



PATIENT SAFETY PHARMACY COLLABORATIVE



- Project Partners:
 - Waikiki Health Center
 - Telehealth Research Institute
 - UH Hilo School of Pharmacy
 - Hawaii Primary Care Association



- What is the PSPC?

A transformation of the delivery of care to create a new standard of health for high medication risk patient populations.



- AIM: To create a patient centered delivery system for high risk patients that will improve health outcomes and patient safety through an integrated approach to clinical pharmacy services in the primary care setting.



- Team approach to disease and medication management that ensures patient safety



- Unsafe medication risks
 - Inappropriate med storage
 - Drug-drug/drug-nutrient interactions
 - Poor comprehension
 - Lack of timely refills
 - Illegal substance abuse



- Service Integration:
 - Technology
 - Advanced clinical information system
 - Distance medication review and consultation
 - Disease and med management education
 - Direct services for med review, reconciliation and education in 2010



- Chronic Disease Management Program (CDMP)
 - Supports self management around chronic care model
 - Allows pharmacist to get snapshot of clinical information and patient's care plan
 - Allows pharmacist to take more active role in encouraging self management
 - Web-based



- CDMP interfaced with EMR for 2 way data transfer
 - Provider and patient views to assist providers in prioritizing care
 - Coordination of patient's health data across disparate systems
 - Highly integrated patient snapshot for rapid status
 - Longitudinal data repository

Provider Portal – Dashboard Screens

CDMP - Patient Snapshot - Microsoft Internet Explorer provided by Comcast

http://demo.estenda.com/cdmp/patientSnapShot.do?task=view&patientId=10000&patientFirstName=Robert&patientLastN: Live Search

File Edit View Favorites Tools Help

CDMP - Patient Snapshot

Search | User Pref | Admin | Help | Log Out

Home | My HM Data | Status Center | Private Msgs | Add Patient | Repository | JVN | Studies | Reports

Patient Snapshot: Robert Salvo (06/07/1947) [✓ DME] Team: WRAMC [Print View](#)

Demographics

Gender: MALE Age: 61 Ethnicity: White, Non-Hispanic Taking Aspirin: Y Depression: N Alcohol: N

Diabetes - Type: 2 Status: Treating Date: 08/01/2004
 CKD - Stage: 3 Status: Monitoring Date: 12/05/2005
 Hepatitis B - Status: Screened Date: 09/10/2007
 Liver Disease - Date: 11/07/2006

Conditions: Allergies:

Patient Status Data		Risk Profile (View)		Educ. Evaluation	
Red Alerts:	10 Open (0 New), 1 in last 90 days	Cardiovascular	High	Evaluation Date:	02/20/2007
Yellow Alerts:	2 Open (0 New), 0 in last 90 days	Foot Disease	Medium	Disease Process	Adequate
Reminders:	6 Past Due, 0 Due Today	Glycemic Control	High	Nutrition	Proficient
Care Plan:	Open Care Plan - Planned End Date: 09/07/2007 Last Updated: 07/02/2008	Nephropathy	High	Physical	Proficient
Foot Exam:	Self-reported as of 06/26/2008	Retinopathy	High	Medications	Inadequate
Eye Exam:	Self-reported as of 06/26/2008	BAT Scores (06/26/2008)		Goal Setting	Adequate
JVN:	JVN exam older than 365 days	(Summary Detail)		Pregnancy	Proficient
NAT:	08/08/2007	Smoking	2 (1 - 3) Medium		
Procedures:	0 in last 365 days	Physical Wellness	30 (1 - 30) High		
Admissions:	0 in last 365 days				
Last Encounter:	02/06/2008				

Labs and Vital Signs			Current Medications			Diagnosis Listing
Labs	Date	Value/Trend	Medication Name	Dosage	Frequency	DIABETES INSIPIDUS
A1C	07/16/2008	9.7 % +	ACETAMINOPHEN	20-12.5MG	bid	DM w/eye mnfst, type 1
Triglycerides	02/21/2006	163 mg/dL -	HEPATITIS-NOSODE-INJEEL		One time only	DM w/neuro mnfst, type 1
LDL	06/01/2008	105 mg/dl -	LANTUS	20	q am	DM w/renal mnfst, type 1, uncntrl
Serum Creatinine	02/21/2006	2.30 mg/dL -	PRINZIDE	20-12.5MG	bid	Hypertension, essential NOS
						Impotence, organic origin

