Medication Adherence

- 50% of patients are persistent with chronic medication therapy.
- Poor medication adherence leads to:
 - Increased morbidity and death.
 - Increased health costs \$300 billion per year.
 - One-third to two-thirds of all medication-related hospitalizations.

Osterberg L, Blaschke T, 2005;
Steanacci RG, Guerin S, 2013.

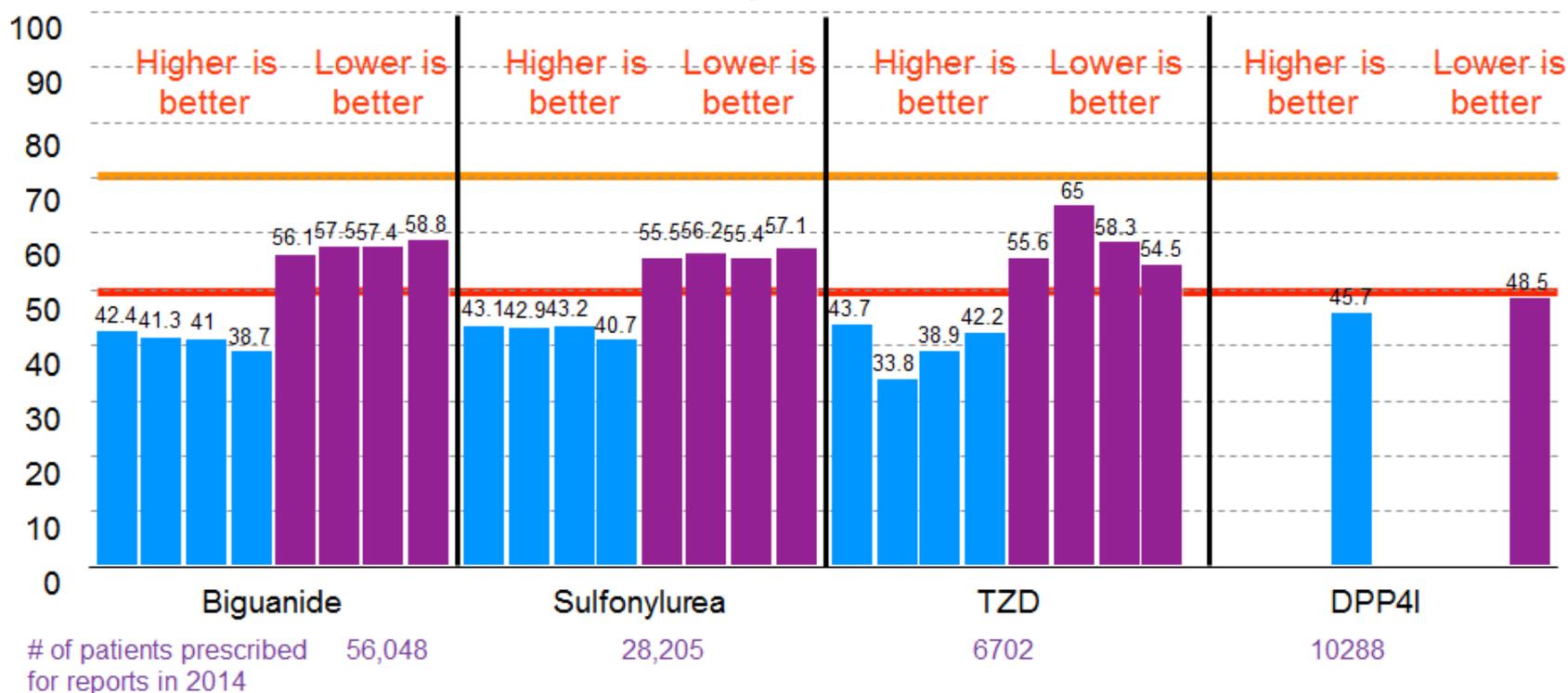
Measures of Adherence

- Clinical Reporting System (CRS):
 - Pharmacy Quality Alliance (PQA) report:
 - Proportion of Days Covered (PDC).
 - Gaps in Therapy.

