The Diabetes Registry and Future Panel Management Tool

Jianji Yang, PhD
Judy McConnachie, MPH
Roger Renfro
Steve Schreiner
Stephanie Tallett, BA
Lisa Winterbottom, MD MPH

In collaboration with clinical staff from the Portland VAMC & VISN 20 facilities
Poll question

- Please add question, “What is your background?” (select all that apply)
- Research
- Primary Care Physician
- Specialty Care Physician
- Nurse
- Pharmacist
- Information Technology (IT)
- Quality & Performance
Overview

● Diabetes Registry:
  ● Background & development
  ● Features & associated functions
  ● Use in practice

● Future Panel Management Tool:
  ● Planned architecture
  ● Planned features

● Summary & questions
Background – July 2008

- Increasing diabetic population
- Intensive resource use
- Population at high risk for co-morbidities
- Not meeting EPRP performance measures
- No access to real-time data:
  - Who are our diabetic patients?
  - Who is at risk for poor outcomes?
- Multi-disciplinary team chartered by PVAMC Chief of Staff to develop registry
Registry Development

- Reviewed existing registries with program developers:
  - Cleveland VA
  - VISN 7 – Atlanta
  - Kaiser Permanente

- Defined registry format & functions based on local need & identified strong practices – “in-reach” & “out-reach”

- Partnered with VISN 20 Data Manager & PVAMC Web Master for data routines & display

- Piloted by 6 Primary Care teams for feedback with rapid development cycles to meet user specifications
Inclusion Criteria - (looking back 1yr)

- Hgb A1c >= 6.5 (looks back last 3 years)
- Outpt insulin rx
- Oral hypoglycemic agent rx other than metformin
- Metformin rx w/ diabetes ICD-9 code on active problem list
- Metformin rx with outpt visit with diabetes ICD-9 code
- Glucose test strip rx w/ diabetes ICD-9 code on active problem list
- Glucose test strip rx w/ outpt visit with diabetes ICD-9 code

Note: plan to use problem list to identify “diet controlled” diabetics – capture in separate report
Nightly Registry Data Flow

VISTA

Regional Data Warehouse
- Demographic data
- Patient cohort
- Health factors
- Labs
- Outpatient meds
- Vitals

VISN Data Warehouse
- Outpt exams
- Outpt encounters
- Allergies
- Non-VA meds

VISN 20 Diabetes Database

Step 1: Nightly Data Pull by stored SQL 2008 Procedures

Step 2: Standard Queries for local facilities’ web interface

Facility Intranet Web Page
‘Live’ Data Reports by User Request
Converting Data Tables to Functional Registry

● Software for web-based platform:
  ● Build software - Active Server Page, JavaScript, Cascading Style Sheet, JQuery, and Active Data Object technologies. Plan for ASP.net for future
    ● Rapid development cycles
    ● Ease of maintenance
    ● Simple but powerful functionality
    ● Intuitive interface

● User Reports
  ● Implemented using Microsoft SQL Server 2008 and SQL Server 2008 Reporting Services
    ● Access data through multiple predefined reports with minimal user interaction
    ● Custom query feature for power users – full parameterized access to the data
Back-end User Database: Registry Access & Constants

- Forms streamline process to grant user access
- Flexible to meet unique site staffing & roles
- Designation of lab/exam thresholds
- Reports by site, role, user look-up, etc.
Hierarchical Access to Clinical & Performance Data

**Individual providers:**
- Own panel

**Clinic staff (RN, MA/LPN, SW, etc):**
- Clinical data for all providers at site (no performance data)

**Clinic managers:**
- Individual provider panels & clinic aggregate

**Division & executive leadership:**
- Individual provider panels, clinic aggregates for comparison, & division aggregate
Registry Features

- Data updated daily
- Batched individualized patient letters
- Scorecards for Team: patient trends & issues
- Scorecards for patients: education & engagement

<table>
<thead>
<tr>
<th>Population Mgmt</th>
<th>EPRP Performance</th>
<th>User Friendly</th>
</tr>
</thead>
</table>
| - Aggregate data display  
- New diabetics  
- Outside labs  
- Triage patients  
- Upcoming appoints  
- Patient pick lists | - Identify outlier patients  
- Performance dashboard | - Web interface  
- Fast retrieval  
- 1-click canned reports  
- Custom queries  
- Print and export reports |
Demonstration...