Patient Menu

- Patient Info
- Snapshot
- Alerts/Reminders
- Clinical
- Nutrition
- Home Monitoring
- Risk Profile
- Education
- Surveys
- JVN Report
- Image Catalog
- Care Plan
- DME
- Add/Edit Patient Data
- Private Msgs
- Encounters
- Documents
- Reports
- Calcs

open all | close all



- Patient self management
 - Consistent messages
 - Team support
 - Frequent supportive contact
 - Unified care plan

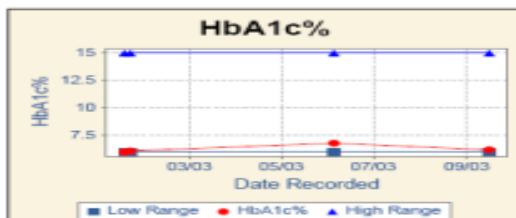
Patient: Robert Salvo

Diabetes Management Take Home Plan

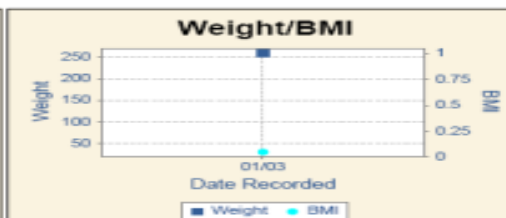
Our overall aim is to help you control your diabetes. That means learning more about and paying attention to <> your diet and physical activity <> your medications <> your blood sugar <> your feet and <> your eyes.

Your Current Health Profile - By the Numbers

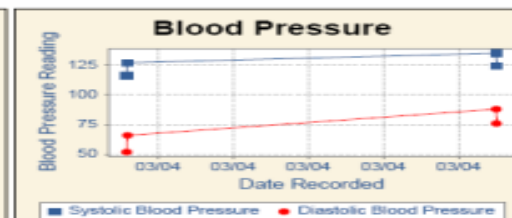
A1cs - Past Year



Weight/BMI - Past Year



Blood Pressure - Past Year



How You're Doing

Risk Level	Category	Management Guidelines
◆ HIGH	Glycemic Control	HbA1c checked < 2 times in 1 year
◆ HIGH	Glycemic Control	Diagnosed with Hypoglycemia
◆ HIGH	Cardiac	Blood pressure > 130/80
◆ HIGH	Cardiac	Over 30 & not on ASA
◆ HIGH	Retinopathy	No annual eye exam in past year
◆ HIGH	Nephropathy	Blood Pressure > 130/80 3 times
◆ MEDIUM	PVD/Peripheral Neuropathy	No foot exam in last year
◆ MEDIUM	Nephropathy	No A/C Ratio Test

Personal Health Goals

Current Care Plan

[Save](#) [Cancel](#) [Take Home](#)

Start Date: Planned End Date: Actual End Date:

Risk Profile [\(Show\)](#)

Physical Wellness | Self-Management | **Education** | Action Items

Education Items

Keyword: Media Filter: [Search](#) [View All](#)

1 of 2 [Next>](#) [Last>>](#)

Media	Education Item	Description	
Class	Managing Stress	Managing Stress	Assign
Website	Lifestyle's of the Rich and Famous	celebrity lifestyles	Assign
Class	Give it a try	Class	Assign
Website	Nate's Class	A class on Temple's campus about commuting to Conshohocken	Assign
Website	Programming Tidbits	Dean's programming tidbits weekly at Estenda Solutions, Inc.	Assign
Website	Diet, Diabetes and you	A comedic story of one man's struggle to let go of his passion for sugar cubes, and learn to live sugar free.	Assign

Assigned Educational Items

Remote Patient Monitoring



Meter data
uploaded by
phone line or
internet (via
Patient Portal)

- Patient Menu
 - Patient Info
 - Snapshot
 - Alerts/Reminders
 - Clinical
 - Nutrition
 - Home Monitoring
 - Risk Profile
 - Education
 - Survey History
 - JVIN Report
 - Image Catalog
 - Care Plan
 - DME
 - Add/Edit Patient Data
 - Private Msgs
 - Encounter
 - Survey Request
- open all | close all

Comprehensive Diabetes Management Program

Home | My HM Data | Status Center | Private Msgs | Search | Help
 JVIN | Studies | Add Patient | User Pref | Admin | Log Out