PDC: Diabetes Medications

PDC=Portion of days covered $\geq 80\%$ GAP = gap in therapy ≥ 30 days

PDC and Gap: 2011 - 2014



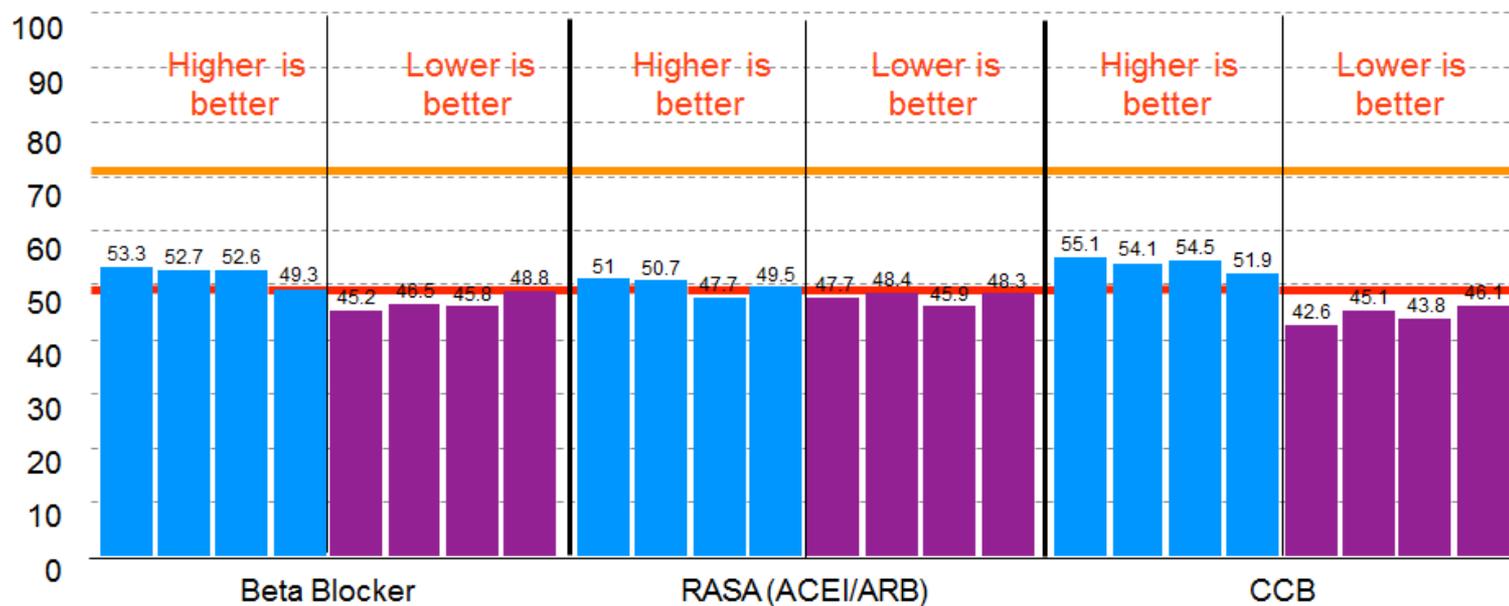
For internal IHS use ONLY. Data from 164 sites (100 Tribal & 64 IHS). Collected from ONM reports 2013



