



RESOURCE AND PATIENT MANAGEMENT SYSTEM

# **EHR Optimization for Million Hearts Blood Pressure Management**

## **User Guide**

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Division of Information Technology

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## 1.0 Introduction

This guide provides the Clinical Application Coordinator (CAC) tools necessary to optimize the Electronic Health Record (EHR) Graphical User Interface (GUI) for Blood Pressure Management (Million Hearts). Sites may choose to deploy one, some, or all optimizations offered.

The toolkit includes new Clinical Reminders and Text Integration Utility (TIU) templates for the Integrated Problem List (IPL) care planning feature. Step by step instructions for numerous optimizations are included.

Population management is supported in iCare and via Reminder Reports.

## 2.0 Overview of Configuration Steps

### 2.1 Essential options

Option	Configuration
1	Create Hypertension Management order menu and add to Medication menu(s) (Section 3.0)
2	Add IHS Hypertension Management algorithm to EHR (Section 4.0)
3	Configure iCare panels (Section 10.2)
4	Install, test and deploy IHS-MH Hypertension Control 2015 reminder tools * (Section 8.0) * currently deployed Clinical Reminder sites requires options 8 and 9

### 2.2 Additional options

Option	Configuration
5	Install IHS-MH Hypertension 2015 Recall reminder *** used as reminder report (Section 10.1)
6	Set up Public Views for Graphing tool (Section 5.0)
7	Set up Lab Worksheets (Section 6.0)
8	Create Indian Health Service (IHS) Flowsheets and Measurement Panels (Section 7.0)
9	Create VA Health Summaries and TIU Objects (HYPERTENSION CONTROL) from flowsheets and measurement panels (Section 7.4)
10	Create Health Summary Button (Section 7.4.3)
11	Configure IPL with TIU Templates for IPL Goals, Care Plans and Visit Instructions (Section 9.0)

### 3.0 Order Menus

- Order menu may be developed to support Hypertension Management Protocol.
- Organize by Therapeutic Lifestyle Interventions, First Line Medications, Additional Medications, Lab Monitoring.
- Within groups, provide organization by drug class.
- Add to Medication Menus.
- Refer to the EHR CAC Setup Guide v1.1 for instructions on how to build quick orders and menus (<http://www.ihs.gov/ehr/index.cfm?module=cac>).

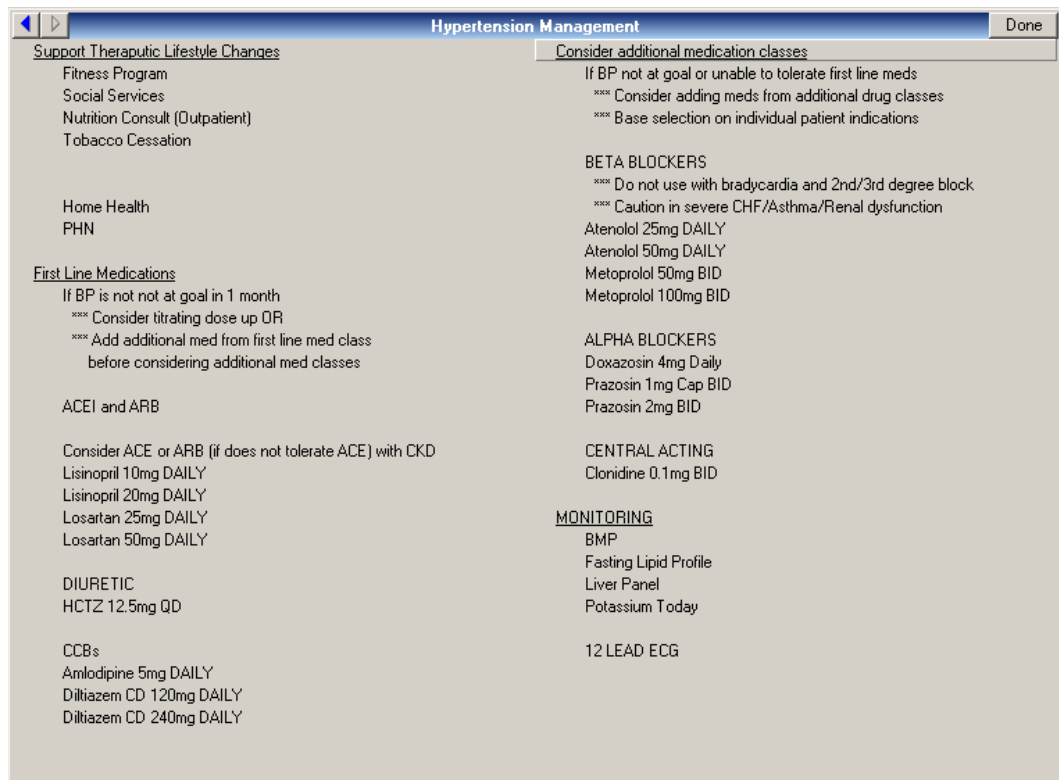


Figure 3-1: Sample **Hypertension Management** order menu



## 4.0 Add Hypertension Web Links to EHR

You may add a web page that defaults to the IHS Hypertension Protocol and the IHS National Pharmacy and Therapeutics Committee resources.

### 4.1 Design Mode Configuration

Refer to the EHR CAC Setup Guide v1.1 for details on how to use Design Mode (<http://www.ihs.gov/ehr/index.cfm?module=cac>).

### 4.2 Add a Web Page to a Tab

1. In Design mode, select the tab in which to place the algorithm. It may be in a tree node or group bar placed on a tab. In the following example, a group was added to a group bar.

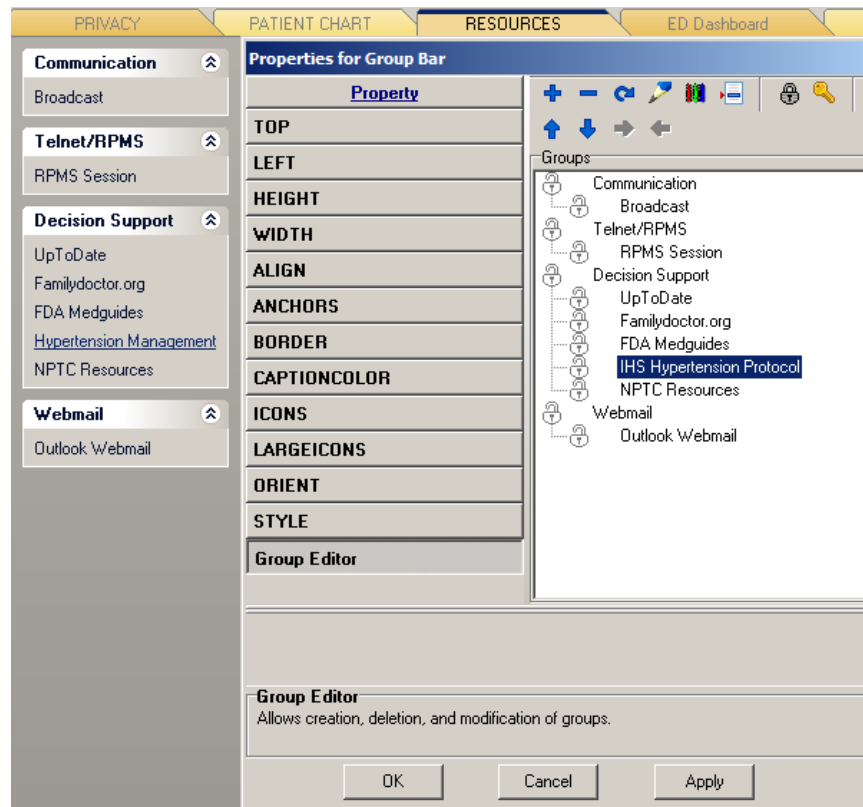


Figure 4-1: Adding an item to a Group Bar

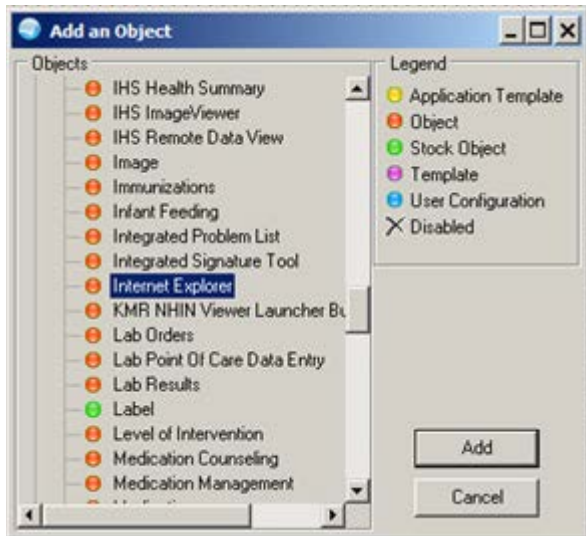


Figure 4-2: Adding Internet Explorer object to EHR Template

2. Add the **Internet Explorer** object to the group selection.

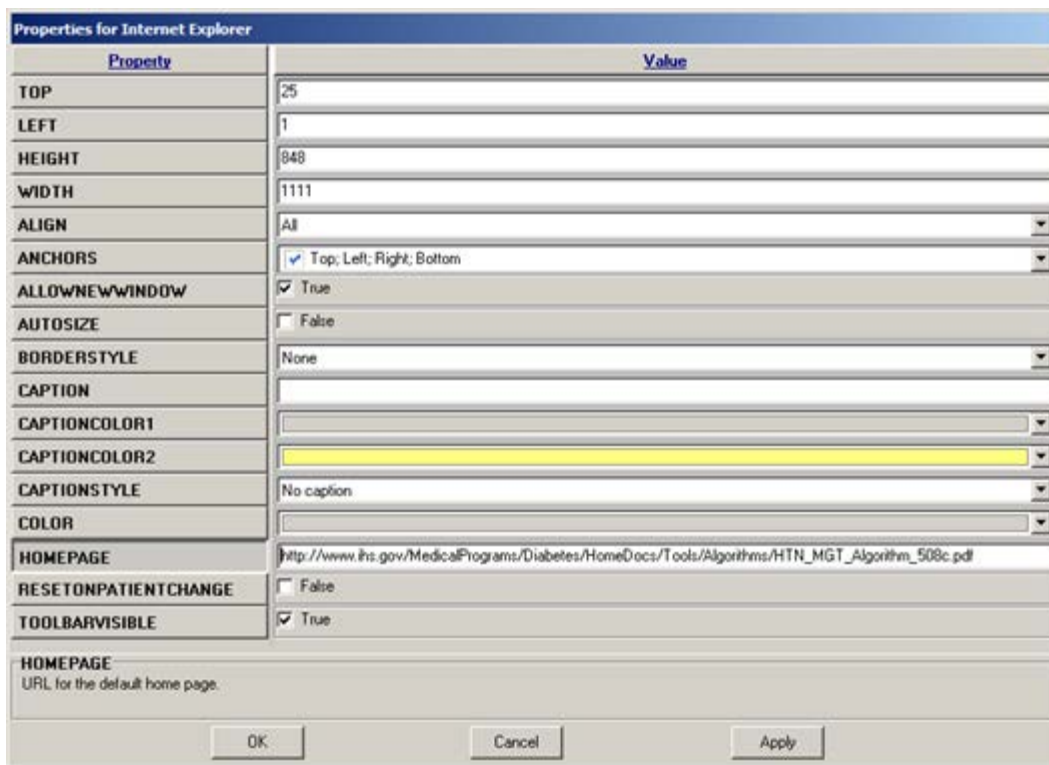


Figure 4-3: Adding the default URL to the **HOMEPAGE** field

3. Edit the properties of the **Internet Explorer** object.

- Place the following URL in the **HOME PAGE** field:  
[http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Tools/Algorithms/HTN\\_MGT\\_Algorithm\\_508c.pdf](http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Tools/Algorithms/HTN_MGT_Algorithm_508c.pdf)

The selection defaults to the IHS Hypertension Management algorithm.

**Hypertension Management**

Therapeutic Lifestyle Changes

First-Line Medication Classes\*

- \*ACE Inhibitor: Lisinopril or, if ACE Inhibitor not tolerated, consider ARB: Losartan
- Diuretic: HCTZ, Chlorthalidone
- Calcium Channel Blocker: Diltiazem, Amlodipine, Nifedipine

\*consider ACE Inhibitor or ARB as initial medication for patients with Chronic Kidney Disease. Do not use an ACE Inhibitor and ARB together in the same patient.

If BP not at goal in one month, consider titrating dose up and/or adding medication from a different class above. Utilize these 3 classes before considering additional medication classes.

Consider Additional Medication Classes

If BP not at goal or unable to tolerate the first-line medication classes above, consider adding medications from additional drug classes. Base selection on individual patient indications.

- Beta Blocker: Metoprolol, Atenolol
- Alpha Blocker: Prazosin, Doxazosin

Treat BP to targets as tolerated:

Systolic BP target < 140\*\*

Diastolic BP target < 90

\*\* Individualize BP targets and medication therapy. Patients who are older and/or have significant comorbid conditions and cannot tolerate BP < 140/90, may require higher BP targets to prevent adverse effects (e.g. hypotension, fatigue, dizziness).

**ACE Inhibitors (ACEI)/Angiotensin Receptor Blocker (ARBs)**

First the medication choice for patients with Chronic Kidney Disease

Can cause ↑ K<sup>+</sup>, ↑ creatinine, cough (with ACEI), rarely angioedema. Do not use an ACEI and an ARB at the same time.

Lisinopril (Prinivil®, Zestrin®)	Start 2.5-5mg daily; usually 20-40mg daily; max 80mg daily
Losartan (Cozaar®)	Start 25-50mg daily; max 100mg daily. Consider if unable to tolerate ACEI

**Diuretics**

HCTZ	Start 12.5mg daily; usually 25-50mg daily; Can ↓ K <sup>+</sup>
Chlorthalidone	Start 12.5mg daily; usually 25-50mg daily; Can ↓ K <sup>+</sup>

**Calcium Channel Blockers**

Amlodipine (Norvasc®)	Start 2.5-5mg daily; usually 5-10mg daily. Consider in patients with angina or CHF
Diltiazem (Cardizem®)	Note: multiple formulations exist: Immediate Release (TID-QID), SR/Sustained Release (BID), CD/Controlled Delivery (daily), and LA/Long Acting (daily). Consult your local formulary to assure appropriate selection and dosing. For diltiazem CD start 180-240mg daily; usually 240-360mg daily; max 480mg daily
Nifedipine XL (Adalat®/Procardia®)	Start 30mg daily; usually 30-90mg daily; max dose 120mg daily. Caution edema, CHF, and MI

**Beta Blockers**

Do not use if bradycardia or 2nd/3rd degree block. Caution in severe CHF, asthma, or renal dysfunction.

Atenolol (Tenormin®)	Start 25-50mg daily in 1-2 divided doses; usually 50-100mg/day. Eliminated renally (caution Renal Failure)
Metoprolol (Lopressor®)	Start 50-100mg daily in 1-2 divided doses; usually 100-200mg/day. Max 450mg daily. XR formulation dosed once daily. Eliminated hepatically (caution in Liver Failure)
Propranolol (Inderal®)	Start Long Acting 80mg daily or Immediate release 40mg BID; usually 120-240mg daily; max 640mg daily
Carvedilol (Coreg®)	Start 6.25mg BID; usually 12.5-25mg BID. CR formulation dosed once daily. Also indicated for heart failure (start at 3.125mg BID)

**Alpha Blockers**

Doxazosin (Cardura®)	Start 1mg immediate release at bedtime; Max dose 16mg daily. Titrate up slowly; Can cause dizziness, drowsiness, and weakness
Prazosin (Minipress®)	Start 1mg PO BID-TID (first dose at bedtime); Max dose 15mg daily. Titrate up slowly; Can cause dizziness, drowsiness, and weakness

**Central Acting**

Clonidine (Captopres®)	Start 0.1mg BID (first dose at bedtime); usually 0.1-0.3mg BID; max 1.2mg BID. Titrate up slowly; Can cause sedation/dizziness/weakness; Do not stop abruptly
------------------------	---

Drugs in *italics* are not on the IHS National Core Formulary.

Note: This is not a complete prescribing reference. This algorithm is not intended for treatment selection in children or in women who are or could become pregnant; some antihypertensive medications can cause fetal damage.

Ref: JNC 8 Panel: <http://jama.jamanetwork.com/article.aspx?articleid=1791497>.  
 ADA 2015 Clinical Practice Recommendations: [http://care.diabetesjournals.org/content/38/supplement\\_1](http://care.diabetesjournals.org/content/38/supplement_1)

Figure 4-4: IHS Hypertension Management Protocol displayed in EHR

- Repeat Steps 1 through 4 to add an option for NPTC Resources, placing the following link in the Homepage field:

[http://www.ihs.gov/NPTC/index.cfm?module=dsp\\_nptc\\_resources](http://www.ihs.gov/NPTC/index.cfm?module=dsp_nptc_resources)

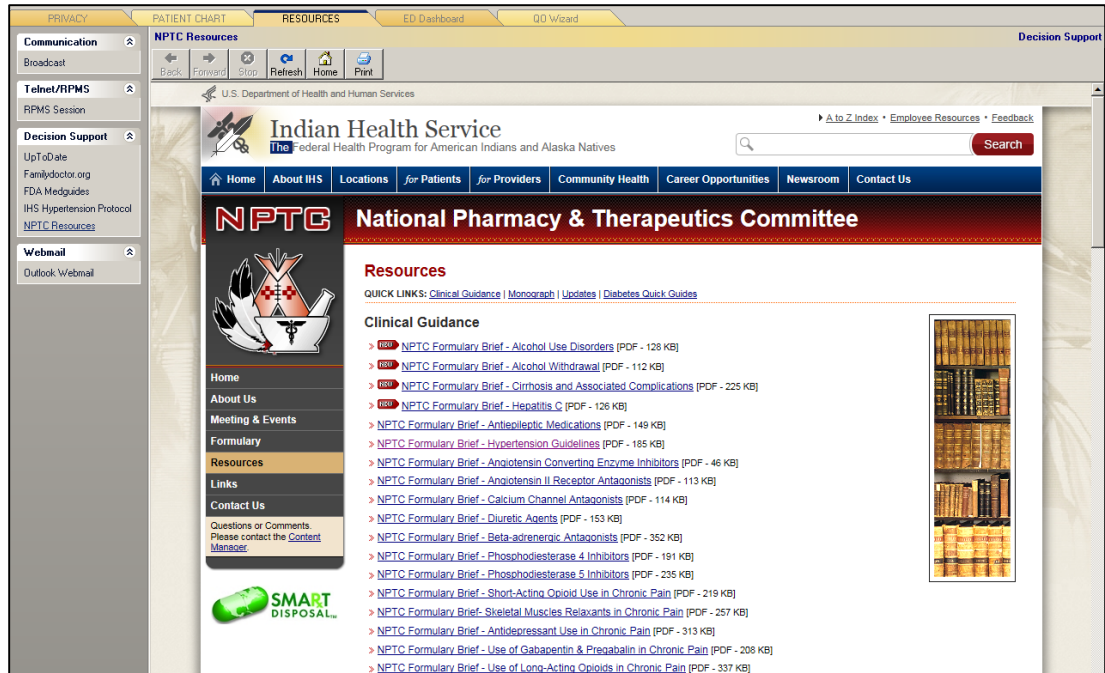


Figure 4-5: National Pharmacy & Therapeutics Committee Resources displayed in EHR

### 4.3 Add a Web Page using the Program Launcher Button

To configure a program launcher button to add a web page:

1. Select the location at which to add access to a web page.

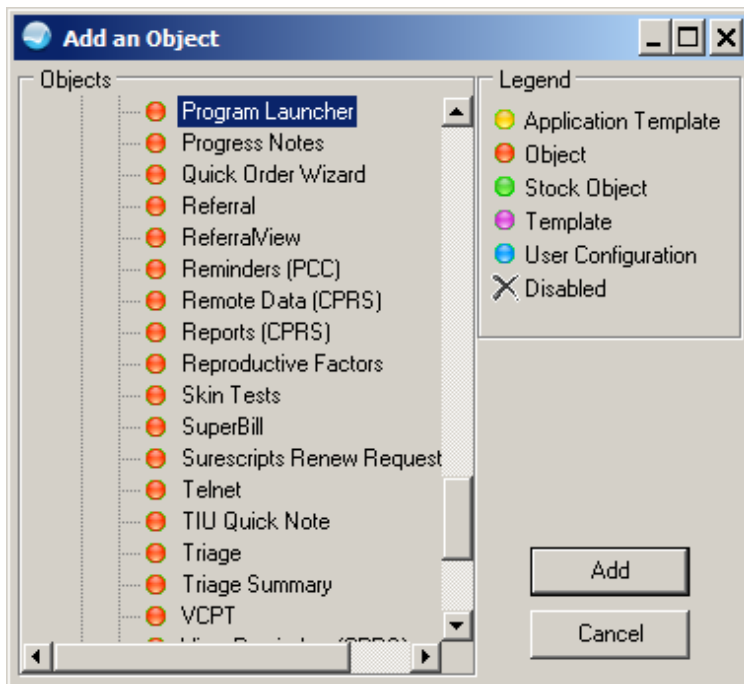


Figure 4-6: Add an Object dialog; adding Program Launcher button

- In Design Mode, add the **Program Launcher** object.
- Edit the properties for a specific web page to launch.

Property	Value
Align	Usually aligned right or left
Anchors	Top, left, bottom
Caption (button name)	HTN Protocol
Command line	Web URL you want to launch
EXE name	Launches search, look in program files and select iexplore application

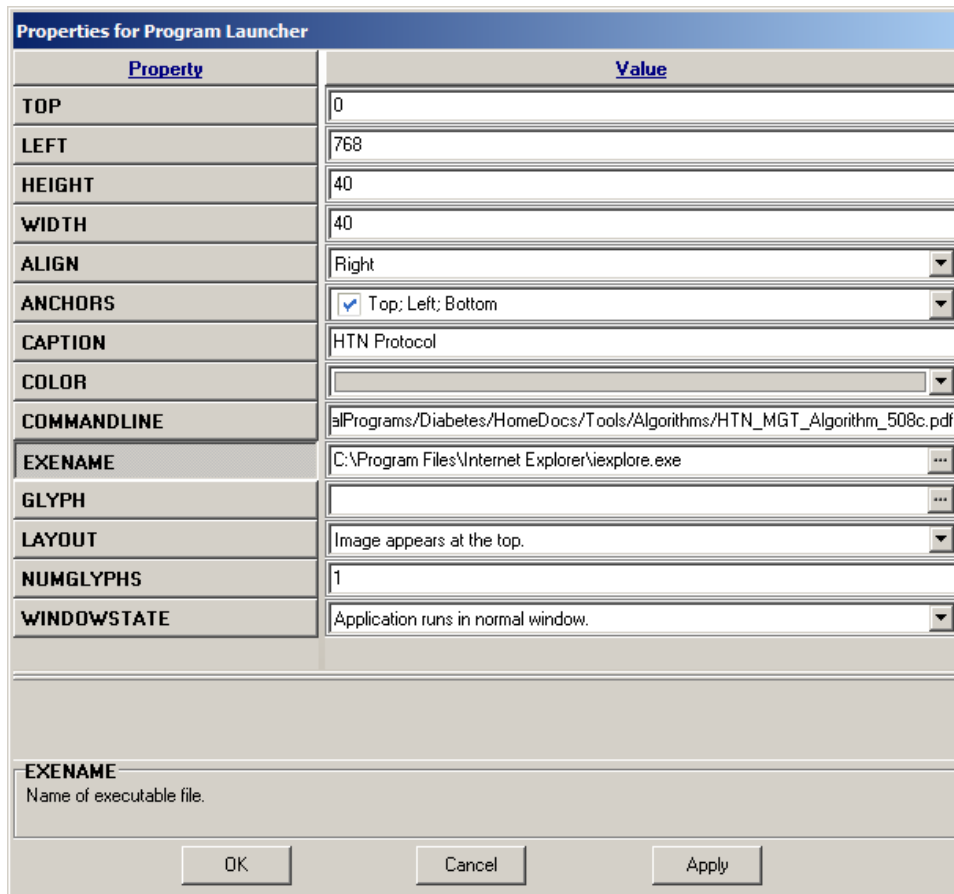


Figure 4-7: **Properties for Program Launcher** dialog

- Click **Apply** to save.
- Click **OK** to exit. A button is displayed on the toolbar (Figure 4-8) that when clicked will launch a web page in a new window.



Figure 4-8: Program Launcher button on Toolbar

## 4.4 Save Template Settings in Design Mode

To save template settings and exit design mode:

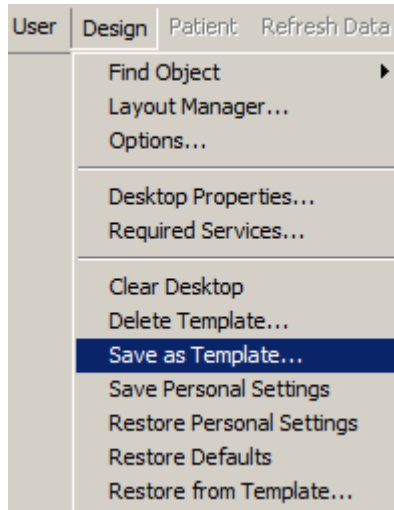


Figure 4-9: **Design** menu

1. Select **Save as Template** from the **Design** menu. The **Save As Template** dialog (Figure 4-10) is displayed.

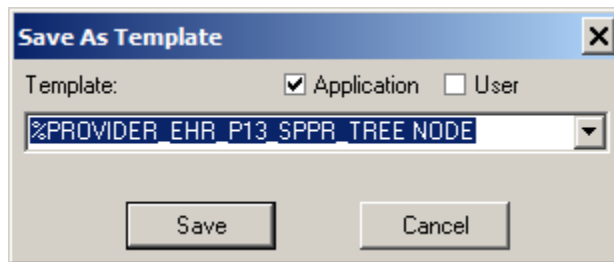


Figure 4-10: **Save As Template** dialog

2. Select the **Template** name.
3. Click **Save**.

## 5.0 Graphing

Graphing includes the ability to view multiple data types on one graph. Users may also view each data type in separate graphs. Graph views which contain one or more types of data may be saved and shared among users.

### 5.1 Configuration

Set ORWG GRAPH PUBLIC EDITOR CLASS parameter

The ORWG GRAPH PUBLIC EDITOR CLASS is the parameter that enables a class (usually the CLINICAL COORDINATOR class) to define Public views. Once this has been set up, the CAC can create default public settings and perhaps several views for the users.

The CAC can set up a public view for one or more Hypertension views.

See Section 6 of EHR p11 patch guide for details on Graphing configuration and use.