Diabetes Registry

Total Health
Diabetes Care
Portland VA Medical Center
Sample Registry Screen Shots

Main dashboard
Select cohort and then desired canned report from most common functions
Links to other functions on blue tool bar
Common Data Display

Data for DM clinical measures
Trended data for HgbA1c at a glance
Outliers in red by clinical threshold or date
All columns sortable for triage
1-Click Canned Report
Example: Hgb A1C ≥ 7

<table>
<thead>
<tr>
<th>#</th>
<th>Patient Name</th>
<th>Age</th>
<th>Last</th>
<th>A1C Last Date</th>
<th>Prev</th>
<th>LDL Last Date</th>
<th>MA/CR Value</th>
<th>Date</th>
<th>Blood Pressure Sys/Dia</th>
<th>Date</th>
<th>Foot Exam</th>
<th>Retinal Exam</th>
<th>Pnx</th>
<th>Flu</th>
<th>Insulin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>test17 (1234)</td>
<td>69</td>
<td>7.7</td>
<td>09/22/09</td>
<td>8.0</td>
<td>87.00</td>
<td>ND</td>
<td>ND</td>
<td>125/59</td>
<td>06/22/10</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>test13 (1324)</td>
<td>60</td>
<td>0.0</td>
<td>05/20/00</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>100/02</td>
<td>04/20/00</td>
<td>ND</td>
<td>11/10/00</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>test34 (1234)</td>
<td>62</td>
<td>8.0</td>
<td>05/08/10</td>
<td>6.7</td>
<td>54.00</td>
<td>ND</td>
<td>ND</td>
<td>119/59</td>
<td>06/23/08</td>
<td>ND</td>
<td>12/29/04</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>test46 (1234)</td>
<td>66</td>
<td>7.5</td>
<td>06/19/09</td>
<td>7.6</td>
<td>83.00</td>
<td>ND</td>
<td>ND</td>
<td>143/86</td>
<td>06/07/10</td>
<td>ND</td>
<td>10/05/09</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>test38 (1234)</td>
<td>58</td>
<td>7.0</td>
<td>04/23/10</td>
<td>6.7</td>
<td>90.00</td>
<td>ND</td>
<td>ND</td>
<td>138/69</td>
<td>03/17/10</td>
<td>ND</td>
<td>10/09/05</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>test41 (1234)</td>
<td>84</td>
<td>8.3</td>
<td>04/21/10</td>
<td>6.8</td>
<td>134.00</td>
<td>ND</td>
<td>ND</td>
<td>113/70</td>
<td>07/17/08</td>
<td>ND</td>
<td>11/04/09</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

1-click reports to identify all patients meeting specific criteria
built using most common search requests & following EPRP measure compliance
### Upcoming Appointments Canned Report