PDC: HTN Medications

PDC=Portion of days covered \geq 80% GAP = gap in therapy \geq 30 days

PDC and Gap: 2011 - 2014



of patients prescribed for reports in 2014

42955

104180

30472

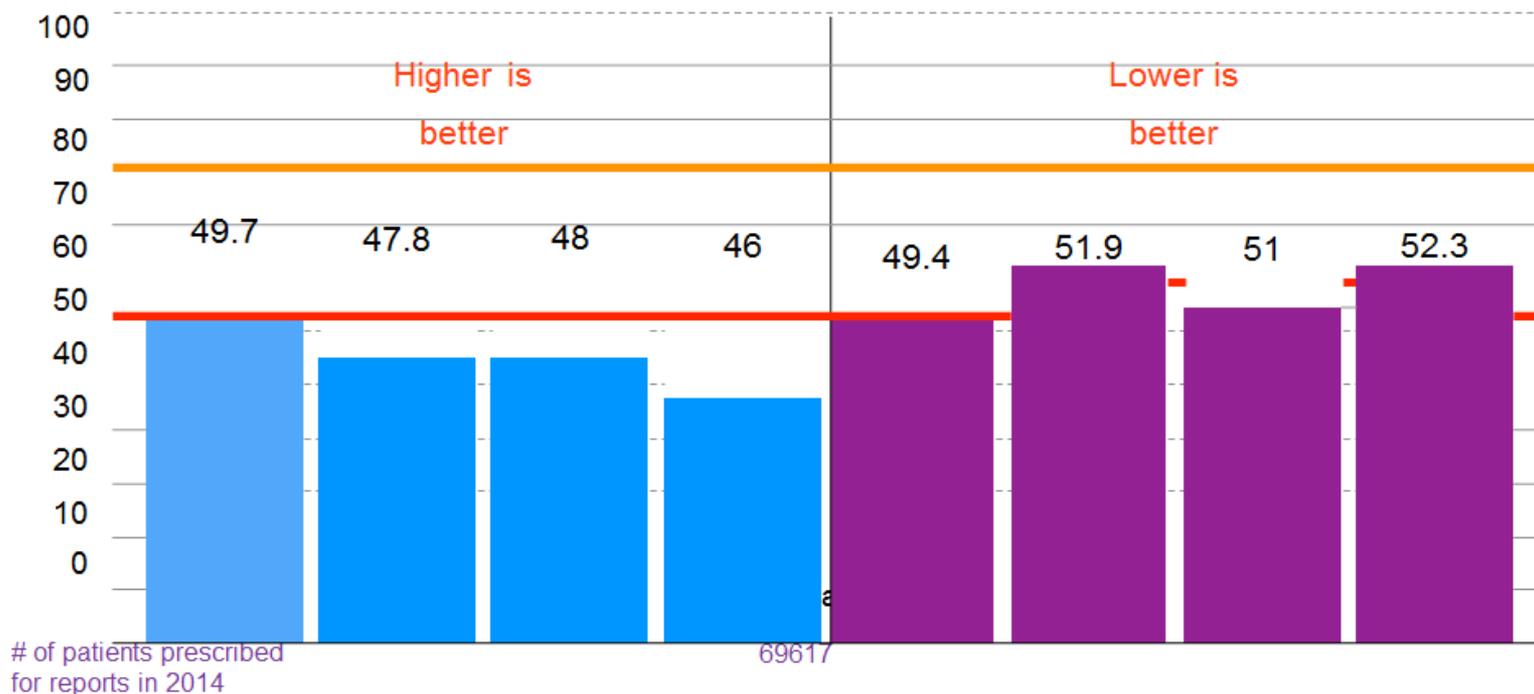
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PDC: Statin Medications