[http://www.ihs.gov/RPMS/PackageDocs/EHR/ehr\\_0110.11o.pdf](http://www.ihs.gov/RPMS/PackageDocs/EHR/ehr_0110.11o.pdf)

See also Help contents in EHR. The graphing information is listed under the Reports and Lab Results help sections

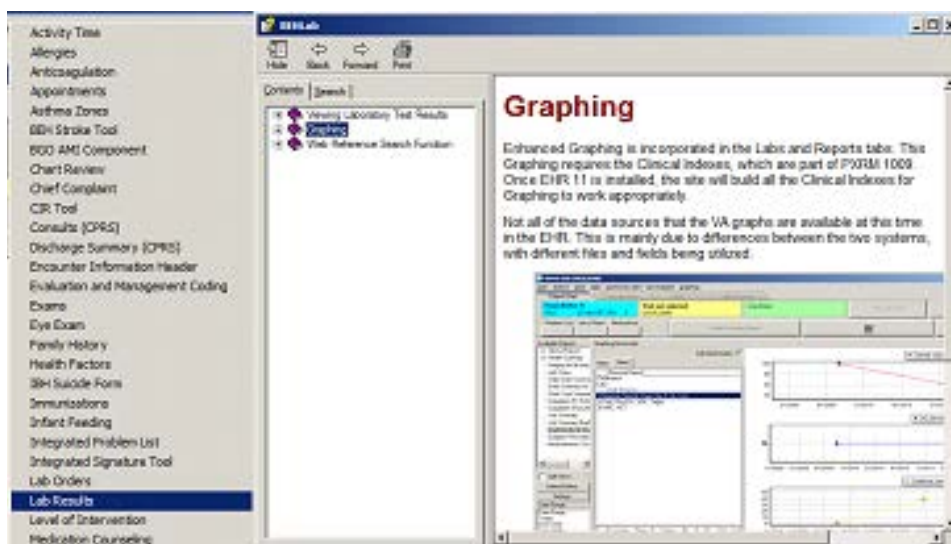


Figure 5-1: Graphing Help

### 5.2 Graph Views

1. Click the Select/Define button to display the **Select Items and Define Views** dialog (Figure 5-2).



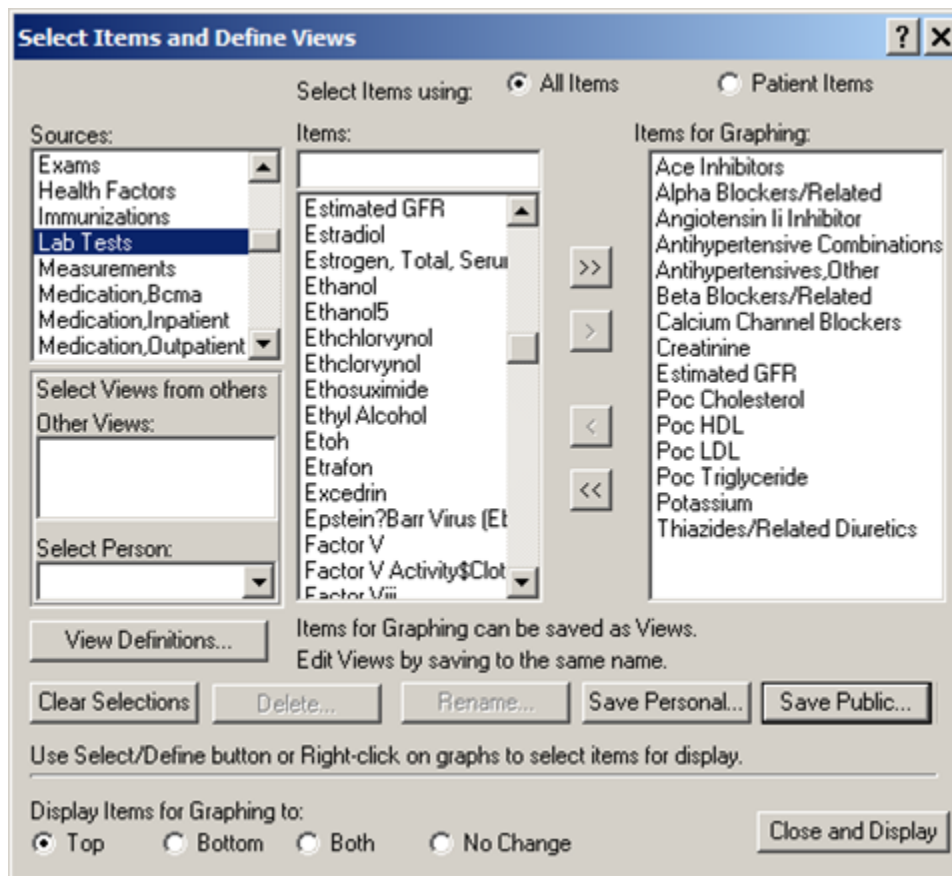


Figure 5-2: **Select Items and Define Views** dialog

2. Make the necessary selections in the various fields of the dialog.
3. Do one of the following:
  - Click **Save Personal** to save this view as a personal view.
  - Click **Save Public** to save this as a public view (if authorized). The **Save this Public View** dialog (Figure 5-3) is displayed.

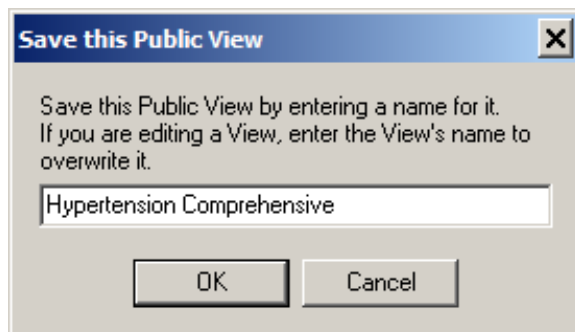


Figure 5-3: **Save this Public View** dialog

- Type the name of the public view.



- Click **OK**. The new view is now available on the graphing tool.

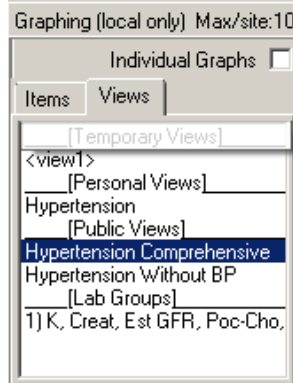


Figure 5-4: Graph Personal and Public Views

Figure 5-5 shows is a very data dense graph.

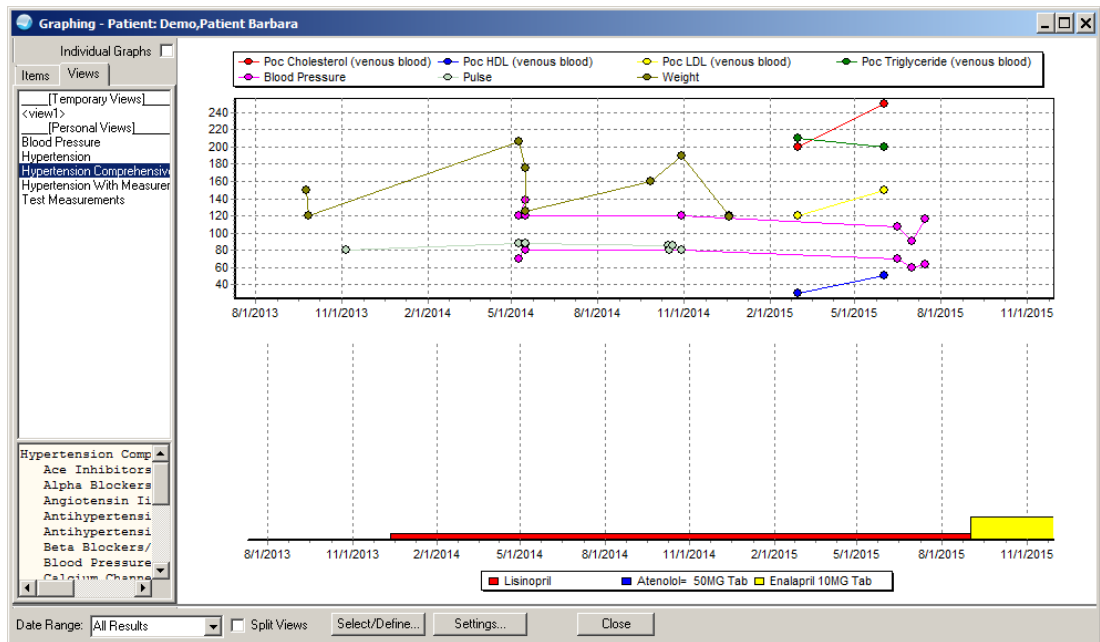


Figure 5-5: Graph example 1

Optionally, display fewer data points in a different graph by creating a different view:

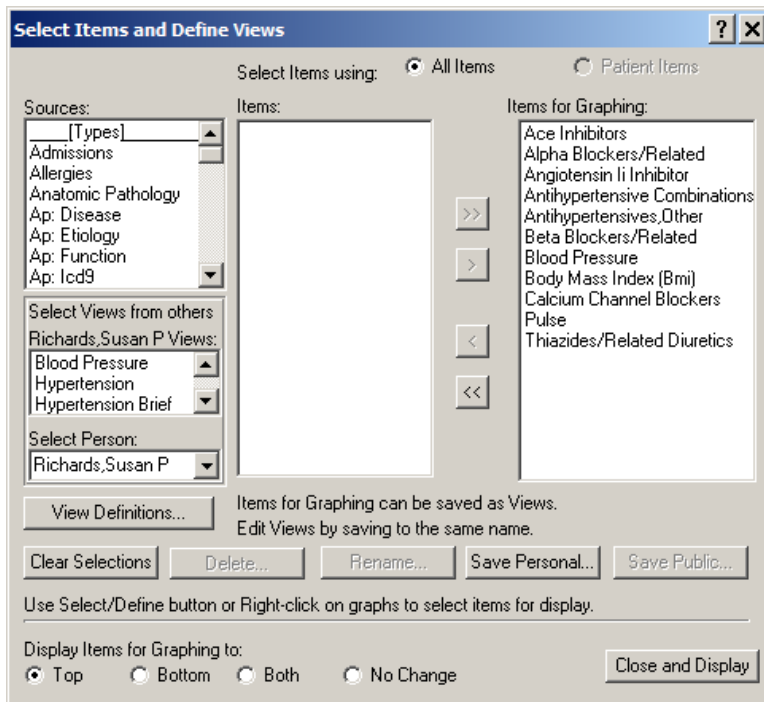


Figure 5-6: **Select Items and Define Views** dialog for brief hypertension

Note a less cluttered graph:

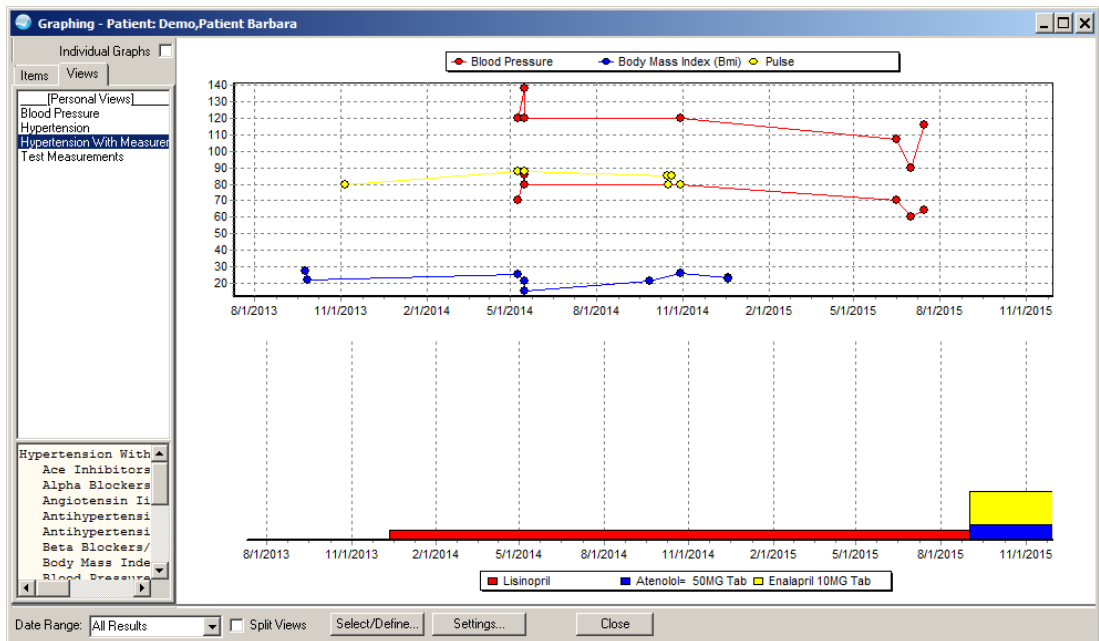


Figure 5-7: Graph example 2

Display details of the graphed data. Click on the graph legend to display a summary of the contents of the graph (Figure 5-8).

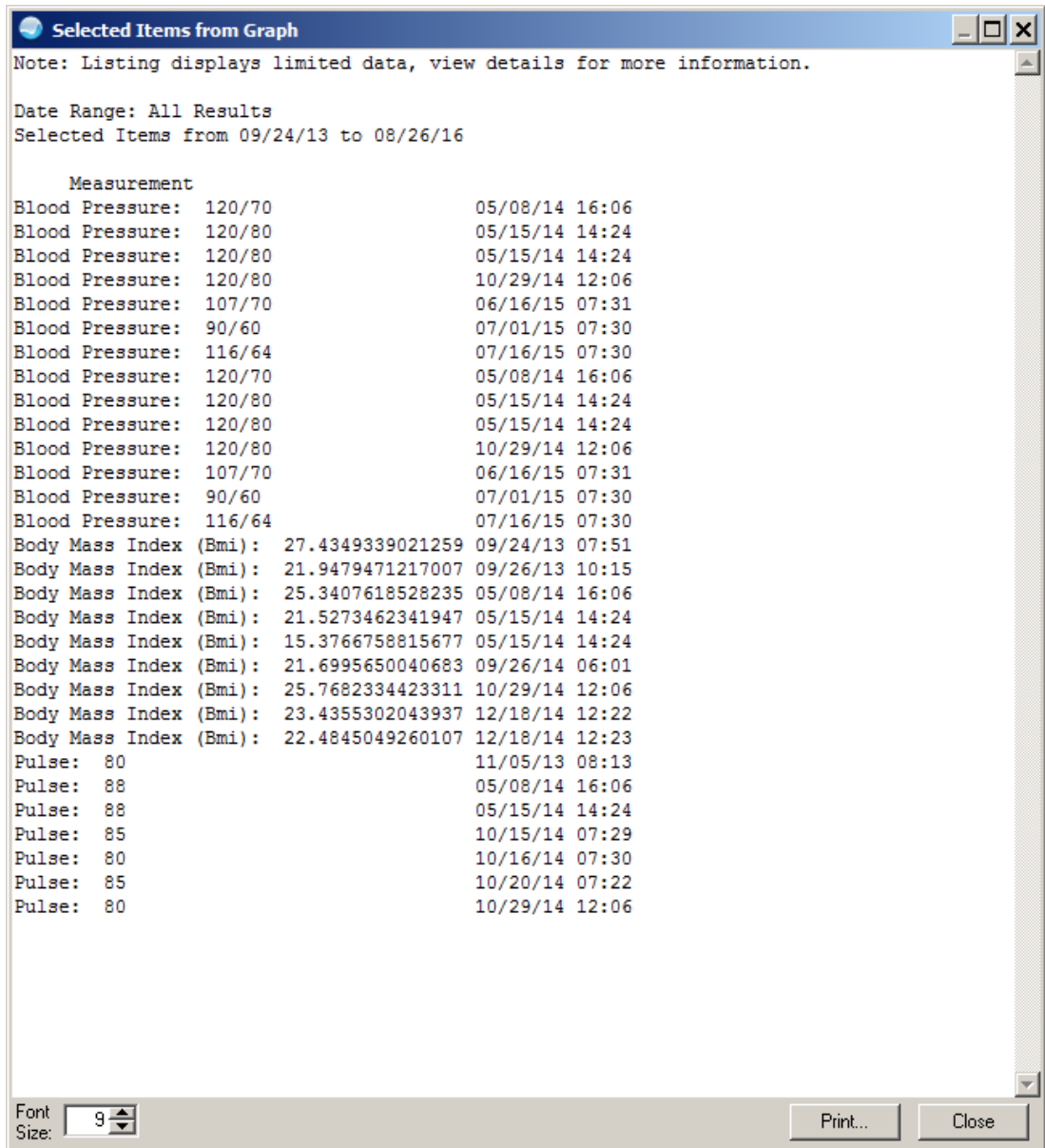


Figure 5-8: Selected Items from Graph example 2

Click the medication legend to display medication detail:

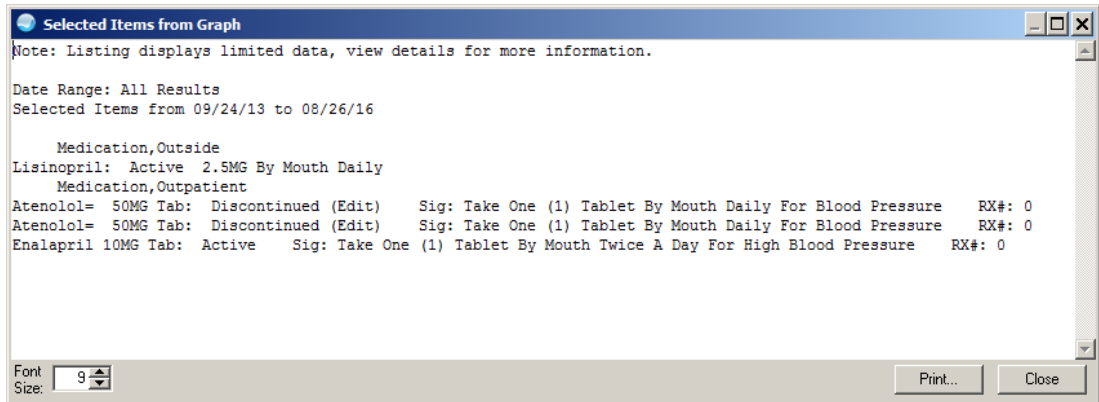


Figure 5-9: Selected Items from Graph example 2

Display individual graphs:

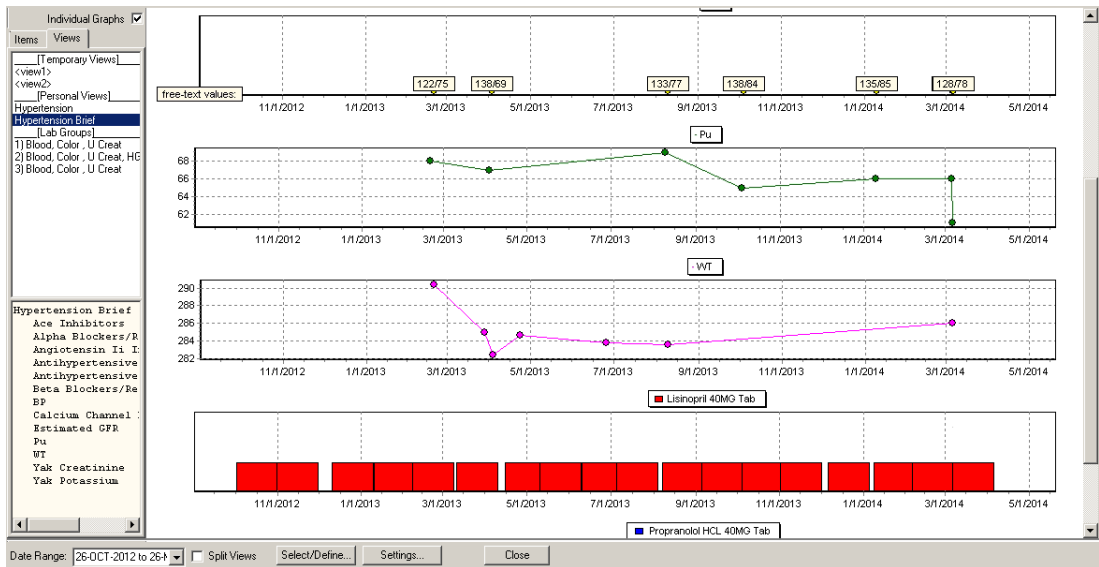


Figure 5-10: Individual graph display

## 6.0 Lab Worksheets

The lab worksheet tool provides the ability to display up to seven labs for a selected period of time for quick review of a patient's condition. It is possible to select and display another user's worksheets.

**Note:** The CAC can create the worksheet and users may use the **persons with defined Test Groups** dropdown to select the CACs name, select the group they want to use.

1. Select **Worksheet** from the **Lab Results** list (Figure 6-1).

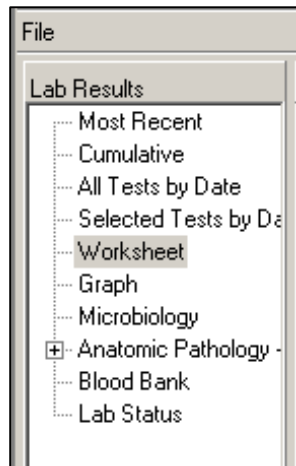


Figure 6-1: **Lab Results** list

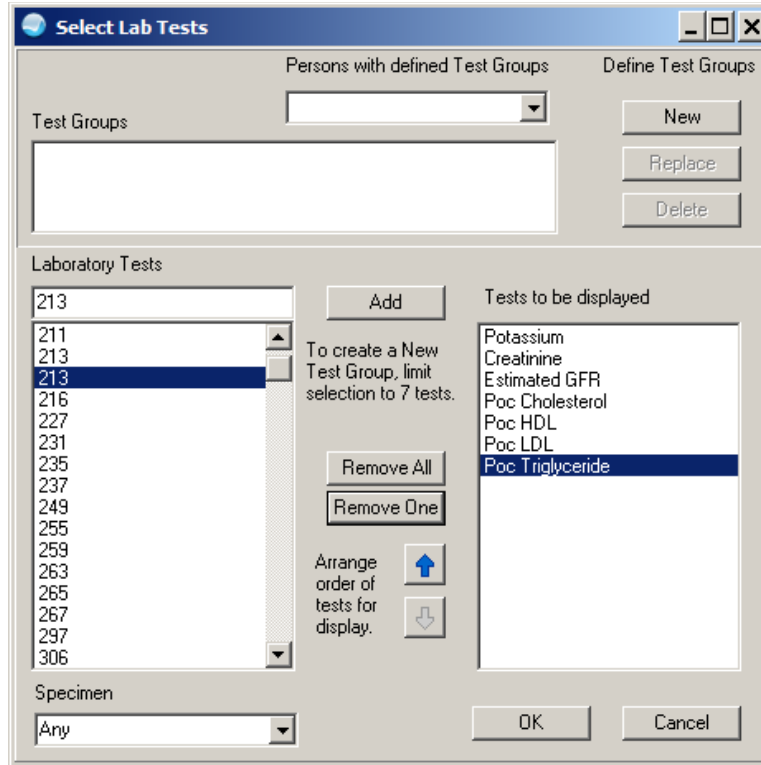


Figure 6-2: **Select Lab Tests** dialog

2. To select labs for the worksheet:
  - a. Click to highlight each lab wanted in the **Laboratory Tests** pane.
  - b. Click Add to add the selected test to the **Test to be displayed** pane.
3. Click **NEW**.

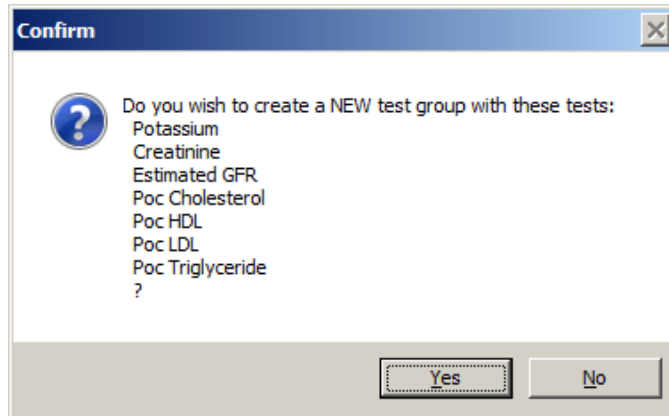


Figure 6-3: Confirmation dialog

4. Click **Yes**. Note that the group is available to display (Figure 6-4).

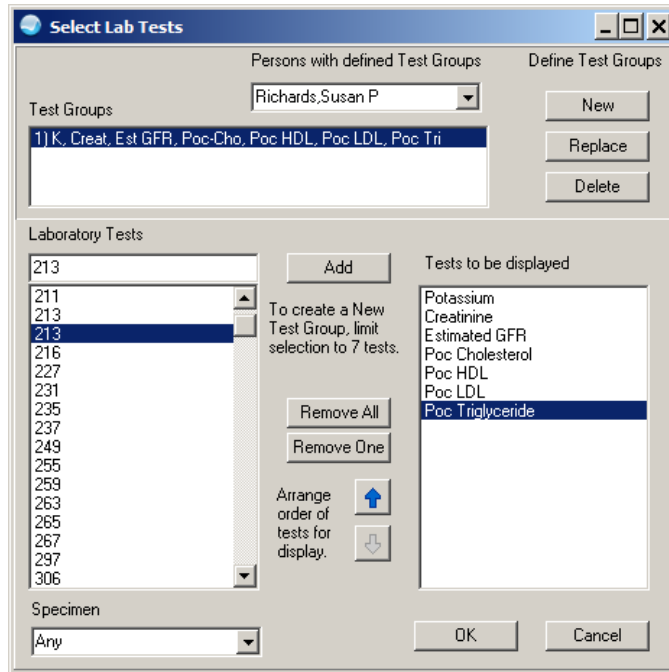


Figure 6-4: **Select Lab Tests** dialog

The worksheet is displayed in a grid format and may be expanded or limited by timeframes:

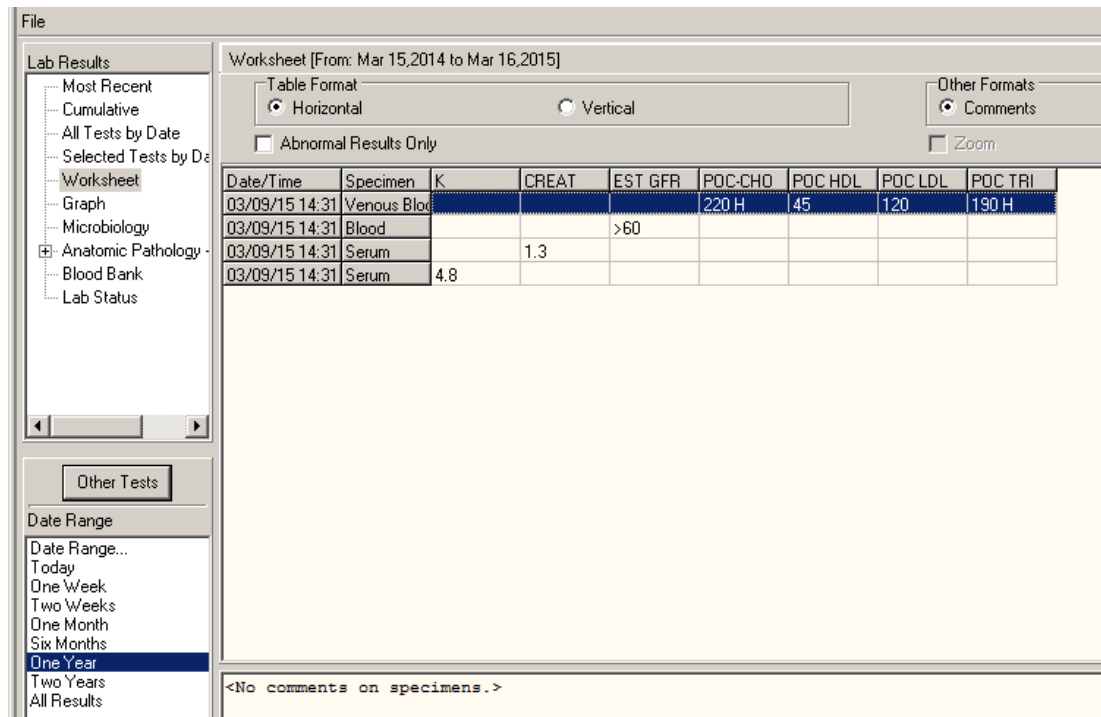


Figure 6-5: **Worksheet** display

## 7.0 IHS and VA Health Summary tools

VA Health Summary Components package (BHS) allows the CAC to build brief health summaries and uses these as reports or as TIU objects. The Flowsheets component and Measurement Panels component in the VA Health Summary allow the use of the IHS Health Summary Flowsheets and Measurement Panel to create reports and objects.