<table>
<thead>
<tr>
<th>#</th>
<th>Patient Name</th>
<th>Age</th>
<th>Date</th>
<th>Next Appt</th>
<th>A1C Last</th>
<th>A1C Date</th>
<th>LDL Last</th>
<th>LDL Date</th>
<th>MA/CR Value</th>
<th>MA/CR Date</th>
<th>Blood Pressure</th>
<th>Foot Exam</th>
<th>Retinal Exam</th>
<th>Fax</th>
<th>Flu</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>test124 (1234)</td>
<td>75</td>
<td>10/16/10</td>
<td>OPTOMETRY</td>
<td>5.9</td>
<td>12/09/09</td>
<td>131.00</td>
<td>12/09/09</td>
<td>9.52</td>
<td>10/15/07</td>
<td>136/79</td>
<td>05/23/10</td>
<td>06/08/10</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>2</td>
<td>test128 (1234)</td>
<td>71</td>
<td>10/14/10</td>
<td>TELEPHONE/MEDICINE</td>
<td>6.0</td>
<td>03/23/10</td>
<td>61.00</td>
<td>03/23/10</td>
<td>47.02</td>
<td>03/23/10</td>
<td>130/30</td>
<td>04/26/10</td>
<td>09/05/09</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>3</td>
<td>test130 (1234)</td>
<td>66</td>
<td>10/21/10</td>
<td>LABORATORY</td>
<td>9.9</td>
<td>05/29/08</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>138/82</td>
<td>03/25/10</td>
<td>04/26/10</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>4</td>
<td>test131 (1234)</td>
<td>55</td>
<td>10/13/10</td>
<td>PRIMARY CARE GROUP PRI</td>
<td>5.6</td>
<td>03/13/09</td>
<td>126.00</td>
<td>03/09/10</td>
<td>27.90</td>
<td>03/09/10</td>
<td>116/63</td>
<td>02/10/10</td>
<td>04/26/09</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>5</td>
<td>test132 (1234)</td>
<td>50</td>
<td>10/12/10</td>
<td>NEUROLOGY</td>
<td>6.7</td>
<td>01/07/10</td>
<td>60.00</td>
<td>03/17/10</td>
<td>ND</td>
<td>01/06/10</td>
<td>104/69</td>
<td>03/22/10</td>
<td>12/02/09</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>6</td>
<td>test133 (1234)</td>
<td>70</td>
<td>10/22/10</td>
<td>OPTOMETRY</td>
<td>6.9</td>
<td>05/13/10</td>
<td>101.00</td>
<td>07/02/09</td>
<td>ND</td>
<td>ND</td>
<td>05/18/04</td>
<td>11/01/08</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
</tr>
</tbody>
</table>

Identify patients with upcoming appointments by PCP appointment or ALL appointments

Facilitates proactive care approach
Team Report Card

Diabetes Registry - Scorecard

Patient Name: test132

Age: 50
Body Mass Index: 36.00
Date of Next PCP Visit: NA
Recall Date: NA

PCP: TestProvA, Test
Resident: NA
Home Phone: 555-555-5554
Work Phone: 444-444-4453

Diabetes Report Card (PDF)

Labs

HgbA1c: 6.70, 1/7/2010
  Prev 1: 8.10, 9/22/2009
  LDL: 60.00, 3/17/2010
  Prev 1: 49.00, 4/3/2009
  Prev 2: NA
  MA/CR: , 1/5/2010

Upcoming Medical Center Appointments

Next PCP App: NA
Next App: NEUROLOGY 10/12/2010 12:00:00 PM

Preventive Measures

Flu Shot: 12/6/2005
Pneumovax: 6/6/2005

Screening Measures

BP: 104/69, 1/7/2010
Last Foot Exam: 3/22/2010
Last Feinlal Exam: 12/2/2009
Diabetic Eye Exam ICD-9

Allergies

<table>
<thead>
<tr>
<th>Allergy</th>
<th>Type</th>
<th>Observed or Historical</th>
<th>Mechanism</th>
<th>Verified Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBUPROFEN</td>
<td>Drug</td>
<td>HISTORICAL</td>
<td>ALLERGY</td>
<td>7/28/2005</td>
</tr>
<tr>
<td>Terazosin</td>
<td>Drug</td>
<td>HISTORICAL</td>
<td>PHARMACOLOGIC</td>
<td>5/2/2003</td>
</tr>
</tbody>
</table>

Active Diabetes Medications

<table>
<thead>
<tr>
<th>Drug Classification</th>
<th>Drug</th>
<th>Qty</th>
<th>Supply</th>
<th>Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antihypertensive</td>
<td>Ezetimibe 10mg Tab</td>
<td>90</td>
<td>90</td>
<td>1/28/2008</td>
</tr>
<tr>
<td>Insulin</td>
<td>Insulin NPH Human 100 Unit/ML NovoLIN N</td>
<td>18</td>
<td>90</td>
<td>3/27/2008</td>
</tr>
</tbody>
</table>

Click on patient name from data display to get to comprehensive team report card

More trended lab data, contact info, appointment info

Drug allergies, DM meds by drug class, and outside drugs updated daily
Patient Report Card