PDC=Portion of days covered \geq 80% GAP = gap in therapy \geq 30 days

PDC and Gap: 2011 - 2014



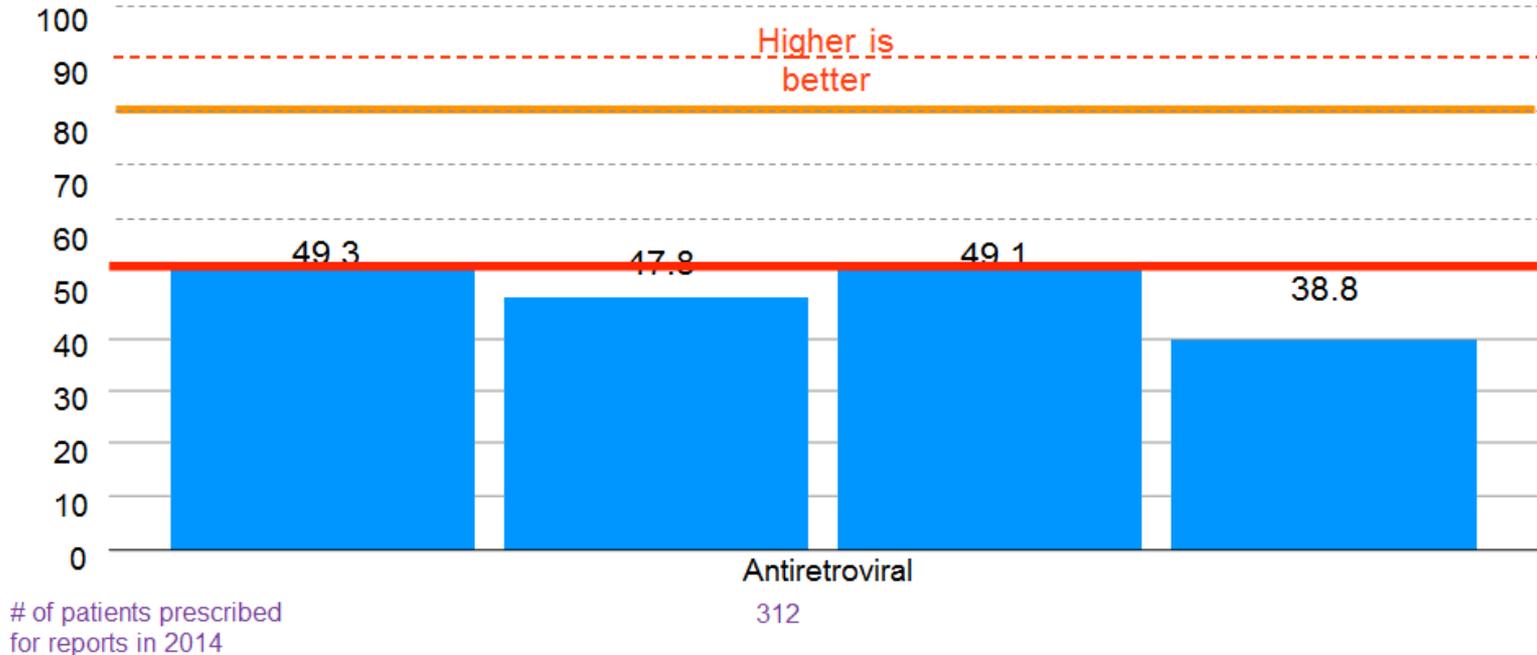
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PDC: Antiretrovirals

PDC=Portion of days covered \geq 90%

PDC: 2011 - 2014



For internal IHS use ONLY. Data from 164 sites (100 Tribal & 64 IHS). Collected from ONM reports 2013



Impact

- Increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments.

World Health Organization, 2003;
Lee JK et al, 2006.

Barriers

- Barriers are individualized to the patient.
- Five Dimensions of Adherence:
 - Social and Economic.
 - Healthcare System.
 - Condition.
 - Therapy.
 - Patient.
- Adherence decreases as the number of barriers for the patient and provider increases.

Osterberg L, Blaschke T, 2005

Shared Responsibility

- Patients are responsible for taking their medications; however:
 - Medication adherence is not exclusively the responsibility of the patient.
 - Medication-taking behavior is complex and involves patients, the health care team, family support, and process components.
- Medication adherence improvements are achieved more often than other aspects of self-management.

SIMPLE

- S=Simplify the regimen.
- I=Impart knowledge.
- M=Modify patient beliefs and human behavior.
- P=Provide communication and trust.
- L=Leave the bias.
- E=Evaluate adherence.

Simplify the Regimen

- Limit polypharmacy.
- Align with patient's lifestyle.
- Coordinate medication lists.