**Tip:** The Resource and Patient Management System (RPMS) Master Configuration menus for reports are cumbersome to navigate recommend site manager assigns the CAC the IHS and VA health summary maintenance menus:

- IHS Health Summary Maintenance Menu
  - IHS Health Summary Maintenance Menu [APCHSMAINT]
- VA Health Summary Maintenance Menu
  - Health Summary Maintenance Menu [GMTS IRM/ADPAC MENU]

### 7.1 Create Measurement Panels in IHS Health Summary

The CAC can use this functionality to create measurement panels to display recurrent data for a set period of time or set number of occurrences. You can combine these into a report or TIU object using the VA Health Summary Components and TIU applications. The display is limited to 25 characters per item in width before it wraps. It's advisable to limit it to approximately 70 characters in width for optimal display in TIU Notes.

#### Create a Measurement Panel

At the "Select Health Summary Maintenance Option" prompt [APCHSMAINT], select **MM** (Create/Modify Measurement Panel).

```

*****
**          IHS Health Summary          **
** Health Summary Maintenance Menu **
*****
          IHS PCC Suite Version 2.0

          2011 DEMO HOSPITAL

IS      Inquire About a Health Summary Type
HM      Health Maintenance Reminders ...
PP      Print Health Maintenance Item Protocols
LS      List Health Summary Types
LC      List Health Summary Components
LM      List Measurement Panel Types
LF      List Health Summary Flowsheets
LI      List Health Summary Flowsheet Items
MS      Create/Modify Health Summary Type

```



```

MM      Create/Modify Measurement Panel
MF      Create/Modify Flowsheet
MI      Create/Modify Flowsheet Item
DS      Delete Health Summary Type
DM      Delete Measurement Panel Definition
DF      Delete Health Summary Flowsheet
DI      Delete Health Summary Flowsheet Item
HS      Generate Health Summary
BP      Best Practice Prompt Menu ...
FMPT    Create/Modify Health Summary Type using Fileman
HSSP    Update Health Summary Site parameters
IPT      Update the Minor Procedures CPT Taxonomy
MPT      Update the Major Procedures CPT Taxonomy
PWH      Patient Wellness Handout Menu ...
    
```

Select Health Summary Maintenance Option: **mm** Create/Modify Measurement Panel

Select HEALTH SUMMARY MEAS PANEL NAME: **Hypertension Measurements**

Are you adding 'Hypertension Measurements' as  
a new HEALTH SUMMARY MEAS PANEL (the 8TH)? No// **Y (Yes)**

NAME: Hypertension Measurements Replace

Select ORDER IN PANEL: **5**

ORDER IN PANEL PANEL COMPONENT: **BP**

1 BP BLOOD PRESSURE

2 BPF BEST PEAK FLOW

CHOOSE 1-2: 1 BP BLOOD PRESSURE

PANEL COMPONENT: BP//

FIELD WIDTH: **8**

LABEL: **BP**

TRANSFORM:

NOTE TO DISPLAY:

Select ORDER IN PANEL: **10**

ORDER IN PANEL PANEL COMPONENT: **WT** WEIGHT

PANEL COMPONENT: WT//

FIELD WIDTH: **8**

LABEL: Weight

TRANSFORM:

NOTE TO DISPLAY:

Select ORDER IN PANEL: **15**

ORDER IN PANEL PANEL COMPONENT: **PU** PULSE

PANEL COMPONENT: PU//

FIELD WIDTH: **8**

LABEL: Pulse

TRANSFORM:

NOTE TO DISPLAY:

Select ORDER IN PANEL:

Select HEALTH SUMMARY MEAS PANEL NAME:

## 7.2 Create Flowsheets in IHS Health Summary

The CAC can use this functionality to create a flowsheet to display recurrent data for a set period of time or number of occurrences. Make several small flowsheets and combine them into a report or TIU object using the VA Health Summary Components and TIU applications. The display is limited to 25 characters per item in width before it wraps. It's advisable to limit it to approximately 70 characters in width for optimal display in TIU Notes.

For hypertension management, it may be helpful to create a Flowsheet to display labs and combine with the Measurement Panel for use in a health summary report and/or TIU object.

### Create a Flowsheet

At the “Select Health Summary Maintenance Option” prompt [APCHSMAINT], select **MF** (Create/Modify Flowsheet).

```

*****
**          IHS Health Summary          **
** Health Summary Maintenance Menu **
*****
                IHS PCC Suite Version 2.0

                2011 DEMO HOSPITAL

IS      Inquire About a Health Summary Type
  HM      Health Maintenance Reminders ...
  PP      Print Health Maintenance Item Protocols
  LS      List Health Summary Types
  LC      List Health Summary Components
  LM      List Measurement Panel Types
  LF      List Health Summary Flowsheets
  LI      List Health Summary Flowsheet Items
  MS      Create/Modify Health Summary Type
  MM      Create/Modify Measurement Panel
  MF      Create/Modify Flowsheet
  MI      Create/Modify Flowsheet Item
  DS      Delete Health Summary Type
  DM      Delete Measurement Panel Definition
  DF      Delete Health Summary Flowsheet
  DI      Delete Health Summary Flowsheet Item
  HS      Generate Health Summary
  BP      Best Practice Prompt Menu ...
  FMPT    Create/Modify Health Summary Type using Fileman
  HSSP    Update Health Summary Site parameters
  IPT     Update the Minor Procedures CPT Taxonomy
  MPT     Update the Major Procedures CPT Taxonomy
  PWH     Patient Wellness Handout Menu ...

Select Health Summary Maintenance Option: MF Create/Modify Flowsheet

Select HEALTH SUMMARY FLOWSHEET NAME: Hypertension Labs
Are you adding 'Hypertension Labs' as a new HEALTH SUMMARY FLOWSHEET (the
11TH)? No// y (Yes)
NAME: Hypertension Labs//
GENDER RESTRICTIONS:

```

```

LOWER AGE LIMIT:
UPPER AGE LIMIT:
Select ITEM ORDER: 1
  ITEM ORDER ITEM TYPE: lab RESULT
  ITEM TYPE: LAB RESULT//
  ITEM LABEL: K+
  ITEM WIDTH: 7
  TRANSFORM:
  Select MEMBERS: LAB.POTASSIUM

  Searching for a Lab test, (pointed-to by MEMBERS)

  Searching for a Lab test
  POTASSIUM
  ...OK? Yes// y (Yes)
Select MEMBERS:
  TRANSFORM 2:
Select ITEM ORDER: 5
  ITEM ORDER ITEM TYPE: lab RESULT
  ITEM TYPE: LAB RESULT//
  ITEM LABEL: Creat
  ITEM WIDTH: 7
  TRANSFORM:
  Select MEMBERS: LAB.CREATININE

  Searching for a Lab test, (pointed-to by MEMBERS)

  Searching for a Lab test

  1  CREATININE
  2  CREATININE CLEARANCE
  3  CREATININE SPOT URINE  SPOT URINE CREATININE
  4  CREATININE, 24 HOUR URINE  _VMA CREAT UR
  5  CREATININE, 24 HOUR URINE  _24UR CREAT (R)
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5: 1  CREATININE
  Select MEMBERS:
  TRANSFORM 2:
Select ITEM ORDER: 10
  ITEM ORDER ITEM TYPE: lab RESULT
  ITEM TYPE: LAB RESULT//
  ITEM LABEL: eGFR
  ITEM WIDTH: 7
  TRANSFORM:
  Select MEMBERS: LAB.estimated gfr

  Searching for a Lab test, (pointed-to by MEMBERS)

  Searching for a Lab test
  ESTIMATED GFR
  ...OK? Yes// y (Yes)
  Select MEMBERS:
  TRANSFORM 2:
Select ITEM ORDER: 15
  ITEM ORDER ITEM TYPE: lab RESULT
  ITEM TYPE: LAB RESULT//
  ITEM LABEL: Chol
  ITEM WIDTH: 7
  TRANSFORM:
  Select MEMBERS: LAB.POC CHOL

```

```
    Searching for a Lab test
POC CHOLESTEROL
    ...OK? Yes// y (Yes)
Select MEMBERS:
TRANSFORM 2:
Select ITEM ORDER: 20
    ITEM ORDER ITEM TYPE: lab RESULT
ITEM TYPE: LAB RESULT//
ITEM LABEL: HDL
ITEM WIDTH: 7
TRANSFORM:
Select MEMBERS: LAB.POC HDL

    Searching for a Lab test, (pointed-to by MEMBERS)

    Searching for a Lab test
POC HDL
    ...OK? Yes// y (Yes)
Select MEMBERS:
TRANSFORM 2:
Select ITEM ORDER: 25
    ITEM ORDER ITEM TYPE: lab RESULT
ITEM TYPE: LAB RESULT//
ITEM LABEL: LDL
ITEM WIDTH: 7
TRANSFORM:
Select MEMBERS: LAB.POC LDL

    Searching for a Lab test, (pointed-to by MEMBERS)

    Searching for a Lab test
POC LDL
    ...OK? Yes// y (Yes)
Select MEMBERS:
TRANSFORM 2:
Select ITEM ORDER: 30
    ITEM ORDER ITEM TYPE: lab RESULT
ITEM TYPE: LAB RESULT//
ITEM LABEL: Trig
ITEM WIDTH: 7
TRANSFORM:
Select MEMBERS: LAB.POC TRIG

    Searching for a Lab test, (pointed-to by MEMBERS)

    Searching for a Lab test
POC TRIGLYCERIDE
    ...OK? Yes// y (Yes)
    Select MEMBERS:
TRANSFORM 2:
Select ITEM ORDER:
Select EVOKING CODES:
Select CLINIC DISPLAY RESTRICTIONS:

Select HEALTH SUMMARY FLOWSHEET NAME:
```

### 7.3 View Flowsheets and Other Components

These are created in the IHS Health Summary. Flowsheets and Measurement Panels can be displayed as part of an IHS Health Summary but are more often used to display in the Ad Hoc health.

1. In EHR select the **Reports** tab. The **Available Reports** pane (Figure 7-1) is displayed.

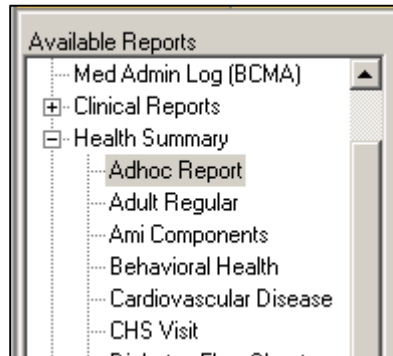


Figure 7-1: Available Reports pane

2. Expand **Health Summary** and select **Adhoc Report**. The **Ad Hoc Health Summary** dialog (Figure 7-2) is displayed.

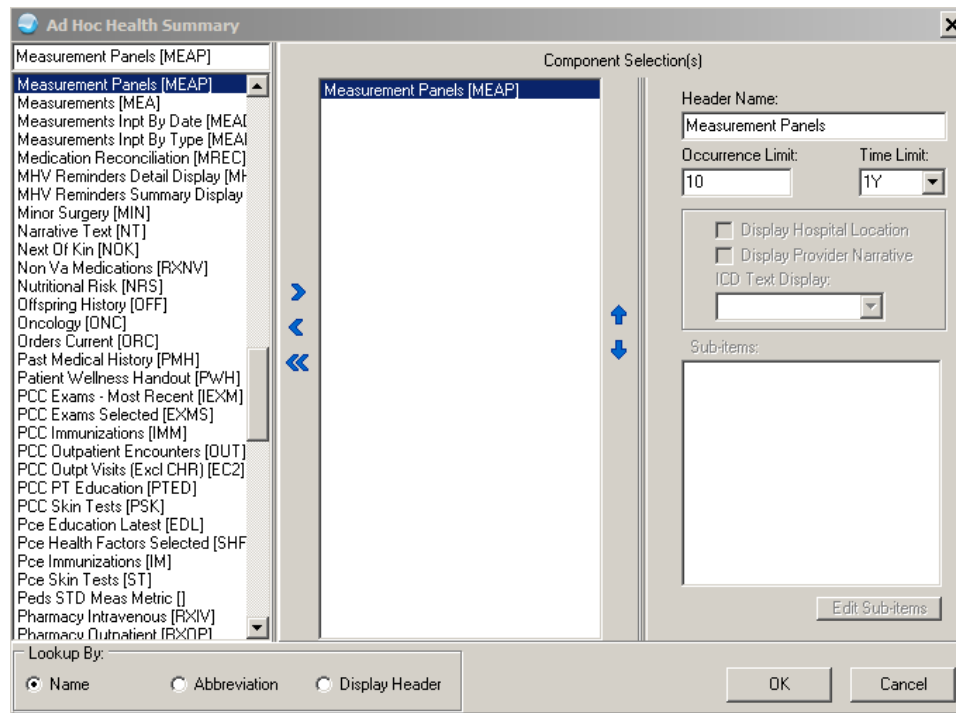


Figure 7-2: Ad Hoc Health Summary dialog

3. Select **Measurement Panels** to launch the **Measurement Panel** dialog (Figure 7-3).

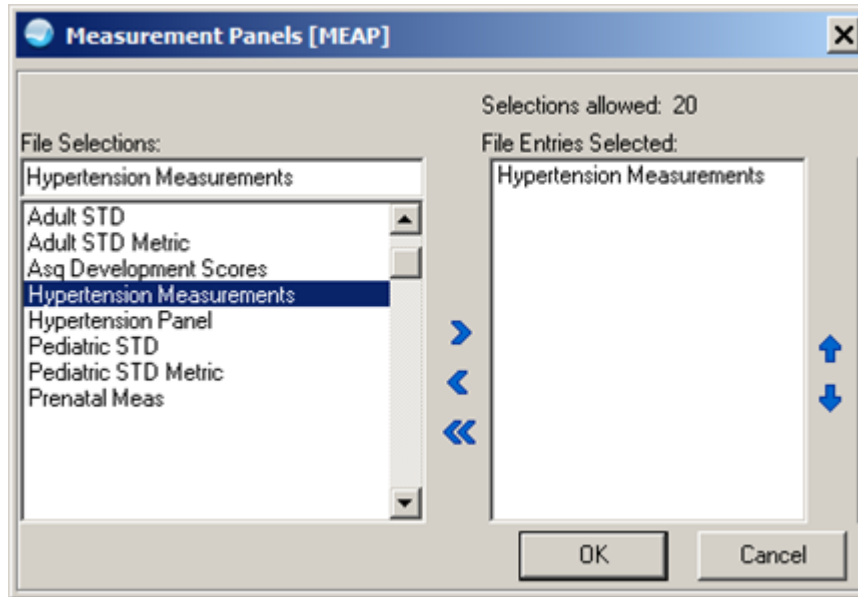


Figure 7-3: **Measurement Panels** dialog

4. Select the **Hypertension Measurements** panel created in an earlier step.
5. Click **OK** to return to the **Ad Hoc Health Summary** dialog (Figure 7-4).

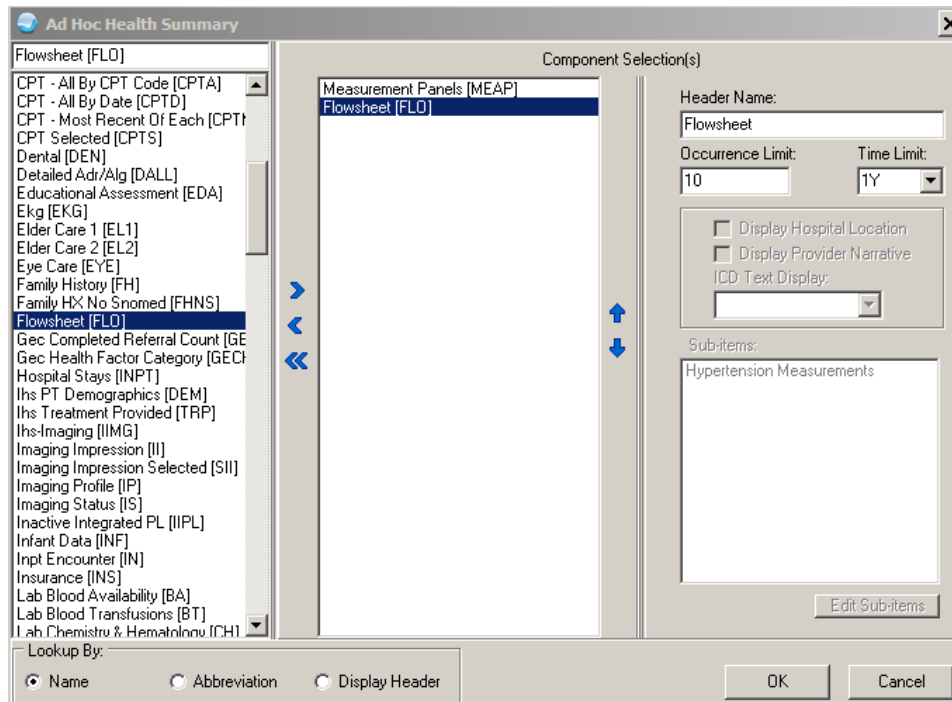


Figure 7-4: **Ad Hoc Health Summary** dialog

6. Select **Flowsheet** to launch the **Flowsheet** dialog (Figure 7-5).

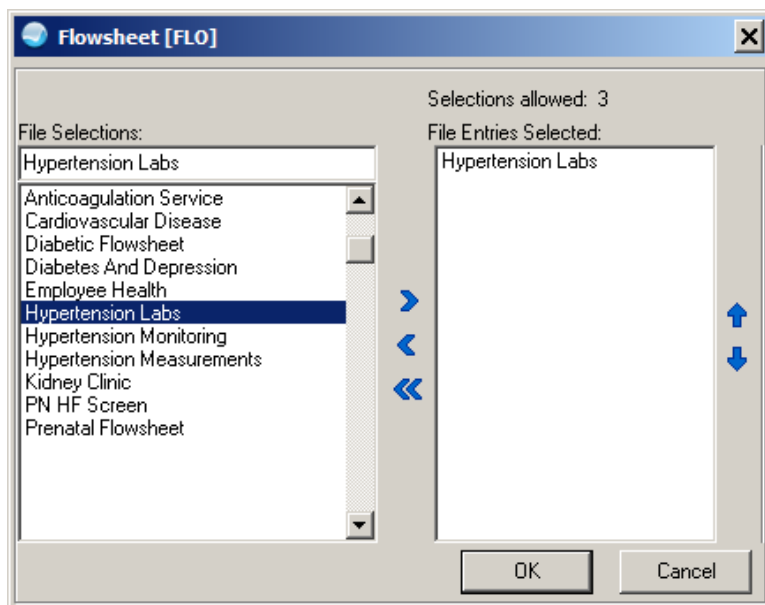


Figure 7-5: **Flowsheet** dialog

7. Select the **Hypertension Labs** flowsheet created in an earlier step.
8. Click **OK** to return to the Ad Hoc Health summary dialog.
9. Click **OK** to display the report (Figure 7-6).

```

----- MEAP - Measurement Panels (max 10 occurrences or 1 year) -----
      BP      Weight      Pulse
09/18/14 08:45    130/90
09/18/14 06:00    120/90      97
06/06/14 21:36                154.323582

----- FLO - Flowsheet (max 10 occurrences or 1 year) -----

Hypertension Labs
      K+      Creat      eGFR      Chol      HDL      LDL      Trig
-----
03/30/2015 :4.6      :0.80      :>60      :200.0      :60.0      :99.0      :150.0
    
```

Figure 7-6: Measurement Panel Ad Hoc report example

## 7.4 VA Health Summary for TIU object

Use the VA Health Summary Components to build a health summary. Use the health summary to create TIU objects. It is necessary to create a TIU Health Summary object to use in the IHS-MH Hypertension Control 2015 reminder dialog.

## 7.4.1 Create a VA Health Summary named Hypertension Control

Use the VA Health Summary menu to create a new health summary reports.

### Health Summary Maintenance Menu [GMTS IRM/ADPAC MENU]

- ```

1 Health Summary (Available with PCC only) [ADEMHSOP]
2 Health Summary Configuration [BEHORPHS MAIN]
3 Health Summary Coordinator's Menu [GMTS COORDINATOR]
4 Health Summary Displaying CMS Register(s) [APCHSUMR]
5 Health Summary Enhanced Menu [GMTS ENHANCED USER]
6 Health Summary for Inactive Patient [APCHSINA]
7 Health Summary Maintenance Menu [GMTS IRM/ADPAC MAINT MENU]
8 Health Summary Maintenance Menu [BEHORPHS VHA MAINT MENU]
9 Health Summary Maintenance [APCHSMAINT]
10 Health Summary Menu [GMTS USER]
11 Health Summary Menu [APCHMENU]
12 Health Summary Objects Menu [GMTS OBJ MENU]
13 Health Summary Objects Menu [BEHORPHS VHA OBJ MENU]
14 Health Summary Overall Menu [GMTS MANAGER]
    
```

```
Type '^' to stop, or choose a number from 1 to 14 :7 Health Summary
Maintenance
Menu
```

- ```

1 Disable/Enable Health Summary Component
2 Create/Modify Health Summary Components
3 Edit Ad Hoc Health Summary Type
4 Rebuild Ad Hoc Health Summary Type
5 Resequence a Health Summary Type
6 Create/Modify Health Summary Type
7 Edit Health Summary Site Parameters
8 Health Summary Objects Menu ...
9 CPRS Reports Tab 'Health Summary Types List' Menu ...
10 CPRS Health Summary Display/Edit Site Defaults ...
    
```

```
Select Health Summary Maintenance Menu Option: 6 Create/Modify Health
Summary Type
```

```
Select Health Summary Type: HYPERTENSION CONTROL
```

```
Are you adding 'HYPERTENSION CONTROL' as
a new HEALTH SUMMARY TYPE (the 55th)? No// y YES
```

```
NAME: HYPERTENSION CONTROL Replace
```

```
TITLE:
```

```
SUPPRESS PRINT OF COMPONENTS WITHOUT DATA:
```

```
LOCK:
```

```
OWNER: RICHARDS,SUSAN P//
```

```
Do you wish to copy COMPONENTS from an existing Health Summary Type? YES//
n NO
```

```
Select COMPONENT: measurement panels MEAP
```

```
SUMMARY ORDER: 5// 5
```

```
OCCURRENCE LIMIT: 3 <<<< can use occurrence and/or time to limit display
TIME LIMIT:
```

```
HEADER NAME: Measurement Panels//
```

```
file type <Prefix.?.>
```

```
Select SELECTION ITEM: Hy <<< case sensitive, use the name of the
measurement panel you made for hypertension
```



```

Searching for a Measurement Panel, (pointed-to by SELECTION ITEM)

1 Hypertension Measurements
2 Hypertension Panel
CHOOSE 1-2: 1 Hypertension Measurements
Select SELECTION ITEM:
Select COMPONENT: FLOWSHEET FLO
SUMMARY ORDER: 10// 10
OCCURRENCE LIMIT: 3 <<<< can use occurrence and/or time to limit display
TIME LIMIT:
HEADER NAME: Flowsheet//

No selection items chosen.

Select new items one at a time in the sequence you want them displayed.
You may select up to 3 items.

Select SELECTION ITEM: Hyper

Searching for a Flowsheet, (pointed-to by SELECTION ITEM)

Searching for a Flowsheet

1 Hypertension Labs
2 Hypertension Monitoring
3 Hypertension measurements
CHOOSE 1-3: 1 Hypertension Labs <<< case sensitive, use the name of the
flowsheet you made for hypertension labs

Select SELECTION ITEM:
Select COMPONENT:

Do you wish to review the Summary Type structure before continuing? NO//
<<< Yes if you want to review your selections
Please hold on while I resequence the summary order..
    
```

```

Type Name: HYPERTENSION CONTROL
Title:
Owner: RICHARDS,SUSAN P
SUPPRESS PRINT OF COMPONENTS WITHOUT DATA:
SUPPRESS SENSITIVE PRINT DATA: 0
    
```

Abb	Ord	Component Name	Max Occ	Time	Hos Loc	ICD Text	Pro Nar	CPT Mod	selection
MEAP	5	Measurement Panels	3						
		Measurements							Hypertension
FLO	10	Flowsheet	3						Hypertension
		Labs							

\* = Disabled components  
Select COMPONENT: █

Figure 7-7: VA Health Summary detail

## 7.4.2 Create TIU Health Summary Object Hypertension Control

Use the Create TIU/Health Summary Objects menu.

```

Document Definitions (Manager)

(2011 DEMO HOSPITAL)

DDM1  Edit Document Definitions
DDM2  Sort Document Definitions
DDM3  Create Document Definitions
DDM4  Create Objects
DDM5  List Object Descriptions
DDM6  Create TIU/Health Summary Objects
DDM7  Title Headers/Footers

Select Health Summary Maintenance Menu Option: ^ddm6  Create TIU/Health
Summary

TIU Maintenance Menu

Document Definitions (Manager)

TIU Health Summary Object  Mar 30, 2015 14:15:14  Page: 1 of 2

TIU Object Name          Health Summary Type
1  BRADEN SCALE 30D      No Health Summary Type Found
2  CCL-PRENATAL          CCL-PRENATAL FLOWSHEET
+      Enter ?? for more actions
Create New TIU Object      Find
Detailed Display/Edit TIU Object  Detailed Display/Edit HS object
Quit

--- Create TIU/Health Summary Object ---

Enter a New TIU OBJECT NAME: HYPERTENSION CONTROL

Object Name: HYPERTENSION CONTROL

Is this correct? YES// y YES

Use a pre-existing Health Summary Object? NO// n NO

Checking HYPERTENSION CONTROL (TIU) with Health Summary...

Creating Health Summary Object 'HYPERTENSION CONTROL (TIU)'

Select Health Summary Type: HYPERTENSION

4 Health Summary Types found

1. Hypertension Control
2. Hypertension Management
3. Hypertension Review
4. Hypertension Monitoring

Select 1-4: 1 HYPERTENSION CONTROL <<< enter the Health Summary you just
created in the step above

Do you want to overwrite the TIME LIMITS in the Health

```

```

Summary Type 'HYPERTENSION CONTROL'? N// n NO

Print standard Health Summary Header with the Object? N// O

Partial Header:
  Print Report Date? N// O
  Print Confidentiality Banner? N// O
  Print Report Header? N// O
  Print the standard Component Header? Y// NO
  Print the date a patient was deceased? N// O

Print a LABEL before the Health Summary Object? N// O

Suppress Components without Data? N// O

OBJECT DESCRIPTION:
  No existing text
  Edit? NO//

Create a TIU Object named: HYPERTENSION CONTROL

Ok? YES//

TIU Object created successfully.

