NATIONAL ASSOCIATION OF Community Health Centers

Million Hearts: Leveraging Health Information Technology (HIT), Quality Improvement (QI), and Primary Care Teams to Identify Hypertensive Patients Hiding in Plain Sight (HIPS)

Consolidated Change Package – June 30, 2015

This change package is a deliverable of the NACHC Million Hearts HIPS Project. It was produced by reviewing the details of the change ideas each health center team employed and any associated tools and resources; this document is a compilation of items thought to be most valuable and that most clearly capture the best that emerged from this work. The change package structure and organization aligns with the CDS/QI Worksheets used to map and identify enhancements to workflows **around identifying potential undiagnosed hypertension**, **engaging patients in care**, and **diagnosing hypertension in a timely and accurate manner**. These three steps are critical precursors to managing hypertension successfully and achieving blood pressure control. This change package also aligns with the CDC/Million Hearts Hypertension Control Change Package.

Change concepts and ideas are organized into key foundations, population health management, and individual care steps, with the titles of associated tools and resources indicated next to specific change ideas they support. The term "HIPS patients" used throughout the document, refers to patients who met the criteria established in this project to identify a patient with potentially undiagnosed hypertension.

TABLE 1. KEY FOUNDATIONS

CHANGE CONCEPTS	CHANGE IDEAS	TOOLS AND RESOURCES
Make Identification and Diagnosis of HTN a Practice Priority	Designate a HTN Champion	
	Ensure Care Team Engagement in HTN Screening and Diagnosis	• **Appendix A:** Health Center Staff Engagement Material – Hiding in Plain Sight (HIPS), *Grace Community Health Center*
	Provide BP checks without appointment or co-pay	• **Appendix B:** BP Check Visits, *Golden Valley Health Centers*

CHANGE CONCEPTS	CHANGE IDEAS	TOOLS AND RESOURCES
Implement a Policy and Process to Screen Every Patient for Elevated BP and Undiagnosed HTN at Every Visit	Develop HTN screening and diagnosis policy and protocol (includes elevated blood pressure confirmation approach)	• **Appendix C:** HIPS Strategy, *La Maestra Community Health Centers* • **Appendix D:** Screening and Diagnosing Hypertension, *Grace Community Health Center* • **Appendix E:** Protocol for Elevated Blood Pressure in Medical Visits that are Not Adult Medicine (Urgent Care), *Affinia*
	Develop a flowchart for how potentially undiagnosed hypertensive patients will be proactively identified and engaged	• **Appendix C:** HIPS Strategy, *La Maestra Community Health Centers* • **Appendix F:** HIPS Workflow(s), *Golden Valley Health Centers* • **Appendix G**: Possible Hypertension Patients Workflow Revised, *Tulare Community Health Clinic*
	Develop registry report to identify potentially undiagnosed hypertensive patients	• **Appendix H**: Patient Registry Using Million Hearts Criteria from i2i Tracks, *ARcare/KYcare* • **Appendix I:** Million Hearts HIPS Recall Report, *Golden Valley Health Centers* • **Appendix J:** Patient Registry showing Algorithm-Generated HIPS patients with Related Diagnoses and Prescriptions, and Actions Taken, NextGen, *Mountain Comprehensive Health Corporation.* • **Appendix K:** HIPS Recall Report – i2i Tracks, *La Maestra Community Health Centers*
	Develop evidence-based algorithm(s) (clinical criteria) to identify patients with potentially undiagnosed hypertension	• **Appendix L:** Undiagnosed Hypertension Algorithms and Clinical Criteria Decision Points, HIPS Project • **Appendix M:** Potentially Undiagnosed Hypertension Algorithm used to Generate Registries and Reports – i2i Tracks, *Golden Valley Health Centers and Tulare Community Health Clinic*
	Configure EHR to generate warning in red when BP is out of normal range	• **Appendix N:** Patient Status and Opportunities Alert - eClinicalWorks, *Neighborhood Healthcare* • **Appendix O:** CDS-Enabled BP Tool – NextGen, *Golden Valley Health Centers* • **Appendix P:** CDS-Enabled BP Tool – eClinicalWorks, *Neighborhood Healthcare*
	Configure BP reading flow sheet	• **Appendix Q:** Blood Pressure Flow Sheet with Red Framed Alerts for Elevated Blood Pressure Readings – SuccessEHS, *ARcare/KYcare* • **Appendix R:** Historical BP Reading Graph – NextGen, *Golden Valley Health Centers*

CHANGE CONCEPTS	CHANGE IDEAS	TOOLS AND RESOURCES
Train and Evaluate Direct Care Staff on Accurate BP Measurement and Recording	Provide guidance on measuring BP accurately	• **Appendix S:** Accuracy of Blood Pressure Measurement Resources – CDC Hypertension Control Change Package • **Appendix A:** Health Center Staff Engagement Material – Hiding in Plain Sight (HIPS), *Grace Community Health Center* • **Appendix C:** HIPS Strategy, *La Maestra Community Health Centers* • **Appendix T:** Adult Blood Pressure Recording, *Neighborhood Healthcare*
	Assess adherence to proper BP measurement techniques	• **Appendix S:** Accuracy of Blood Pressure Measurement Resources – CDC Hypertension Control Change Package
	Provide guidance on documenting BP accurately (clinically relevant BP, avoiding terminal digit bias)	• **Appendix T:** Adult Blood Pressure Recording, *Neighborhood Healthcare*
	Assess adherence to accurate BP documentation	
Systematically Use Evidence-based HTN Diagnosis Guidelines and Protocols	Implement evidence-based algorithms (clinical criteria) to identify patients with potentially undiagnosed hypertension	• **Appendix L:** Undiagnosed Hypertension Algorithms and Clinical Criteria Decision Points, HIPS Project • **Appendix M:** Potentially Undiagnosed Hypertension Algorithm used to Generate Registries and Reports – i2i Tracks, *Golden Valley Health Centers and Tulare Community Health Clinic*
	Deploy evidence-based HTN diagnosis protocol (includes elevated blood pressure confirmation approach)	• **Appendix C:** HIPS Strategy, *La Maestra Community Health Centers* • **Appendix D:** Screening and Diagnosing Hypertension, *Grace Community Health Center* • **Appendix E:** Protocol for Elevated Blood Pressure in Medical Visits that are Not Adult Medicine (Urgent Care), *Affinia*
	Overcome HTN diagnosis inertia	
	Establish a program to support home or ambulatory BP monitoring	

TABLE 2. POPULATION HEALTH MANAGEMENT

CHANGE CONCEPT	CHANGE IDEA	TOOLS AND RESOURCES
Use a Registry to Identify, Track, and Manage Patients with elevated BP	Implement a registry report to identify potentially undiagnosed hypertensive patients; diagnose as appropriate	• **Appendix H**: Patient Registry Using Million Hearts Criteria from i2i Tracks, *ARcare/KYcare* • **Appendix I:** Million Hearts HIPS Recall Report, *Golden Valley Health Centers* • **Appendix J:** Patient Registry showing Algorithm-Generated HIPS patients with Related Diagnoses and Prescriptions, and Actions Taken, NextGen, *Mountain Comprehensive Health Corporation* • **Appendix K:** HIPS Recall Report – i2i Tracks, *La Maestra Community Health Centers*
	Use a defined process for outreach (e.g., via phone, mail, email, text message) to patients with elevated blood pressure/potentially undiagnosed hypertension	• **Appendix U:** Care Message Patient Outreach – SuccessEHS/i2i Tracks, *ARcare/KYcare* • **Appendix V:** Office Recall Script, *Golden Valley Health Centers* • **Appendix W:** Recall Process: Hypertension Patients Hiding in Plain Sight (HIPS), *Grace Community Health Center*
Use Practice Data to Drive Improvement	Develop/determine metrics to assess potentially undiagnosed hypertension and missed opportunities to diagnose and identify targets for improvement	• **Appendix X**: HIPS Project Data Measurement Plan
	Regularly provide a dashboard with BP goals, metrics, and performance	• **Appendix Y**: HIPS Performance Report/Care Team Data Monitoring, *Golden Valley Health Centers*

TABLE 3. INDIVIDUAL PATIENT SUPPORTS

CHANGE CONCEPT	CHANGE IDEA	TOOLS AND RESOURCES
Prepare Patients, Care Team Beforehand for Effective blood pressure measurement and HTN Identification During Office Visits (e.g., via pre- visit patient outreach and team huddles)	Contact patients to confirm upcoming appointments and instruct them how to prep for upcoming visit.	• **Appendix Z**: Confirming Appointments Policy, *La Maestra Community Health Centers*
	Encourage Self-Monitored Blood Pressure for 5-7 days prior to visit.	• **Appendix AA**: Home Blood Pressure Log, *Neighborhood Healthcare*
	Use a flowsheet or dashboard with potentially undiagnosed hypertension patients and care gaps highlighted to support team huddles	• **Appendix BB**: MH HIPS Huddle Report, *Golden Valley Health Centers* • **Appendix CC**: Patient Huddle Form, *Grace Community Health Center* • **Appendix DD:** Appendix X: Patient Visit Planning Report with Last BP and Interpretation – Azara DVRS, *Jordan Valley Health Center*
	Design workflows and use tools to ensure that indicated actions occur during the visit	• **Appendix EE**: Risk Stratification, Incorporating HIPS – SuccessEHS, *ARcare/KYcare* • **Appendix C:** HIPS Strategy, *La Maestra Community Health Centers* • **Appendix F:** HIPS Workflow(s), *Golden Valley Health Centers* • **Appendix G**: Possible Hypertension Patients Workflow Revised, *Tulare Community Health Clinic*

CHANGE CONCEPT	CHANGE IDEA	TOOLS AND RESOURCES
Use Each Patient Visit Phase to Optimize HTN Identification and Diagnosis: Intake (e.g., check-in, waiting, rooming)	Post/provide educational materials to help patients understand elevated blood pressure and its implications	• **Appendix FF:** Blood Pressure Goals and Actions by Zone, *Grace Community Health Center* • **Appendix GG:** What Is High Blood Pressure? *American Heart Association*
	Measure, document, and repeat BP correctly as indicated	• **Appendix S:** Accuracy of Blood Pressure Measurement Resources – CDC Hypertension Control Change Package • **Appendix T:** Adult Blood Pressure Recording, Neighborhood Healthcare
	EHR generates warning in red when BP is out of normal range	• **Appendix N:** Patient Status and Opportunities Alert - eClinicalWorks, *Neighborhood Health Center* • **Appendix O:** CDS-Enabled BP Tool – NextGen, *Golden Valley Health Centers* • **Appendix P:** CDS-Enabled BP Tool – eClinicalWorks, *Neighborhood Health* • **Appendix Q:** Blood Pressure Flow Sheet with Red Framed Alerts for Elevated Blood Pressure Readings – SuccessEHS, *ARcare/KYcare*
	Design workflows and use tools to ensure elevated BPs are addressed at the point of care (elevated BP magnet on the door, EHR alerts, etc.)	• **Appendix HH**: HIPS Patients Recall EHR Configuration and Documentation – NextGen, *La Maestra Community Health Centers* • **Appendix II:** Heart Patient Door Magnet, *Jordan Valley Health Center* • **Appendix N**: Patient Status and Opportunities Alert – eClinicalWorks, *Neighborhood Health Center*

CHANGE CONCEPT	CHANGE IDEA	TOOLS AND RESOURCES
Use Each Patient Visit Phase to Optimize HTN Identification and Diagnosis: Encounter	Follow protocol for HTN diagnosis	• **Appendix C:** HIPS Strategy, *La Maestra Community Health Centers* • **Appendix D:** Screening and Diagnosing Hypertension, *Grace Community Health Center* • **Appendix E:** Protocol for Elevated Blood Pressure in Medical Visits that are Not Adult Medicine (Urgent Care), *Affinia*
Use Each Patient Visit Phase to Optimize HTN Diagnosis: Encounter Closing (e.g., checkout)	Provide patients with a written visit summary, and follow-up guidance at the end of each visit	• **Appendix JJ:** Patient Visit Summary, *Grace Community Health Centers* • **Appendix KK:** Patient Visit Summary (i2i Diabetes Template), *ARcare/KYcare*
	Support BP self-monitoring: advise on choosing device/cuff size, check device for accuracy, training patient on use, provide BP logs (electronic/paper/portal)	• **Appendix AA**: Home Blood Pressure Log, *Neighborhood Healthcare*
	Support ambulatory BP monitoring	
Use Each Patient Visit Phase to Optimize HTN Diagnosis: Not Visit Related	On the patient portal, provide education materials on elevated blood pressure and to support a low-sodium diet, exercise, and access to community resources	• **Appendix LL:** Patient Education with Print or Send (Publish to a Patient Portal) Options - eClinicalWorks, *Neighborhood Healthcare*

APPENDICES

Appendix A: Health Center Staff Engagement Material – Hiding in Plain Sight (HIPS), *Grace Community Health Center*

Appendix B: BP Check Visits, *Golden Valley Health Centers*

Appendix C: HIPS Strategy, *La Maestra Community Health Centers*

Appendix D: Screening and Diagnosing Hypertension, *Grace Community Health Center*

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Appendix L: Undiagnosed Hypertension Algorithms and Clinical Criteria Decision Points, HIPS Project

Appendix M: Potentially Undiagnosed Hypertension Algorithm used to Generate Registries and Reports – i2i Tracks, *Golden Valley Health Centers and Tulare Community Health Clinic*

Appendix N: Patient Status and Opportunities Alert - eClinicalWorks, *Neighborhood Healthcare*

Appendix O: CDS-Enabled BP Tool – NextGen, *Golden Valley Health Centers*

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Appendix Q: Blood Pressure Flow Sheet with Red Framed Alerts for Elevated Blood Pressure Readings – SuccessEHS, *ARcare/KYcare*

Appendix R: Historical BP Reading Graph – NextGen, *Golden Valley Health Centers*

Appendix S: Accuracy of Blood Pressure Measurement Resources – CDC Hypertension Control Change Package

Appendix T: Adult Blood Pressure Recording, *Neighborhood Healthcare*

Appendix U: Care Message Patient Outreach –SuccessEHS/i2i Tracks, *ARcare/KYcare*

Appendix V: Office Recall Script, *Golden Valley Health Centers*

Appendix W: Recall Process: Hypertension Patients Hiding in Plain Sight (HIPS), *Grace Community Health Center*

Appendix X: HIPS Project Data Measurement Plan

Appendix Y: HIPS Performance Report/Care Team Data Monitoring, *Golden Valley Health Centers*

Appendix Z: Confirming Appointments Policy, *La Maestra Community Health Centers*

Appendix AA: Home Blood Pressure Log, *Neighborhood Healthcare*

Appendix BB: MH HIPS Huddle Report, *Golden Valley Health Centers*

Appendix CC: Patient Huddle Form, *Grace Community Health Center*

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Appendix JJ: Patient Visit Summary, *Grace Community Health Center*

Appendix KK: Patient Visit Summary (i2i Diabetes Template), *ARcare/KYcare*

Appendix LL: Patient Education with Print or Send (Publish to a Patient Portal) Options - eClinicalWorks, *Neighborhood Healthcare*

Hiding In Plain Sight (HIPS)

Patients with Undiagnosed and Untreated Hypertension

Grace Community Health Care is collaborating with other community health centers across the country to (1) evaluate information about our clinic patients who may have HTN but are not diagnosed nor treated and (2) develop work flows that will ensure we find those patients who are undiagnosed with high blood pressure so proper diagnosis and treatment can be made. As with any performance improvement project, data will be monitored each month during the collaborative. Our **goal** is to decrease the number of patients who meet clinical criteria but do not have a diagnosis of HTN over the next six months.