Medication Lists

***** Patient Wellness Handout ***** Jan 16, 2006 *****
 PATIENT MEDICAL HANDOUT Report Date: Jan 16, 2006

FOREST GUMP HRN: 168711 Indian Health Medical Center
 200 2ND STREET
 ADAIR, OYAWHOMA 74330
 888-353-4444

Hello Mr. GUMP,

Thank you for choosing Indian Health Medical Center.

This sheet is a new way for you and your provider to communicate about your health.

Immunizations (shots). Getting shots prevents illnesses.

1 Immunization Due
 INFLUENZA

Weight is a good measure of health - as you are 5 feet and 7 inches tall. Your last weight was 204 pounds on Sep 01, 2005. You should have your weight rechecked. Your Body Mass Index on Sep 01, 2005 was 34.5. You are above a healthy weight. Try to lose weight. Health problems - diabetes, heart disease, and more. Ask your provider about them.

Blood pressure is a good measure of health. Your last blood pressure was 120/80. Your blood pressure is too high. Eat healthy foods and walking or exercise. If you take medicine to lower your blood pressure, take it every day.

Allergies, reactions that you've had to medicines. Below are the allergies that you've had. If any are missing, please let your provider know.

HX OF SULFA ALLERGY-RASH
 HX OF ALLERGIES TO REFLEX
 HX OF FLU VACCINE ALLERGY

Here is a list of the medicines you are taking:

HYDROXYLINE 25MG TAB
 Directions: TAKE 1 TABLET EVERY 4 HOURS
 XRAMIPERONE 50MG CAP
 Directions: TAKE 1 CAPSULE DAILY

Clinical Summary from Anytown Indian Health Clinic
 Printed 03/07/2013 13:15

Patient: John Smith HR#123456

Reason for Visit

- Head cold.
- Follow-up with studies for breast mass
- Diabetes check.

Problems/Encounter Diagnosis

Active

- *Diabetes Type 2| controlled
- Mild intermittent asthma
- Hyperlipidemia
- *Breast mass
- *Upper respiratory infection

Inactive (personal history):

- Pneumonia| 3 times in 2 years
- Chicken pox

*Reasons for today's visit

Medications

Given during visit:

- Albuterol 0.09 MG/ACTUAT; 2 puffs
- Tetanus immunization 0.5ml; right arm

Outpatient Medications

- Clarithromycin 500 MG Oral Tablet; 7 days; 3 refills remaining
- Metoprolol Tartrate 25 MG Oral Tablet; 2 refills remaining; Hold; Hold refills

Outside Medications

- Aspirin 325 MG Oral Tablet; by mouth
- Loratidine as needed

Transitions of Care from Anytown Indian Health Clinic

Patient: JOHN SMITH
Date of Birth: May 1, 1980
Race: Black or African American
Preferred Language: English

Visit Date: April 25, 2013

Visit Location: Anytown Indian Clinic; Address

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Personal Health Record

MARY GRANT Home | Sign Out
Hello MARY GRANT

My health information from: Health Service BCCD - 2013 DEMO HOSPITAL (8991) Indian: : Last Updated: November 15, 2013, 23:42:38, MST

Medications

The information below contains a list of the medications that you are currently taking. Click on the Medication History tab to view a historical record.

Active Medications Medication History

Click once on a medication from the list below for instructions about how to use that medication (if available). Click again to make the drop down menu expand to show more information, such as possible side effects.

Medication Name
Cephalexin 500 MG Oral Capsule

MARY GRANT

My health information from: Health Service BCCD - 2013 DEMO HOSPITAL (8991) Indian: : Last Updated: November 15, 2013, 23:42:38, MST

Upcoming Appointments

Visit Date and Time	Clinic	Provider Name
4/13/2013 12:00PM	New Clinic	Dr. Wells
4/13/2013 12:00PM	New Clinic	Dr. Wells
4/13/2013 12:00PM	New Clinic	Dr. Wells

Indian Health Service Personal Health Record

What is the Personal Health Record?
The Indian Health Service Personal Health Record (PHR) can help you access your health information. You can track medications and lab results, contact your health care provider, and much more - all from the privacy of your personal computer and mobile device.