```

### 7.4.3 Configure the Health Summary Button

1. Identify the Internal Entry Number (IEN) for the Health Summary to display on a button in FileMan. Each site's IEN for this Health Summary will be different.

```

VA FileMan Version 22.0
Enter or Edit File Entries
Print File Entries
Search File Entries
Modify File Attributes
Inquire to File Entries
Utility Functions ...
Data Dictionary Utilities ...
Transfer Entries
Other Options ...
Select VA FileMan Option: inquire to File Entries
OUTPUT FROM WHAT FILE: V LAB// VA Health Summary
  1  VA HEALTH SUMMARY COMPONENT      (204 entries)
  2  VA HEALTH SUMMARY OBJECTS        (15 entries)
  3  VA HEALTH SUMMARY TYPE           (15 entries)
  4  VA HEALTH SUMMARY USER PREFERENCE (1 entry)
CHOOSE 1-4: 3 VA HEALTH SUMMARY TYPE (15 entries)
Select VA HEALTH SUMMARY TYPE NAME: Hypertension Control
ANOTHER ONE:
STANDARD CAPTIONED OUTPUT? Yes// (Yes)
Include COMPUTED fields: (N/Y/R/B): NO// BOTH Computed Fields and Record
Number
(IEN)

NUMBER: 53 <<< IEN                NAME: HYPERTENSION CONTROL
OWNER: RICHARDS,SUSAN P
SUMMARY ORDER: 5                       COMPONENT NAME: MEASUREMENT PANELS
OCCURRENCE LIMIT: 3                    HEADER NAME: Measurement Panels

```

```
SELECTION ITEM: Hypertension Measurements  
SUMMARY ORDER: 10  
OCCURRENCE LIMIT: 3  
SELECTION ITEM: Hypertension Labs  
TIMESTAMP: 63641,51300  
COMPONENT NAME: FLOWSHEET  
HEADER NAME: Flowsheet
```

2. Add a **Health Summary Report** button to the Toolbar in Design Mode

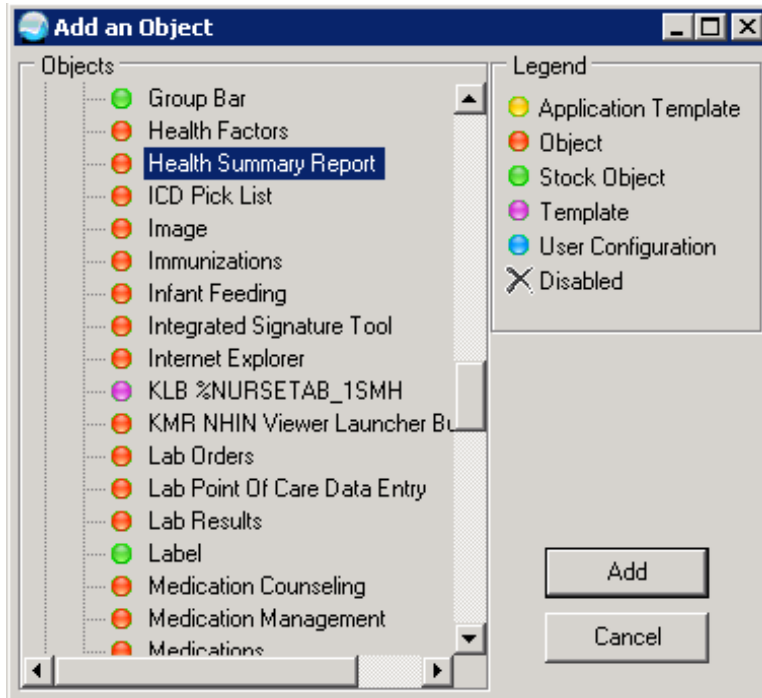


Figure 7-8: Add an Object dialog



Figure 7-9: Health Summary Report

Properties for Health Summary Report	
Property	Value
TOP	0
LEFT	756
HEIGHT	42
WIDTH	80
ALIGN	Right
ANCHORS	<input checked="" type="checkbox"/> Top; Left; Bottom
GLYPH	...
CAPTION	HTN
LAYOUT	Image appears on the left.
ASYNCHRONOUS	<input checked="" type="checkbox"/> True
ENCOUNTERREQUIRED	<input type="checkbox"/> False
REFRESHOPTION	Ignore refresh requests.
REPORT	1^53
TITLE	
<p>TITLE Title for report</p> <p>OK Cancel Apply</p>	

Figure 7-10: Properties for Health Summary Report dialog

3. Set the appropriate value for each **Property**

- **CAPTION** is the name to be displayed on the button.
- Format for the **REPORT** field is:
  - IHS^IEN of report (for IHS Health Summaries)
  - 1^IEN of report (for VA Health Summaries)

4. Click **OK**.



Figure 7-11: EHR ribbon

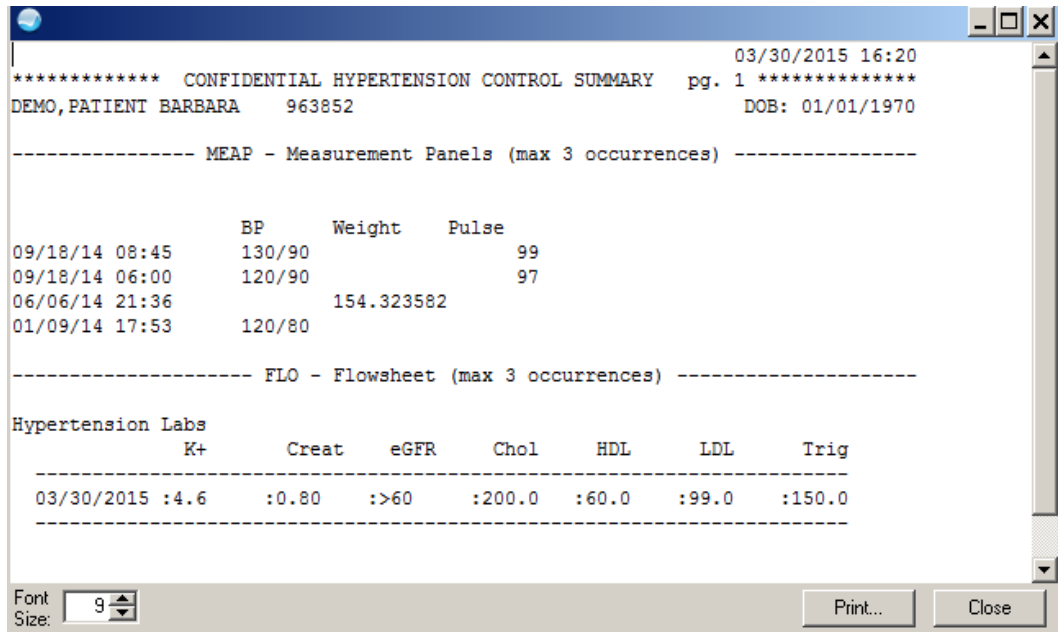


Figure 7-12: Hypertension Control Health Summary

## 8.0 Deploy Million Hearts Clinical Reminders

There are two reminders:

- IHS-MH Hypertension Control 2015 is designed to be deployed in the EHR and includes a reminder dialog.
- IHS-MH Hypertension Recall 2015 is a reminder written specifically to create a recall list of patients who have essential hypertension (Section 10.0).

### 8.1 Install Reminders from the Reminder Exchange

#### 8.1.1 IHS-MH-Hypertension Control 2015

Please refer to the PXR 2.0 patch documentation pxrm0200.5.pdf. The PXR v2.0 managers manual is available on the RPMS Clinical Document Repository under VA Clinical Reminders. Select the **user** link under **manuals**:

<http://www.ihs.gov/RPMS/index.cfm?module=Applications&option=View&ACID=0>

Clinical Reminder Exchange			Apr 09, 2015 16:56:09	Page: 12 of 18
Exchange File Entries.				
+Item	Entry	Source	Date Packed	
106	IHS-MAMMOGRAM 75-100 2013	USER@DEMO HOSPITA	04/21/2014@14:45	
107	IHS-MAMMOGRAM 75-100 2014	USER@DEMO HOSPITA	11/20/2014@13:22	
108	IHS-MAMMOGRAM 75-100 2014	USER@DEMO HOSPITA	03/04/2015@12:47	
109	IHS-MED ED 2013	USER@DEMO HOSPITA	04/21/2014@14:46	
110	IHS-MED THERAPY MNGT 2013	USER@DEMO HOSPITA	04/21/2014@14:46	
111	IHS-MENTNGTTIS IMMUN 2013	USER@DEMO HOSPITA	04/21/2014@14:46	
112	IHS-MH HYPERTENSION CONTROL 2015	RICHARDS@2011 DEMO HO	04/08/2015@20:58	
113	IHS-NEWBORN HEARING 2013	USER@DEMO HOSPITA	04/21/2014@14:46	
114	IHS-NUTRITIONAL SCREENING 2013	USER@DEMO HOSPITA	04/21/2014@14:46	
+    + Next Screen    - Prev Screen    ?? More Actions				
CFE	Create Exchange File Entry	IH	Installation History	
CHF	Create Host File	LHF	Load Host File	
CMM	Create MailMan Message	LMM	Load MailMan Message	
DFE	Delete Exchange File Entry	LR	List Reminder Definitions	
IFE	Install Exchange File Entry	RI	Reminder Definition Inquiry	
Select Action: Next Screen//				

Figure 8-1: Reminder Exchange Install Reminder

1. Use the IFE (install exchange file entry) option to install reminder.
2. At the “Select Action” prompt, select Next Screen// **112**.

```

Exchange File Components      Apr 09, 2015 16:58:48      Page: 1 of 7
-----
Component                      Category      Exists
Reminder:  IHS-MH HYPERTENSION CONTROL 2015
Source:    RICHARDS,SUSAN P at 2011 DEMO HOSPITAL
Date Packed: 04/08/2015@20:58:18
Package Version: 2.0

Description:
-----
Uncontrolled blood pressure should be monitored closely. Interventions
should be initiated and titrated to achieve blood pressure control.

*** See the IHS Hypertension protocol available using the right click menu
on the reminder.***
-----
REMINDER APPLICABLE if patient has hypertension and not end stage renal
disease.
+ Enter ?? for more actions
IA  Install all Components          IS  Install selected Component
Select Action: Next Screen// ia
    
```

Figure 8-2: Reminder Exchange Install all option

Use IA (install all components option)

Select Action: Next Screen// **ia Install all Components**

The install process is semi-automated. The system checks to see if the component is on RPMS and if the one on the system is identical. If it is, it will skip. If it is missing or not identical, it will stop and prompt for the next action. Most of the time you will accept the defaults.

```

REMINDER TAXONOMY entry named IHS-END STAGE RENAL DISEASE already exists
and the packed component is identical, skipping.

REMINDER TAXONOMY entry named TEST-ESSENTIAL HYPERTENSION already exists
and the packed component is identical, skipping.

REMINDER TERM entry named IHS-HIGH BP 2007 already exists and the packed
component is identical, skipping.

REMINDER TERM entry named IHS-CONTROLLED BP 2015 already exists and the
packed component is identical, skipping.
    
```

When completed, you will see another screen and be asked to install the dialog.



Dialog Components		Apr 09, 2015 17:03:04		Page: 1 of 31	
Packed reminder dialog: IHS-MH HYPERTENSION CONTROL 2015					
Item	Seq.	Dialog Findings	Type	Exists	
1		IHS-MH HYPERTENSION CONTROL 2015	dialog	X	
2	5	HD HTN DISPLAY Finding: *NONE*	element	X	
3	10	GP HTN MED DISPLAY Finding: *NONE*	group	X	
4	10.5	HD HTN MED LIST DISPLAY Finding: *NONE*	element	X	
5	15	GP HTN INTERVENTIONS Finding: *NONE*	group	X	
6	15.5	GP HTN LABS Finding: *NONE*	group	X	
7	15.5.5	OR HTN BMP	element	X	
+    + Next Screen    - Prev Screen    ?? More Actions					
DD	Dialog Details	DT	Dialog Text	IS	Install selected
DF	Dialog Findings	DU	Dialog Usage	QU	Quit
DS	Dialog Summary	IA	Install All		
select Action: Next Screen// IA					

Figure 8-3: Reminder Exchange Install Dialog

Again choose IA (install all). The following components do not automatically import.

```

Quick Orders: either make new ones with identical name or have ready
your local quick orders to replace them on install
LRZ BMP TODAY
LRZ LIPIDS
GMRCZ FITNESS PROGRAM
GMRCZ NUTRITION
GMRCZ TOBACCO CESSATION
GMRCZ SOCIAL SERVICES
TIU Objects: you will need to make objects if you have not done so
already
Hypertension Control VA Health Summary for TIU object

Select Action: Next Screen// IA

Install reminder dialog and all components with no further changes:
Y//<enter>
    
```

Similar to the Reminder Installation, the system checks your RPMS to see if there is each element and if found if it is identical. If not, it will stop and prompt you for the next action.

```

Install reminder dialog and all components with no further changes: Y// ES
REMINDER DIALOG entry named OR HTN SMOKING CESSATION already exists and the
packed component is identical, skipping.

REMINDER DIALOG entry named OR HTN SOCIAL SERVICES already exists and the
packed component is identical, skipping.

REMINDER DIALOG entry named OR HTN PHN already exists and the packed
component is identical, skipping.

REMINDER DIALOG entry named OR HTN NUTRITION already exists and the
packed component is identical, skipping.
    
```

REMINDER DIALOG entry named OR HTN HOME HEALTH already exists and the packed component is identical, skipping.

REMINDER DIALOG entry named OR HTN EXERCISE already exists and the packed component is identical, skipping.

If you do not have the identical quick orders on your system, it will prompt you to enter your local quick orders.

Once the dialog instillation is complete, you will need to Enable the dialog. They are disabled on import from the exchange.

Navigate to the Reminder Dialog menus. **BEH>REM>DLG>DLG**

Dialog List		Apr 09, 2015 17:26:18	Page: 11 of 17
REMINDER VIEW (ALL REMINDERS BY NAME)			
+Item	Reminder Name	Linked Dialog Name & Dialog Status	
161	IHS-MAMMOGRAM 75-100 2013	IHS-MAMMOGRAM 75-100 2013	
162	IHS-MAMMOGRAM 75-100 2014	IHS-MAMMOGRAM 75-100 2014	Disabled
163	IHS-MED ED 2013	IHS-MED ED 2013	
164	IHS-MED THERAPY MNGT 2013	IHS-MED THERAPY MNGT 2013	
165	IHS-MENINGITIS IMMUN 2008	IHS-MENINGITIS IMMUN 2008	
166	IHS-MENINGITIS IMMUN 2013	IHS-MENINGITIS IMMUN 2013	
167	IHS-MH HYPERTENSION CONTROL 2015	IHS-MH HYPERTENSION CONTROL	Disabled
168	IHS-MH HYPERTENSION RECALL 2015		
169	IHS-NEWBORN HEARING 2013	IHS-NEWBORN HEARING 2013	
170	IHS-NUTRITIONAL SCREENING 2013	IHS-NUTRITIONAL SCREENING 2	
171	IHS-OSTEOPOROSIS SCREEN 2013	IHS-OSTEOPOROSIS SCREEN 201	
172	IHS-OSTEOPOROSIS SCREEN 2014	IHS-OSTEOPOROSIS SCREEN 201	Disabled
173	IHS-OSTEOPOROSIS SCREENING		
174	IHS-PAP SMEAR	IHS-PAP SMEAR	Disabled
175	IHS-PAP SMEAR 2008	IHS-PAP SMEAR 2008	Disabled
176	IHS-PAP SMEAR 2009	IHS-PAP SMEAR 2009	
+ Next Screen - Prev Screen ?? More Actions >>>			
AR	All reminders	LR	Linked Reminders
CV	Change View	QU	Quit
		RN	Name/Print Name
Select Item: Next Screen//			
DFE	Delete Exchange File Entry	LR	List Reminder Definitions
IFE	Install Exchange File Entry	RI	Reminder Definition Inquiry
Select Action: Next Screen//			

Figure 8-4: Reminder Dialog menu

This is the Dialog List in the Reminder View. The name of the Reminder Definition is on the left and the linked dialog if present is on the right. To enable the dialog you will select the item number – in this example 167.

Select Item: Next Screen//167

At the next screen you will select 1 to edit the dialog.

```

Dialog Selection List          Apr 09, 2015 17:32:19          Page: 1 of 1
REMINDER NAME: IHS-MH HYPERTENSION CONTROL 2015
Item Dialog Name             Latest Update      Other Linked Reminders
-----
This reminder is linked to dialog:
    1  IHS-MH HYPERTENSION CONTROL 2015

+ Next Screen  - Prev Screen  ?? More Actions  >>>
AD  Autogenerate Dialog      QU  Quit
LR  Link Reminder
Select Item: Quit// 1
    
```

Figure 8-5: Dialog Selection List

```
Select Item: Quit//1
```

The next screen is the Dialog Edit List and you will Edit the dialog

```

Dialog Edit List          Apr 09, 2015 17:33:45          Page: 1 of 16
REMINDER DIALOG NAME: IHS-MH HYPERTENSION CONTROL 2015 (DISABLED - Disabled)
Item Seq.  Dialog Summary
-----
1  5  Element: HD HTN DISPLAY
2  10 Group: GP HTN MED DISPLAY
3  10.5 Element: HD HTN MED LIST DISPLAY
4  15 Group: GP HTN INTERVENTIONS
5  15.5 Group: GP HTN LABS
6  15.5.5 Element: OR HTN BMP
7  15.5.10 Element: OR HTN LIPIDS
8  15.10 Group: GP HTN SCREENING BUNDLE TOBACCO
+ + Next Screen  - Prev Screen  ?? More Actions  >>>
ADD Add Element/Group      DS  Dialog Summary      INQ Inquiry/Print
CO  Copy Dialog             DO  Dialog Overview     QU  Quit
DD  Detailed Display        DT  Dialog Text
DP  Progress Note Text      ED  Edit/Delete Dialog
Select Item: Next Screen// ED

DFE Delete Exchange File Entry      LR  List Reminder Definitions
IFE Install Exchange File Entry     RI  Reminder Definition Inquiry
Select Action: Next Screen//
    
```

Figure 8-6: Dialog Edit List

```
Select Next Item: Next Screen//ED Edit/Delete Dialog
NAME: IHS-MH HYPERTENSION CONTROL 2015 Replace
DIASBLE: Disabled//@ <<< this removes the text. Any text or spaces here
will disable the dialog
    SURE YOU WANT TO DELETE? Y (Yes)
CLASS: LOCAL// ^ <<< you can just jump out from here
    
```

### 8.1.2 IHS-MH Hypertension Recall 2015

Repeat the installation process in Section 8.1.1. This reminder will not have a dialog. This reminder is only to be used to generate Reminder Reports and not deployed in the EHR GUI.

## 8.2 Configure Reminder and Dialog in EHR

To configure reminders in the GUI, set the PXRMR EHR CONFIGURATION parameter.

```

BEH → REM→ PAR →   CFG - Allow EHR Configuration in GUI
    100 User          USR   [choose from NEW PERSON]
    200 Class         CLS   [choose from USR CLASS]
    300 Division      DIV   [DEMO HOSPITAL]
    400 System        SYS   [DEMO.MEDSPHERE.COM]

Enter selection: 100 User NEW PERSON ←set for user or CAC class
Select NEW PERSON NAME: user,demo USER,DEMO
-- Setting Can configure reminders within GUI for User: USER,DEMO ---
Can configure reminders within GUI: YES//
    
```

1. Log on to EHR.
2. Select a patient.
3. Click the reminder icon. The **Available Reminders** dialog (Figure 8-7) is displayed.

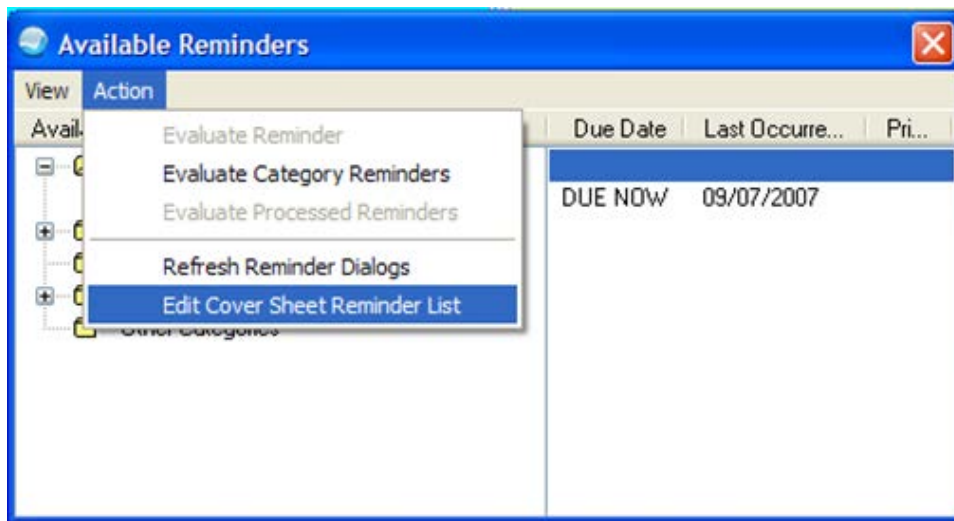


Figure 8-7: **Available Reminders** dialog

4. Select the **Action** menu.
5. Select **Edit Cover Sheet Reminder List**. The **Clinical Reminders and Reminder Categories Displayed on Cover Sheet** dialog (Figure 8-8) displays.

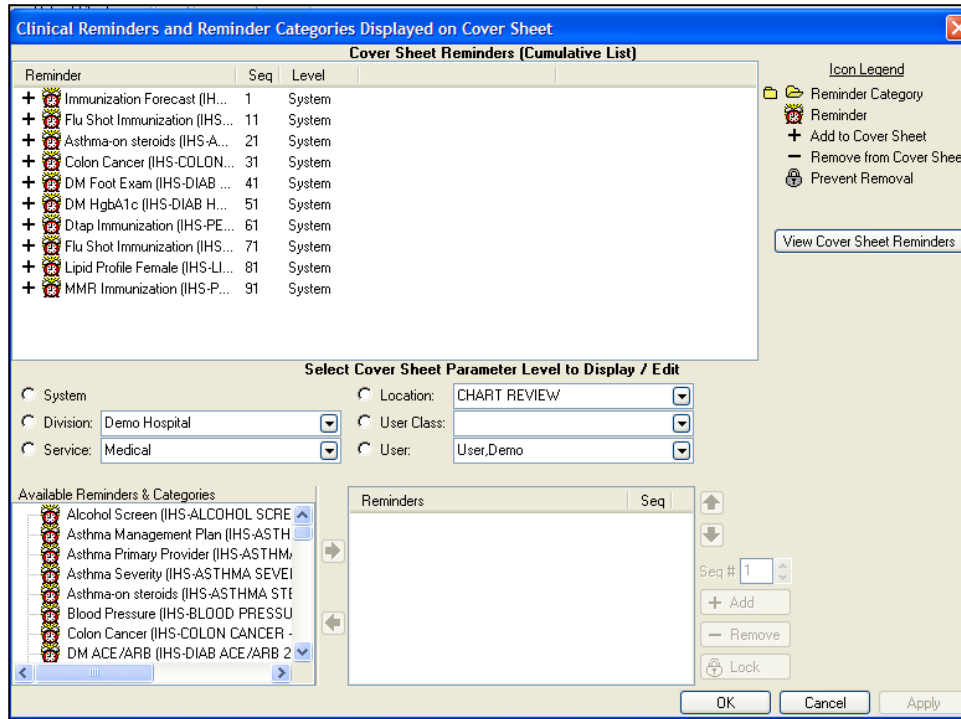


Figure 8-8: Clinical Reminders and Reminder Categories Displayed on Cover Sheet dialog

- The top section shows how the reminders are set up.
- The middle section allows the CAC to assign reminders by the different groups.
- The left lower area is the list of available reminders.
- The right lower area is the assignment for the chosen level.

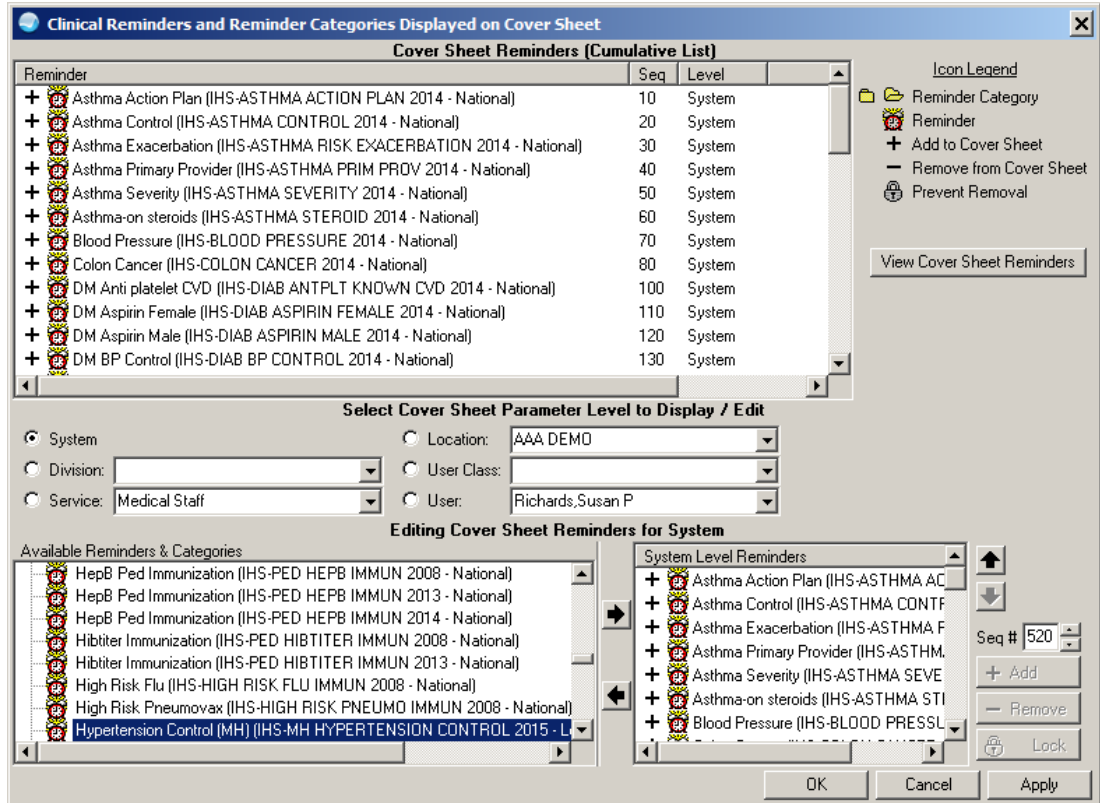


Figure 8-9: Clinical Reminders and Reminder Categories Displayed on Cover Sheet dialog

6. Select **System** to deploy to all users (test this at the User level first).
7. Select to highlight the **Hypertension Control (MH)** reminder.
8. Use the right arrow to move it to the **System Level Reminders**.
9. Click **Apply** to save.
10. Click **OK** to exit.
11. Select a patient with Hypertension.
12. Click the Reminders icon on the toolbar and if the reminder is due, it will display on the **Available Reminders** dialog (Figure 8-10) and on the notes tab (Figure 8-11).