High blood pressure (HTN) is a prevalent condition affecting millions of adults, unfortunately millions more are unaware, undiagnosed, and untreated- they are **hiding in plain sight**. Because high BP is a major contributing risk factor for heart failure, heart attack, stroke and chronic kidney disease, it is important to find these undiagnosed and untreated patients and ensure appropriate interventions are implemented when indicated. The initial information for our clinics reflects that we have an opportunity to improve detection of these patients HIPS as well as medical record documentation.

What Can We Do? Where Do We Start?

1) Accurate and reliable BP measurements- Are we using properly sized cuff, is arm placement and feet positioning accurate, is the patient talking during the measurement? Do you take as second BP as indicated? Support staff be required to review information related to BP measurement and demonstrate competency by the end of March.
2) Revise the Pre Planning form and Recognition of At-Risk Patients – Support staff should review and call attention to the patient's BP trend as indicated when planning for patient huddles!
3) Improve Provider Documentation-ensure a diagnosis is listed in the medical record if your patient is on an anti-hypertensive, review BP trending, document cognition of elevated BP readings, diagnosis and treatment plan as indicated.

Do you have recommendations that could help identify these patients HIPS?

Appendix A: Health Center Staff Engagement Material – Hiding in Plain Sight (HIPS), *Grace Community Health Center*

NOTE: This communications piece was put together by the health center project team to help engage all of their health center staff in the HIPS work. It begins by explaining what the project is and the goal, why it's important, and what each staff member can do to contribute. It also solicits ideas and recommendations, making it clear that the feedback and input of end users/staff charged with implementing changes in workflows, etc., is welcomed and valued.

Appendix B: BP Check Visits, *Golden Valley Health Centers*

Nurse/Provider Hypertension Visit Compromise:

Health centers have sometimes struggled with balancing the need to minimize financial costs to the patient when recalling patients for a follow up blood pressure check and minimizing additional appointments needed if a patient's blood pressure is found to be elevated. Scheduling blood pressure checks as a non-billable/non-reimbursable service on the expanded care team's schedule (LVN/RN or MA) allows the patient to have their blood pressure checked at no cost. To address the need to schedule patients for an additional provider visit (with a co-pay) if their BP was found to be elevated, Golden Valley Health Centers came up with a compromise solution: The health center would schedule patients identified as potentially undiagnosed for hypertension with a BP check (non-billable visit), allowing the patient to come in and have their BP checked without having financial implications. No cost access is aimed at reducing "no shows", allowing for minimal wait time for scheduling appointments, and not adding further burden to clogged provider schedules. However, the provider(s) had to agree that any elevated BP readings would be converted to a regular office visit appointment so that they could address the concern with the patient. Therefore, when scheduling, the BP check staff was required not only to educate the patient regarding the fact that this visit would be converted to an office visit should there be any medical concerns (i.e., elevated BP), but they were required to work with their provider(s) in order to ensure that should the BP check need to be converted to an office visit, that the provider would be amenable to "squeezing the patient in".

Appendix C: HIPS Strategy, *La Maestra Community Health Centers*

Use of the HIPS Algorithm:

Prior to the visit:

1. Make sure we confirm the patients 1 or 2 days prior to their visit.
2. During huddle time make sure that each MA identifies the patient(s) that are mark with BP check/HIPS patient.
3. If the patient is a recipient of the curtesy visit make sure you inform the provider about it.

During the Visit:

1. When patient arrives make sure to inform the provider about them being a HIPS patient and also if the patient is a recipient of a courtesy visit.
2. If the BP is elevated the first time, inform the provider and let the patient rest and re-take the BP 5 to 10 minutes after.
3. Provider should give the HTN diagnosis or elevated BP as appropriate.

After the Visit:

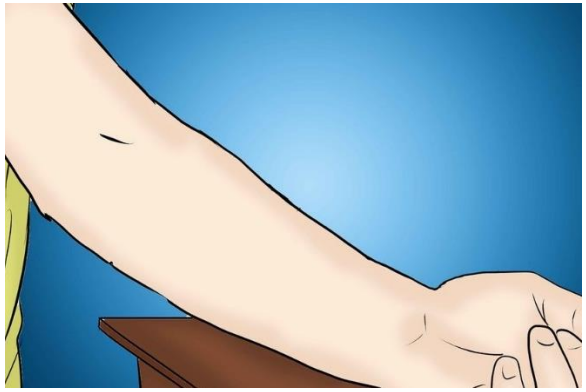
1. Schedule a follow up visit for patients who were diagnosed with elevated BP without a diagnosis of HTN (796.2)
2. QI department meets with the providers/provider champion to hear feedback and ensure provider and patient satisfaction addressing any issues.
3. Run reports to try to proactively recall the HIPS patients that have not been identified in other reports.

Ensuring BP Accuracy:

1. Installed automatic BP machine that inputs BP value automatically into the patient electronic chart
2. Trained MAs to make sure that they are knowledgeable about the proper technique:

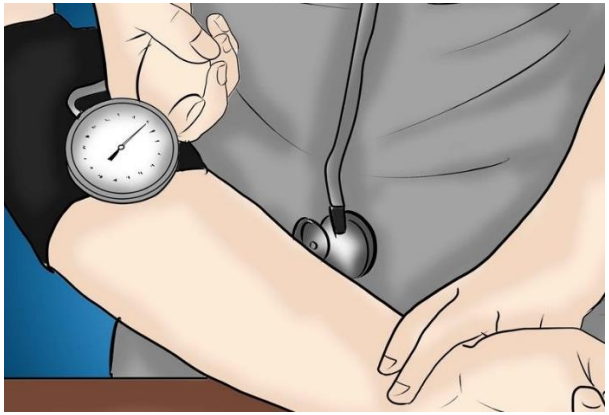
Patient should be relax

Better if the sleve is pulled up



Locate the pulse of the brachial artery

The cuff should be about 1 inch (2.5 cm) above the bend of your elbow and should be evenly tight around your arm.



Inflate the cuff

Deflate the cuff

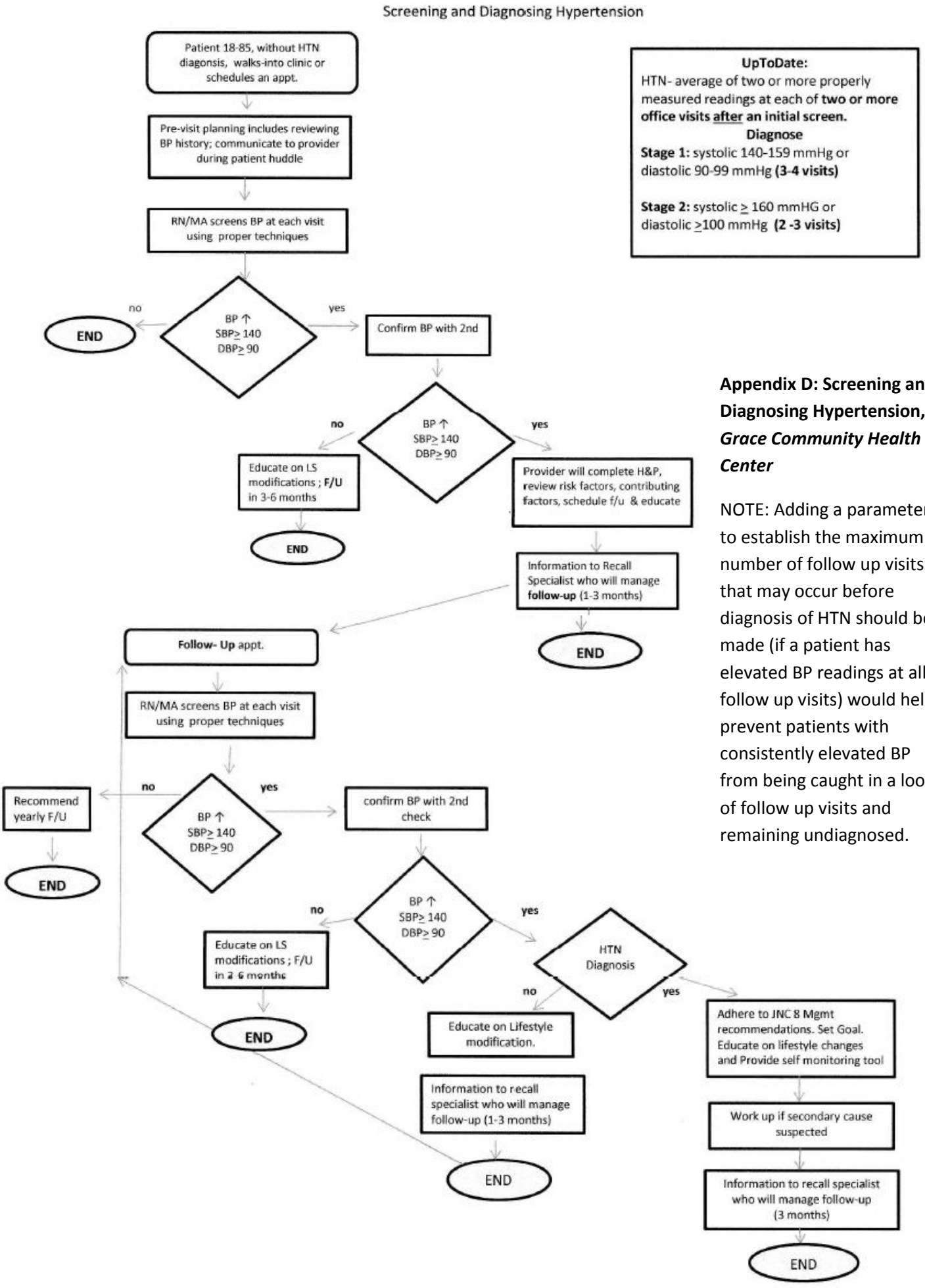
Hypertension Diagnosis Protocol:

1. Once health center staff have identified the patients who have had one or two BP readings elevated in one year (>140/90 based on registry reporting), we will recall the patients (see Recall Process).
2. At recall visit, if first BP reading is elevated, BP will be retaken after 5 to 10 minutes.
3. If the patient still has elevated BP upon re-measurement, but only *one* prior elevated BP within the year, the provider should address the elevated BP without diagnosing with HTN, but schedule F/U visit within one month. Patient will receive dietary, exercise, and life style changes recommendations.
4. If patient has *two* elevated BP readings within one year that are elevated and during appointment time first and second reading (within 10 minutes) are elevated, then the provider will diagnose the patient with HTN.
5. After the patient is diagnosed with HTN, patient is referred to Health Education to learn more about their condition and how they can manage it.

Note: the provider is the one that ultimately will classify the patient as hypertensive or not but they have agreed on having three readings as a protocol before they classify someone as hypertensive.

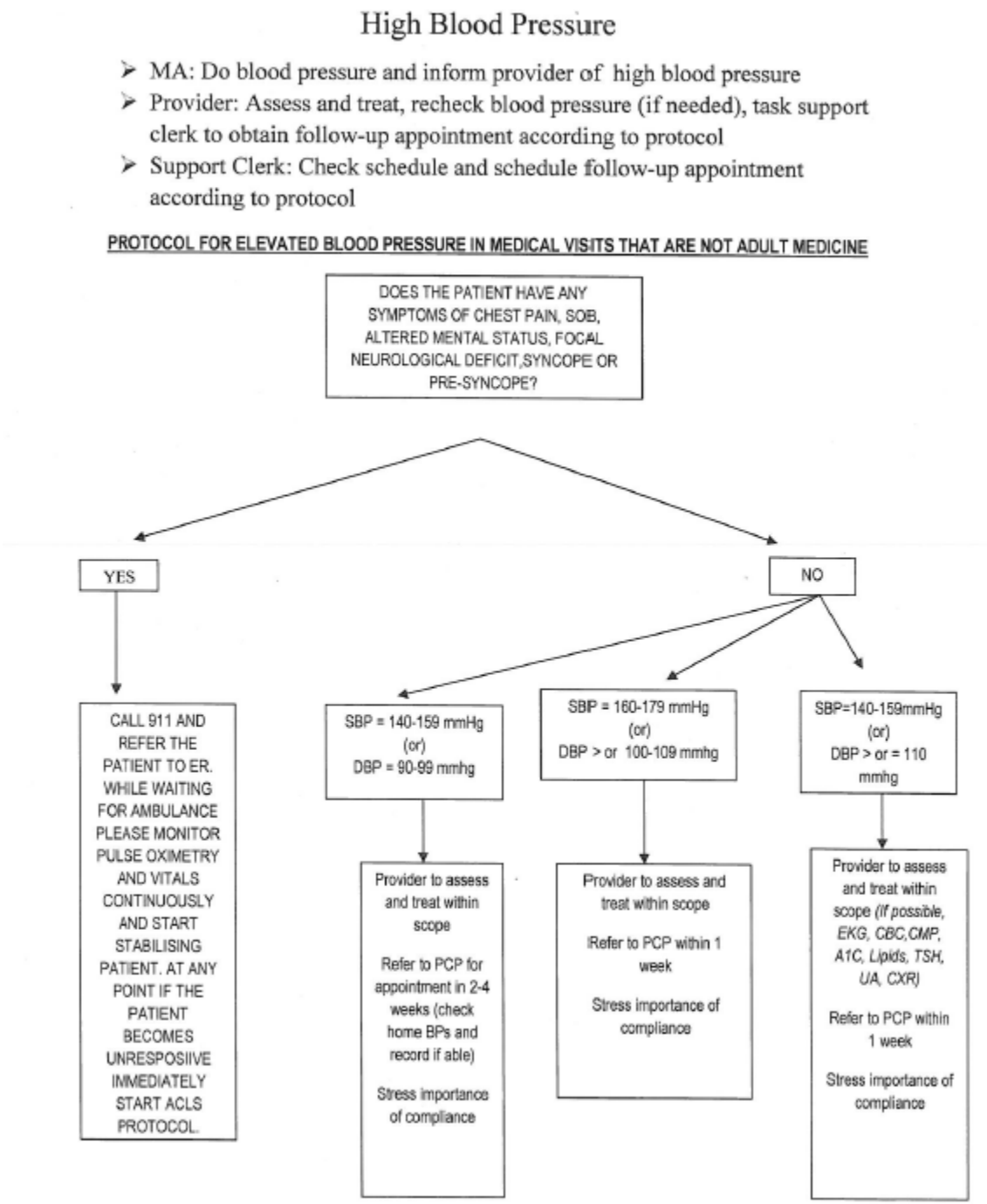
Recall Process:

1. If the patient has an upcoming appointment, the chart is flagged to make sure that the history of elevated BP gets addressed during the visit.
2. If the patient does not have an appointment scheduled, the RN/MA is to recall the patient to schedule an appointment to address the BP.
3. If patients is an uninsured patient or is not assigned to La Maestra we will recall the patient and schedule an appointment with the RN. The Nurse will evaluate the need for the patient to see the provider.



Appendix D: Screening and Diagnosing Hypertension, ***Grace Community Health Center***

NOTE: Adding a parameter to establish the maximum number of follow up visits that may occur before diagnosis of HTN should be made (if a patient has elevated BP readings at all follow up visits) would help prevent patients with consistently elevated BP from being caught in a loop of follow up visits and remaining undiagnosed.