Home Monitoring: George Lewis

Retrieve Data

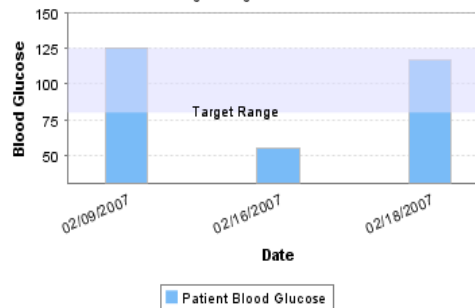
Blood Glucose

Date	Total Daily Readings	Daily Average
02/18/2007	1	117
02/16/2007	1	55
02/09/2007	1	125

Average Blood Glucose by Day

02/04/2007 to 02/18/2007

Target Range 80 to 125



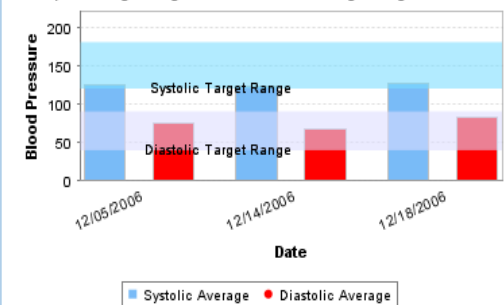
Blood Pressure

Date	Total Daily Readings	Daily Average
12/18/2006	1	126/82
12/14/2006	1	122/68
12/05/2006	1	124/76

Average Blood Pressure by Day

12/04/2006 to 12/18/2006

Systolic Target Range: 120 to 180 Diastolic Target Range: 40 to 90

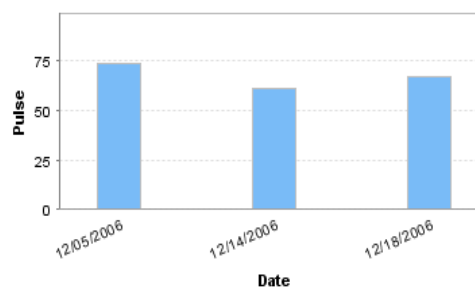


Pulse

Date	Total Daily Readings	Daily Average (bpm)
12/18/2006	1	67
12/14/2006	1	61
12/05/2006	1	74

Average Pulse by Day

12/04/2006 to 12/18/2006



Weight

There is no weight data to display

Patient Portal Personal Health Record

iGoogle - Microsoft Internet Explorer

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Search Preferences
Language Tools

Google Search I'm Feeling Lucky

Home Exercise 1a Exercise 1b Exercise 1c Exercise 2 Exercise 3a Exercise 3b Meal 1 Meal 2 Add a tab

Get artist themes Select theme Add stuff

Exercise Program

Daily

Complete: 230 steps
Goal: 7000 steps

View: Daily Weekly

Energy Out

Monday June 2, 2008
No significant exercise events have occurred.

[Click here to see ways to increase your level of activity.](#)

What If Analysis - Exercise

Select an Activity:

Duration: minutes

Intensity:

[Analyze](#)

Your current blood sugar is 300 mg/DI. Do not exercise.

Estimated calories burned = 180

Blood Sugar

Viewing last 10 hours:

Most Recent Reading is 300 mg/DI recorded at 8:00am

- Your blood glucose is too high. You should take 8.0 units of insulin to bring your blood sugar down to 100 mg/DI over the next couple of hours.

[Hide Insulin Calculation](#)

Special Clock

The current time is
08:00

Insulin Calculator

Meal-time Bolus Calculation

What are the number of carbohydrates used for your carb to insulin ratio?

How many carbohydrates are in your planned meal?

[Calculate](#)

Carb to Insulin Ratio:
Computed Insulin Units:



- Population of Focus
 - Adult patients with diabetes
 - Homeless
 - Behavioral health conditions
 - Substance abuse issues
- Clinical outcome
 - Decrease in HbA1c



- Elements tracked:
 - HbA1c
 - Number of clinical pharmacy services (CPS) performed
 - Intensity of CPS provided
 - Preventive care



- Elements tracked
 - Medication reconciliation services
 - Medication therapy management
 - Disease state management
 - pADE
 - ADE
 - Provider education



- Results

- Improvement in health status
- Detection of potential adverse drug events (pADEs)
- Improvement in safety (reduction in ADEs)



- POF-210
 - 46 pts with CPS
 - 348=# of CPS elements (8/09)
 - 28% A1c <7.0
 - 7.5%=intensity rating
 - 9% pADE (8/09)