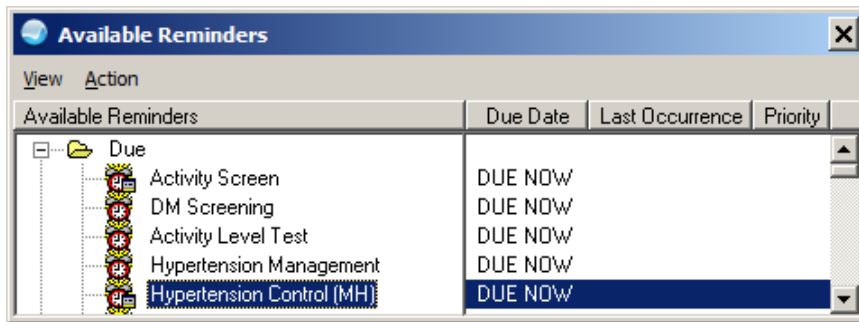


Figure 8-10: Available Reminders dialog

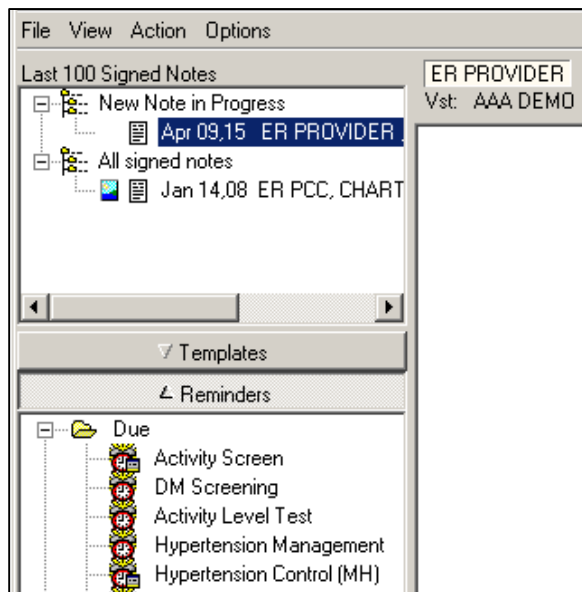


Figure 8-11: Reminders pane on the Notes tab

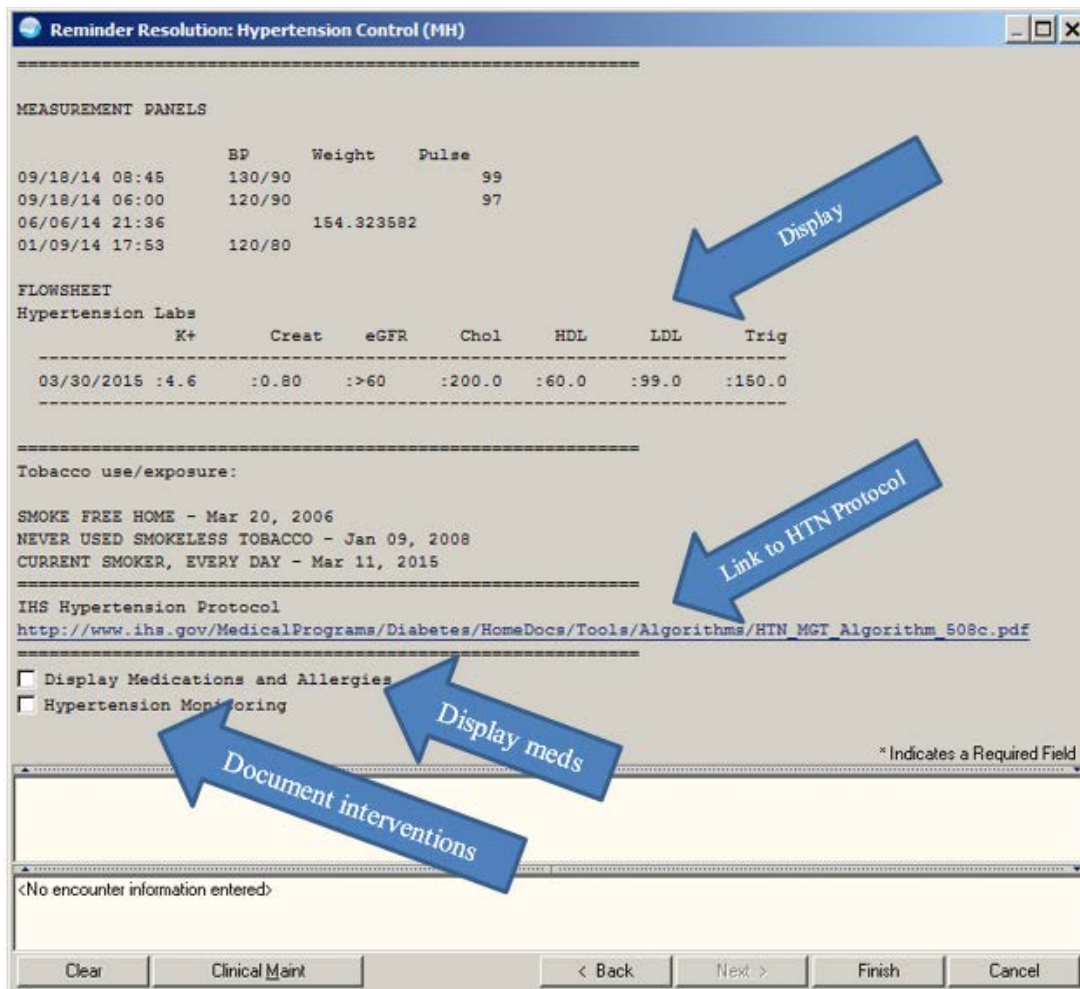


Figure 8-12: Reminder Resolution dialog



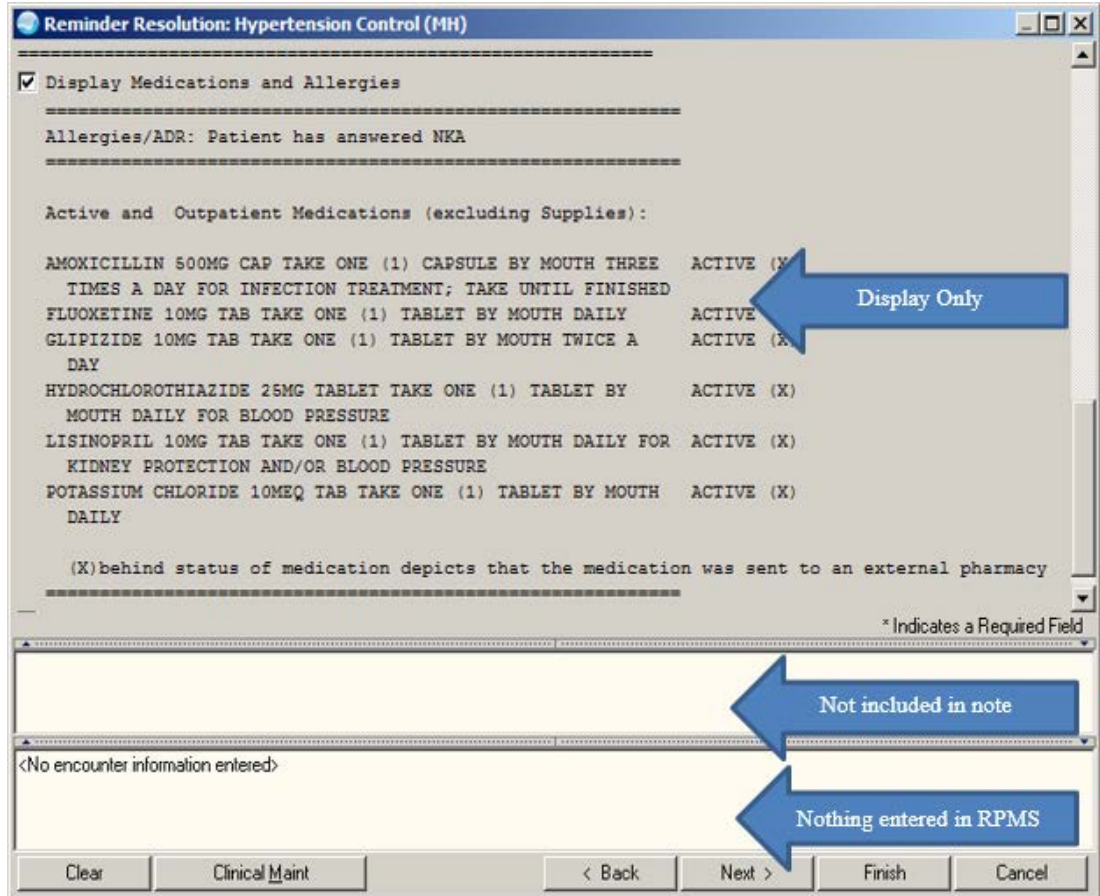


Figure 8-13: **Reminder Resolution** dialog; display meds

**Reminder Resolution: Hypertension Control (MH)**

MEASUREMENT PANELS

	BP	Weight	Pulse
09/18/14 08:45	130/90		99
09/18/14 06:00	120/90		97
06/06/14 21:36		154.323582	
01/09/14 17:53	120/80		

FLOWSHEET

Hypertension Labs

	K+	Creat	eGFR	Chol	HDL	LDL	Trig
03/30/2015	:4.6	:0.80	:>60	:200.0	:60.0	:99.0	:150.0

Tobacco use/exposure:

SMOKE FREE HOME - Mar 20, 2006  
 NEVER USED SMOKELESS TOBACCO - Jan 09, 2008  
 CURRENT SMOKER, EVERY DAY - Mar 11, 2015

IHS Hypertension Protocol  
[http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Tools/Algorithms/HTN\\_MGT\\_Algorithm\\_508c.pdf](http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Tools/Algorithms/HTN_MGT_Algorithm_508c.pdf)

Display Medications and Allergies  
 Hypertension Monitoring  
 Lab Monitoring  
 Tobacco Use and Exposure Screening  
 Education  
 Referrals/Consults

\* Indicates a Required Field

CLINICAL REMINDER ACTIVITY

Hypertension Control (MH):

Hypertension Monitoring

Last 3 BP: 130/90 (Sep 18, 2014@08:45)  
 120/90 (Sep 18, 2014@06:00)  
 120/80 (Jan 09, 2014@17:53)  
 {FLD:GEN WORD PROCESSING}

<No encounter information entered>

Clear Clinical Maint < Back Next > Finish Cancel

Figure 8-14: Reminder Resolution dialog; note start

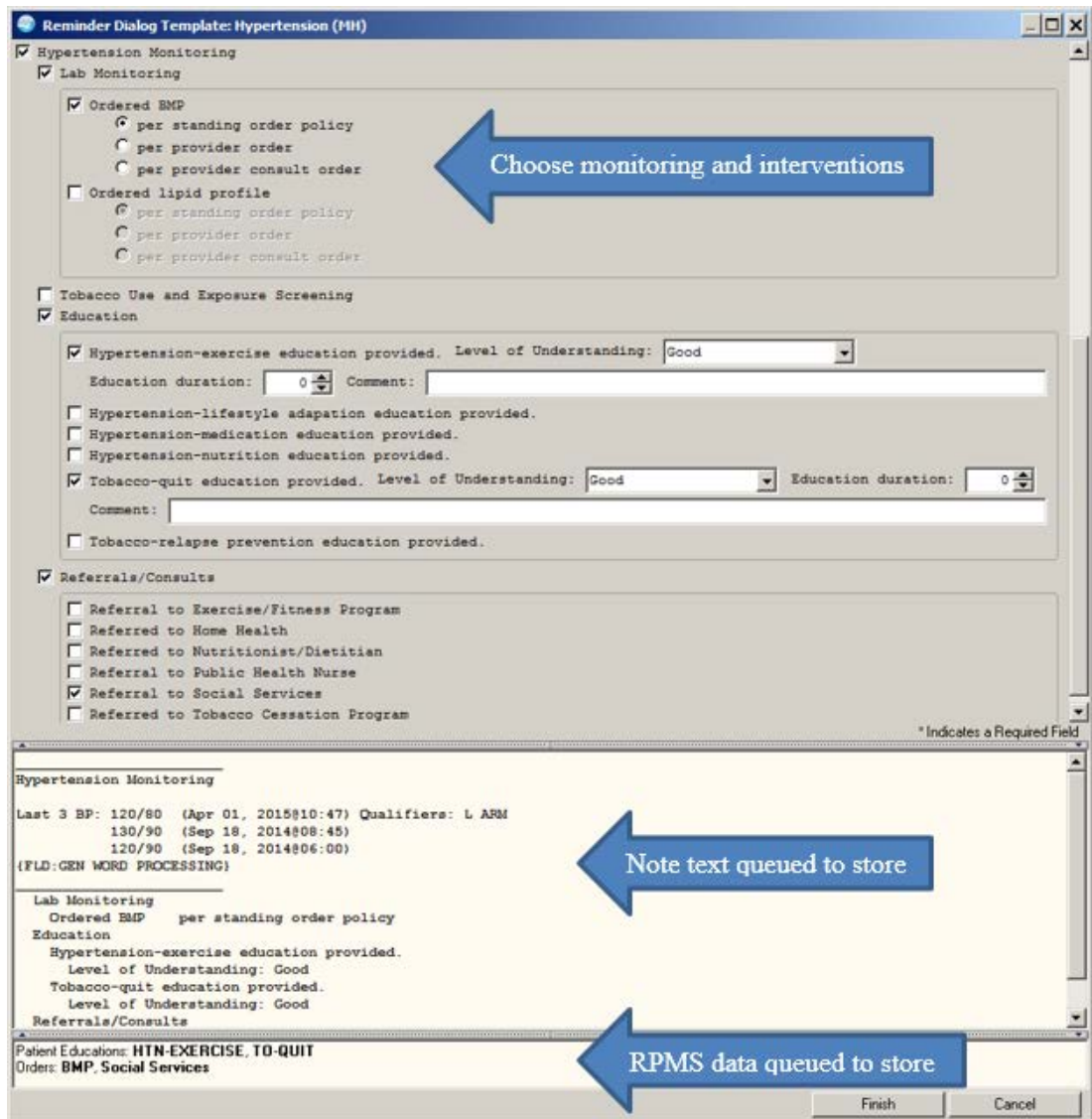


Figure 8-15: Reminder Dialog Template; enter interventions

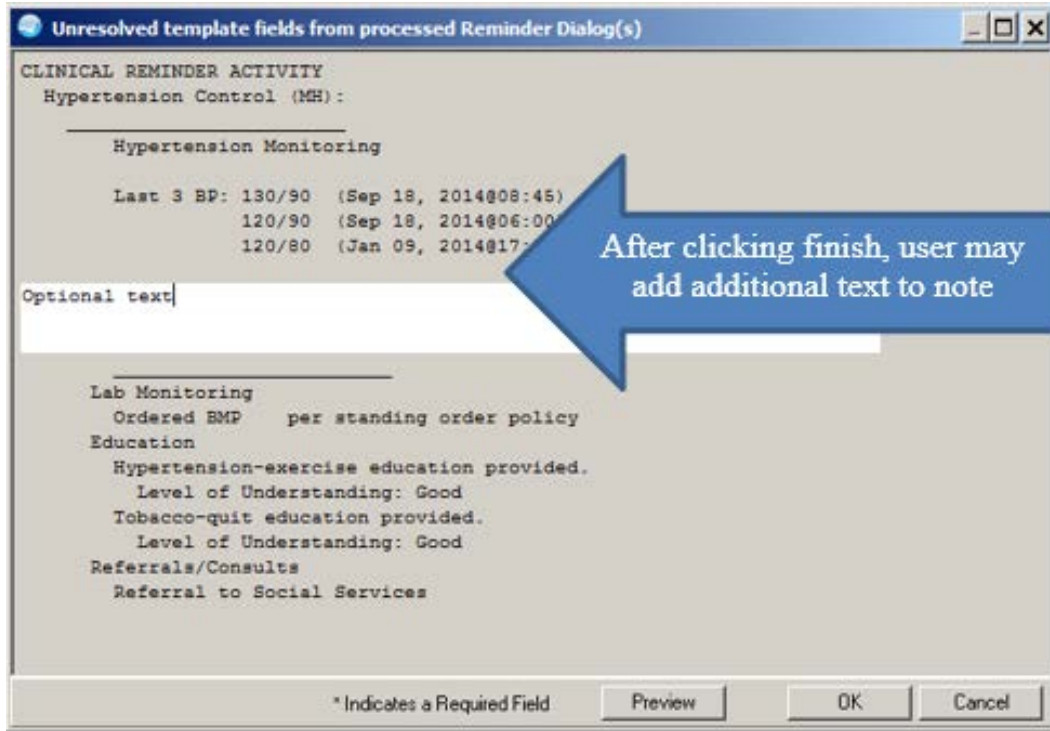


Figure 8-16: Unresolved template fields from processed Reminders dialog

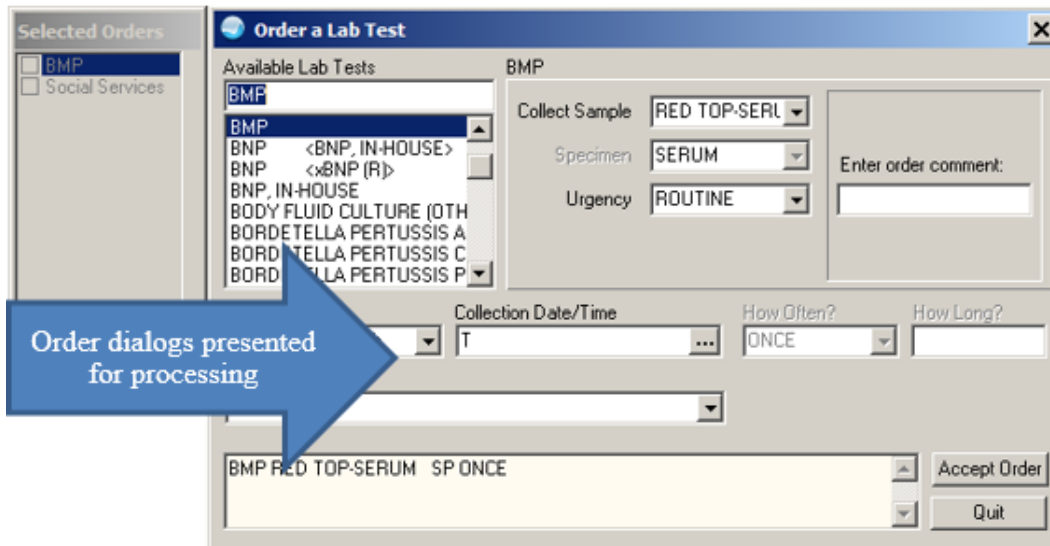


Figure 8-17: Order a Lab Test dialog

LOCAL TITLE: ER PROVIDER  
 DATE OF NOTE: APR 01, 2015@16:44      ENTRY DATE: APR 01, 2015@16:44:21  
 AUTHOR: RICHARDS,SUSAN P      EXP COSIGNER:  
 URGENCY:      STATUS: COMPLETED

---

Hypertension Monitoring

Last 3 BP: 120/80 (Apr 01, 2015@10:47) Qualifiers: L ARM  
 130/90 (Sep 18, 2014@08:45)  
 120/90 (Sep 18, 2014@06:00)

Optional text

---

Lab Monitoring  
 Ordered BMP per standing order policy

Education  
 Hypertension-exercise education provided.  
 Level of Understanding: Good  
 Tobacco-quit education provided.  
 Level of Understanding: Good

Referrals/Consults  
 Referral to Social Services

/es/ SUSAN P RICHARDS

Signed: 04/01/2015 16:51




Figure 8-18: Resulting TIU note

Service	Order
Consults	SOCIAL SERVICES Cons Consultant's Choice Indication: Benign hypertension   *UNSIGNED*
Lab	BMP RED TOP-SERUM SP ONCE Indication: Benign hypertension   *UNSIGNED*

Figure 8-19: Stored Orders

 **Education** 

Visit Date ▾	Education Topic	Comprehension
03/31/2015	Hypertension-Lifestyle Adaptations	GOOD

Figure 8-20: Education Topics

## 9.0 Configure IPL Care Planning

Sites may configure IPL care planning to use TIU templates.

### 9.1 Import TIU Templates

Importing template are quick and simple using either the sample TIU templates provided or ones received from another facility. Template fields import, but TIU objects do not. Either create TIU objects of the identical name, or replace the TIU objects with local ones using the Template editor.

To use TIU templates for IPL Care Planning, they must be in **SHARED** templates and may not be in a Template Folder. We recommend using a naming convention to easily identify these types of templates:

- IPL Goal Diabetes
  - IPL Plan Diabetes
  - IPL Instructions Diabetes
1. Place template files on the workstation's desktop.
  2. Navigate to the **Notes** tab (Figure 9-1).

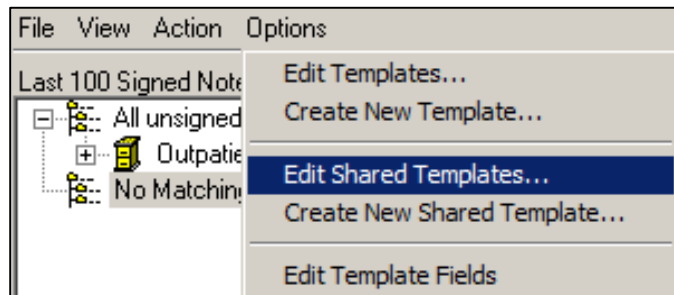


Figure 9-1: **Options** menu accessing the shared template editor

3. Select the **Options** menu.
4. Select **Edit Shared Templates** to open the **Template Editor** dialog (Figure 9-2).



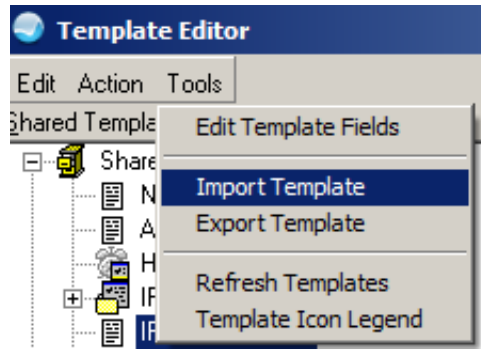


Figure 9-2: **Template Editor** dialog with **Tools** menu displayed.

5. Click in the **Shared Templates** pane.
6. Select the **Tools** menu.
7. Select **Import Template**. The Template File Selection dialog (Figure 9-3) is displayed.

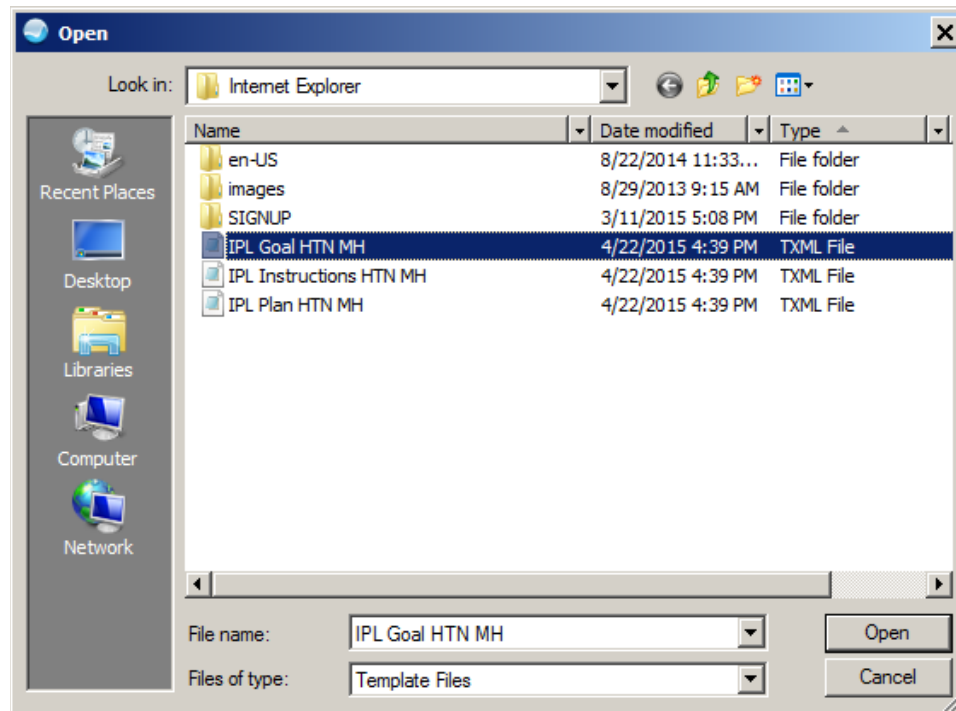


Figure 9-3: Template File Selection dialog

8. Select a TXML file and click **Open**. The file is imported into the shared template folder.

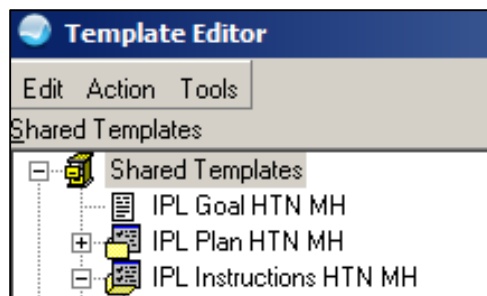


Figure 9-4: **Template Editor** after import

9. Repeat for the remaining template files. Successfully imported files will be listed in the **Shared Templates** pane.
10. Click **APPLY**.
11. Click **OK**.

## 9.2 Parameter Setup

1. Set the three parameters to make the templates available on the IPL and POV care planning dialogs as shown in the following sequence:

```

XX      General Parameter Tools ...
Select General Parameter Tools Option: ep Edit Parameter Values
      --- Edit Parameter Values ---

Select PARAMETER DEFINITION NAME:      BGO IPL CARE TEMPLATE      List of TIU
Templates for IPL Care Notes

BGO IPL CARE TEMPLATE may be set for the following:

      100 User           USR      [choose from NEW PERSON]
      700 Division       DIV      [2011 DEMO HOSPITAL]
      800 System         SYS      [2011 DEMO-HO.ABQ.IHS.GOV]

Enter selection: 800 System      2011 DEMO-HO.ABQ.IHS.GOV

--- Setting BGO IPL CARE TEMPLATE for System: 2011 DEMO-HO.ABQ.IHS.GOV ---
Select Sequence: 5
Are you adding 5 as a new Sequence? Yes// y YES

Sequence: 5//      5
Template Name: IPL Goal HTN MH
Select Sequence:

Repeat this for:
  Parameter: BGO IPL CARE TEMPLATE
  Template: IPL Plan HTN MH template

Parameter: BGO IPL VISIT TEMPLATE
Template: IPL Instruction HTN MH template
    
```

2. Log off then log on to RPMS.



## 9.3 Use Care Plan Templates

Templates can be accessed from either of the following:

- The **Add/Edit Problem** dialog if **Use as POV** is checked.
- The **POV** dialog.

Figure 9-5: **Edit Problem** dialog

1. Access the **Care Planning** dialog:
  - a. Select **Use as POV** on the **Edit Problem** dialog.
  - b. Click **Add Visit Instruction/Care Plans/Goal Activities**. The Care Planning dialog (Figure 9-6) is displayed.