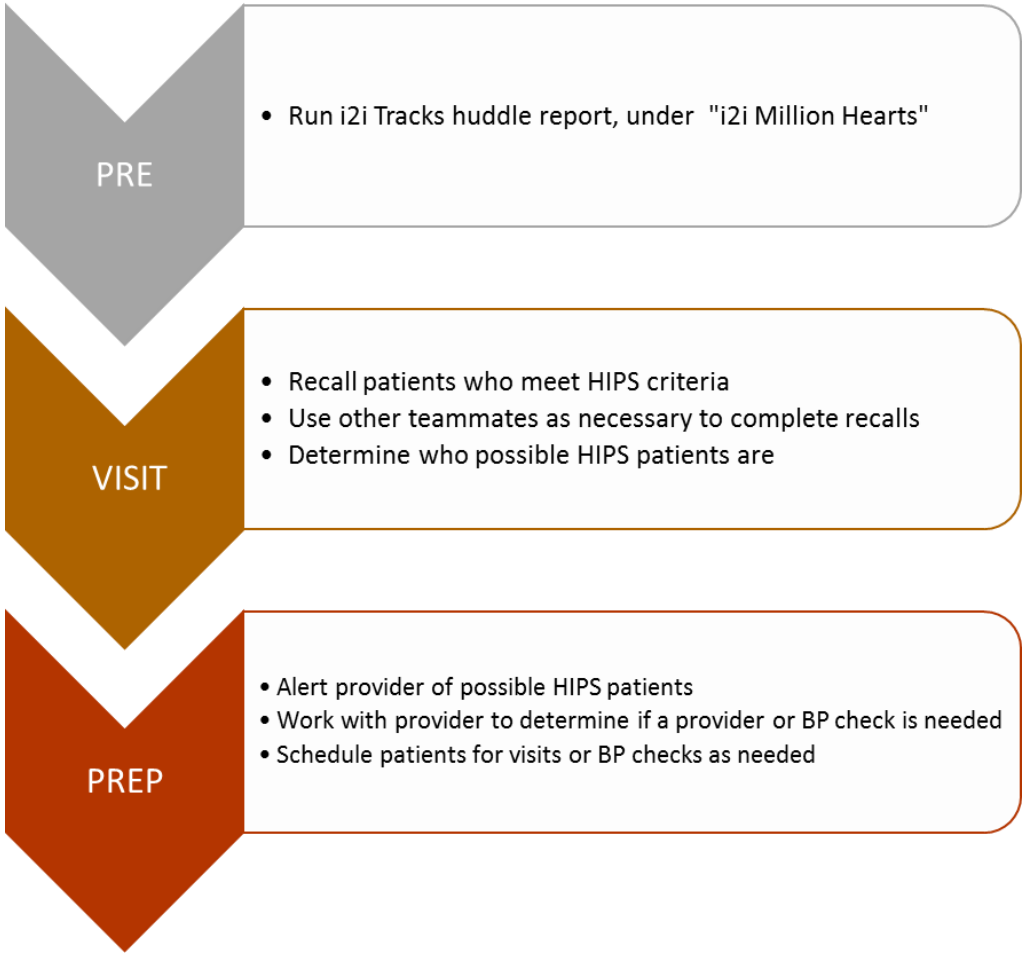
Appendix E: Protocol for Elevated Blood Pressure in Medical Visits that are Not Adult Medicine (Urgent Care), *Affinia*

NOTE: This protocol illustrates how health organizations can use other access points to engage patients who are potentially undiagnosed for hypertension. In this example, the health center also operated an urgent care facility; this kind of protocol can facilitate getting potential hypertension patients established with a primary care provider as well as diagnosed properly.

Appendix F: HIPS Workflow(s), *Golden Valley Health Centers*

To assist care teams in understanding the workflow changes designed for the Million Hearts, Hiding in Plain Sight project, a simple "changes in workflow" flow sheet was designed, discussed, and implemented with the project care teams. It was found that this was much easier for the care teams to understand than the CDS/QI workflow worksheet. It also showed how minor the changes to incorporate HIPS (addressing patients who meet the criteria for potentially undiagnosed hypertension), into the care team workflow would be. The pre-visit prep reporting occurs prior to the visit, at the beginning of each day (can be completed the evening before if time permits). Recalls are expected to be completed daily as well, however sometimes time does not allow the MA team to complete any calls; in this situation, the MA coordinates with the front office staff for assistance. The expectation is that, on a daily basis, staff are reviewing both patients scheduled for appointments to identify potentially undiagnosed hypertension patients and reviewing registries of patients who need to be recalled.

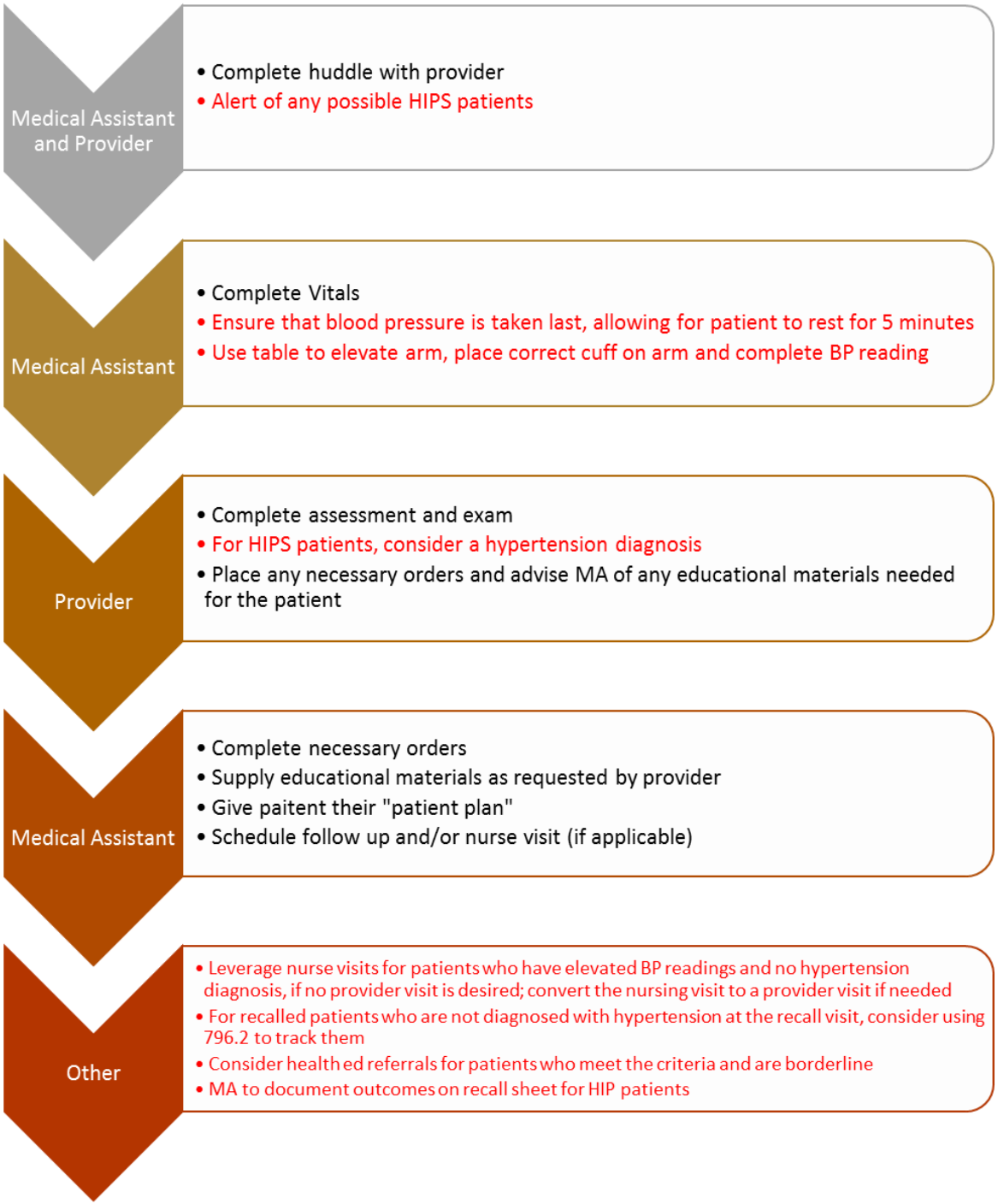
PREVISIT



NOTE: i2i Tracks is a population health management and data analytics product that integrates individual patient data from disparate sources – electronic health record (EHR), practice management system, lab vendors, pharmacies, claims, and other systems.

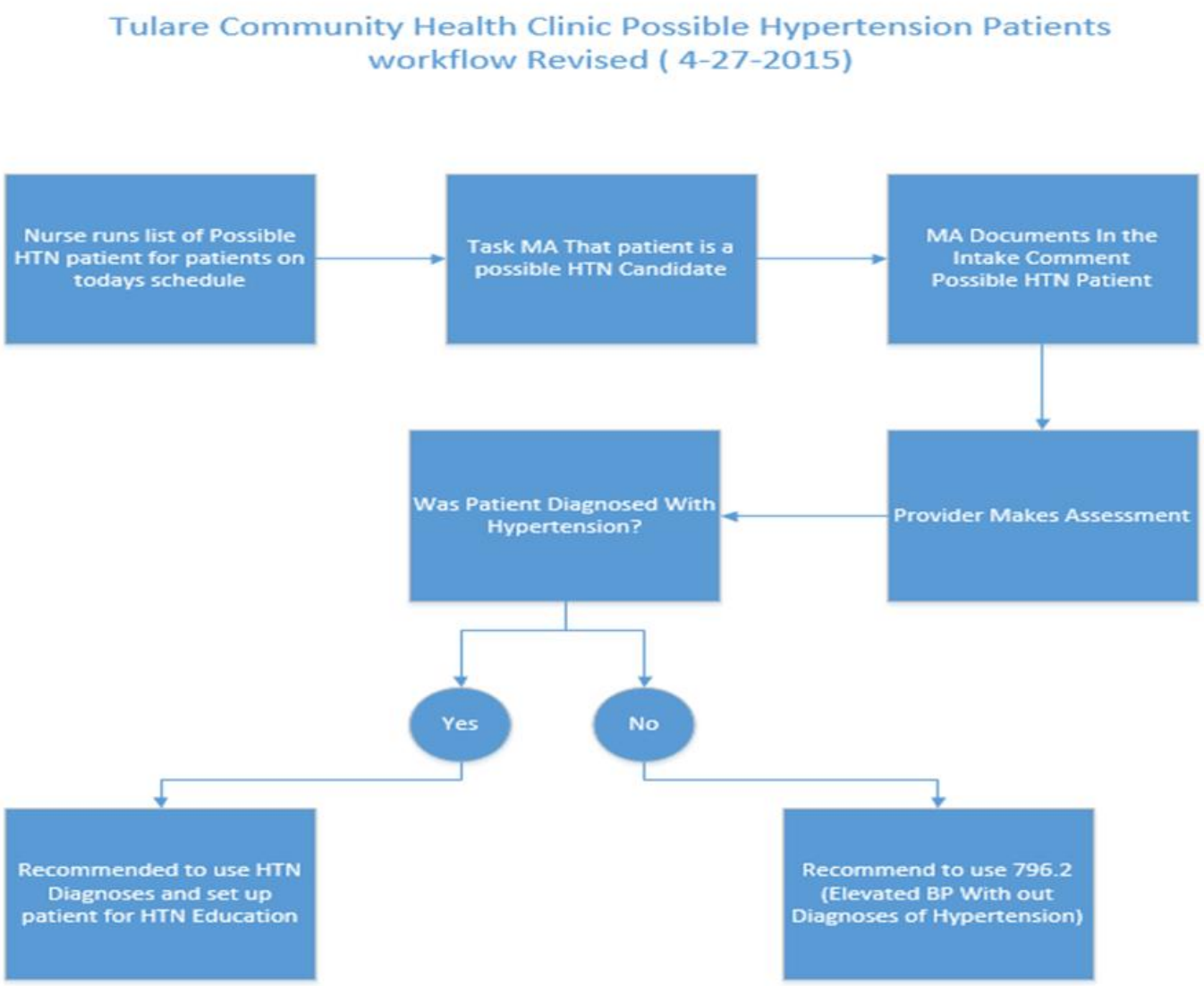
NOTE: "HIPS criteria" = criteria for potentially undiagnosed hypertension: one Stage 2 blood pressure reading OR two Stage 1 blood pressure readings in the past 12 months, with no diagnosis of hypertension documented in the EHR.

VISIT



NOTE: Black text represents existing steps in the visit workflow; red text represents steps added or changed in the visit workflow to improve identification and diagnosis of hypertension.

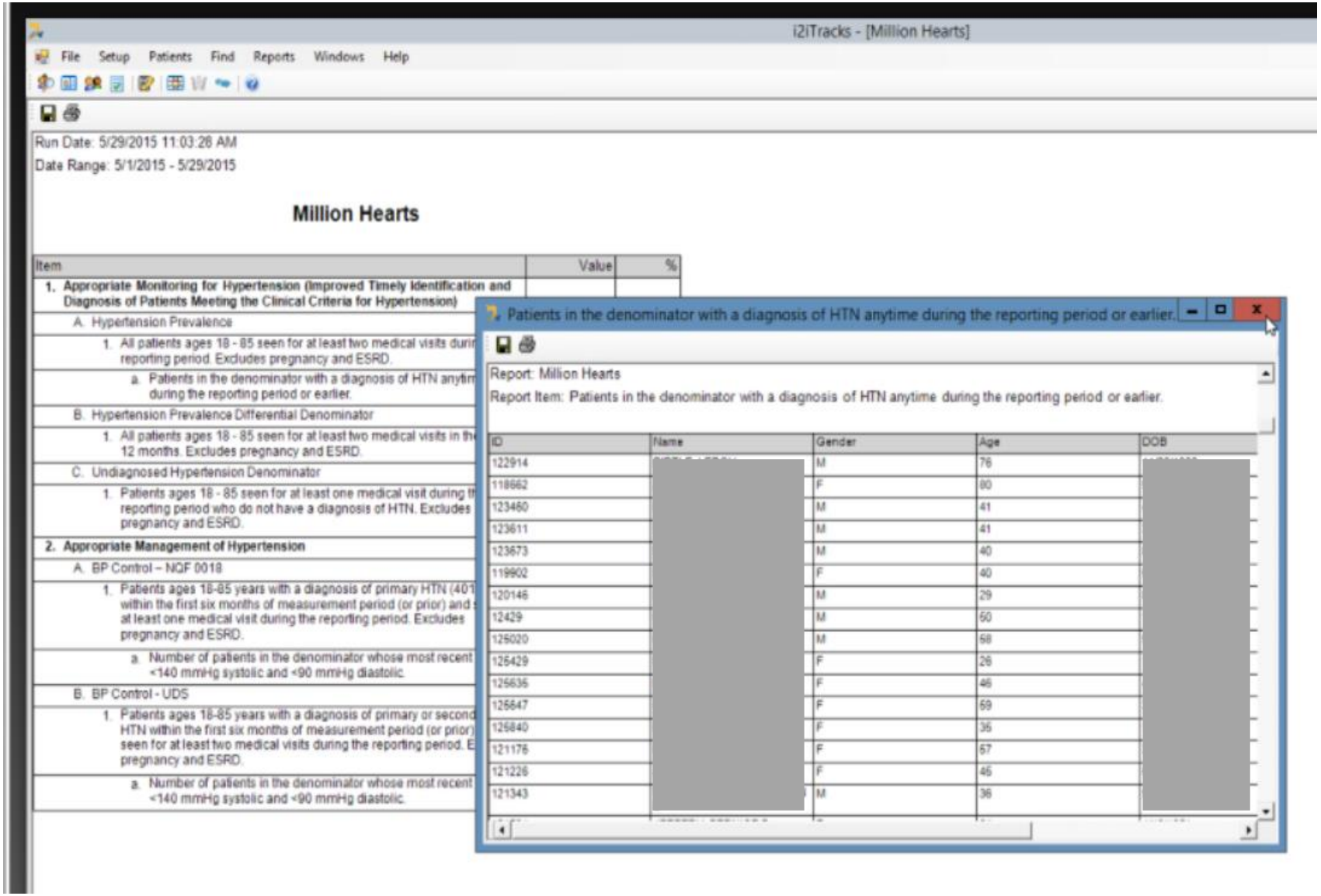
Appendix G: Possible Hypertension Patients Workflow, *Tulare Community Health Clinic*



NOTE: This workflow shows a process for identifying and diagnosing potentially undiagnosed hypertension patients at the point of care. One important element it depicts is what happens when a patient is not diagnosed with hypertension after being identified as potentially undiagnosed for hypertension. This health center uses an ICD code for elevated blood pressure without a diagnosis of hypertension to flag patients they want to monitor. One additional step might be to indicate specifically in what timeframe the patient needs be rechecked (e.g. six months, one year, etc.) and how the reminder will be noted in the EHR or elsewhere to track the follow up.