Who can use the Personal Health Record?
Any patient within the Indian health system can register to use the PHR. As part of the registration process, patients must verify their identity at an Indian Health Service, tribal, or urban health care facility.

When should I use the Personal Health Record?
The PHR is a tool that provides you with timely access to your health information. It is not a substitute for meeting with your health provider. If you are experiencing a medical emergency, call 911 or go immediately to the closest emergency room.

HOSPITAL ENTRANCE

User Login

Username

Password

[Forgot Password?](#)

About PHR | My PHR Settings | Privacy Policy | Terms of Use | Contact Us | FAQ

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Medication Refills over Time



Automated Medication Refills



Medication Synchronization



Impart Knowledge

- Training.
- Patient Education.

Document Patient Education

The screenshot displays a medical software interface with two overlapping windows. The background window is titled "Integrated Problem Maintenance - Edit Problem" and shows details for an "Asthma" problem (SNOMED CT: 493.90). The foreground window is titled "Add Patient Education Event" and is used for documenting patient education. It includes the following fields and sections:

- Education Topic:** Medications-Literature (Medications)
- Level:** GOOD
- Length:** 4 (min)
- Comprehension Level:** GOOD
- Length:** 6 (min)
- Readiness to Learn:** EAGER TO LEARN
- Patient Education provided:** A grid of checkboxes for Disease Process, Exercise, Medications, Nutrition, Lifestyle Adaptation, and Prevention. Disease Process, Exercise, and Medications are checked.
- Current Visit - Care Planning Activities:** A section for documenting activities during the current visit.
- Education Provided:** A summary section showing the entered details: Comprehension Level: GOOD, Length: 6 mins, Readiness to Learn: EAGER TO LEARN, and the checked categories: Disease Process, Exercise, and Medications.

The background window also shows "Visit Instructions" and "Goal Notes" sections, both with a table of entries for the date 09/04/2013. The "Visit Instructions" entry is signed and states "Most visits will have visit instructions." The "Goal Notes" entry is active and states "Goals will be less common, mostly for chronic problems at diagnosis and at points of change." The "Patient Instructions/Care Plan" section also has an active entry for the same date stating "Care plan will be less common, mostly for chronic problems at diagnosis and at points of change."

Modify Beliefs and Behavior

Patient Goals [V 1.0.3989.30351 built 12/3/2010 5:51:42 PM]

	New Goal	Declined Goal	Last Update	Goal #	Goal Set	Start Date	Reason	Type Of Goal	Follow Up Date	Goal Status	Provi																		
-			3/21/2011 12:19:19 PM	1	Lose 25 pounds by summer	11/05/08	Goal	Other	6/1/09	Active	Provi																		
<table border="1"> <thead> <tr> <th></th> <th>Step</th> <th>Start Date</th> <th>Follow Up Date</th> <th>Status</th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td>Buy only 1 bag of low fat potato chips a week</td> <td>12/31/08</td> <td>2/11/09</td> <td>Active</td> <td>Step</td> </tr> <tr> <td></td> <td>Walk 4 times a week by February appointment</td> <td>12/31/08</td> <td>2/11/09</td> <td>Active</td> <td></td> </tr> </tbody> </table>													Step	Start Date	Follow Up Date	Status			Buy only 1 bag of low fat potato chips a week	12/31/08	2/11/09	Active	Step		Walk 4 times a week by February appointment	12/31/08	2/11/09	Active	
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	Walk 4 times a week by February appointment	12/31/08	2/11/09	Active																									
Inactive Steps																													
		3/21/2011 12:19:19 PM	2	Check blood sugar every day after I get to work	12/14/08	Want to be healthy for my children	Monitoring	1/4/09	Maintained	Provi																			
		3/21/2011 12:19:19 PM	3	Quit smoking cigarettes in 2 weeks	2/14/09		Tobacco	2/21/09	Active	Provi																			