For education and outreach to patients – includes for all DM measures:
- date and values of last test
- goal for most people for test
- interpretation of last results
- date test next due
- back side is a glossary of terms explaining each test, why needed, how done.
Custom Query

For power users – allows flexibility in search parameters

<table>
<thead>
<tr>
<th>Location:</th>
<th>All</th>
<th>Provider:</th>
<th>ALKADI DANIY</th>
<th>Site:</th>
<th>Bend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Cohort:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New to cohort within 30 days</td>
<td>Next Appointment (All) in 7 days</td>
<td>Next PCP Appointment in 7 days</td>
<td>Recall Month January</td>
<td>Birth Month January</td>
<td></td>
</tr>
<tr>
<td>Labs:</td>
<td>A1C</td>
<td>LDL</td>
<td>MA/CR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;= 7</td>
<td>&gt;= 100</td>
<td>&gt;= 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due</td>
<td>&lt;= 7</td>
<td>Due</td>
<td>&lt;= 100</td>
<td>Due</td>
<td>&lt;= 30</td>
</tr>
<tr>
<td>plus Due</td>
<td>plus Due</td>
<td>plus Due</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitals:</td>
<td>BP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 140/90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 130/80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medications:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ace Inhibitors</td>
<td>Angiotensin II Inhibitors</td>
<td>Antihypertensive Combinations</td>
<td>Potassium Sparing/Combinations Diuretics</td>
<td>Thiazides/Related Diuretics</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antilipemic Agents</td>
<td>Nicotinic Acid</td>
<td>Insulin</td>
<td>Oral Hypoglycemic Agents</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Non-Opioid Analgesics</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Diagnostics, Other (i.e. Test strips)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventive:</td>
<td>Annual Flu not done</td>
<td>Pneumovax not done</td>
<td>Annual Foot exam not done</td>
<td>Retinal exam not done</td>
<td>Tobacco use in past 12 months</td>
</tr>
<tr>
<td>Fields to Display:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sort On:</td>
<td></td>
<td></td>
<td>Patient Name</td>
<td>Ascending</td>
<td>Decending</td>
</tr>
<tr>
<td>Format:</td>
<td></td>
<td></td>
<td></td>
<td>Report</td>
<td>Excel</td>
</tr>
</tbody>
</table>
Example Registry Function:
Patient Lab Letters

- Three month pilot started 2/23/09
- Centralized 1-2 click production
- Letters to patients missing A1c or LDL with appointment w/in 2 weeks
- Last available lab results, how to get labs done, and appointment reminder
- Used policy order to allow lab staff to enter order
- Approximately 1000 letters sent during pilot
Example Patient Letter

Dear [Patient's Name],

According to our records, you are due for annual lab tests as part of your ongoing care. Two important labs that are monitored yearly for patients with diabetes or at risk for developing diabetes are the Hemoglobin A1c and the LDL cholesterol. Please note that your goals for these labs may be different due to your specific health conditions. If your past lab result is not controlled, consider discussing with your health care team at your next regularly scheduled visit.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Your Past Lab Results</th>
<th>How often test due</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1c (Diabetes Test)</td>
<td>7.9% June 8 2009</td>
<td>May need improvement</td>
</tr>
<tr>
<td>LDL (Bad Cholesterol)</td>
<td>Less than 100mg/dL</td>
<td>Not controlled</td>
</tr>
</tbody>
</table>

*****THE FOLLOWING LAB TESTS ARE DUE NOW*****

*****Lab: order the test indicated and underlined below*****

- **LDL - Fasting Lipid Profile** - You must NOT eat or drink anything BUT WATER from midnight before the test. Please take your AM diabetes medications AFTER your fasting lab is drawn. Recommend getting lab drawn before 10am to avoid a long period of fasting.

If you have had these labs done within the last year by a non-VA provider, please provide a copy of the results to your Primary Care Health Team.