Appendix H: Patient Registry Using Million Hearts Criteria from i2i Tracks, *ARcare/KYcare*

NOTE: Example shown is useful for assessing control status on diagnosed hypertension patients to assist with appropriate management of hypertension. Patient registry reports were also programmed to list patients with potentially undiagnosed hypertension as a strategy to improve timely identification and diagnosis of patients meeting the clinical criteria for hypertension (see Item 1C).



Appendix I: Million Hearts HIPS Recall Report, *Golden Valley Health Centers*

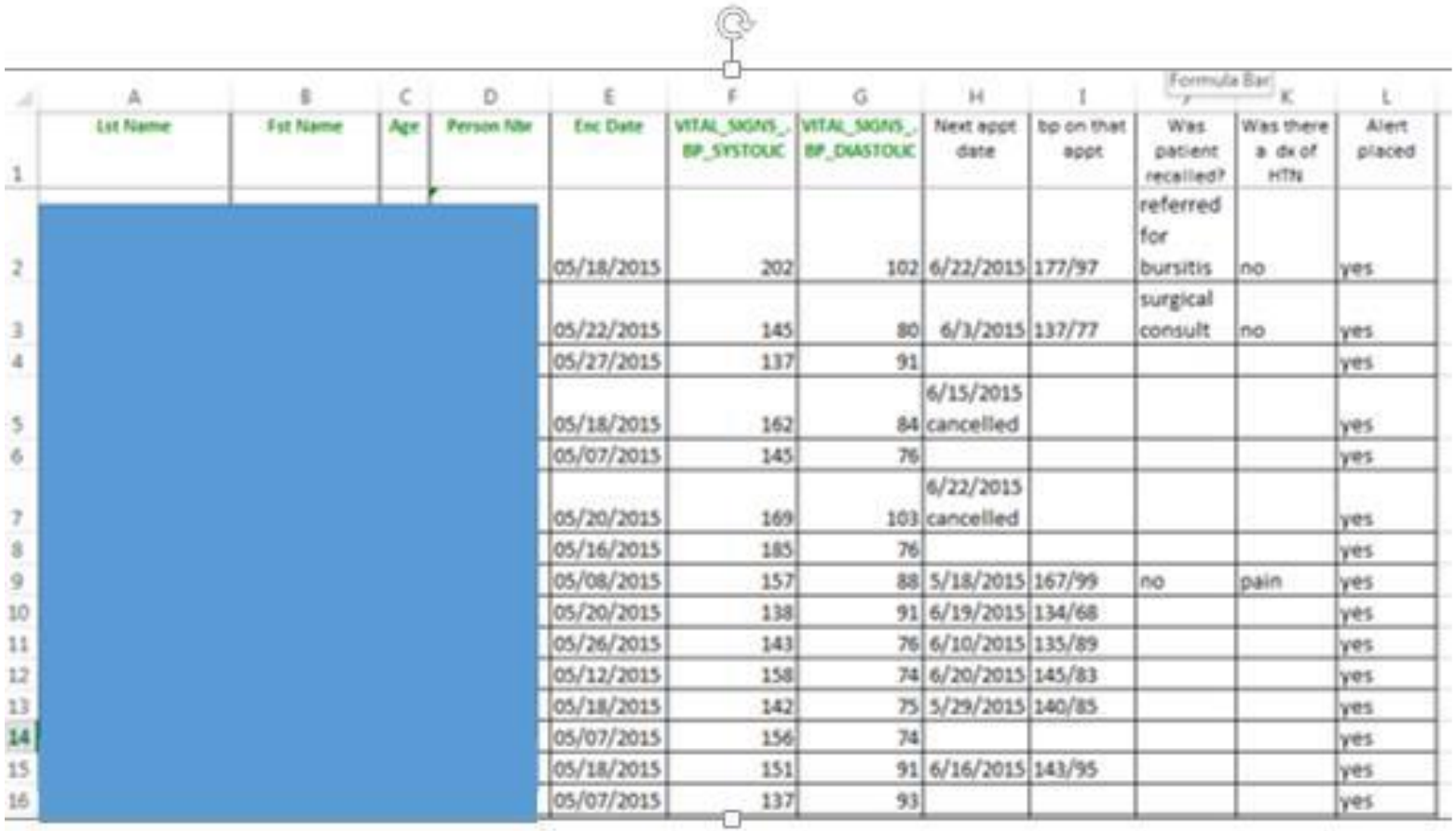
- This recall report is a sort of registry in which a specific provider team gets a listing of all patients that meet the hypertension diagnosis criteria but have not been diagnosed with hypertension. These patients are then reviewed with the PCP and recalled as necessary.
- The print out columns were of great discussion at GVHC; it is something we changed repeatedly until we found the right column criteria. We are currently working to modify the recall report to add whether or not the patient has received a diagnosis of 796.2, as we are utilizing this diagnosis as a marker that a patient has been recalled and a hypertension diagnosis was not warranted per the provider's clinical decision. Because we've been unable to appropriately map the diagnosis, the report currently looks as follows:

Million Hearts HIPS_Recall PCP

Name	DOB	Med Rec #	LastApptDate	NextAppt Date	NextAppt Time	NextAppt Provider	Recalled? Yes/No	If recalled was there a hypertension diagnosis? Yes/No	Notes:

Appendix J: Patient Registry showing Algorithm-Generated HIPS patients with Related Diagnoses and Prescriptions, and Actions Taken, NextGen, *Mountain Comprehensive Health Corporation*

NOTE: This report is used to track the status of patients identified as potentially undiagnosed for hypertension. In this example, some patients have subsequently been diagnosed, including some who were moved from a diagnosis of 796.2 (elevated blood pressure without a diagnosis of hypertension) to a diagnosis of hypertension. The Comments feature allows staff to track any actions taken.



	A	B	C	D	E	F	G	H	I	J	K	L
1	Lst Name	Fst Name	Age	Person Nbr	Enc Date	VITAL_SIGNS_BP_SYSTOLIC	VITAL_SIGNS_BP_DIASTOLIC	Next appt date	bp on that appt	Was patient recalled?	Was there a dx of HTN	Alert placed
2	[redacted]				05/18/2015	202	102	6/22/2015	177/97	referred for bursitis	no	yes
3					05/22/2015	145	80	6/3/2015	137/77	surgical consult	no	yes
4					05/27/2015	137	91					yes
5					05/18/2015	162	84	6/15/2015 cancelled				yes
6					05/07/2015	145	76					yes
7					05/20/2015	169	103	6/22/2015 cancelled				yes
8					05/16/2015	185	76					yes
9					05/08/2015	157	88	5/18/2015	167/99	no	pain	yes
10					05/20/2015	138	91	6/19/2015	134/68			yes
11					05/26/2015	143	76	6/10/2015	135/89			yes
12					05/12/2015	158	74	6/20/2015	145/83			yes
13					05/18/2015	142	75	5/29/2015	140/85			yes
14					05/07/2015	156	74					yes
15					05/18/2015	151	91	6/16/2015	143/95			yes
16					05/07/2015	137	93					yes

Appendix K: HIPS Recall List – i2i Tracks, *La Maestra Community Health Centers*

i2i Recall List

Name	DOB	Med Rec #	Diabete	Depress	NextAppt	LastVisitDO	Financial Class	Location
[redacted]						8/28/2014	No Insurance Attached	City Heights Medical
					4/6/2015	1/22/2015	Molina Medicaid Cap	City Heights Medical
						7/30/2014	CHG Medicaid CAP	City Heights Medical
					4/6/2015	10/24/2014	Molina Medicaid Cap	El Cajon Medical
					4/14/2015	2/5/2015	CHG Medicaid CAP	City Heights Medical
						6/27/2014	No Insurance Attached	City Heights Medical
					3/18/2015	12/23/2014	Molina Medicaid Cap	El Cajon Medical
						12/27/2014	CHG Medicaid CAP	El Cajon Medical
						7/8/2014	Molina Medicaid Cap	City Heights Medical
				Yes		1/26/2015	Molina Medicaid Cap	City Heights Medical
						2/20/2015	No Insurance Attached	City Heights Medical
					3/25/2015	1/22/2015	No Insurance Attached	Lemon Grove Medical
						1/16/2015	CHG Medicaid CAP	City Heights Medical
				Yes	3/17/2015	3/3/2015	CHG Medicaid CAP	El Cajon Medical
					3/19/2015	2/10/2015	FQHC Medicare	City Heights Medical
						7/24/2014	OP MEDICAL	El Cajon Medical
					3/17/2015	2/19/2015	Molina Medicaid Cap	El Cajon Medical
					5/8/2015	1/23/2015	Molina Medicaid Cap	El Cajon Medical
			Yes		4/2/2015	2/3/2015	CHG Medicaid CAP	El Cajon Medical
				Yes	3/24/2015	2/24/2015	Molina Medicaid Cap	City Heights Medical
						11/5/2014	CHG Medicaid CAP	City Heights Medical

NOTE: Programming criteria for this recall list is the undiagnosed hypertension algorithm delineated in Appendix M; while the list would be enhanced by including the most recent blood pressure level, it does include co-morbidities, next appointment scheduled, date of last visit, and insurance status, which are all important factors in helping care teams triage patients appropriately and determine whether to schedule a follow up visit with a provider (regular office visit) or with another member of the care team (non-billable nurse/MA visit).

Undiagnosed Hypertension Algorithms and Clinical Criteria Decision Points

The NACHC Million Hearts Technical Advisory Group (TAG) recommends the following algorithms to identify patients in health centers and at other safety net provider organizations who might be at risk for undiagnosed hypertension based on the clinical criteria decisions below. Factors considered in clinical criteria decisions included clinical relevance/importance, alignment with external reporting requirements, health center capacity, complexity of programming/extracting the data, and finally, erring toward "casting a wider net" for identifying potentially hypertensive patients.

Definitions

- **Blood Pressure (BP) Reading consistent with Stage 1 Hypertension**: ≥140 mmHg SBP or ≥90 mmHg DSP
- **BP Reading consistent with Stage 2 Hypertension**: ≥160 mmHg SBP or ≥100 mmHg DSP
- **Medical Visit**: A completed face-to-face outpatient visit with a primary care provider, as determined by medical specialty in the EHR or consistent with Table 5 for UDS reporting (includes family physicians, general practitioners, internists, obstetricians/gynecologists, pediatricians, nurse practitioners, physician assistants, and certified nurse midwives).

Algorithm Recommendations

Stage 1 Algorithm: Patients ages 18 to 85 years without a diagnosis of HTN (documented as an ICD-9 assessment of 401-405 at an encounter) who have BP readings ≥140mmHg SBP or ≥90mmHg DSP at two separate medical visits, including the most recent visit, during the past 12 months. Exclusions: pregnancy and ESRD.

Stage 2 Algorithm: Patients ages 18 to 85 years without a diagnosis of HTN (documented as an ICD-9 assessment of 401-405 at an encounter) who have a BP reading ≥160mmHg SBP or ≥100mmHg DSP at any one medical visit during the past 12 months. Exclusions: pregnancy and ESRD.

Decisions Summary

Inclusion Criteria	Options	Decision	Rationale
Medical Visits	• **One** medical visit in the past 12 months (NQF 0018/CMS) • **Two** medical visits in the past 12 months (UDS)	One medical visit in the past 12 months	Aligns with NQF 0018; catches patients who might have one Stage 2 reading; identifies more patients than two visits.
Stage 1 BP Readings - number	• BP readings ≥140 mmHg SBP or ≥90 mmHg DSP at **two separate medical visits, including the most recent visit** • BP readings ≥140 mmHg SBP or ≥90 mmHg DSP at **three separate medical visits, including the most recent visit** • BP readings ≥140 mmHg SBP or ≥90 mmHg DSP at **two separate medical visits anytime** • BP readings ≥140 mmHg SBP or ≥90 mmHg DSP at **three separate medical visits anytime**	BP readings ≥140 mmHg SBP or ≥90 mmHg DSP at two separate medical visits, including the most recent visit	National guidelines are vague about the precise number of readings needed to establish a HTN diagnosis (e.g., "elevated readings over time" and "repeated readings"). Work in the field on undiagnosed HTN has used both 2 and 3 elevated readings as thresholds to identify potentially undiagnosed HTN patients. The TAG felt that the most recent BP reading, regardless of whether 2 or 3 are used, should be elevated in order to increase the sensitivity of the algorithm (true positive rate). The TAG, while initially undecided between 2 and 3 three readings, opted to recommend 2 due to the challenges many FQHC patients have with making medical visits – the lower threshold means patients who have fewer visits will not "slip through the cracks" and remain at risk for stroke or heart attack. Moreover, 2 readings is simpler from a data management perspective. However, the group did recommend capturing reading count (as opposed to simply 2+) to allow for comparison of patients who had 2 readings with those who had 3+.

Inclusion Criteria	Options	Decision	Rationale
Stage 1 BP Readings – look back timeframe	• Past 12 months • Past 24 months	Past 12 months	Per the CDC, 61% of patients have 2+ visits in the past year with their primary care provider, which means 39% have fewer. Thus, a look back period of 12 months may miss patients with two or more Stage 1 elevated BP readings across a longer timeframe. However, the TAG decided on a 12 month look back period for two reasons: 1) to prioritize those patients who might be more likely to be successfully recalled and brought into care if diagnosed with HTN, and 2) to keep the initial list of potentially undiagnosed patients manageable (not all can be recalled and scheduled for appointments immediately). Recommend using data to drive this time parameter in other health organizations or adjusting once the initial recall list is reduced.
Stage 2 BP Readings	• One BP reading ≥160 mmHg SBP or ≥100 mmHg DSP **at any one medical visit** during the past 12 months • One BP reading ≥160 mmHg SBP or ≥100 mmHg DSP **at the most recent medical visit** in the past 12 months	One BP reading ≥160 mmHg SBP or ≥100 mmHg DSP at any one medical visit during the past 12 months	Aligns with JNC-7 guidelines; the TAG felt any patient with a BP reading in the Stage 2 range, regardless of when it occurred in the measurement period, should be diagnosed with HTN.
HTN Diagnosis	• 401 • 401-405 • 401-405 and 796.2	401-405	Aligns with UDS; the TAG felt secondary HTN = a legitimate HTN diagnosis, especially in more complex patients and that patients with secondary HTN should not be considered undiagnosed (penalizes providers); 796.2 was not considered a qualifying diagnosis, as it is a code often used for “white coat” syndrome and is only a code for elevated blood pressure, not HTN.