Tasks

Edit Step [Lose 25 pounds by summer - Buy only 1 bag of low fat potato chips a week] | Edit Patient Goal [Lose 25 pounds by summer]

Goal: Lose 25 pounds by summer | Goal #: 1

Type(s) Of Goal:

- Physical Activity
- Nutrition
- Medicines
- Wellness Or Safety (HPDP)
- Other
- Tobacco
- Alcohol or Drugs
- Stress And Coping
- Monitoring

Reason For Goal: _____

Reviewed Comment: _____

Goal Start Date: 11/5/2008 | Goal Follow-up Date: 6/1/2009

Active Met Changed Maintained

Follow Up

OK Cancel



Provide Communication

Good Questions for Your Good Health

Ask Me 3™

Every time you talk with your doctor, nurse, or pharmacist, ask these questions

- 1 What is my main problem?
- 2 What do I need to do?
- 3 Why is it important for me to do this?

Healthcare COMMUNICATIONS

Home
Internet Access
Health Literacy
Patient Education Materials
Patient Handouts
Plain Language
Patient-Provider Communication Kit
For Comments, Please Contact Content Manager.

What is Plain Language?

President Obama signed the [Plain Writing Act of 2010](#) [PDF] on October 13, 2010. The law requires federal agencies to use "clear Government communication that the public can understand and use." The Act imposes several requirements on federal agencies:

- Proceed to write all new or substantially revised "covered documents" in plain writing
 - [Plain Writing Basics](#) [Word-35KB]
 - [Quick Reference Guide on Plain Writing](#) [Word-26KB]

The Act specifies that "covered documents" are those that:

- are necessary for obtaining any Federal Government benefit or service, or filing taxes;
- provide information about any Federal Government benefit or service; or
- explain to the public how to comply with a requirement that the Federal Government administers or enforces.

The Act also requires agencies to use plain writing in every paper or electronic letter, publication, form, notice, or instruction. While regulations are exempt, the Office of Information and Regulatory Affairs encourages plain writing in the preambles of regulations.

- [Click here for more information and to view the HHS Plain Writing Plan](#)
- [Click here to learn more about plain writing at the Plain Language website](#)

The Basics of Writing in Plain Language

1. **Think about your Audience:**
One of the most popular plain language myths is that you have to "dumb down" your content so that everyone everywhere can read it. That's not true. The first rule of plain language is: write for your audience.

Use language your audience knows and feels comfortable with. Take your audience's current level of knowledge into account. Don't write for an 8th grade class if your audience is composed of PhD candidates, small business owners, working parents or immigrants. Only write for 8th graders if your audience is, in fact, an 8th grade class. Make sure you know who your audience is – don't guess or assume.

Identify and write for your audience:

- Who is my audience?
- What does my audience already know about the subject?
- What does my audience need to know?

President Obama signed the [Plain Writing Act of 2010](#) on October 13, 2010. The law requires federal agencies to use "clear Government communication that the public can understand and use." The Act imposes several requirements on federal agencies:

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Quick Reference Guide The Basics of Plain Language

Think about your Audience:	Identify and write for your audience: Who is my audience? What does my audience already know about the subject? What does my audience need to know? What questions will my audience have?
----------------------------	---



RPMS DIRECT

- Message Agent.

Evaluate Adherence

- Subjective.
- Objective.
- Biochemical.

Osterberg L, 2005.

ePrescribing

- 73% of physicians utilize ePrescribing in EHR systems.

Conclusion

- Medication adherence is an important facet of patient care.
- Medication adherence is a problem in the Indian Health System.
- There are many barriers that lead to poor medication adherence. Improving adherence is an individualized process of collaboration, understanding, and support.
- Many techniques can be used to assess and address medication adherence including health education, health literacy, health communications, patient engagement, and above all – keeping it SIMPLE.

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