How to get your labs done – **YOU MUST BRING THIS LETTER WITH YOU**:

1. Get your lab drawn at your local VA Primary Care Clinic at your convenience:
   - Present this letter at your Primary Care Clinic within the next 30 days. Lab hours: Mon to Fri 8am – 3:30pm for all sites, except starting at 9am on Weds at Salem, Bend, and East Clinics.
   - North Coast Clinic: Thurs 8am – 11am, or by appointment: 1-800-949-1004, ext. 52593.

2. Get your labs drawn during your next VA appointment:
   - Present this letter at the facility lab when you come in for your next appointment. GERI JALLAD-VANC at 8/17/2009 8:30:00 AM.
Patient Lab Letter Analysis
Feb 2009 – May 2009

N = 1062 (7 mail batches)

Compliance:
Ave 60% lab completion
62% had labs on day of appoint

Outcome:
A1c: ~90% values <=9%, ~55% <=7
LDL: ~80% <=100
How is the registry used in practice?

Patient triage and proactive disease management:

- “We identify vets with a1c’s over 8, to make sure that appropriate follow-up is being made by either via PCP phone/SMA/1:1 appts, nursing phone/drop in appts, endo, or clinical pharmacy consults.”
- “I make a custom list of the patients that are scheduled for each of my diabetes clinics so that I can review their reports, see the trends, and order the labs or appointments, perform any exams that need to be done.”
- “The RN scans for high BP and A1c. She will have pt’s come into the RN HTN group visit for rechecks and discuss needed f/u with pcp….”

Improve annual monitoring of relevant tests/exams:

- “The RN and LPN scan the registry for tests (labs, Eye, foot exam, etc) that are overdue and schedule f/u.”
- “The facilitator pulls up a monthly patient list according to birth date and schedules those patients into our RN lead annual DM group visit.”

Patient education and engagement:

- “I give each veteran a copy of their report and the ‘team report card’ that gives the meds, etc, and explain what the report shows, what each section means, and I encourage them to be actively involved, i.e. if the lab test is due and they haven’t heard from their provider, that they should call and be proactive to get what needs to be done….done.”
Going Forward-
Total Population Management

- Panel Management Tool
  - Integrates tools for holistic care & improved efficiencies
  - Creates consolidated platform for population management
  - Supports needs for varied users
Panel Management Tool Architecture

**Console Level**

- Panel Management Console
  - Hub for clinical tools
  - Quick access for common tasks
  - Performance at a glance
  - Triage by priority clinical markers

**Support Level**

- Care Management Support Tool
  - Efficient pt tracking
  - Tasking & scheduling f/u

- Performance Dashboard
  - Real time performance data
  - Aggregate & individual scores
  - Link to pt lists for action

**Disease-specific Level**

- Diabetes Registry
- CHF Registry
- Other Registries

- Disease Registries
  - Holistic team & pt report cards
  - Disease-specific management
  - Integrated data
Panel Management:

- Supports teamlet in panel management
- Proactive patient care
- Identifies high risk patients
- Enables tasking for process measures
- Identifies resource intensive patients by cohort for review
Performance Dashboard:

- Real-time performance for total population
- Trended data
- Aggregate for VISN; drill down to facility, clinic, individual provider
- Click to retrieve list of patient outliers for action

Resource Intensive Patients by Cohort:

- Click to retrieve list of patient outliers for action

(note: data for example purpose only)
Panel Management Console
Current User: Judy McConnachie
Role: Administrator (Administrator)
Station Code: 048
Data extracted on: 9/28/2010 4:44:22 AM

Total Health
Panel Management
Portland VA Medical Center

Panel Management

Draft ready for pilot – will include CHF Risk Prediction Score

Clinical Toolbox:
Centralized access to relevant tools

Diabetes Registry
CHF Registry
Care Management
Clinical Reminders
Protocols
Other Registries

Panel Management

Select PCP: -- All --
Or
Select Site: -- All --
Select Custom Patient List: -- All Patients --

All Patients in Panel:

Next Appointment Within: 7 days, All
Active Recall overdue: 2 mo(s)
Currently in Hospital:
Hospital Discharge in Past: 30 days
Emergency Department Visit Within: 30 days
Labs/Exams Due: -- All --
Resource Intensive Patients by Cohort: --CHF--