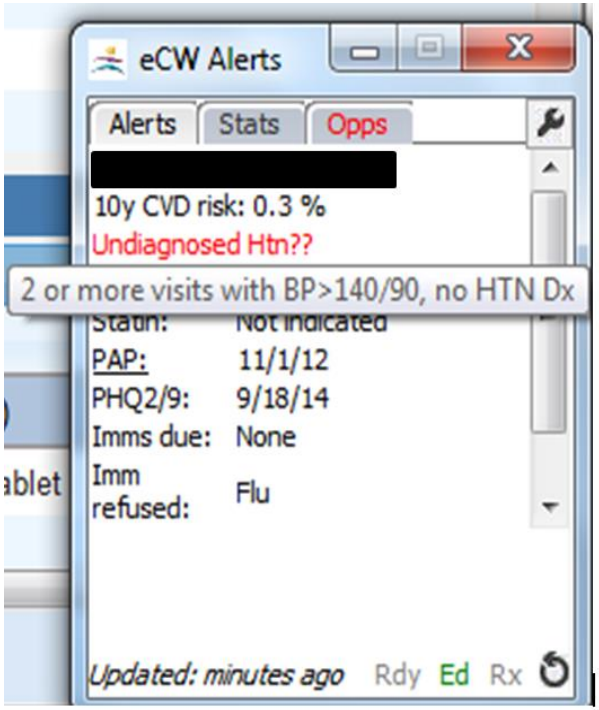
Exclusion Criteria	Options	Decision	
Other Diagnoses	• Pregnancy (NQF 0018) • End-Stage Renal Disease (ESRD) (NQF 0018) • Had an admission to a non-acute inpatient setting during the past 12 months (NQF 0018) • Inpatient, ED, or ambulatory surgery BP readings • On medications used for treating hypertension	Pregnancy ESRD	Exclusions for pregnancy and ESRD both align with UDS and NQF 0018 specifications; the TAG did not exclude non-acute inpatient admissions, in the spirit of casting a wider net and because admissions may not always be documented in structured/discrete data fields, requiring medical record review to validate; Inpatient, ED, or ambulatory surgery BP readings were excluded, as these readings would not be documented in the vitals section for a medical visit (so would not be extracted for reporting purposes anyway); Geisinger Health found that over half of men and one-third of women aged 75+ without evidence of HTN take medication for HTN for other purposes – thus, excluding medication as a proxy for a HTN diagnosis could potentially eliminate patients who are truly hypertensive.
HTN Diagnosis Location	• Assessment/encounter diagnosis • Problem List • Medical History	Assessment/ encounter diagnosis	While there are patients who may be diagnosed on their EHR's Problem List and not in an Assessment, according to CDC, research shows patients with Problem List entries only (free text entries without a diagnosis code) are much less likely to receive treatment for HTN.

Appendix M: Potentially Undiagnosed Hypertension Algorithm used to Generate Registries and Reports – i2i Tracks, *Golden Valley Health Centers and Tulare Community Health Clinic*

This is the programming logic used with the data warehouse/analytics platform:

```
Age between 18 and 84 years
AND Had Visit (Type = "Visit Medical";  Period = 1/1/2014 to 3/5/2015;  Min Count = 1;  Provider = "Barrett PA, Christopher A.")
AND NOT Have Problem: "Renal: End Stage Renal Disease (i2i)" or "Vascular: HTN (i2i)"  (Period = Any period)
AND NOT Had Visit (Type = "Visit Pregnancy";  Period = The last 1 year(s);  Min Count = 1)
AND
(
   Have Blood Pressure (Value: Systolic >= 140, Diastolic : Any value;  Period = The last 1 year(s);  Min Count = 2)
   AND Most Recent Blood Pressure (Value: Systolic >= 140, Diastolic : Any value;  Period = The last 1 year(s))
   OR
   (
      Have Blood Pressure (Value: Systolic : Any value, Diastolic >= 90;  Period = The last 1 year(s);  Min Count = 2)
      AND Most Recent Blood Pressure (Value: Systolic : Any value, Diastolic >= 90;  Period = The last 1 year(s))
   )
   OR Have Blood Pressure (Value: Systolic >= 160, Diastolic : Any value;  Period = The last 1 year(s);  Min Count = 1)
   OR Have Blood Pressure (Value: Systolic : Any value, Diastolic >= 100;  Period = The last 1 year(s);  Min Count = 1)
)
AND Default Provider = "Barrett PA, Christopher A."
```

Appendix N: Patient Status and Opportunities Alert - eClinicalWorks, *Neighborhood Healthcare*



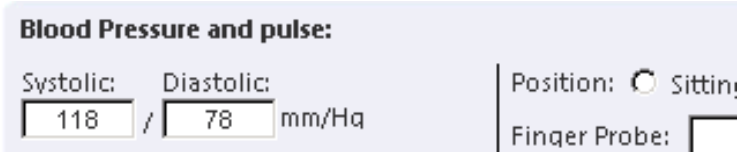
NOTE: A prompt to the care team to address a potential undiagnosed hypertension/HIPS patient was integrated into an existing practice alert at Neighborhood HealthCare. The red text indicates an opportunity for the care team to act. Hovering over the text provides a brief explanation of why the patient may be a HIPS patient.

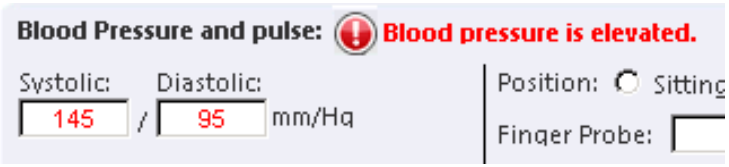
Appendix O: CDS-Enabled BP Tool – NextGen, *Golden Valley Health Centers*

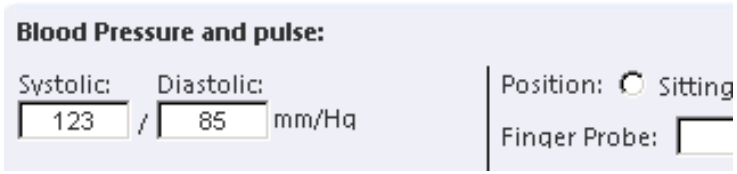
Identification of elevated blood pressure reading(s) is flagged within the GVHC EMR system (NextGen), which is a CDS-Enabled tool that assists the provider with blood pressure evaluation.

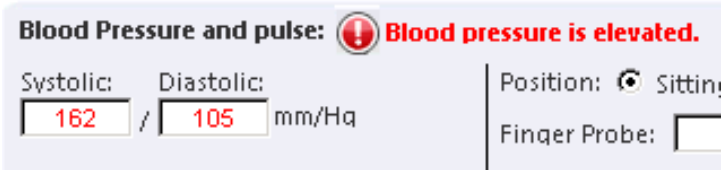
Vitals Measurement from Medical Assistant (MA) view

- The EMR will alert the MA any time the vitals, for our purposes BP, is outside the normal and prehypertension ranges.



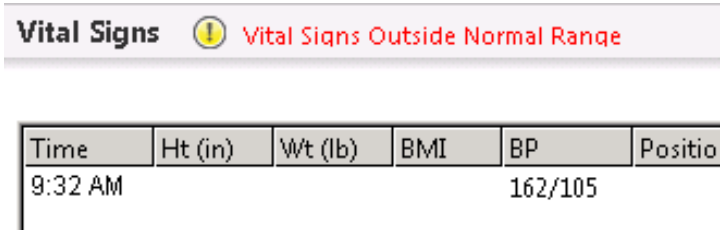


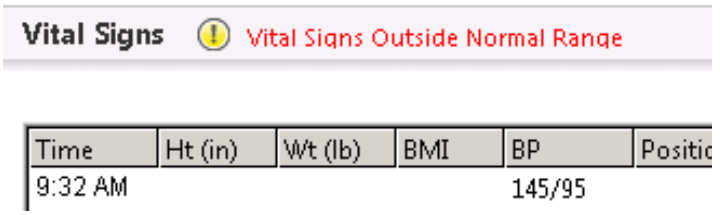




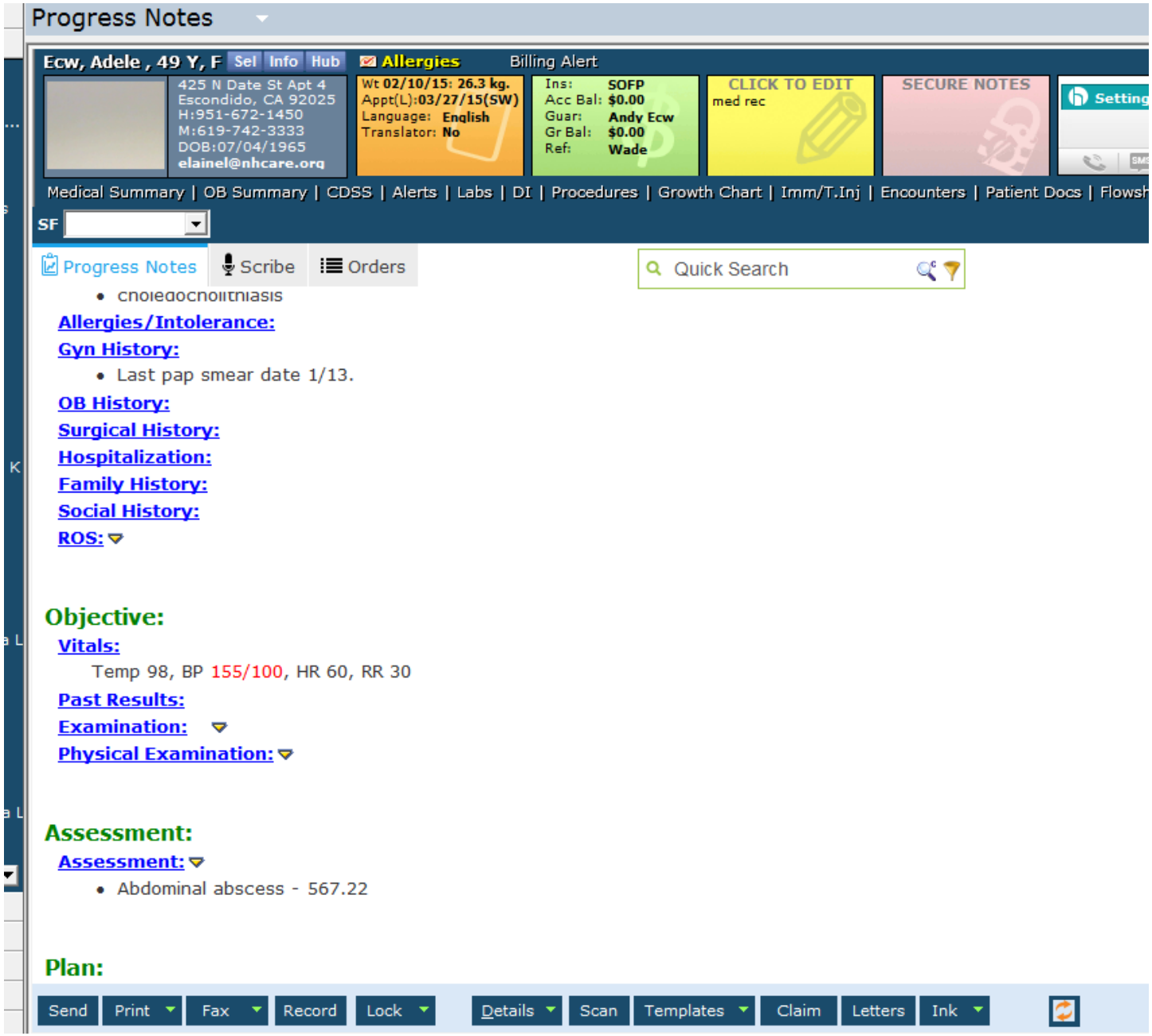
Vitals Measurement from Clinician view

- The EMR will alert the Clinician anytime the vitals are outside the normal and prehypertension ranges.

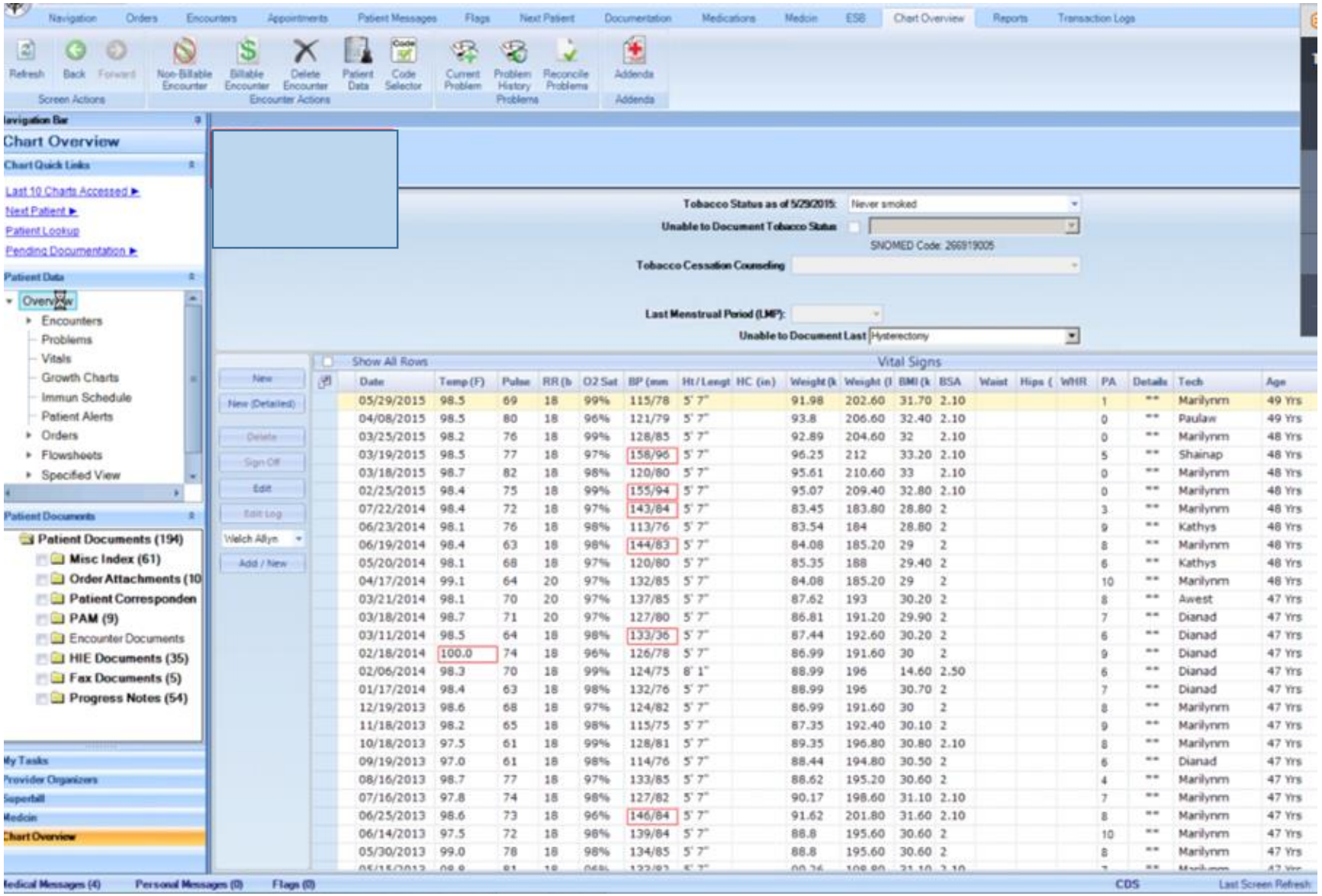




Appendix P: CDS-Enabled BP Tool – eClinicalWorks, *Neighborhood Healthcare*



Appendix Q: Blood Pressure Flow Sheet with Red Framed Alerts for Elevated Blood Pressure Readings – SuccessEHS, *ARcare/KYcare*