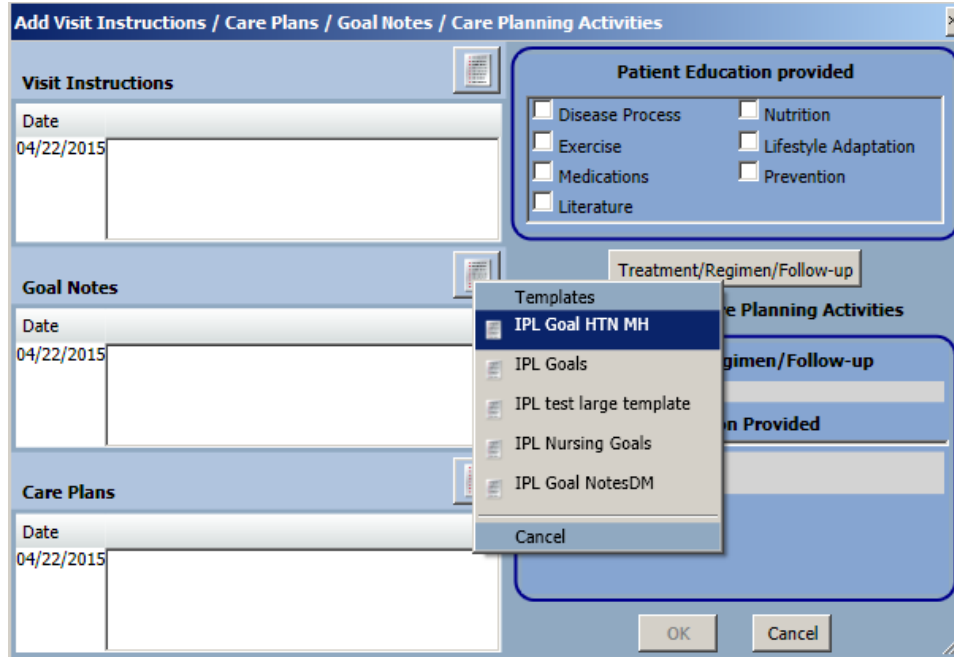


Figure 9-6: Care Planning dialog, template selection

2. Click the template icon of any of the care plan sections to set up the template selections in the parameters display.

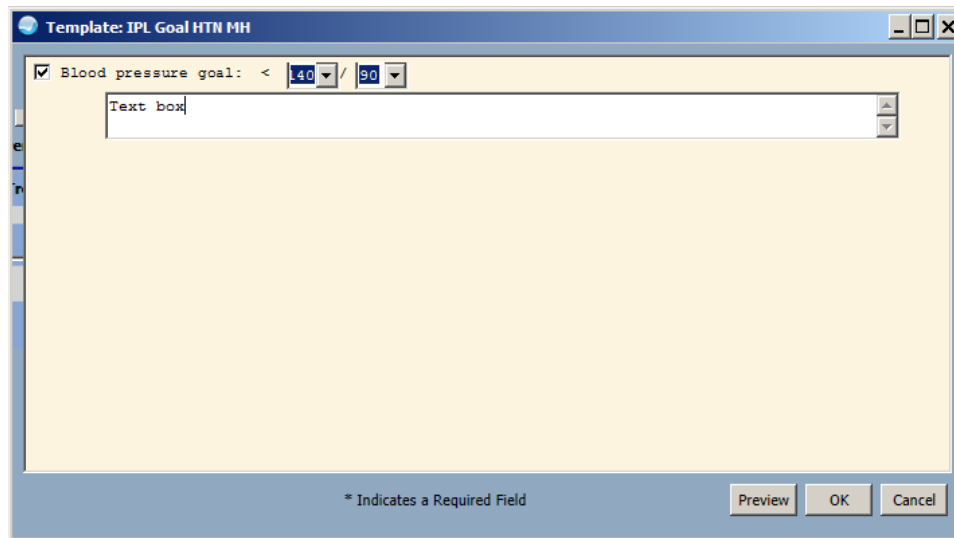


Figure 9-7: Template dialog

Care planning templates may also be launched from the POV selection dialog:

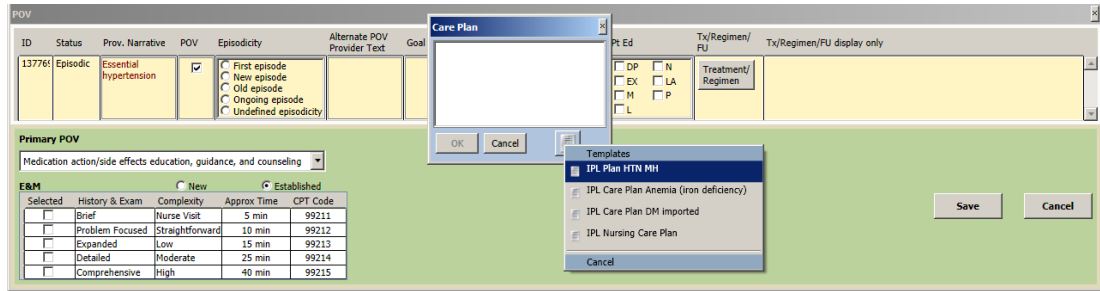


Figure 9-8: Care planning dialog selected from POV dialog

1. Right click **Add**.
2. Click the template icon.

## 9.4 Sample IPL templates

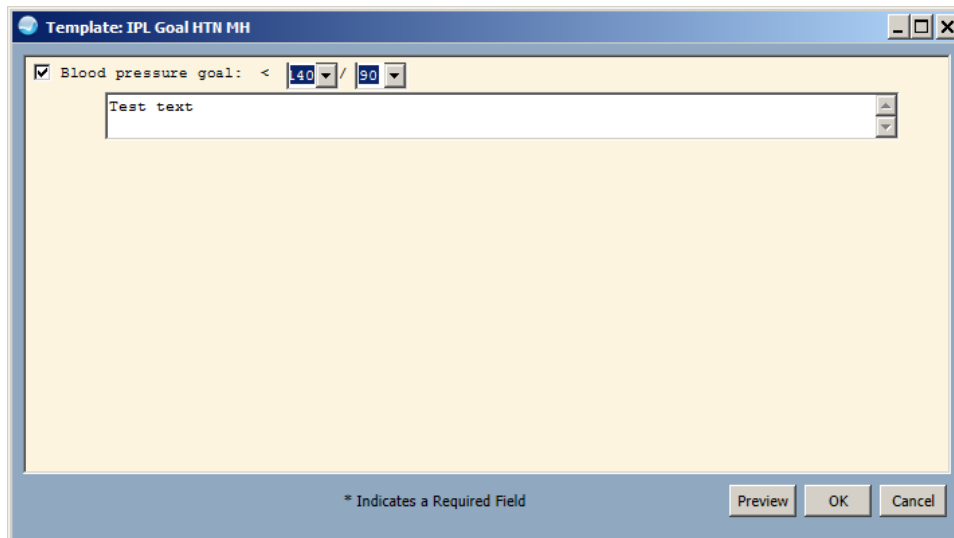


Figure 9-9: IPL Goal HTN MH template

**Template: IPL Plan HTN MH**

Last 3 BP: 120/80 (May 21, 2014@17:42)  
 100/70 (Nov 07, 2013@16:38)

Stage 1 Hypertension  
 Systolic 140-159 OR Diastolic 90-99

Stage 2 Hypertension  
 Systolic >160 OR Diastolic >100

-----  
 Therapeutic Lifestyle Changes

-----  
 Medication Therapy  if fails trial of lifestyle management

-----  
 Follow up/monitoring:

\* Indicates a Required Field

Preview OK Cancel

Figure 9-10: IPL Plan HTN MH template

**Template: IPL Plan HTN MH**

Last 3 BP: 120/80 (May 21, 2014@17:42)  
 100/70 (Nov 07, 2013@16:38)

Stage 1 Hypertension  
 Systolic 140-159 OR Diastolic 90-99

Stage 2 Hypertension  
 Systolic >160 OR Diastolic >100

-----  
 Therapeutic Lifestyle Changes

- Achieve and maintain normal body weight
- Consume diet rich in fruits, vegetables, with reduced content of saturated and total fat.
- Reduce dietary sodium intake to no more than 2.4g sodium per day
- Engage in regular aerobic physical activity such as brisk walking, at least 30 minutes per day most days of the week.
- Limit consumption of alcohol to no more than 2 drinks per day per day for men and 1 drink per day in women.  
 1 drink = 12 ounces of beer, 5 ounces of wine, 1.3 ounce of 80 proof whiskey
- Quit tobacco use

-----  
 Medication Therapy  if fails trial of lifestyle management

-----  
 Follow up/monitoring:

\* Indicates a Required Field

Preview OK Cancel

Figure 9-11: Plan template - Lifestyle mod section

Figure 9-12: Plan template - medication and follow up sections

Figure 9-13: IPL Instructions HTN MH template

## 10.0 Population Health

### 10.1 Reminder Reports

IHS-MH Hypertension Recall 2015 is a reminder written specifically to create a recall list of patients who have essential hypertension and either of the following is true:

- Their last BP was controlled but was last done more than one year ago.
- Their last BP was not controlled and was last done over one month ago.

From the RPMS-Master Configuration menu BEH>REM>RPT

DUE	Reminders Due Report
REV	Review Date Report
TPL	User Report Templates
USR	Reminders Due Report (User)

Reminder reports may be run for a facility, for a clinic, or by provider.

### 10.2 iCare

#### 10.2.1 Reminders in iCare

iCare will automatically pick up the new IHS-MH Hypertension Recall 2015 when it is installed and activated in EHR. The iCare nightly background job always searches for new reminders and sets them up to be accessed in iCare.

The return value of the EHR reminder is **DUE NOW**, which translates to the current date when viewed in iCare. This means that for Reminder Notifications, any patient with a **DUE NOW** value is considered to be overdue.

Other reminders associated with the Million Hearts campaign can be viewed by setting up a specific Million Hearts reminder template. See Section 10.2.3 for instructions to create a Public Template that can be applied by all users. The reminder template can show the new reminder as well as other reminders that could be related to the Million Hearts initiative.

#### **Reminder Notifications Panel**

Once the reminder has been activated and reminder data calculated, a panel of patients can be created with overdue Million Hearts Hypertension Control.

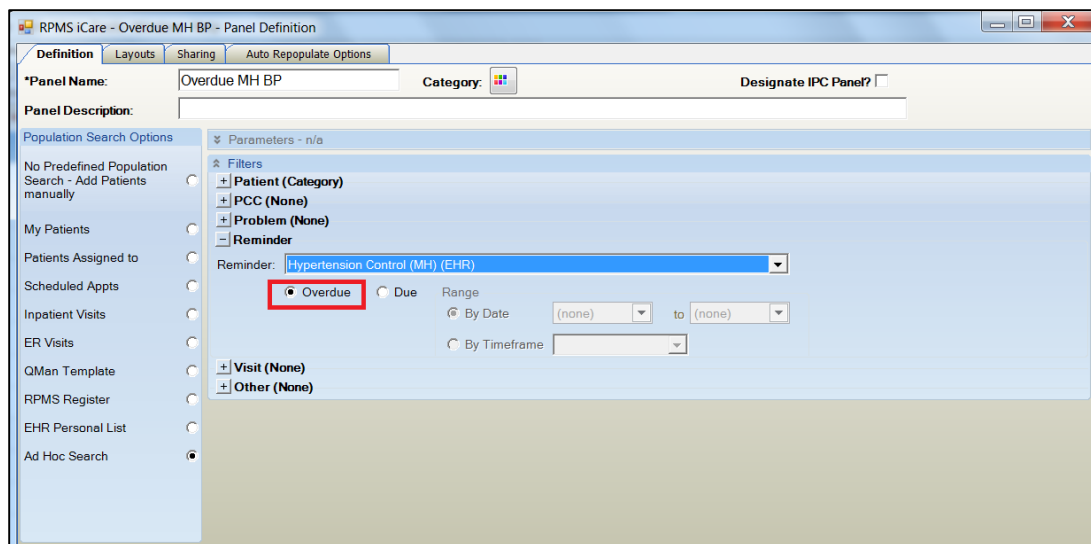


Figure 10-1: iCare Panel Definition

Results can be sorted and filtered by Communication Preference, Reminder Due, etc. making it easier to identify patients who need work on controlling their blood pressure. Sending patient notifications via iCare counts towards the MU Stage 2 Patient Reminders measure.

IHRN	Sex	Age	DOB	Designated PCP	Commu.	Active DX T.	Home	Comm.	Reminder D.	Notifica.
143237-TST 143238	F	79 YRS	Sep 17, 1...	THOMSON, DENISE M	PARKER	CVD AHR (P); DM (P)	555-555-9926	LETTER	Mar 19, 2011	
113258-TST 113259-CRIT 113260-ASAP	M	52 YRS	May 08...	CROZIER, PENNIE	PARKER	CVD AR (A)	555-555-8852	LETTER	Mar 07, 2012	
145216-TST 141200-TST	F	66 YRS 81 YRS	Nov 07, 1... Jun 03, 1...	EVANS, BARBARA A R N DENICOLA, RACHEL M	PARKER	CVD AR (A) CVD AR (P)	555-555-8848 555-555-3987	LETTER	Sep 26, 2012 Oct 18, 2012	
109375-TST 109376-CRIT 109377-ASAP	M	27 YRS	Oct 01, 1...	CROZIER, PENNIE	PARKER	HTN (P)	555-555-3035	PHONE	Dec 06, 2012	
131278-TST 131277	F	58 YRS	May 13...	DENICOLA, RACHEL M	PARKER	Asthma (A); COPD (P); CVD Kh (P)	555-555-4297	LETTER	Feb 07, 2013	
105977-TST 105978-CRIT 105979-ASAP	M	43 YRS	Dec 22, 1...	THOMSON, DENISE M	PARKER	CVD AHR (P); DM (A); Obese (P)	555-555-2542	PHONE	Feb 16, 2013	
124973-TST 124974 124975	M	19 YRS	Oct 21, 1...	KRISE, JUDITH K	PEACH SPRGS	Asthma (P); CVD AHR (P); DM (P); Obese (P)	555-555-5272	LETTER	May 10, 2013	

Figure 10-2: Hypertension Panel display

## 10.2.2 CRS in iCare

When CRS Version 15.1 is released, iCare will recognize the CRS Measure - MH: Controlling High BP. It is available from the Main View, Panel View and Patient View.

A specific Million Hearts Natl Measures template may be set up to view other CRS measures associated with the Million Hearts campaign. The template can show LDL assessed (there are several measures for LDL assessed), Tobacco Screening and Cessation Counseling, and other measures that may be significant to the Million Hearts initiative. See Section 10.2.3 for instructions to create a Public Template that can be applied by all users.

## 10.2.3 Template Management

The templates mentioned previously can be created by one person in iCare and uploaded to Public Templates for use by anyone.

### 10.2.3.1 Reminders Template

1. Select **Template Management** from the **Tools** menu.
2. Click **Add**; the **Add Template** dialog (Figure 10-3) is displayed.

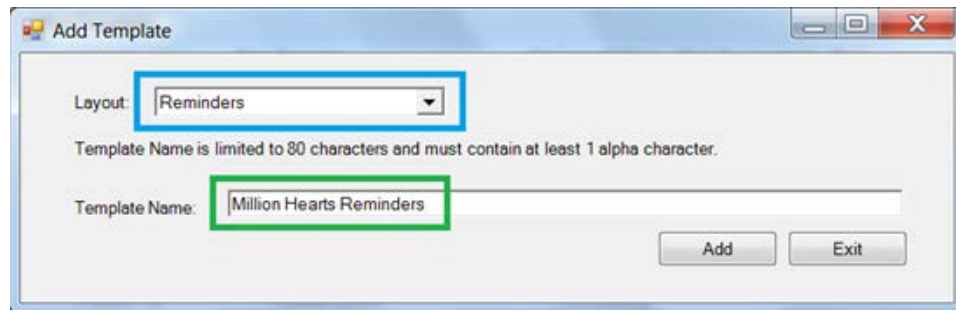


Figure 10-3: **Add Template** dialog

3. Select **Reminders** from the **Layout** field.
4. Type a unique **Template Name** in the field.
5. Click **Add**; the **Reminders Template** dialog (Figure 10-4) is displayed.



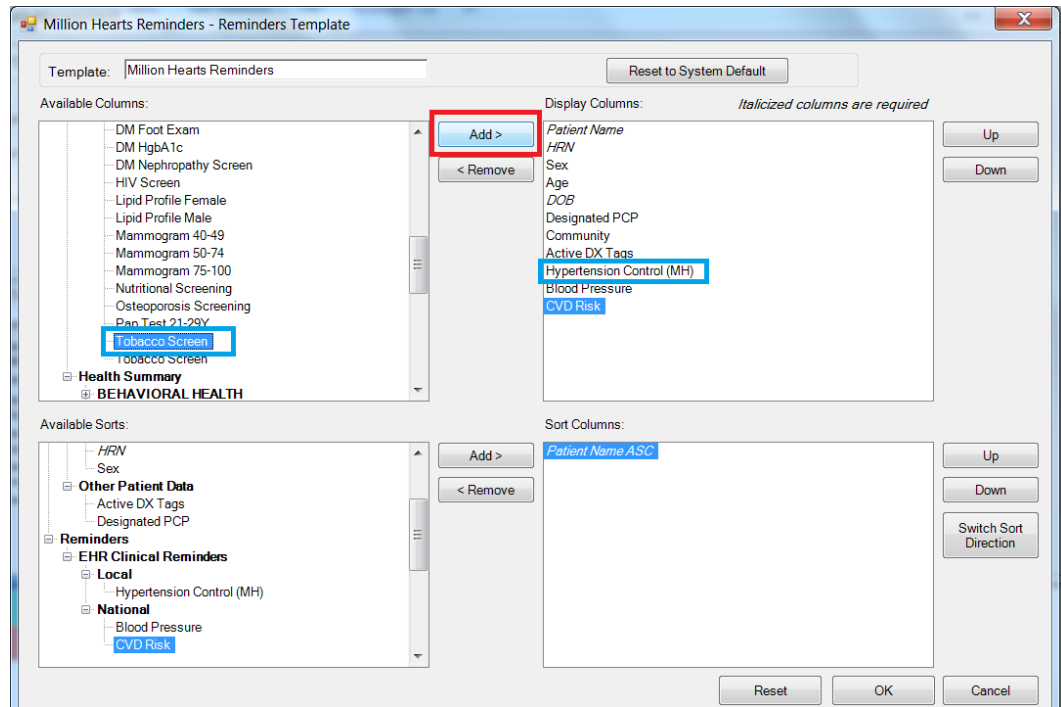


Figure 10-4: Reminders Template

6. Select the specific reminders to include as part of the Million Hearts initiative from the **Available Columns** pane.
7. Click **Add** to move the reminders to the **Display Columns** pane.
8. To change the order of the columns:
  - a. Select a reminder in the **Display Columns** pane.
  - b. Click **Up** or **Down**.

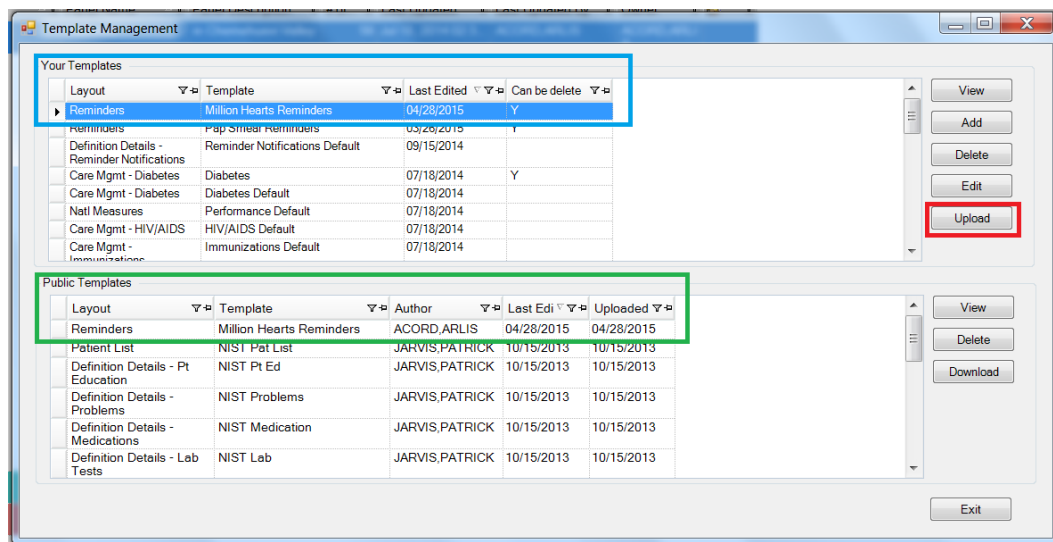


Figure 10-5: Template Management Upload

9. Click **Upload** to create a new template and make it available for other users.
10. Select an existing panel of patients or create a new panel of patients based on any desired criteria.

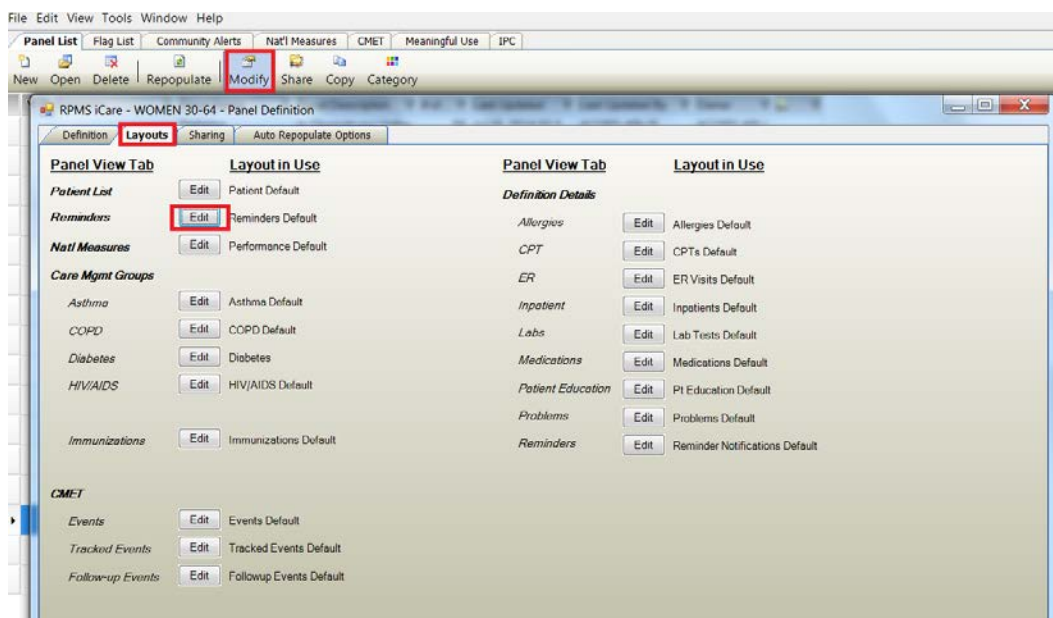


Figure 10-6: Modify Layout

11. Click **Modify**.
12. Select the **Layouts** tab.
13. Click **Edit** to change the **Layout in Use** from **Reminders Default** to the newly created template. The **Reminders Layout** dialog (Figure 10-7) is displayed.

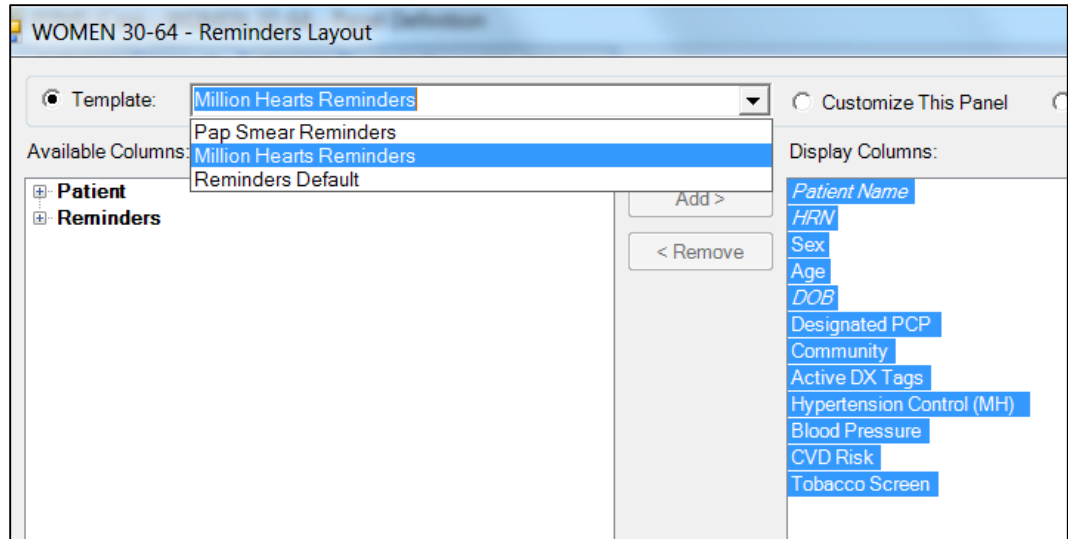


Figure 10-7: Reminders Layout dialog

- Open the panel and select the **Reminders** tab (Figure 10-8) to view the patients and their respective reminder information.

▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
119413	F	57	YRS	Feb 21, 1.	KRISE, JUDITH K	KINGMAN	HTN (P)	NDA	NDA	NDA	NDA			
128462	F	47	YRS	Jun 17, 1.	SARGENT, SUSAN NP	KINGMAN		NDA	NDA	NDA	NDA			
140989	F	31	YRS	Apr 23, 1.	SARGENT, SUSAN NP	KINGMAN		NDA	NDA	NDA	NDA			
119064-TST	F	52	YRS	Dec 20, 1.	KRISE, JUDITH K	KINGMAN	CVD AHR (P); DM (A)	Mar 27, 2014	N/A	N/A	N/A	Jan 10, 2014		
119065														
119066														
144025	F	55	YRS	Jun 24, 1.	SARGENT, SUSAN NP	KINGMAN		NDA	NDA	NDA	NDA			
*103326-TST	F	60	YRS	Jan 13, 1.	KRISE, JUDITH K	KINGMAN		NDA	NDA	NDA	NDA			
103327														
119053-TST	F	56	YRS	Jan 05, 1.	SARGENT, SUSAN NP	KINGMAN	CVD AHR (P); DM (P); HTN (P)	Apr 28, 2015	N/A	N/A	N/A	Sep 07, 2012		
119054														
119055														
115423-TST	F	48	YRS	Nov 15, 1.	FISHER, EUGENE T MD	KINGMAN	Asthma (P); CVD AHR (P); DM (P); HTN (P); Obese (P)	Jan 23, 2014	N/A	N/A	N/A	Jun 13, 2013		
115424														
146605-TST	F	46	YRS	Mar 20, 1.		KINGMAN		N/A	Apr 28, 2015	N/A	N/A	Nov 13, 2013		
142263-TST	F	56	YRS	Jun 18, 1.	SARGENT, SUSAN NP	KINGMAN	CVD AR (A)		Apr 28, 2015	Apr 28, 2015	Apr 28, 2015	Apr 28, 2015		
142264														

Figure 10-8: Reminders tab

**Note:** Remember after enabling the new EHR reminder, IHS-MH Hypertension Recall 2015, the iCare nightly job will need to update the system with the new reminder. You may also need to ask your RPMS system manager to set up the BQI UPDATE ALL REMINDERS task to run overnight in order to get data for the new reminder. The value of NDA may mean that the patient does not have reminders calculated yet. The value of N/A means the patient did not meet the criteria for the reminder.

### 10.2.3.2 National Measures Template

1. Select **Template Management** from the **Tools** menu.
2. Click **Add**; the **Add Template** dialog (Figure 10-9) is displayed.

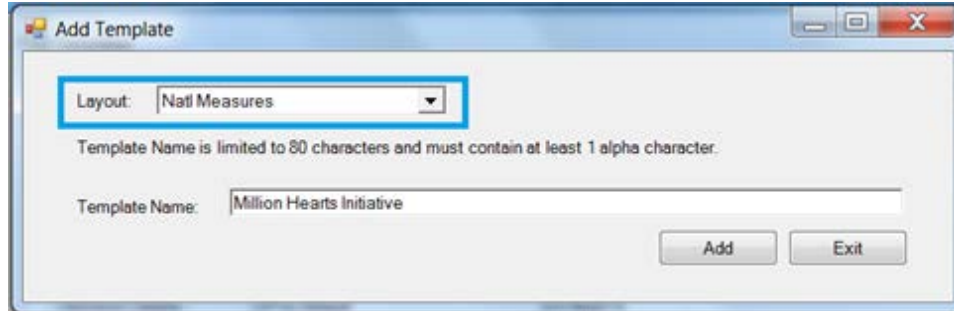


Figure 10-9: **Add Template** dialog

3. From the **Layout** list, select **Natl Measures**.
4. Type a unique **Template Name** in the field.
5. Click **Add**: the **Natl Measures Template** dialog (Figure 10-10) is displayed.