Patient Name or Last Four: View

Draft ready for pilot – will include CHF Risk Prediction Score

Clinical Toolbox:
Centralized access to relevant tools

Diabetes Registry
CHF Registry
Care Management
Clinical Reminders
Protocols
Other Registries

Panel Management

Select PCP: -- All --
Or
Select Site: -- All --
Select Custom Patient List: -- All Patients --

All Patients in Panel:

Next Appointment Within: 7 days, All
Active Recall overdue: 2 mo(s)
Currently in Hospital:
Hospital Discharge in Past: 30 days
Emergency Department Visit Within: 30 days
Labs/Exams Due: -- All --
Resource Intensive Patients by Cohort: --CHF--

Patient Name or Last Four: View
### Canned report output:

Define outlier thresholds, e.g., last hospital d/c < 1 month

See associated registries & whether pt meeting dz specific measures

Identify resources involved

Enroll in care management program

Batch print report cards

### Diabetes Registry - Date of Last Hospital Discharge

<table>
<thead>
<tr>
<th>Print</th>
<th>Patient Name</th>
<th>Age</th>
<th>PCP Appt Last</th>
<th>Last Hospital DC</th>
<th>DM</th>
<th>CHF</th>
<th>CM+</th>
<th>MyHealtheVet</th>
<th>CHT</th>
<th>HBPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑</td>
<td>Test 1</td>
<td>27</td>
<td>01/16/09</td>
<td>05/13/10</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>☑</td>
<td>Test 2</td>
<td>45</td>
<td>09/22/10</td>
<td>12/23/09</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>☑</td>
<td>Test 3</td>
<td>62</td>
<td>06/21/10</td>
<td>10/29/09</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>☑</td>
<td>Test 4</td>
<td>58</td>
<td>05/05/10</td>
<td>09/03/10</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>☑</td>
<td>Test 5</td>
<td>69</td>
<td>01/22/10</td>
<td>02/19/09</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>☑</td>
<td>Test 6</td>
<td>71</td>
<td>04/13/10</td>
<td>11/25/09</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Panel Management Console**

Current User: Judy McConnachie
Role: Administrator (Administrator)
Station Code: 648
Data extracted on: 9/28/2010 4:44:22 AM
Select patient for comprehensive team report card on all elements from associated registries.

## Labs

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HgA1c</td>
<td>10.90, 8/3/2010</td>
</tr>
<tr>
<td>Previous 1</td>
<td>12.80, 5/26/2010</td>
</tr>
<tr>
<td>Previous 2</td>
<td>11.10, 12/21/2009</td>
</tr>
<tr>
<td>LDL</td>
<td>75.00, 8/3/2010</td>
</tr>
<tr>
<td>Previous 1</td>
<td>88.00, 12/21/2009</td>
</tr>
<tr>
<td>Previous 2</td>
<td>52.00, 9/15/2009</td>
</tr>
<tr>
<td>NA/CR</td>
<td>295, 5/2/2010</td>
</tr>
</tbody>
</table>

## Upcoming Medical Center Appointments

- **Next PCP Appt:** NA
- **Next Appt:** NA

## Preventive Measures

- **Flu Shot:** 9/15/2009
- **Pneumovax:** 1/1/2007

## Allergies

<table>
<thead>
<tr>
<th>Allergy</th>
<th>Type</th>
<th>Observed or Historical</th>
<th>Mechanism</th>
<th>Verified Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>CODEINE</td>
<td>Drug</td>
<td>HISTORICAL</td>
<td>UNKNOWN</td>
<td>11/21/2003</td>
</tr>
</tbody>
</table>