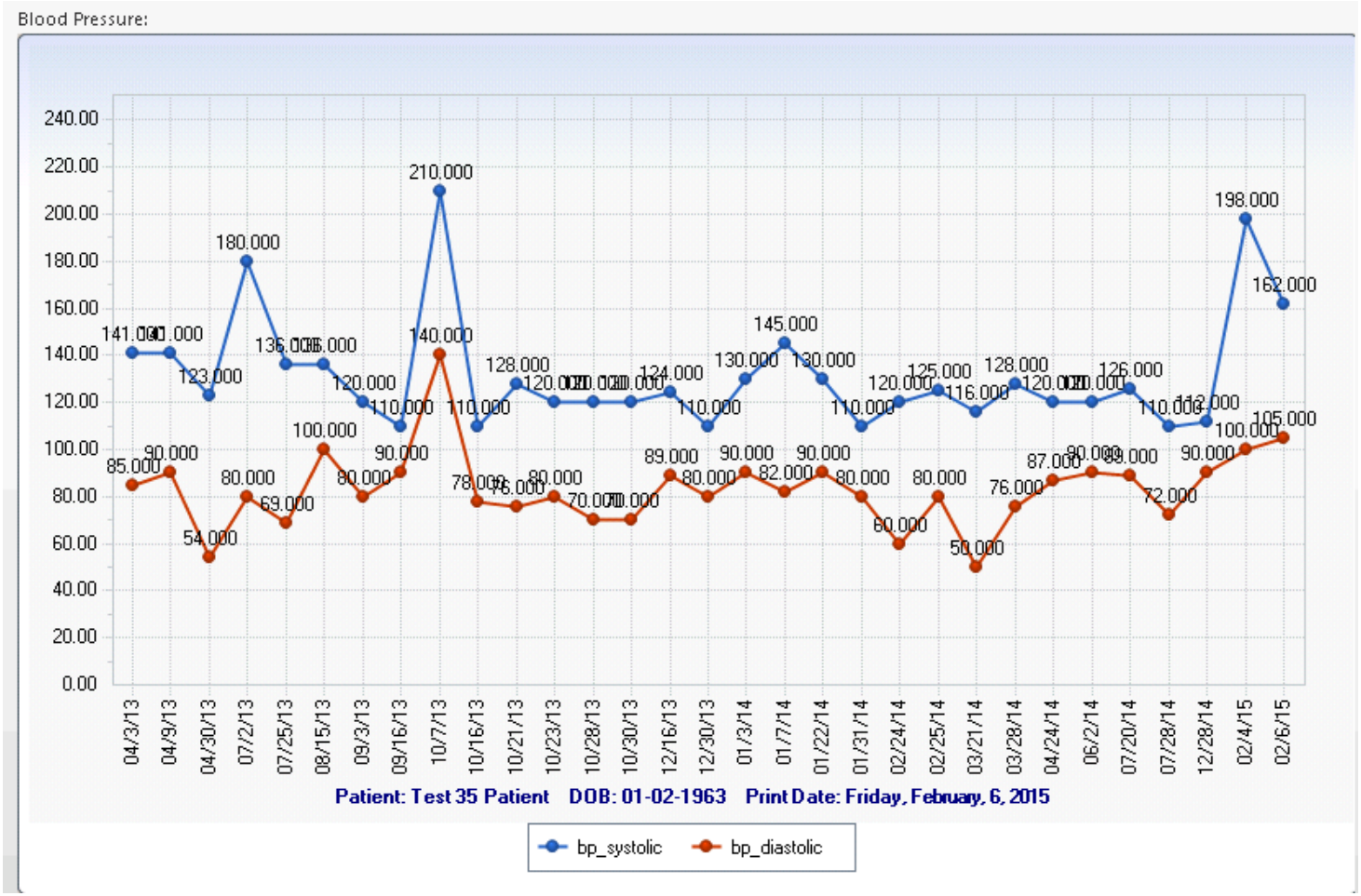


Date	Temp (F)	Pulse	RR (b	O2 Sat	BP (mm	Ht / Lengt	HC (in)	Weight (k	Weight (l	BMI (k	BSA	Waist	Hips (	WHR	PA	Details	Tech	Age
05/29/2015	98.5	69	18	99%	115/78	5' 7"		91.98	202.60	31.70	2.10				1	**	Marilynm	49 Yrs
04/08/2015	98.5	80	18	96%	121/79	5' 7"		93.8	206.60	32.40	2.10				0	**	Paulaw	49 Yrs
03/25/2015	98.2	76	18	99%	128/85	5' 7"		92.89	204.60	32	2.10				0	**	Marilynm	48 Yrs
03/19/2015	98.5	77	18	97%	158/96	5' 7"		96.25	212	33.20	2.10				5	**	Shainap	48 Yrs
03/18/2015	98.7	82	18	98%	120/80	5' 7"		95.61	210.60	33	2.10				0	**	Marilynm	48 Yrs
02/25/2015	98.4	75	18	99%	155/94	5' 7"		95.07	209.40	32.80	2.10				0	**	Marilynm	48 Yrs
07/22/2014	98.4	72	18	97%	143/84	5' 7"		83.45	183.80	28.80	2				3	**	Marilynm	48 Yrs
06/23/2014	98.1	76	18	98%	113/76	5' 7"		83.54	184	28.80	2				9	**	Kathys	48 Yrs
06/19/2014	98.4	63	18	98%	144/83	5' 7"		84.08	185.20	29	2				8	**	Marilynm	48 Yrs
05/20/2014	98.1	68	18	97%	120/80	5' 7"		85.35	188	29.40	2				6	**	Kathys	48 Yrs
04/17/2014	99.1	64	20	97%	132/85	5' 7"		84.08	185.20	29	2				10	**	Marilynm	48 Yrs
03/21/2014	98.1	70	20	97%	137/85	5' 7"		87.62	193	30.20	2				8	**	Awest	47 Yrs
03/18/2014	98.7	71	20	97%	127/80	5' 7"		86.81	191.20	29.90	2				7	**	Dianad	47 Yrs
03/11/2014	98.5	64	18	98%	133/36	5' 7"		87.44	192.60	30.20	2				6	**	Dianad	47 Yrs
02/18/2014	100.0	74	18	96%	126/78	5' 7"		86.99	191.60	30	2				9	**	Dianad	47 Yrs
02/06/2014	98.3	70	18	99%	124/75	6' 1"		88.99	196	14.60	2.50				6	**	Dianad	47 Yrs
01/17/2014	98.4	63	18	98%	132/76	5' 7"		88.99	196	30.70	2				7	**	Dianad	47 Yrs
12/19/2013	98.6	68	18	97%	124/82	5' 7"		86.99	191.60	30	2				8	**	Marilynm	47 Yrs
11/18/2013	98.2	65	18	98%	115/75	5' 7"		87.35	192.40	30.10	2				9	**	Marilynm	47 Yrs
10/18/2013	97.5	61	18	99%	128/81	5' 7"		89.35	196.80	30.80	2.10				8	**	Marilynm	47 Yrs
09/19/2013	97.0	61	18	98%	114/76	5' 7"		88.44	194.80	30.50	2				6	**	Dianad	47 Yrs
08/16/2013	98.7	77	18	97%	133/85	5' 7"		88.62	195.20	30.60	2				4	**	Marilynm	47 Yrs
07/16/2013	97.8	74	18	98%	127/82	5' 7"		90.17	198.60	31.10	2.10				7	**	Marilynm	47 Yrs
06/25/2013	98.6	73	18	96%	146/84	5' 7"		91.62	201.80	31.60	2.10				8	**	Marilynm	47 Yrs
06/14/2013	97.5	72	18	98%	139/84	5' 7"		88.8	195.60	30.60	2				10	**	Marilynm	47 Yrs
05/30/2013	99.0	78	18	98%	134/85	5' 7"		88.8	195.60	30.60	2				8	**	Marilynm	47 Yrs

Appendix R: Historical BP Reading Graph – NextGen, *Golden Valley Health Centers*

Historical BP reading chart

- Staff also have the capability to view a chart of blood pressure readings over time; although they cannot dictate the timeline, they are able to see fluctuations easily.



Appendix S: Accuracy of Blood Pressure Measurement Resources – CDC Hypertension Control Change Package

Click on the "PDF" to access the hyperlink for each resource.

- Provide guidance on measuring BP accurately [PDF]*
    - Checking BP Nursing Competency (Sharp Rees-Stealy Medical Group) [PDF]*
    - Correct BP Measurement Technique Handout (Colorado Springs Health Partners) [PDF]*
    - Standard Work Form, BP Measurement in Clinic (Park Nicollet) [PDF]*
    - Standard Work Form, Automatic Omron BP Measurement (Park Nicollet) [PDF]*
    - BP Measurement: The Proper Way (Cornerstone Health Care) [Video]*
    - BP Measurement: What Not to Do (Cornerstone Health Care) [Video]*
    - Activities that Affect BP Measurement Accuracy (HealthPartners) [PDF]*
- Assess adherence to proper BP measurement technique
    - Competency Checklist BP Measurement (Cleveland Clinic) [PDF]*
    - BP Spot Check (Kaiser Permanente) [PDF]*
    - New Employee BP Measurement Competency Checklist (HealthPartners) [PDF]*
    - Quarterly BP Auditing Tool (HealthPartners) [PDF]*

Appendix T: Adult Blood Pressure Recording, *Neighborhood Healthcare*

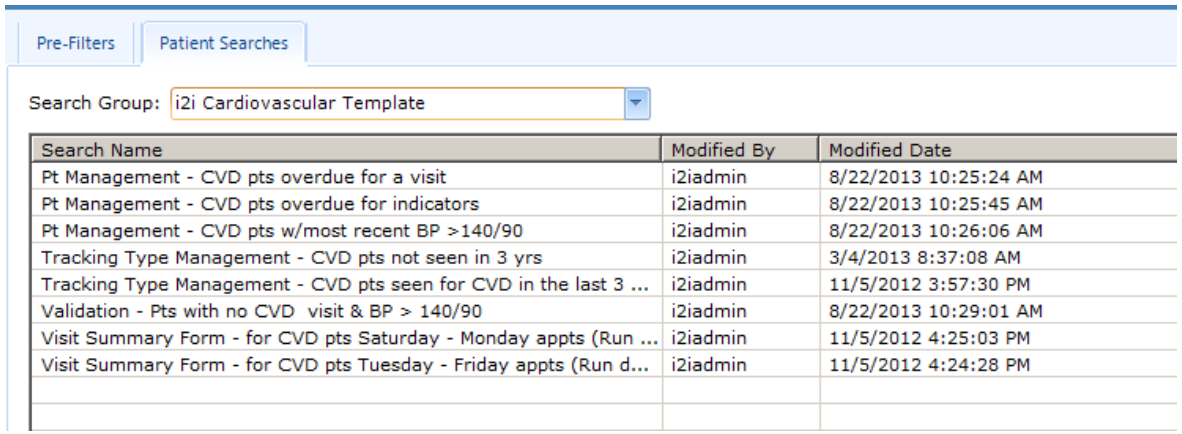
Clinical Protocol:	**Adult Blood Pressure Recording**	
NEIGHBORHOOD HEALTHCARE	Effective Date:01/01/2014	Policy & Procedure #CSM.097
	Revision Dates:	
	Last Reviewed: Clinical QI Committee	
	Functional Area(s):	
Document Owner, Title: Jim Schultz, M.D.		
Keywords: blood pressure, BP, vital signs		

PROTOCOL: A standard protocol is encouraged for recording a blood pressure (BP) reading in the initial BP field in eCW vital signs. It is recommended that NHcare providers use the BP on which treatment decisions will be based.

1. The patient is allowed to sit quietly for 5 minutes before the blood pressure is taken. If the BP is <140/90 on the first measurement, this BP shall be recorded in the BP field.
2. If the BP is over 140 systolic or over 90 diastolic, the BP is to be repeated (by machine or manually) after sitting or standing for 5 minutes.
3. If the BP is improved, record the second measurement in the vital signs field and move the first BP measurement to vital signs notes (or an alternate BP field).
4. Providers may ask for additional BPs such as both arms, orthostatics (not usually in the case of high BP).
5. In general, the BP that is recorded in the original BP vital signs field should be the one that treatment, including prescriptions, is to be based.
6. A patient's home BP reading may be used when the home reading has been validated and the provider is aware that the patient has "white coat" or "reactive" high BP. When a patient's home reading is recorded, it should be indicated as a note in the Vital Signs.

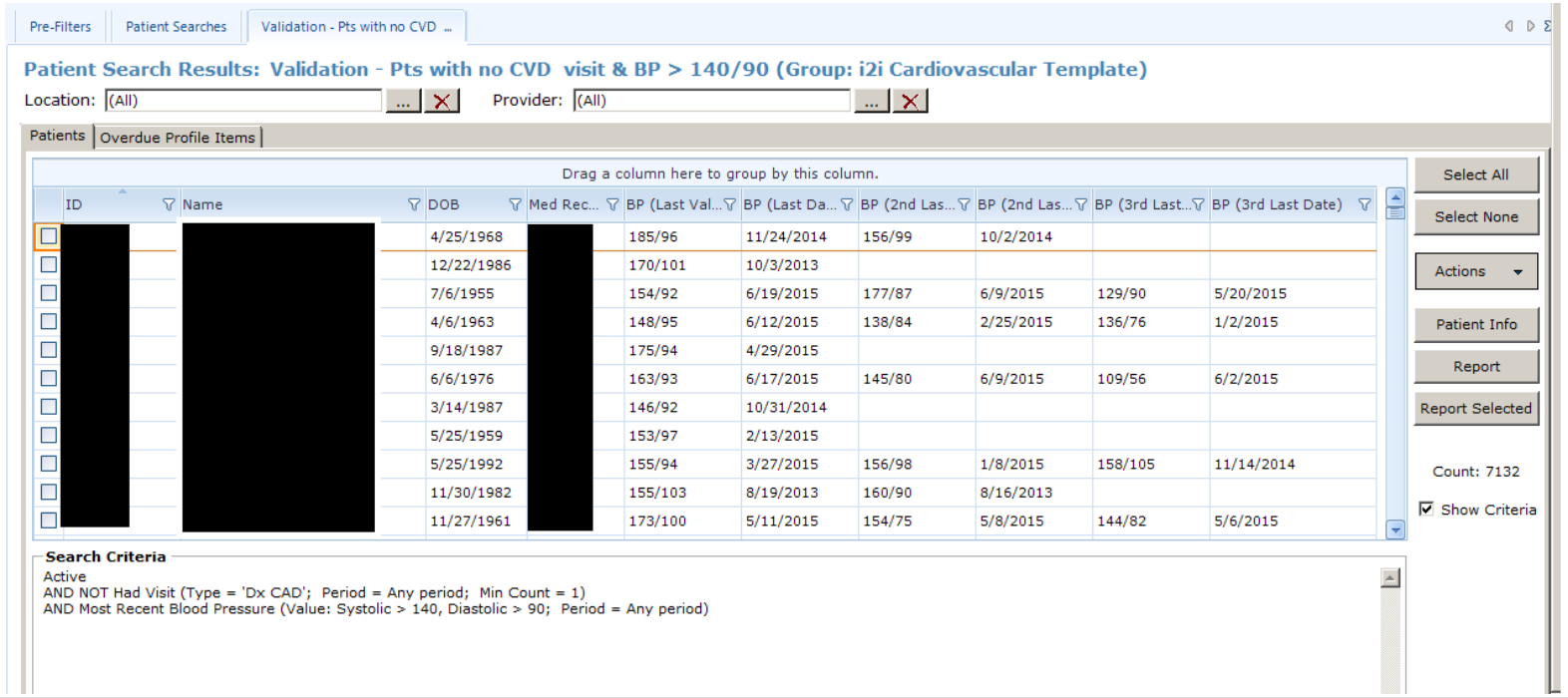
Appendix U: Care Message Patient Outreach – SuccessEHS/i2i Tracks, *ARcare/KYcare*