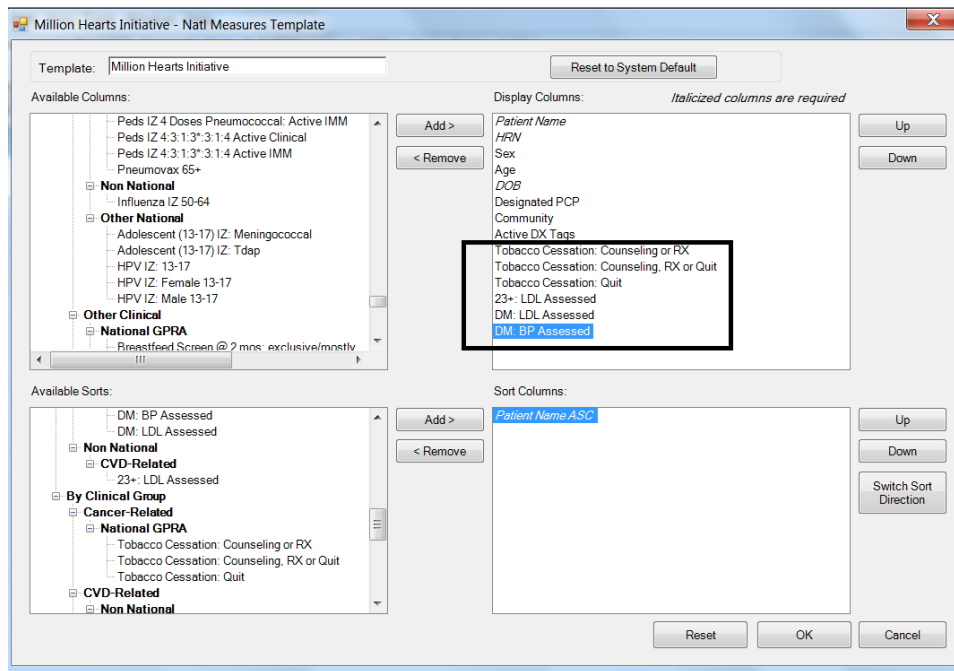


Figure 10-10: **National Measures Template** dialog

**Note:** If CRS Version 15.1 is not installed, you will not have the measure, MH: Controlling High BP in your system. Look over and select other measures that may help with the Million Hearts initiative.

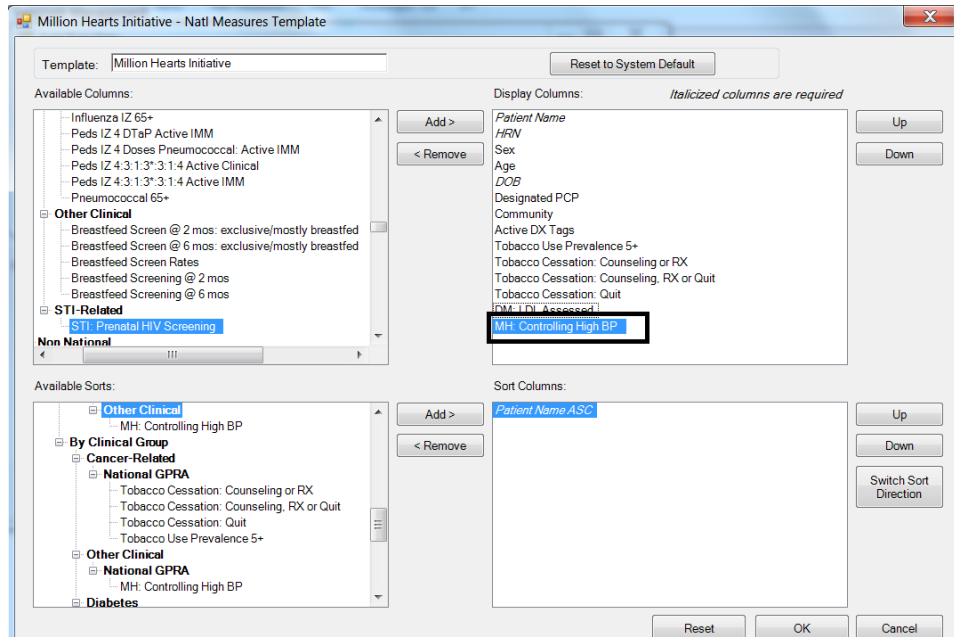


Figure 10-11: Edit National Measures Template

6. Select the specific reminders to include as part of the Million Hearts initiative from the **Available Columns** pane.
7. Click **Add** to move the reminders to the **Display Columns** pane.
8. To change the order of the columns:
  - a. Select a reminder in the **Display Columns** pane.
  - b. Click **Up** or **Down**.

# Appendix A: Sample Layouts

The screenshot shows a sidebar on the left with a tree node structure for 'Problem' and 'Visit Dx/Superbill'. The main area displays a table of medical problems with columns for Status, Onset Date, Provider Narrative, Comments, PHx, PIP, IP, and ICD. The table contains several rows of data, including chronic conditions like 'Migraine with aura' and 'Diabetes mellitus type 2'.

Status	Onset Date	Provider Narrative	Comments	PHx	PIP	IP	ICD
Chronic	10/15/2013	Migraine with aura   vertigo precedes headache					346.00
Chronic		Memory impairment					780.93
Chronic		Diabetes mellitus type 2					250.00
Chronic	09/25/2013	Moderate persistent asthma	testing edit :				.9999
Social/Environmental	10/30/2013	Alcoholic in the family   Father	testing testing testing :				.9999
Sub-acute		Hyperthyroidism					242.90

Figure A-1: Problem and visit data using Tree Node

The screenshot shows a tabbed notebook interface with multiple tabs for different medical categories. The active tab displays a table of medical problems with columns for Status, Onset Date, Priority, Provider Narrative, Comments, PHx, PIP, IP, and ICD. The table contains several rows of data, including chronic conditions like 'Asthma' and 'Diabetes mellitus type 2'.

Status	Onset Date	Priority	Provider Narrative	Comments	PHx	PIP	IP	POV	ICD
Chronic	06/30/2013		Asthma	Exacerbations required emergent intubation and respiratory support x 2 in past 2 years :					493.90
Chronic	08/05/2013		Lactose   This is a test	This is a test :					611.5
Chronic	07/24/2013		Diabetes mellitus type 2						250.00
Chronic	07/16/2008		Obesity   Can add clarification	I can add a comment :					278.00
Chronic	11/02/2013	1	Chronic otitis externa   right						380.23
Sub-acute			Sciatica						724.3
Sub-acute			Atypical glandular cells on cervical Papanicolaou smear						795.00

Figure A-2: Problem and visit data using Tabbed Notebook

The screenshot shows a 'Hypertension Management' tab with a flowchart and a list of medication classes. The flowchart starts with 'Therapeutic Lifestyle Changes' and branches into 'First-Line Medication Classes' (ACE Inhibitor, Diuretic, Calcium Channel Blocker) and 'Consider Additional Medication Classes' (Beta Blocker, Alpha Blocker). The medication list includes ACE Inhibitors, Diuretics, Calcium Channel Blockers, Beta Blockers, Alpha Blockers, and Central Acting drugs.

**Hypertension Management**

Therapeutic Lifestyle Changes

First-Line Medication Classes:

- ACE Inhibitor (Lisinopril or ACE Inhibitor not tolerated, consider ARB, Losartan)
- Diuretic (HCTZ, Chlorthalidone, Nifedipine)
- Calcium Channel Blocker (Diltiazem, Amlodipine, Nifedipine)

Consider Additional Medication Classes:

- Beta Blocker (Metoprolol, Atenolol)
- Alpha Blocker (Prazosin, Doxazosin)

Treat BP to targets as tolerated:

Systolic BP target < 140\*\*

Diastolic BP target < 90

\*\* Individualize BP targets and medication therapy. Patients who are older and/or have significant comorbid conditions and cannot tolerate BP < 140/90, may require higher BP targets to prevent adverse effects (e.g. hypotension, fatigue, dizziness).

Medication List:

- ACE Inhibitors (ACE/Angiotensin Receptor Blocker (ARBs))**
  - Lisinopril (Zestril, Zestril) Start 10-20mg daily, usually 20-40mg daily, max 40mg daily
  - Losartan (Cozaar) Start 25-50mg daily, max 100mg daily. Consider if unable to tolerate ACEI
- Diuretics**
  - HCTZ Start 12.5mg daily, usually 25-50mg daily, Can 1, 4\*
  - Chlorthalidone Start 12.5mg daily, usually 25-50mg daily, Can 1, 4\*
- Calcium Channel Blockers**
  - Amlodipine (Norvasc) Start 5-10mg daily, usually 5-10mg daily. Consider in patients with angina or CHF
  - Diltiazem (Cardizem) Start 180-360mg daily, usually 180-360mg daily, max 360mg daily
  - Nifedipine (Procardia) Start 30mg daily, usually 30-90mg daily, max dose 120mg daily
- Beta Blockers**
  - Metoprolol (Lopressor) Start 50-100mg daily in 1-2 divided doses, usually 100-200mg daily. Max 400mg daily
  - Atenolol (Tenormin) Start 25-50mg daily in 1-2 divided doses, usually 50-100mg daily
- Alpha Blockers**
  - Prazosin (Minipress) Start 1mg PO BID-TID (first dose at bedtime), Max dose 16mg daily
  - Doxazosin (Cardene) Start 1mg immediate release at bedtime, Max dose 16mg daily
- Central Acting**
  - Clonidine (Catapres) Start 0.1mg BID (first dose at bedtime), usually 0.1-0.3mg BID, max 1.2mg BID

Figure A-3: Hypertension tab with web sites and health summary buttons

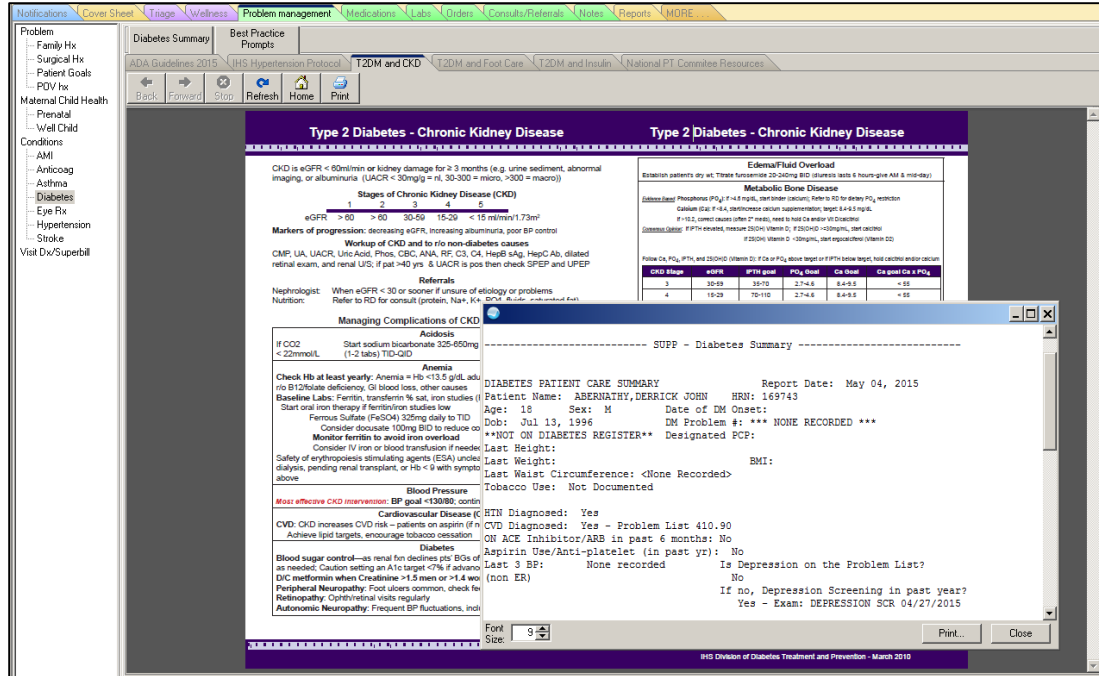


Figure A-4: Diabetes tab with websites and health summaries

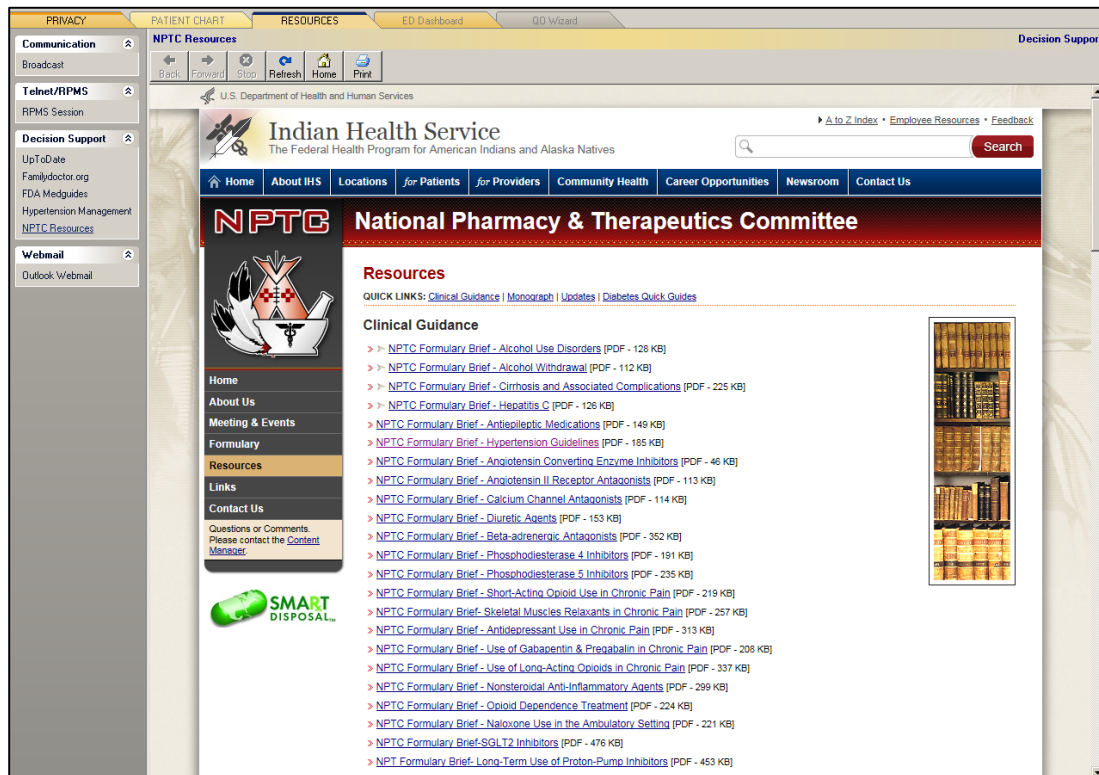


Figure A-5: Resources tab



## Appendix B: Sample Health Summaries

### B.1 Best Practice Prompts

Consider exposing the PCC Best Practice Prompts in a report. This provides clinical guidance based on iCare CVD tags. Please see the IHS PCC Suite (BJPC) documentation, PCC Health Summary User Manual Appendix B for logic: [http://www.ihs.gov/RPMS/index.cfm?module=Applications&option=View&AC\\_ID=0](http://www.ihs.gov/RPMS/index.cfm?module=Applications&option=View&AC_ID=0)

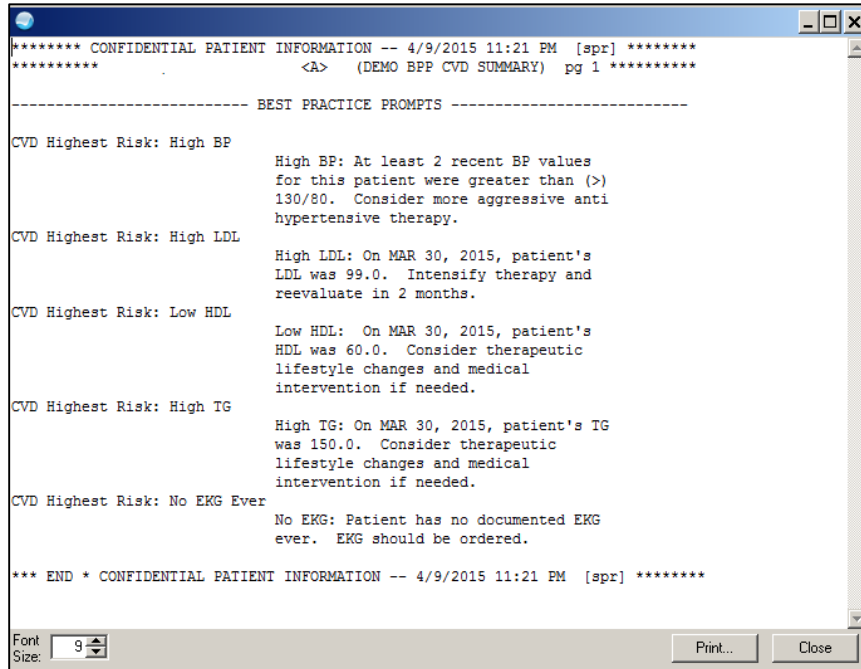


Figure B-1: Health Summary Button with CVD Best Practice Prompts



## B.2 Diabetes Summary

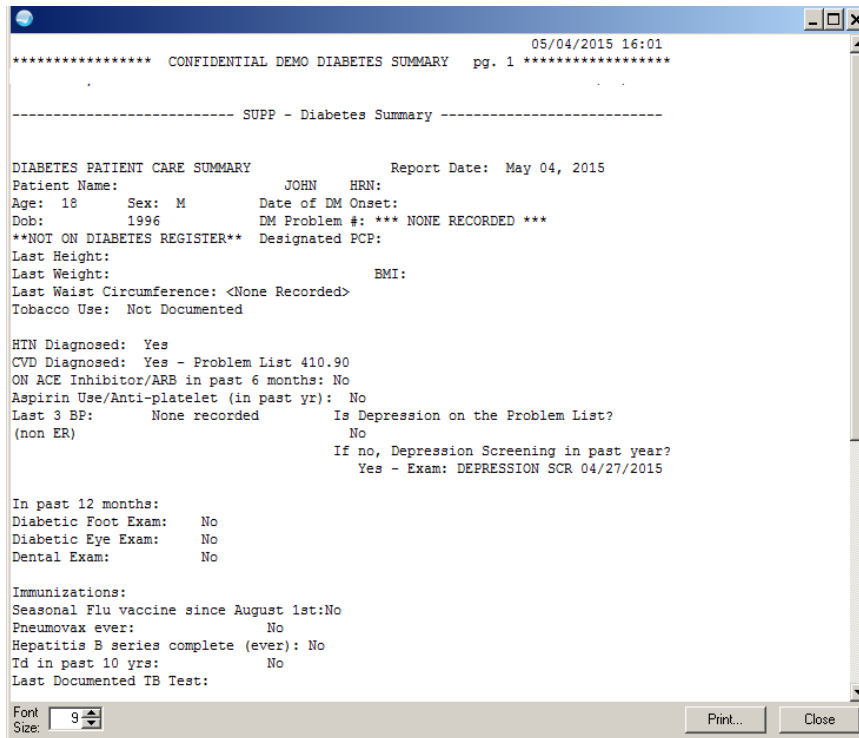


Figure B-2: Health Summary Button with Diabetes Summary

## Appendix C: Clinical Reminder Logic

### C.1 IHS-MH Hypertension Control 2015

```

-----
REMINDER APPLICABLE if patient has hypertension and not end stage renal
disease.
REMINDER DUE if:
  Blood pressure is not controlled (SBP>139 OR DBP >89)
  OR
  Blood pressure is controlled (SBP <140 AND DBP<90) but no BP
  documented in past year.
-----
=====
Bibliographic citation: Million Hearts, IHS Hypertension Protocol 2015
Developer: IHS Office of Information Technology Funding Source: Indian
Health Service Release: 2015
=====
Baseline Frequency:

  Do In Advance Time Frame: Wait until actually DUE
  Sex Specific:
  Ignore on N/A:
  Frequency for Age Range: 1 year for all ages
  Match Text:
  No Match Text:

Findings:

---- Begin: IHS-ESSENTIAL HYPERTENSION (FI(1)=RT(100)) -----
      Finding Type: REMINDER TERM
      Use in Patient Cohort Logic: AND

      Mapped Findings:
      Mapped Finding Item: TX.IHS-ESSENTIAL HYPERTENSION

      Mapped Finding Item: CF.IHS-SNOMED
      Computed Finding Parameter: PXRМ ESSENTIAL HYPERTENSION

---- End: IHS-ESSENTIAL HYPERTENSION -----

---- Begin: IHS-CONTROLLED BP 2015 (FI(2)=RT(98)) -----
      Finding Type: REMINDER TERM
      Use in Resolution Logic: OR
      Occurrence Count: 1

      Mapped Findings:
      Mapped Finding Item: MT.BP
      Condition: I
      ($P(V,"/",1)<140)&($P(V,"/",2)<90)

---- End: IHS-CONTROLLED BP 2015 -----

---- Begin: IHS-ESRD 2015 (FI(3)=RT(99)) -----
      Finding Type: REMINDER TERM
      Use in Patient Cohort Logic: AND NOT

      Mapped Findings:
      Mapped Finding Item: TX.IHS-END STAGE RENAL DISEASE
  
```

```

----- End: IHS-ESRD 2015 -----
----- Begin: IHS-HIGH BP 2007 (FI(4)=RT(12)) -----
          Finding Type: REMINDER TERM

          Mapped Findings:
          Mapped Finding Item: MT.BP
          Condition: I ($P(V,"/",1)>139)!($P(V,"/",2)>89)

----- End: IHS-HIGH BP 2007 -----
    
```

## C.2 IHS-MH Hypertension Recall 2015

(Reminder Report)

```

Baseline Frequency:

    Do In Advance Time Frame: Wait until actually DUE
    Sex Specific:
    Ignore on N/A:
    Frequency for Age Range: 1 year for all ages
    Match Text:
    No Match Text:

Findings:

----- Begin: IHS-HYPERTENSION 2014 (FI(1)=RT(39)) -----
          Finding Type: REMINDER TERM
          Use in Patient Cohort Logic: AND

          Mapped Findings:

          Mapped Finding Item: TX.IHS-HYPERTENSION 2007
          Beginning Date/Time: T-3Y

          Mapped Finding Item: CF.IHS-SNOMED
          Beginning Date/Time: T-3Y
          Computed Finding Parameter: PXR HYPERTENSION

----- End: IHS-HYPERTENSION 2014 -----

----- Begin: IHS-CONTROLLED BP 2015 (FI(2)=RT(98)) -----
          Finding Type: REMINDER TERM
          Use in Resolution Logic: OR

          Mapped Findings:
          Mapped Finding Item: MT.BP
          Condition: I
          ($P(V,"/",1)<140)&($P(V,"/",2)<90)
----- End: IHS-CONTROLLED BP 2015 -----
    
```

## C.3 Additional relevant Clinical Reminders

- IHS-Lipid Female 2014

- IHS-Lipid Male 2014
- IHS-CVD 2013
- IHS-Tobacco Screen 2013

## Appendix D: Controlling High Blood Pressure – Million Hearts

(CRS Measure)

### Owner and Contact

Dr. Dena Wilson, Chris Lamer, PharmD, and Mark Veazie

### National Reporting

NATIONAL (included in National GPRA/GPRAMA Report; reported to OMB and Congress)

### Denominators

1. GPRA: Million Hearts (NQF 0018): User Population patients ages 18 through 85 years diagnosed with hypertension and no documented history of ESRD or current diagnosis of pregnancy.

### Numerators

1. GPRA: Million Hearts (NQF 0018): Patients with BP less than (<) 140/90, i.e., the systolic value is less than (<) 140 AND the diastolic value is less than (<) 90.

### Definitions Age

Age of the patient is calculated at end of the Report period.

### Hypertension

Diagnosis (POV or Problem List entry where the status is not Inactive or Deleted)  
ICD-9: 401.\*; ICD-10: I10 ever through the first 6 months of the Report Period, and at least 1 hypertension POV during the report period.

### ESRD

Any of the following ever:

- CPT 36145 (old code), 36147, 36800, 36810, 36815, 36818, 36819, 36820, 36821, 36831 through 36833, 50300, 50320, 50340, 50360, 50365, 50370, 50380, 90918 through 90925 (old codes), 90935, 90937, 90939 (old code), 90940, 90945, 90947, 90951 through 90970, 90989, 90993, 90997, 90999, 99512, 3066F, G0257, G0308 through G0327 (old codes), G0392 (old code), G0393 (old code), G9231, S2065, S9339
- POV ICD-9: 585.6, V45.1 (old code), V45.11 V45.12, V56.\*; ICD-10: N18.6, Z48.22, Z49.\*, Z91.15, Z94.0, Z99.2
- Procedure ICD-9: 38.95, 39.27, 39.42, 39.43, 39.53, 39.93 through 39.95, 54.98, 55.6\*

## Pregnancy Definition

At least two visits during the Report Period with POV or Problem diagnosis:

- ICD- 9: 640.\*3, 641.\*3, 642.\*3, 643.\*3, 644.\*3, 645.\*3, 646.\*3, 647.\*3, 648.\*3, 649.\*3, 651.\*3, 652.\*3, 653.\*3, 654.\*3, 655.\*3, 656.\*3, 657.\*3, 658.\*3, 659.\*3, 660.\*3, 661.\*3, 662.\*3, 663.\*3, 665.\*3, 668.\*3, 669.\*3, 671.\*3, 673.\*3, 674.\*3, 675.\*3, 676.\*3, 678.\*3, 679.\*3, V22.0 through V23.9, V28.81, V28.82, V28.89, V72.42, V89.01 through V89.09; ICD-10: O09.00 through O10.02, O10.111 through O10.12, O10.211 through O10.22, O10.311 through O10.32, O10.411 through O10.42, O10.911 through O10.92, O11.1 through O15.1, O15.9 through O24.02, O24.111 through O24.12, O24.311 through O24.32, O24.41\*, O24.811 through O24.82, O24.911 through O24.92, O25.10 through O25.2, O26.00 through O26.62, O26.711 through O26.72, O26.811 through O26.93, O29.011 through O30.93, O31.\* through O48.\*, O60.0\*, O61.\* through O66.\*, O68, O69.\*, O71.00 through O71.1, O71.89, O71.9, O74.0 through O75.81, O75.89, O75.9, O76 through O77.\*, O88.011 through O88.02, O88.111 through O88.12, O88.211 through O88.22, O88.311 through O88.32, O88.811 through O88.82, O90.3, O91.011 through O91.019, O91.111 through O91.119, O91.211 through O91.219, O92.011 through O92.019, O92.20, O92.29, O98.011 through O98.02, O98.111 through O98.12, O98.211 through O98.22, O98.311 through O98.32, O98.411 through O98.42, O98.511 through O98.52, O98.611 through O98.62, O98.711 through O98.72, O98.811 through O98.82, O98.911 through O98.92, O99.011 through O99.02, O99.111 through O99.12, O99.210 through O99.214, O99.280 through O99.284, O99.310 through O99.314, O99.320 through O99.324, O99.330 through O99.334, O99.340 through O99.344, O99.350 through O99.354, O99.411 through O99.42, O99.511 through O99.52, O99.611 through O99.62, O99.711 through O99.72, O99.810, O99.814, O99.820, O99.824, O99.830, O99.834, O99.840 through O99.844, O99.89, O9A.111 through O9A.12, O9A.211 through O9A.22, O9A.311 through O9A.32, O9A.411 through O9A.42, O9A.511 through O9A.52, Z03.7\*, Z32.01, Z33.1, Z34.\*, Z36,

where the primary provider is not a CHR (Provider code 53). Pharmacy-only visits (clinic code 39) will not count toward these two visits. If the patient has more than two pregnancy- related visits during the Report Period, CRS will use the first two visits in the Report Period. The patient must not have a documented miscarriage or abortion occurring after the second pregnancy-related visit.