## Active Diabetes Medications

<table>
<thead>
<tr>
<th>Drug Classification</th>
<th>Drug</th>
<th>Sig</th>
<th>Qty</th>
<th>Supply</th>
<th>Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACE INHIBITORS</td>
<td>LISINOPRIL 20MG TAB</td>
<td>TAKE ONE TABLET BY MOUTH EVERY DAY FOR</td>
<td>90</td>
<td>90</td>
<td>7/20/2010</td>
</tr>
<tr>
<td>ANTILIPIDEMIC AGENTS</td>
<td>SIMVASTATIN 80MG TAB</td>
<td>TAKE ONE TABLET BY MOUTH AT BEDTIME TO</td>
<td>90</td>
<td>90</td>
<td>7/26/2010</td>
</tr>
<tr>
<td>INSULIN</td>
<td>INSULIN, GLARGINE 100U/ML INJ 10ML VIAL</td>
<td>INJECT 38 UNITS SUBCUTANEOSLY MORN</td>
<td>13</td>
<td>90</td>
<td>8/25/2010</td>
</tr>
<tr>
<td></td>
<td>INSULIN, ASPART 100U/ML INJ 10ML VIAL</td>
<td>INJECT 15 UNITS SUBCUTANEOSLY EVERY MO</td>
<td>5</td>
<td>90</td>
<td>6/14/2010</td>
</tr>
</tbody>
</table>

## Non-VA Medications

<table>
<thead>
<tr>
<th>Drug Classification</th>
<th>Drug</th>
<th>Dosage</th>
<th>Schedule</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>MULTIVITAMINS</td>
<td>MULTIVITAMIN TAB</td>
<td>1 TABLET</td>
<td>EVERY DAY</td>
<td></td>
</tr>
</tbody>
</table>
Future patient report card will include all data elements from associated registries – 2nd page includes patient glossary.

**Diabetes Report Card**

**Patient Name:** [Redacted]  
**DOB:** 1/3/1943  
**Primary Care Provider:** [Redacted]  
**Recall Date:**  

**Next PCP Appointment Date:**

Please note that your goals for these diabetic tests may be different due to your specific healthcare needs. Discuss any questions or concerns with your Primary Care Health Care Team.

<table>
<thead>
<tr>
<th>Diabetes Tests</th>
<th>Your Last Test: Value &amp; Date Done</th>
<th>Goal for Test</th>
<th>Your Results</th>
<th>Next Test Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Pressure</td>
<td>139/87 7/20/2010</td>
<td>Less than 130/80 for most people</td>
<td>May need improvement</td>
<td>Due at every clinic visit</td>
</tr>
<tr>
<td>Foot Exam</td>
<td>7/20/2010</td>
<td>Foot exam done yearly</td>
<td>Foot exam done</td>
<td>Due: Jul 2011</td>
</tr>
<tr>
<td>A1c (3 month average blood sugar test)</td>
<td>10.50 8/22/2010</td>
<td>Less than 7% (for most people)</td>
<td>Not controlled</td>
<td>Due: Aug 2011</td>
</tr>
<tr>
<td>L.D.L. (Bad Cholesterol)</td>
<td>75.00 8/2/2010</td>
<td>Less than 100mg/dL</td>
<td>Controlled</td>
<td>Due: Aug 2011</td>
</tr>
<tr>
<td>Urine Protein</td>
<td>205 6/2/2010</td>
<td>&lt; 30 mg/g</td>
<td>Not controlled</td>
<td>Due: Jan 2011</td>
</tr>
<tr>
<td>Pneumonia Shot</td>
<td>9/15/2009</td>
<td>Yearly flu shot</td>
<td>Remember to get your flu shot yearly—available at the VA during Fall and Winter</td>
<td>Yearly at start of flu season (Fall)</td>
</tr>
<tr>
<td>Pneumonia Shot</td>
<td>1/1/2007</td>
<td>Pneumonia shot done</td>
<td>Pneumonia shot done</td>
<td>Discuss with your PCP</td>
</tr>
</tbody>
</table>

If you are due now for a shot or any of the above exams or labs, please call your Primary Care Health Care Team for assistance. If you do not know the phone number for your Primary Care Health Care Team, you can call one of the following numbers to transfer to your local Primary Care Clinic for assistance:

<table>
<thead>
<tr>
<th>Calling from Portland Area</th>
<th>Calling from Vancouver Area</th>
<th>Toll-Free Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>(503) 2208262</td>
<td>(360) 6964062</td>
<td>(800) 949-1004</td>
</tr>
</tbody>
</table>
Planned Care Management Tool: Collaboration with Care Management Plus (CM+)