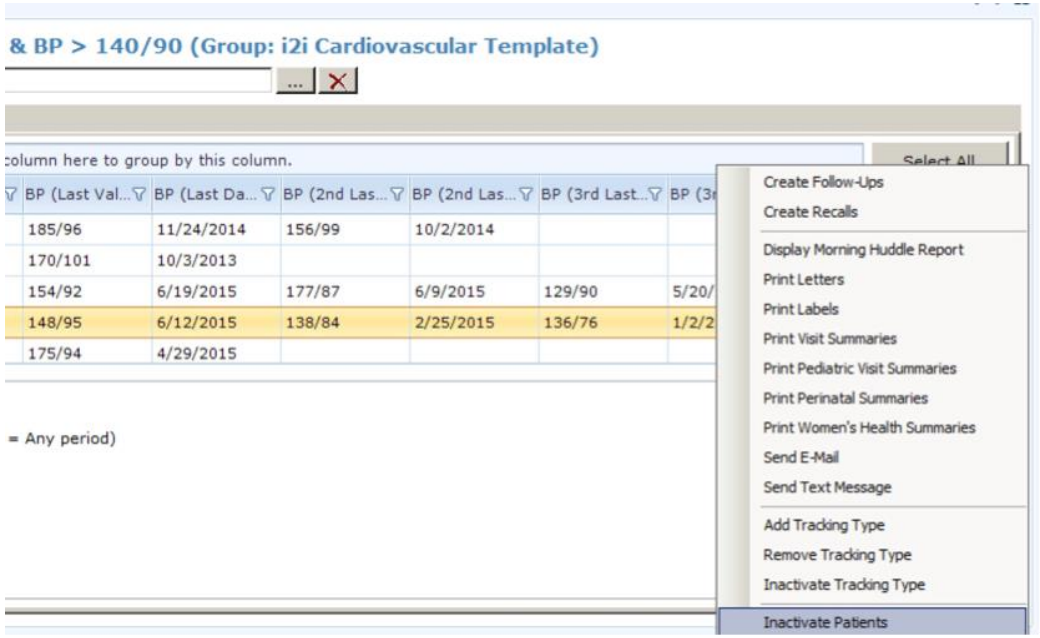
Step 1: Select the appropriate search group; for the HIPS project, the health center developed a specific Search Name under the Cardiovascular Template called "Validation – Pts with no CVD visit and BP >140/90" to recall potentially undiagnosed hypertension patients.



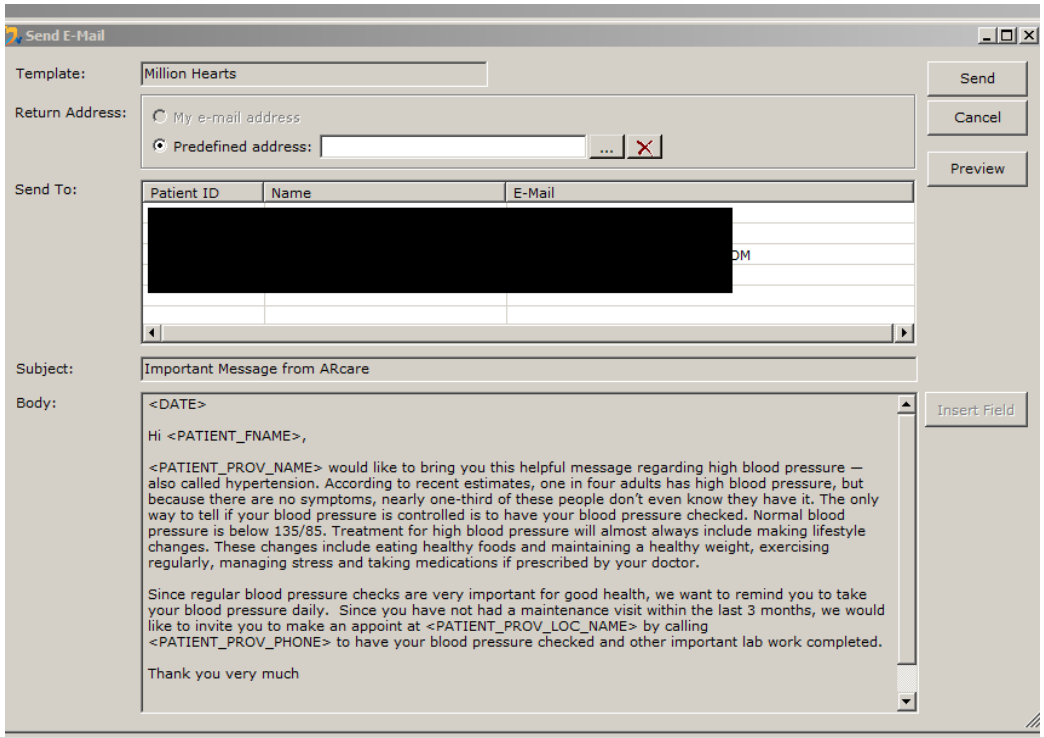
Search Name	Modified By	Modified Date
Pt Management - CVD pts overdue for a visit	i2iadmin	8/22/2013 10:25:24 AM
Pt Management - CVD pts overdue for indicators	i2iadmin	8/22/2013 10:25:45 AM
Pt Management - CVD pts w/most recent BP >140/90	i2iadmin	8/22/2013 10:26:06 AM
Tracking Type Management - CVD pts not seen in 3 yrs	i2iadmin	3/4/2013 8:37:08 AM
Tracking Type Management - CVD pts seen for CVD in the last 3 ...	i2iadmin	11/5/2012 3:57:30 PM
Validation - Pts with no CVD visit & BP > 140/90	i2iadmin	8/22/2013 10:29:01 AM
Visit Summary Form - for CVD pts Saturday - Monday appts (Run ...	i2iadmin	11/5/2012 4:25:03 PM
Visit Summary Form - for CVD pts Tuesday - Friday appts (Run d...	i2iadmin	11/5/2012 4:24:28 PM

Step 2: Search results are generated on the selected Search Name. These results include their most recent blood pressure result and up to two prior readings.

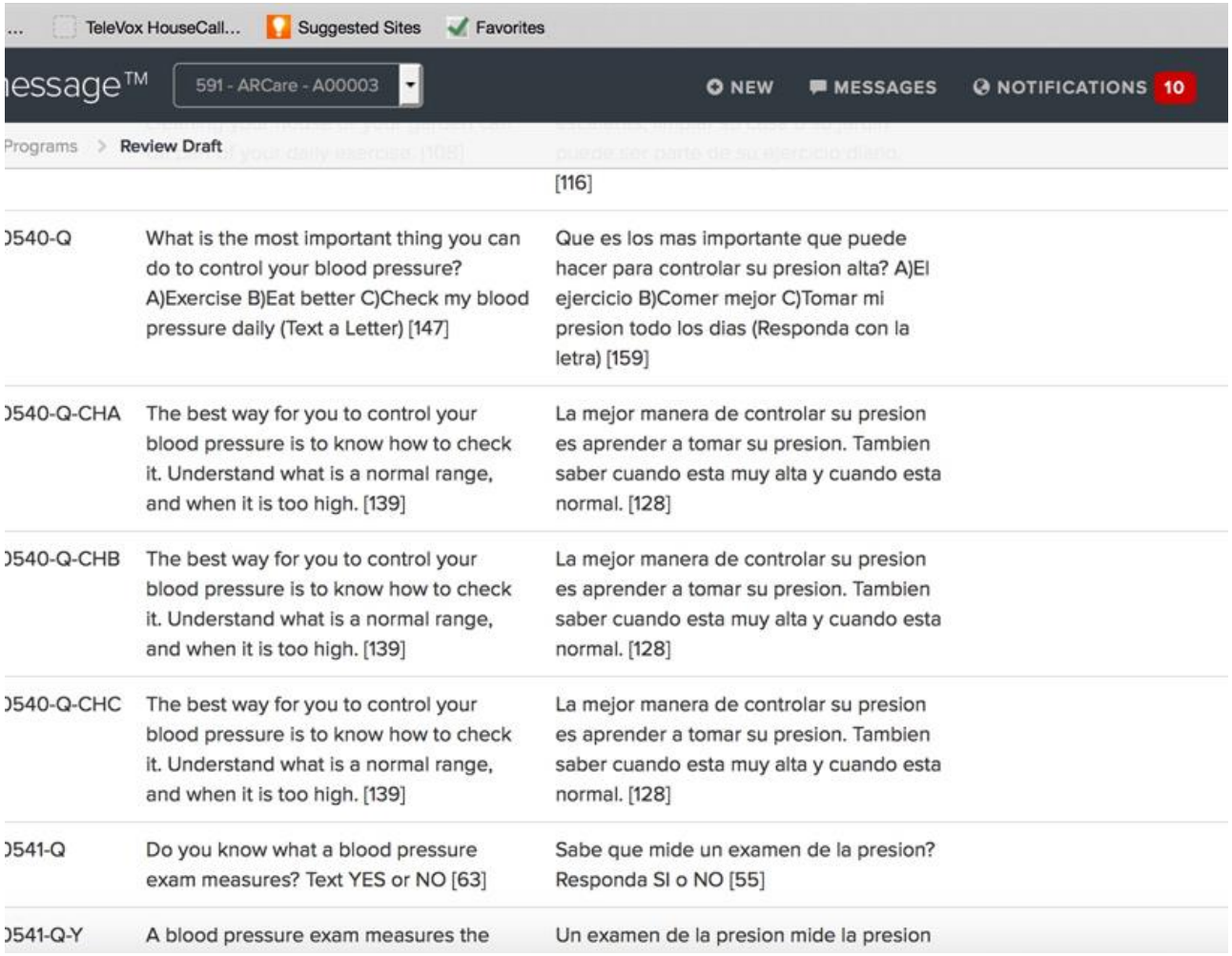




Step 3: Selecting a patient prompts several actions that can be taken, including sending an email or text message or creating a recall for them.



Step 4: A template can be created to send tailored messages to patients. This template, "Million Hearts", was created specifically to recall HIPS patients by email.



Step 4 (Continued): Text messages can be created using Care Message in multiple languages to send tailored messages to patients. Messages can be simply informative or interactive by requesting patients text a response back.

Appendix V: HIPS Front Office Script, *Golden Valley Health Centers*

- One of the barriers that care teams said held them back from recalling patients was time. In order to assist with this issue, the project team helped them think creatively about ways to work around the "time" issue. It was found that teams were not maximizing their resources and truly working as a team and using their front office personnel, so the MH HIPS project was used to facilitate this—and to assist with getting patients in for BP checks or visits to see if they had/have hypertension or not.
- An obstacle that was encountered during the use of the front office to schedule recalled patients was that the front office didn't always know the correct language to utilize in order to get the patient scheduled. Therefore, this script was born and given to teams to utilize when they call to schedule recalls.

HIPS Front Office Script

Good Morning/ Good Afternoon! My name is (your name), with (providers name)'s office at Golden Valley Health Center (site/location). May I speak with (patient name)? Can you please verify (have patient verify two identifiers). Great, thank you!

The reason for my call is that I received a message from (provider name) to schedule you an appointment for (insert appointment needed, as directed by medical assistant(s) or provider).

If patient answered "Yes" or "Ok"

Continue with scheduling a provider or nursing visit appointment.

If patient answered "Why"

Explain the reason for the visit (ensure you ask the medical assistant or provider for any clarification).

Ex) "It looks like at your last visit(s) your blood pressure was elevated so (provider name) would like you to follow up with his/her medical assistant for a blood pressure check"

If patient answered "No"

Ask the patient what their reasoning is (i.e. transportation, child care, work); try to accommodate the patient if possible.

Appendix W: Recall Process: Hypertension Patients Hiding in Plain Sight (HIPS), *Grace Community Health Center*

Grace Community Health Care

Recall Process

Hypertension Patients Hiding In Plain Sight (HIPS)

Run "potential missed opportunity" registry reports monthly

1. Provider given information about patients identified during chart review as "potentially a Missed Opportunity". Provider will indicate patients who qualify for a recall.

2. Nurse will call patient and inform them that a chart review revealed that their BP had been elevated during their last couple of visits and ask them to come in for a nurse visit (schedule should coincide with Provider schedule)
   - Document call, including refusal to come in, in telephone template
   - Two (2) attempts at phone calls then if unsuccessful
   - Send the patient a card/letter if not able to reach by phone

3. Blood Pressure taken at Nurse Visit
   - Ideally, patient has rested quietly before you obtain BP
   - Ensure Proper Cuff size
   - Ensure Proper Positioning

4. Nurse Visit: If initial BP Check is
   - **<140/90:** Discuss BP results with patient and educate as appropriate
   - **Stage 1 or Stage 2:** Take 2nd confirmatory BP in 5 minutes. If the **second BP is ≤** 140/90 inform patient that their BP is elevated and send a task to inform the provider. If **second BP** is ≥ 160/100 find provider for direction.