- Miscarriage definition:
  - – POV ICD-9: 630, 631, 632, 633\*, 634\*; ICD-10: O03.9
  - – CPT 59812, 59820, 59821, 59830
- Abortion definition:
  - – POV ICD-9: 635\*, 636\* 637\*; ICD-10: O00.\* through O03.89, O04.\*, Z33.2

- – CPT 59100, 59120, 59130, 59136, 59150, 59151, 59840, 59841, 59850, 59851, 59852, 59855, 59856, 59857, S2260 through S2267,
- – Procedure ICD-9: 69.01, 69.51, 74.91, 96.49; ICD-10: 0WHR73Z, 0WHR7YZ, 10A0\*\*\*, 3E1K78Z, 3E1K88Z

### **BP Values**

Exclusions: When calculating all BPs, the following visits will be excluded:

- Service Category H (Hospitalization), I (In Hospital), S (Day Surgery), or O (Observation)
- Clinic code 23 (Surgical), 30 (ER), 44 (Day Surgery), C1 (Neurosurgery), or D4 (Anesthesiology)

CRS uses the last Blood Pressure documented during the Report Period.

### **GPRA 2015 Description**

During FY 2015, achieve the target rate of 59.5% for the proportion of patients with BP less than (<) 140/90.

### **Patient List**

List of patients with hypertension and BP value, if any.

## Appendix E: IHS Mobile Health References

1. Launch the web browser on the mobile device.
2. Type the following address in the browser:  
<http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=toolsDTTreatmentAlgorithm> and press Enter.
3. When the ihs.gov website opens it should display the **Division of Diabetes Treatment and Prevention** mobile-friendly website (Figure E-1).

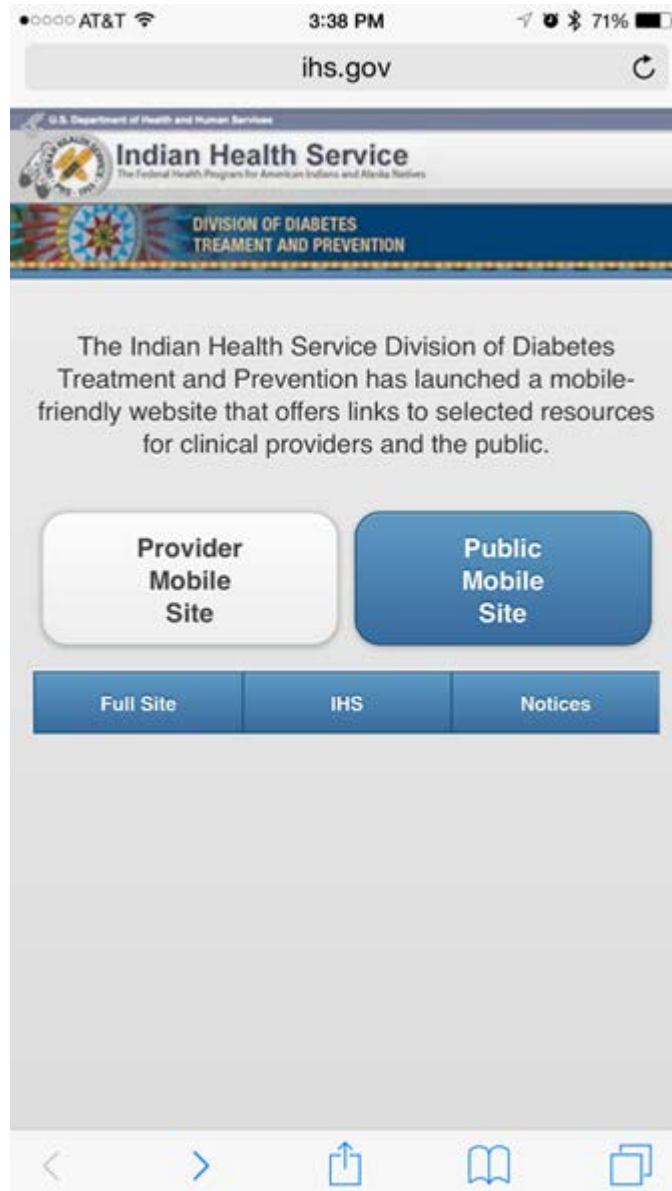


Figure E-1: **Division of Diabetes Treatment and Prevention** mobile-friendly website



4. At the bottom of the screen click the Menu button (appears as a blue square with an up arrow). The menu (Figure E-2) is displayed.

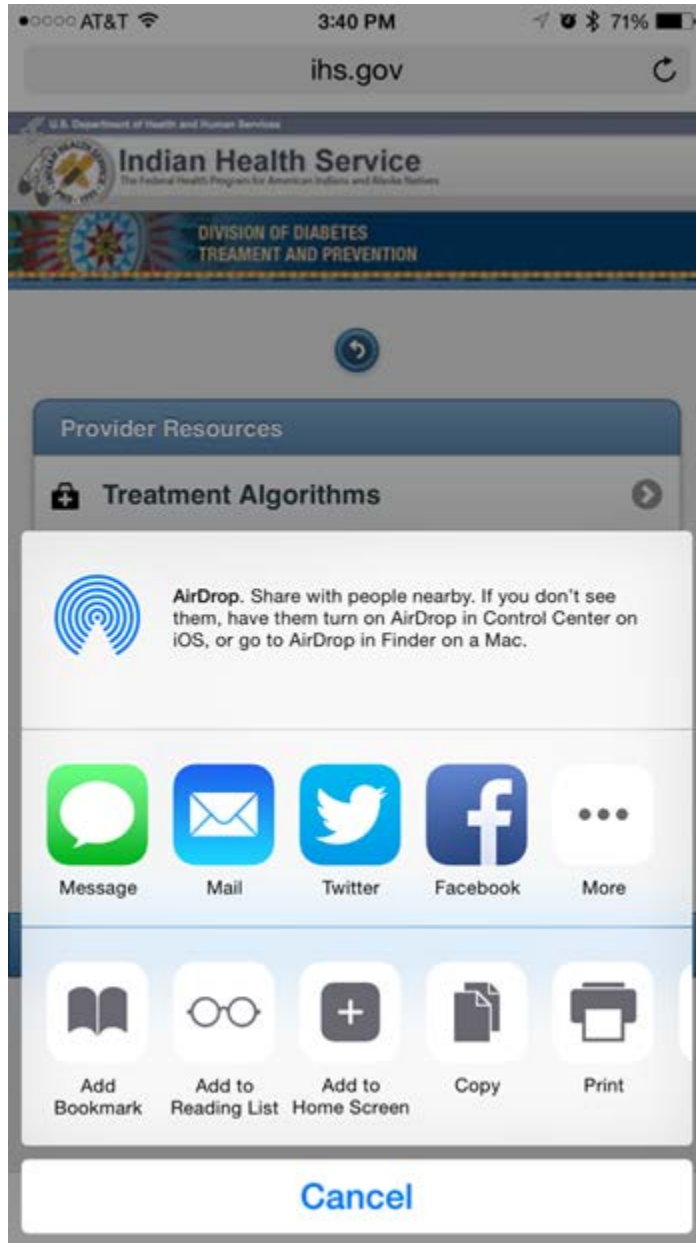


Figure E-2: Menu

5. Click **Add to Home Screen** (appears as a plus sign). The **Add to Home** page (Figure E-3) is displayed.



Figure E-3: **Add to Home** page

6. Type **Algorithms** in the input field
7. Click **Add** (located at the top right hand corner of the screen). The device's home screen redisplay (Figure E-4) with a new icon.



Figure E-4: Mobile device home screen

8. Click **Algorithms** to launch the mobile-friendly website.

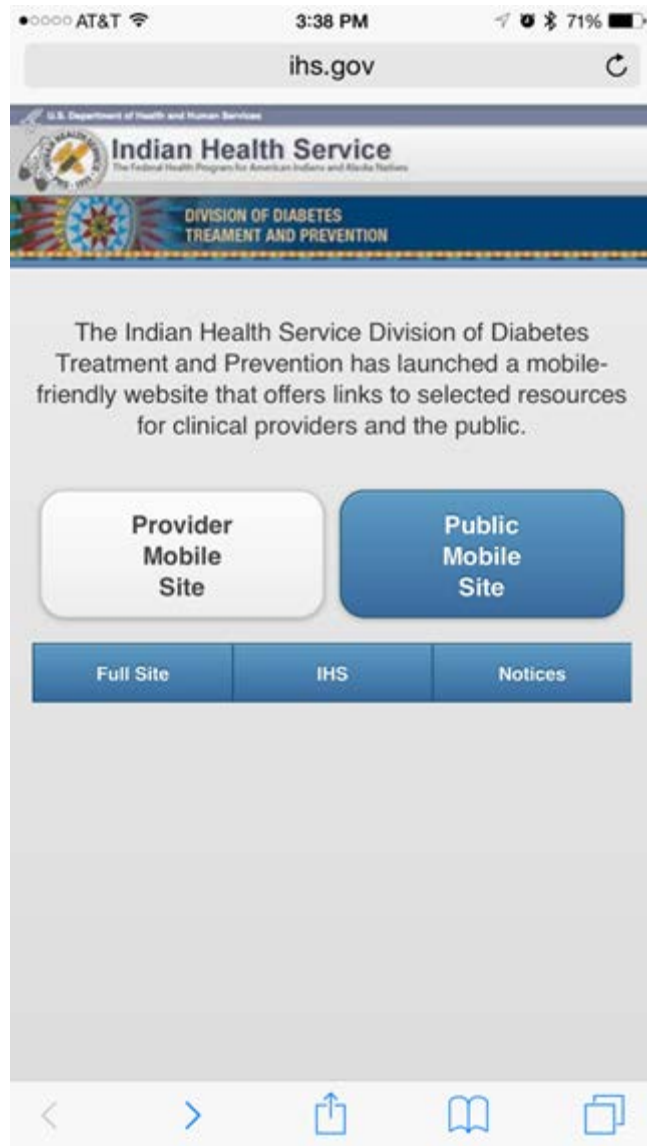


Figure E-5: Links page

9. To review the hypertension guidelines, click **Provider Mobile Site**. The Disclaimer page (Figure E-6) displays.

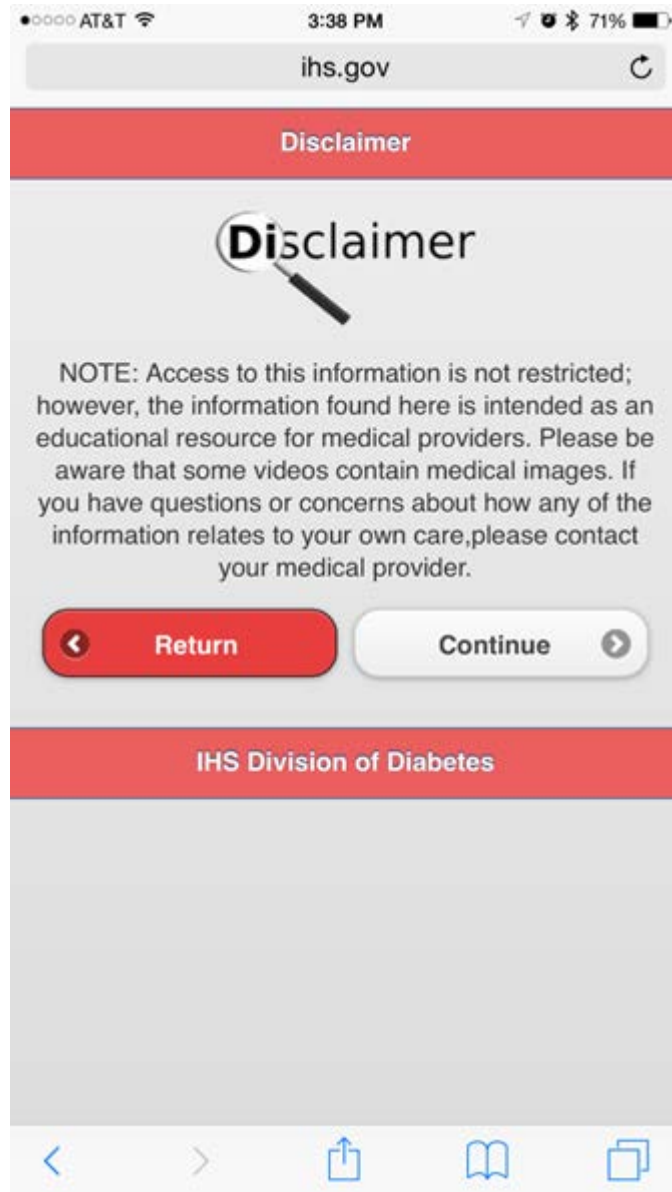


Figure E-6: Disclaimer page

10. To view the algorithm, accept the disclaimer by clicking **Continue**. The **Provider Resources** page (Figure E-7) is displayed.

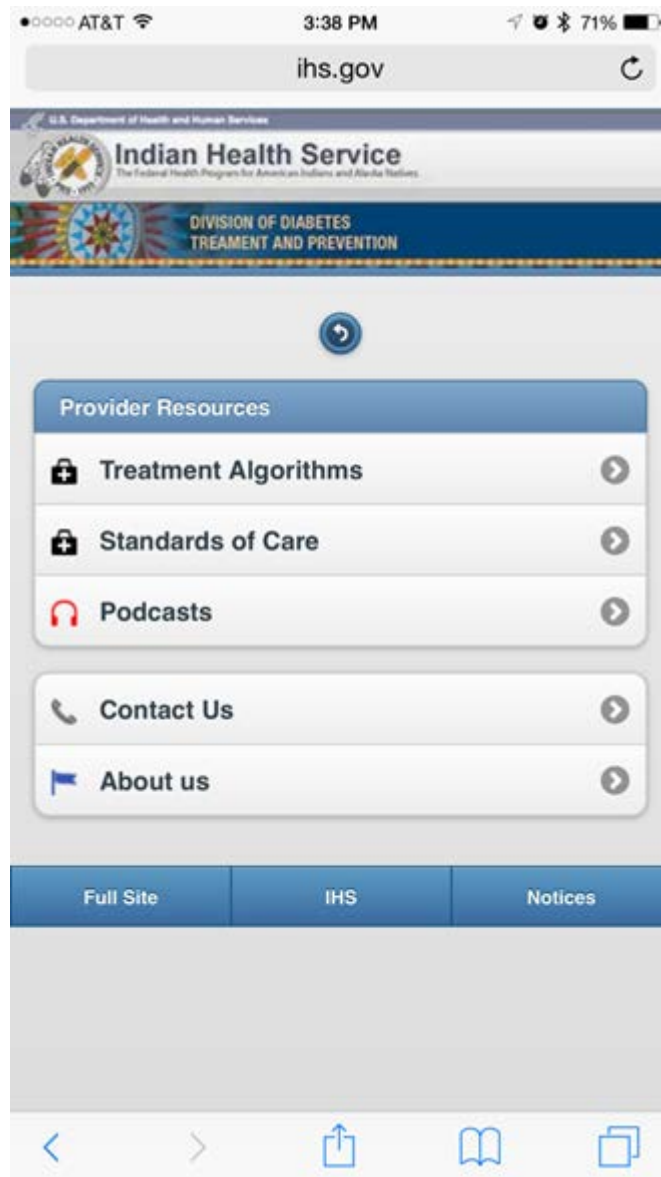


Figure E-7: **Provider Resources** page

11. Click **Treatment Algorithms**. The **Algorithm** page (Figure E-8) is displayed.

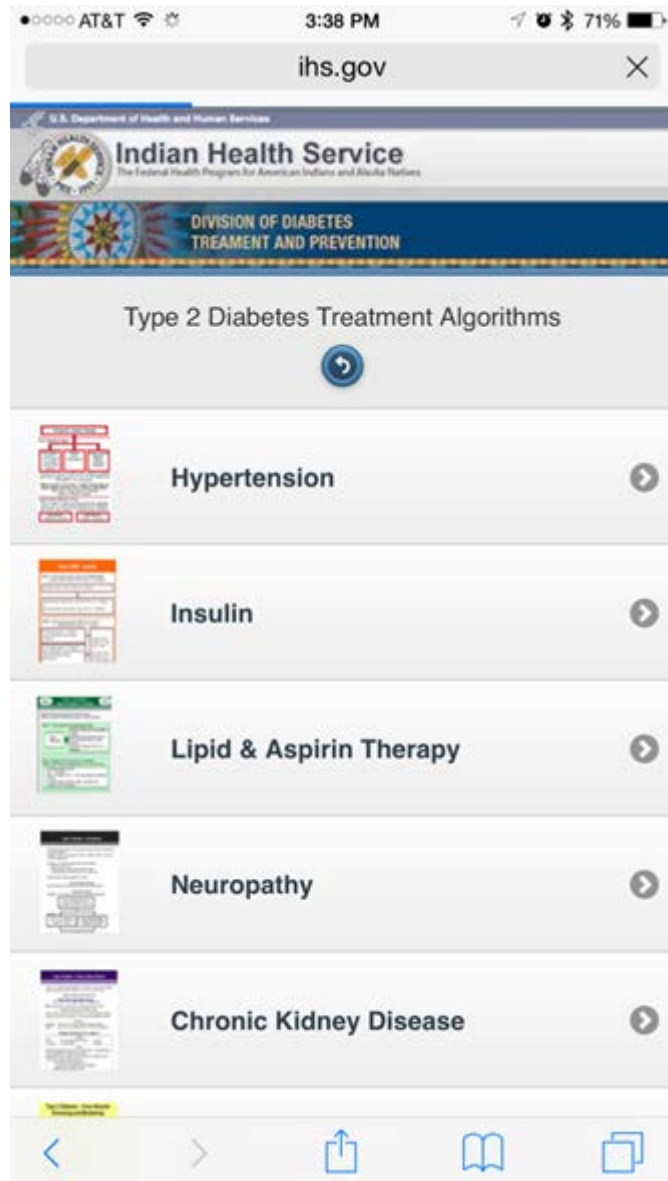


Figure E-8: Diabetes Treatment Algorithms page

12. Select **Hypertension** to display the **Hypertension Algorithm**. Do any of the following:
  - Click the Undo button (appears as an arrow curved to the left) to return to the **Provider Resources** page.
  - Click **Over** to display the back side of the **Hypertension Algorithm**.

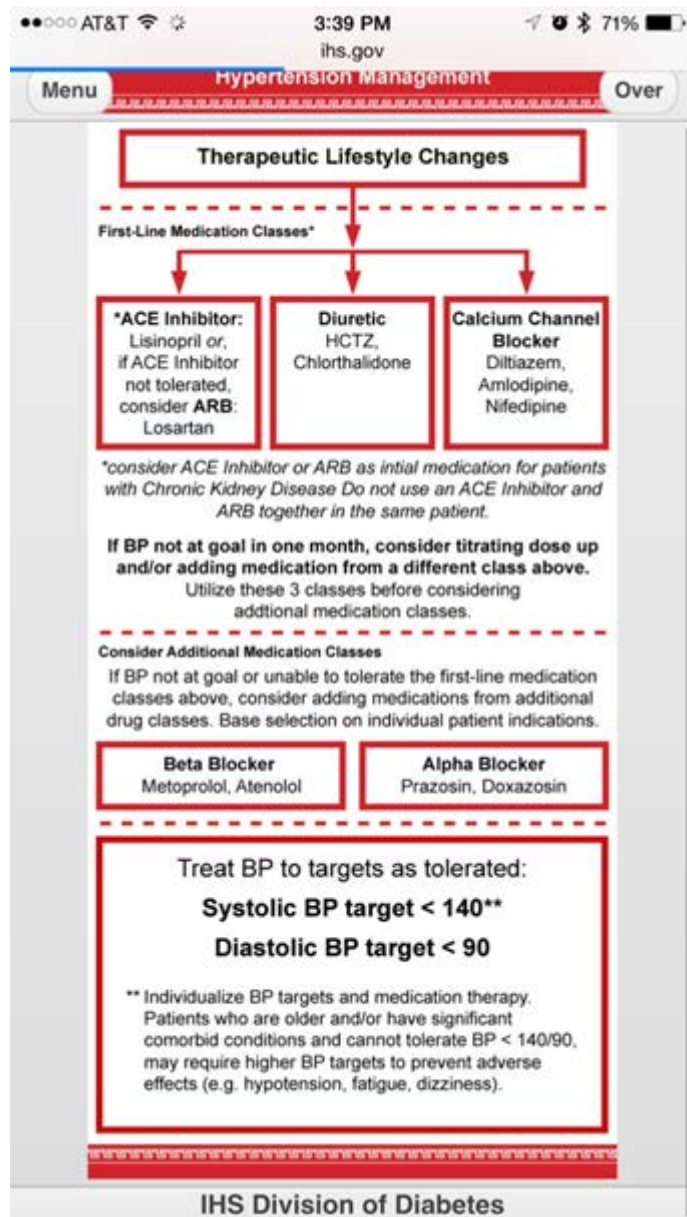


Figure E-9: Hypertension Management page

- Use your finger to scroll up and down through the algorithm.
- Use two fingers to zoom the algorithm.



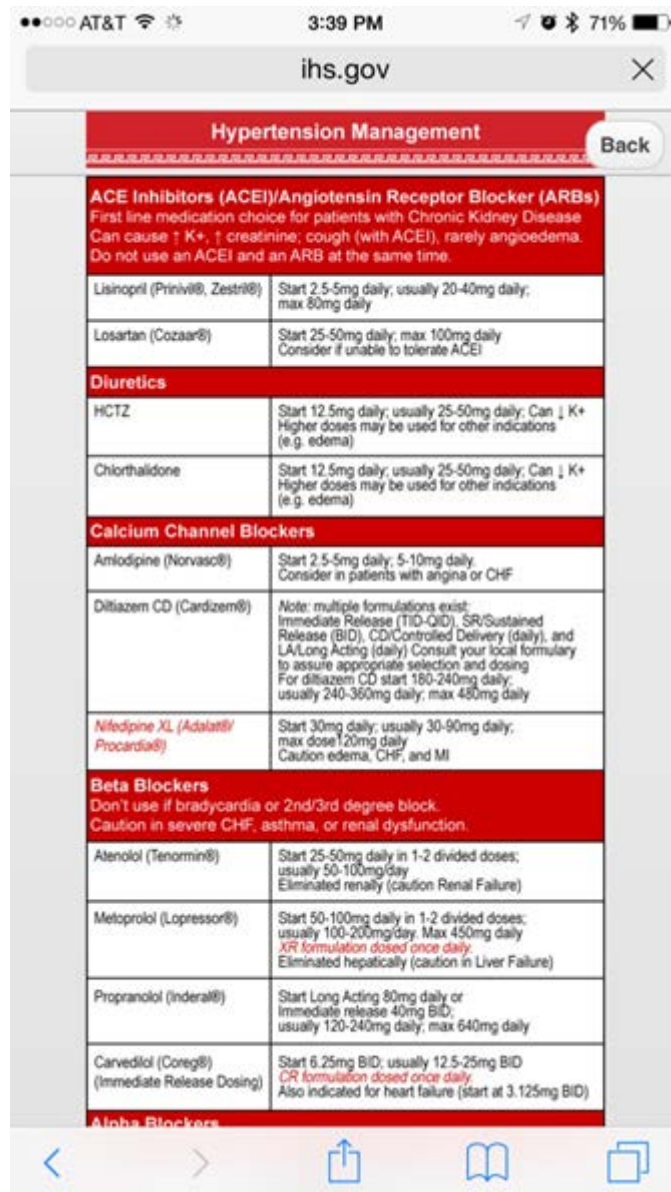


Figure E-10: Hypertension Management page

	Release (BID), CR/Controlled Delivery (daily), and LA/Long Acting (daily) Consult your local formulary to assure appropriate selection and dosing For diltiazem CD start 180-240mg daily; usually 240-360mg daily; max 480mg daily
<i>Nifedipine XL (Adalat®/Procardia®)</i>	Start 30mg daily; usually 30-90mg daily; max dose 120mg daily Caution edema, CHF, and MI
<b>Beta Blockers</b> Don't use if bradycardia or 2nd/3rd degree block. Caution in severe CHF, asthma, or renal dysfunction.	
Atenolol (Tenormin®)	Start 25-50mg daily in 1-2 divided doses; usually 50-100mg/day Eliminated renally (caution Renal Failure)
Metoprolol (Lopressor®)	Start 50-100mg daily in 1-2 divided doses; usually 100-200mg/day. Max 450mg daily <i>XR formulation dosed once daily.</i> Eliminated hepatically (caution in Liver Failure)
Propranolol (Inderal®)	Start Long Acting 80mg daily or Immediate release 40mg BID; usually 120-240mg daily; max 640mg daily
Carvedilol (Coreg®) (Immediate Release Dosing)	Start 6.25mg BID; usually 12.5-25mg BID <i>CR formulation dosed once daily.</i> Also indicated for heart failure (start at 3.125mg BID)
<b>Alpha Blockers</b>	
Doxazosin (Cardura®)	Start 1mg immediate release at bedtime; Max dose 16mg daily Titrate up slowly; Can cause dizziness, drowsiness, and weakness.
Prazosin (Minipress®)	Start 1mg PO BID-TID (first dose at bedtime); Max dose 15mg daily Titrate up slowly; Can cause dizziness, drowsiness, and weakness.
<b>Central Acting</b>	
<i>Clonidine (Captopres®)</i>	Start 0.1mg BID (first dose at bedtime); usually 0.1-0.3mg BID; max 1.2mg BID Titrate up slowly; Can cause sedation/dizziness/weakness; Do not stop abruptly

Drugs in *italics* are not on the IHS National Core Formulary

Note: This is not a complete prescribing reference. This algorithm is not intended for treatment selection in children or in women who are or could become pregnant; some antihypertensive medications can cause fetal damage.

Ref: JNC 8 Panel;  
<http://jama.jamanetwork.com/article.aspx?articleid=1791497>.  
 ADA 2015 Clinical Practice Recommendations:  
[http://care.diabetesjournals.org/content/38/Supplement\\_1](http://care.diabetesjournals.org/content/38/Supplement_1)

Figure E-11: Hypertension Management page

13. Click **Back** to return to the front of the Hypertension Algorithm:

## Acronym List

<b>Acronym</b>	<b>Meaning</b>
CAC	Clinical Application Coordinator
EHR	Electronic Health Record
IEN	Internal Entry Number
IHS	Indian Health Service
IPL	Integrated Problem List
RPMS	Resource and Patient Management System
TIU	Text Integration Utility
VA	US Department of Veterans Affairs

## Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk (IHS).

**Phone:** (888) 830-7280 (toll free)

**Web:** <http://www.ihs.gov/helpdesk/>

**Email:** [support@ihs.gov](mailto:support@ihs.gov)