The following 3 slides from D. Dorr, MD MS presentation on Care Management Plus(+)

NOTE: TOOL WILL BE CUSTOMIZED; WILL EXTRACT DATA OBJECTS; TASKS CAN BE ASSIGNED TO SPECIFIC TEAM MEMBERS
Setting, Tracking, and Documenting Goals

Add Patient Goals

Patient: Harry, Binnes
ID: 1324234

1. Set Goals
2. Schedule Follow-up Date
3. Record Results at Follow-Up

<table>
<thead>
<tr>
<th>Goal Category</th>
<th>Goal Description</th>
<th>Schedule Follow Up</th>
<th>Goal Score</th>
<th>Score</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventing Acute Complications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Reduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychosocial Adj.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

<table>
<thead>
<tr>
<th>Status</th>
<th>Follow Up Date</th>
<th>Category</th>
<th>Description</th>
<th>score</th>
<th>Set Date</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pending</td>
<td></td>
<td>Nutrition</td>
<td></td>
<td>0.68</td>
<td>11/04/2009</td>
<td></td>
</tr>
<tr>
<td>Pending</td>
<td></td>
<td>Meds</td>
<td></td>
<td>0.75</td>
<td>10/06/2009</td>
<td></td>
</tr>
</tbody>
</table>
Tracking workflow: Tickler List

Care Manager Encounter Tickler List

Care Manager: All Care Managers
For Time Period: 10/20/2009 to 12/20/2009

<table>
<thead>
<tr>
<th>Scheduled Date</th>
<th>Scheduled Time</th>
<th>Encounter Type</th>
<th>Reason</th>
<th>EHR ID</th>
<th>First Name</th>
<th>Last Name</th>
<th>Phone</th>
<th>PCP</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-12-05</td>
<td></td>
<td>CM Office Visit</td>
<td>Depression</td>
<td>15463147563</td>
<td>Hank</td>
<td>Commons</td>
<td>541.214.3566</td>
<td>Jeremy Rogers</td>
<td>Check on caregiver status. How is wife coping after fall?</td>
</tr>
<tr>
<td>2009-12-05</td>
<td></td>
<td>Telephone Contact</td>
<td>Family/Caregiver Check</td>
<td>4987651</td>
<td>Jerry</td>
<td>Montoya</td>
<td>124.256.3526</td>
<td>Hillary Ceseman</td>
<td>PHQ9 Follow-up: Goals Follow-Up:</td>
</tr>
<tr>
<td>2009-12-04</td>
<td>08:00</td>
<td>Telephone Contact</td>
<td>Goals</td>
<td>1324234</td>
<td>Harry</td>
<td>Binnes</td>
<td>9874584587</td>
<td>Parnel Fieldman</td>
<td></td>
</tr>
<tr>
<td>2009-11-28</td>
<td></td>
<td>CM Office Visit</td>
<td>Clinical Protocol (s)</td>
<td>4582317</td>
<td>Mariah</td>
<td>Bouchard</td>
<td>456.732.5236</td>
<td>Carl Generic</td>
<td></td>
</tr>
</tbody>
</table>
Why the Panel Management Tool?

- Comprehensive & holistic
  - Up to date data for total population
  - Aggregate data for all; comprehensive for N of 1
  - Supports PACT team model & pt centric care
- Population based
  - Includes total population vs focus on outliers
  - Triage high risk patients
  - Identify resource-intensive patients
  - Supports proactive approach
- Performance support
  - Trended performance data
  - Identify outliers
  - Dashboard with actionable link to list of patients
- User-centric interface & intuitive interface
  - easy access & use with 1-click reports
  - Seamless integration - information & actionable tools
  - Meets needs of varied users
  - Aligned with future web-based EHR platform
Questions?

Contact:

Judy McConnachie, MPH  
503.220.8262 ext. 55691  
Judy.McConnachie@va.gov

Jianji Yang, PhD  
503.220.8262 ext. 51320  
Jianji.Yang2@va.gov