5. Provider will determine next steps; consider diagnosis (HTN or Elevated BP)

Blood Pressure Reading consistent with Stage 1 HTN: ≥140 mmHg SBP or ≥90mmHg DSP

Blood Pressure Reading consistent with Stage 2 HTN:≥ 160 mmHg SBP or ≥100 mmHg DSP

May 2015- Million Hearts HIPS project

Million Hearts: Leveraging Health Information Technology (HIT), Quality Improvement (QI), and Primary Care Teams to Identify Hypertensive Patients Hiding in Plain Sight

Excerpts from NACHC Million Hearts - Data Collection Plan

Measure Name	Measure Definition	Numerator	Denominator	Source/ Alignment	Data Collection Method/ Frequency
-- OUTCOME –					
Appropriate Monitoring for Hypertension (Improved Timely Identification and Diagnosis of Patients Meeting the Clinical Criteria for Hypertension)					
Undiagnosed Hypertension – Past 12 Months	% of patients with no HTN diagnosis (primary/essential or secondary HTN) who have at least one Stage 2 BP reading anytime in the past 12 months or at least two Stage 1 BP readings in the past 12 months, including the most recent visit.	Number of patients in the denominator who have at least one Stage 2 BP reading anytime in the past 12 months or at least two Stage 1 BP readings in the past 12 months (at separate visits, including the most recent visit).	Patients ages 18 - 85 seen for at least one medical visit in the past year who do not have a diagnosis of HTN **(401.* - 405.*)** (based on all historical data within the current EHR system). Excludes pregnancy and ESRD.	HCCNs/ JNC-7 HTN Guidelines	Monthly data report from data warehouse (stratify by health center organization)
Undiagnosed Hypertension – Past Month	% of patients with no HTN diagnosis (primary/essential or secondary HTN) who have at least one Stage 2 BP reading anytime in the past 12 months or at least two Stage 1 BP readings in the past 12 months, including the most recent visit. Patients must have had a visit in the past 30 days.	Number of patients in the denominator who have at least one Stage 2 BP reading anytime in the past 12 months or at least two Stage 1 BP readings in the past 12 months (at separate visits, including the most recent visit).	Patients ages 18 - 85 seen for at least one medical visit in the past month who do not have a diagnosis of HTN **(401.* - 405.*)** (based on all historical data within the current EHR system). Excludes pregnancy and ESRD.	HCCNs/ JNC-7 HTN Guidelines	Monthly data report from data warehouse (stratify by health center organization)

Measure Name	Measure Definition	Numerator	Denominator	Source/ Alignment	Data Collection Method/ Frequency
Missed Opportunities – Past 12 Months	% of patients who do not receive a diagnosis of hypertension (primary/essential or secondary HTN) at the first opportunity (medical visit) after meeting the clinical criteria for HTN.	Number of patients in the denominator who: 1) have a subsequent medical visit after a Stage 2 BP reading and do not receive a diagnosis of HTN or 2) have 2+ Stage 1 BP readings during or prior to the reporting period and a subsequent Stage 1 BP reading in the reporting period at which they do not receive a diagnosis of HTN.	Patients ages 18-85 who were seen for at least two medical visits in past year, who do not have a diagnosis of HTN **(401.* - 405.*)** and have at least one Stage 2 BP reading or at least two Stage 1 BP readings in past 12 months (at separate visits, including the most recent visit). Excludes pregnancy and ESRD.	HCCNs/ JNC-7 HTN Guidelines	Monthly data report from data warehouse (stratify by health center organization)
Missed Opportunities – Past Month	% of patients who do not receive a diagnosis of hypertension (primary/essential or secondary HTN) at the first opportunity (medical visit) after meeting the clinical criteria for HTN. Patients must have had a visit in the past 30 days.	Number of patients in the denominator who: 1) have a subsequent medical visit after a Stage 2 BP reading and do not receive a diagnosis of HTN or 2) have 2+ Stage 1 BP readings during or prior to the reporting period and a subsequent Stage 1 BP reading in the reporting period at which they do not receive a diagnosis of HTN.	Patients ages 18-85 who were seen for at least two medical visits in past year, who do not have a diagnosis of HTN **(401.* - 405.*)** and have at least one Stage 2 BP reading or at least two Stage 1 BP readings in past 12 months (at separate visits, including the most recent visit). Most recent visit must be in the past 30 days. Excludes pregnancy and ESRD.	HCCNs/ JNC-7 HTN Guidelines	Monthly data report from data warehouse (stratify by health center organization)

NOTES:

- **Blood Pressure (BP) Reading consistent with Stage 1 Hypertension**: ≥140 mmHg SBP or ≥90 mmHg DSP
- **BP Reading consistent with Stage 2 Hypertension**: ≥160 mmHg SBP or ≥100 mmHg DSP
- **Medical Visit** = A completed face-to-face outpatient visit with a primary care provider, as determined by medical specialty in the EHR or consistent with Table 5 Lines 1-10: Staffing and Utilization Profile for UDS reporting (includes family physicians, general practitioners, internists, obstetricians/gynecologists, pediatricians, nurse practitioners, physician assistants, and certified nurse midwives).

Appendix Y – HIPS Performance Report/Care Team Data Monitoring, *Golden Valley Health Centers*

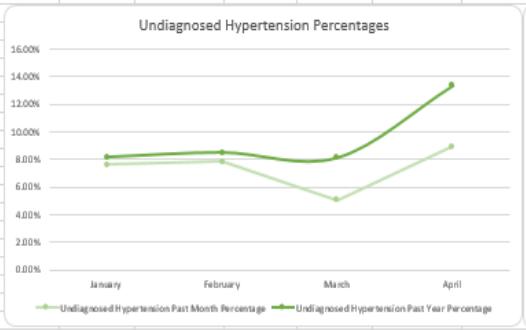
- This template was originally designed to be able to compare care team data to one another. During the process of completing the template, a care team requested individualized data and this tool lends itself well to that request. In order to make the data more meaningful to the teams, there were only 4 metrics selected to follow at the care team level: undiagnosed hypertension, missed opportunities, hypertension prevalence, and hypertension control (UDS).
- The numerator and denominator data was made available in the individual report as it was important for the care team to understand the reach of each of the metrics. There was also a table with the measure definitions for better understanding.
- Each care team has their own data metric worksheet with each of the 4 selected metrics, then the care team data is blinded on a single page for comparison purposes.

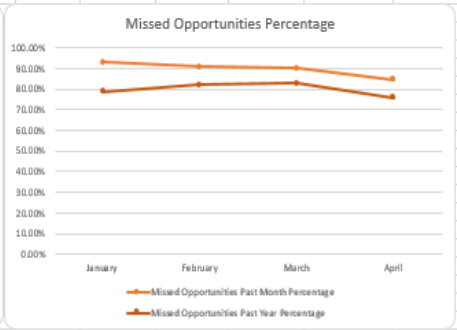
INDIVIDUAL CARE TEAM DATA

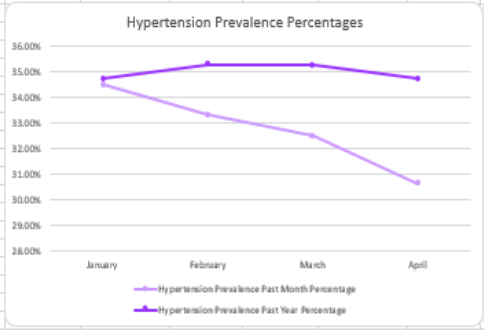
Million Hearts "Hiding in Plain Sight" Data Monitoring

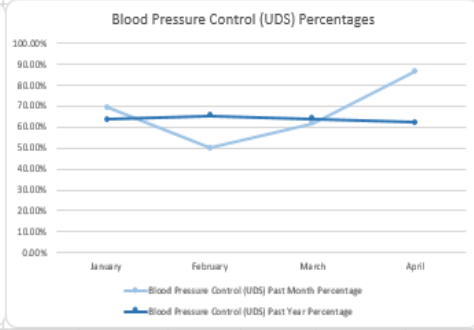
	Undiagnosed Hypertension						Missed Opportunities						Hypertension Prevalence						Blood Pressure Control (UDS)					
	Past Month			Past Year			Past Month			Past Year			Past Month			Past Year			Past Month			Past Year		
Submission Month	*Numerator*	*Denominator*	Percentage	*Numerator*	*Denominator*	Percentage	*Numerator*	*Denominator*	Percentage	*Numerator*	*Denominator*	Percentage	*Numerator*	*Denominator*	Percentage	*Numerator*	*Denominator*	Percentage	*Numerator*	*Denominator*	Percentage	*Numerator*	*Denominator*	Percentage
January	14	183	**7.65%**	97	1187	**8.17%**	13	14	**92.86%**	45	57	**78.95%**	30	87	**34.48%**	489	1408	**34.73%**	18	26	**69.23%**	276	434	**63.59%**
February	11	140	**7.86%**	98	1153	**8.50%**	10	11	**90.91%**	46	56	**82.14%**	22	66	**33.33%**	488	1383	**35.29%**	10	20	**50.00%**	289	442	**65.38%**
March	10	197	**5.08%**	92	1134	**8.11%**	9	10	**90.00%**	43	52	**82.69%**	26	80	**32.50%**	477	1353	**35.25%**	13	21	**61.90%**	278	436	**63.76%**
April	13	145	**8.97%**	89	667	**13.34%**	11	13	**84.62%**	38	50	**76.00%**	19	62	**30.65%**	275	792	**34.72%**	13	15	**86.67%**	152	245	**62.04%**
AVERAGES	12.00	166.25	**7.39%**	94.00	1035.25	**9.53%**	10.75	12.00	**89.60%**	43.00	53.75	**79.95%**	24.25	73.75	**32.74%**	432.25	1234.00	**35.00%**	13.50	20.50	**66.95%**	248.75	389.25	**63.70%**

Measure	Definition
Undiagnosed Hypertension Metric	The percentage of patients seen in the last month/year that meet the clinical criteria (JNC7) for hypertension but do not have a hypertension diagnosis.
Missed Opportunities Metric	The percentage of patients seen in the last month/year who do not receive a diagnosis of hypertension (401-405) at the first opportunity after meeting the clinical criteria (JNC7) for hypertension.
Hypertension Prevalence Metric	The percentage of patients with a visit in the past month/year with a diagnosis of hypertension (401-405).
Blood Pressure Control (UDS) Metric	The percentage of patients with hypertension (401-405) whose blood pressure is controlled (<140 systolic and <90 diastolic).









CARE TEAM DATA COMPARISON

	Undiagnosed Hypertension											
	Past Month						Past Year					
Submission Month	1	2	3	4	5	GVHC	1	2	3	4	5	GVHC
January/Baseline	7.65%	10.42%	6.19%	5.41%	7.88%	**6.00%**	8.17%	4.57%	4.74%	4.41%	5.07%	**4.00%**
February	7.86%	11.11%	8.11%	6.72%	7.89%	**5.00%**	8.50%	4.89%	4.89%	4.77%	5.34%	**4.00%**
March	5.08%	13.89%	5.65%	10.14%	8.28%	**5.00%**	8.11%	5.30%	4.63%	5.50%	5.28%	**4.00%**
April	8.97%	4.41%	7.14%	4.55%	5.02%	**6.00%**	13.34%	5.33%	4.61%	9.43%	13.45%	**4.00%**
AVERAGES	7.39%	9.96%	6.77%	6.70%	7.27%	5.50%	9.53%	5.02%	4.72%	6.03%	7.29%	4.00%

Missed Opportunities											
Past Month						Past Year					
1	2	3	4	5	GVHC	1	2	3	4	5	GVHC
92.86%	66.67%	100.00%	100.00%	64.29%	**74.00%**	78.95%	100.00%	93.75%	66.67%	53.33%	**71.00%**
90.91%	100.00%	88.89%	62.50%	60.00%	**73.00%**	82.14%	100.00%	88.89%	70.59%	57.14%	**71.00%**
90.00%	100.00%	87.50%	64.29%	38.46%	**71.00%**	82.69%	100.00%	90.00%	62.50%	57.69%	**71.00%**
84.62%	100.00%	100.00%	66.67%	72.73%	**70.00%**	76.00%	100.00%	100.00%	68.42%	59.26%	**71.00%**
89.60%	91.67%	94.10%	73.36%	58.87%	72.00%	79.95%	33.33%	31.05%	22.35%	18.95%	71.00%

Hypertension Prevalence											
Past Month						Past Year					
1	2	3	4	5	GVHC	1	2	3	4	5	GVHC
34.48%	68.57%	24.39%	51.43%	29.63%	**43.00%**	34.73%	46.97%	34.38%	44.43%	29.48%	**38.00%**
33.33%	50.00%	41.86%	47.83%	29.49%	**43.00%**	35.29%	48.04%	48.04%	44.33%	29.69%	**38.00%**
32.50%	52.63%	22.00%	54.95%	29.09%	**42.00%**	35.25%	48.73%	31.32%	43.86%	29.31%	**38.00%**
30.65%	37.93%	37.50%	59.52%	29.41%	**43.00%**	34.72%	49.76%	26.68%	48.35%	23.40%	**38.00%**
32.74%	52.28%	31.44%	53.43%	29.40%	42.75%	35.00%	48.38%	35.10%	45.24%	27.97%	38.00%

Blood Pressure Control (UDS)											
Past Month						Past Year					
1	2	3	4	5	GVHC	1	2	3	4	5	GVHC
69.23%	54.17%	55.56%	84.38%	73.68%	**68.00%**	63.59%	66.67%	68.91%	63.11%	56.87%	**69.00%**
50.00%	75.00%	75.00%	48.28%	64.71%	**67.00%**	65.38%	67.56%	63.59%	64.27%	63.33%	**69.00%**
61.90%	60.00%	88.89%	53.33%	50.00%	**70.00%**	63.76%	71.04%	63.44%	63.97%	63.81%	**69.00%**
86.67%	72.73%	100.00%	54.17%	50.00%	**70.00%**	62.04%	68.16%	65.89%	62.70%	42.86%	**69.00%**
66.95%	65.47%	79.86%	60.04%	59.60%	68.75%	63.70%	68.36%	65.46%	63.51%	56.72%	69.00%


Undiagnosed Hypertension Past Month
Undiagnosed Hypertension Past Year
Missed Opportunities Past Month
Missed Opportunities Past Year

Appendix Z: Confirming Appointments Policy, *La Maestra Community Health Centers*

La Maestra Community Health Centers Policies and Procedures		Policy Number III-C-1
		Page Number 1/1
Clinic Site: ☐ Fairmount ☐ El Cajon ☐ Highland ☐ Lemon Grove		Approved on:
Revision Number (3)	Revision Date 12/3/07, 08/13/11, 09/25/13	
Department: CLINIC		Effective Date 01/02/05
Category: OFFICE MANAGEMENT		
Subject: CONFIRMING APPOINTMENTS		

PURPOSE

To make sure that the patient will not forget about their appointment and that everything necessary is prepared before the patient arrives at the clinic.

POLICY

It is the policy of the La Maestra Community Health Centers that practice staff will prepare for patients scheduled the following day by confirming appointments, printing appointment lists, and printing and attaching face sheets to corresponding medical records.

PROCEDURES

1. All selected appointments will be confirmed within forty-eight (48) and twenty-four (24) hours prior to the scheduled appointment and confirmation will be noted in appointment scheduler.
2. Clinic staff will print one appointment list for the following day; a chronological list, by physician, for purposes of viewing the day's schedule.
3. Clinic staff will print all face sheets for those established patients and attach them to the corresponding medical record. (Procedure is needed for electronic health records).

NOTE: To enhance this policy, call scripts could be translated as appropriate and specificy some coaching functions, such as emphasizing the importance of keeping the appointment or rescheduling. If the patient is on a HIPS recall list, the outreach person could indicate elevated BPs as the reason for the outreach and instruct the patient on how to prepare, e.g., wear proper clothing, no caffeine, take medicines as usual, etc.

Appendix AA: Home Blood Pressure Log, *Neighborhood Healthcare*

Blood Pressure Log

INSTRUCTIONS:

- Take your pressure at the same time each day, such as morning or evening, or as your healthcare professional recommends
- Sit with your back straight and supported and your feet flat on the floor.
- Your arm should be supported on a flat surface with the upper arm at heart level.
- Make sure the middle of the cuff is placed directly over your brachial artery.
- Each time you measure, take two or three readings, one minute apart, and record all the result.

Patient Name: «LastName», «FirstName» **MY BLOOD PRESSURE TARGET GOAL IS:____/ _____ mm Hg**

Date/Time	Reading 1		Reading 2		Reading 3		Comments
	Blood pressure	Heart Rate (Pulse)	Blood pressure	Heart Rate (Pulse)	Blood pressure	Heart Rate (Pulse)	
1/1/13 8:00pm	***132/85 mmHG***	***81 Beats per min.***	***130/80 mm Hg***	***70 Beats per min.***	***126/80 mm Hg***	***72 Beats per min.***	***At pharmacy***
	/		/		/		
	/		/		/		
	/		/		/		
	/		/		/		

Blood pressure higher than 180/110 is an emergency. Call 9-1-1 immediately. If 9-1-1 is not available to you, have someone drive you to the nearest emergency facility immediately

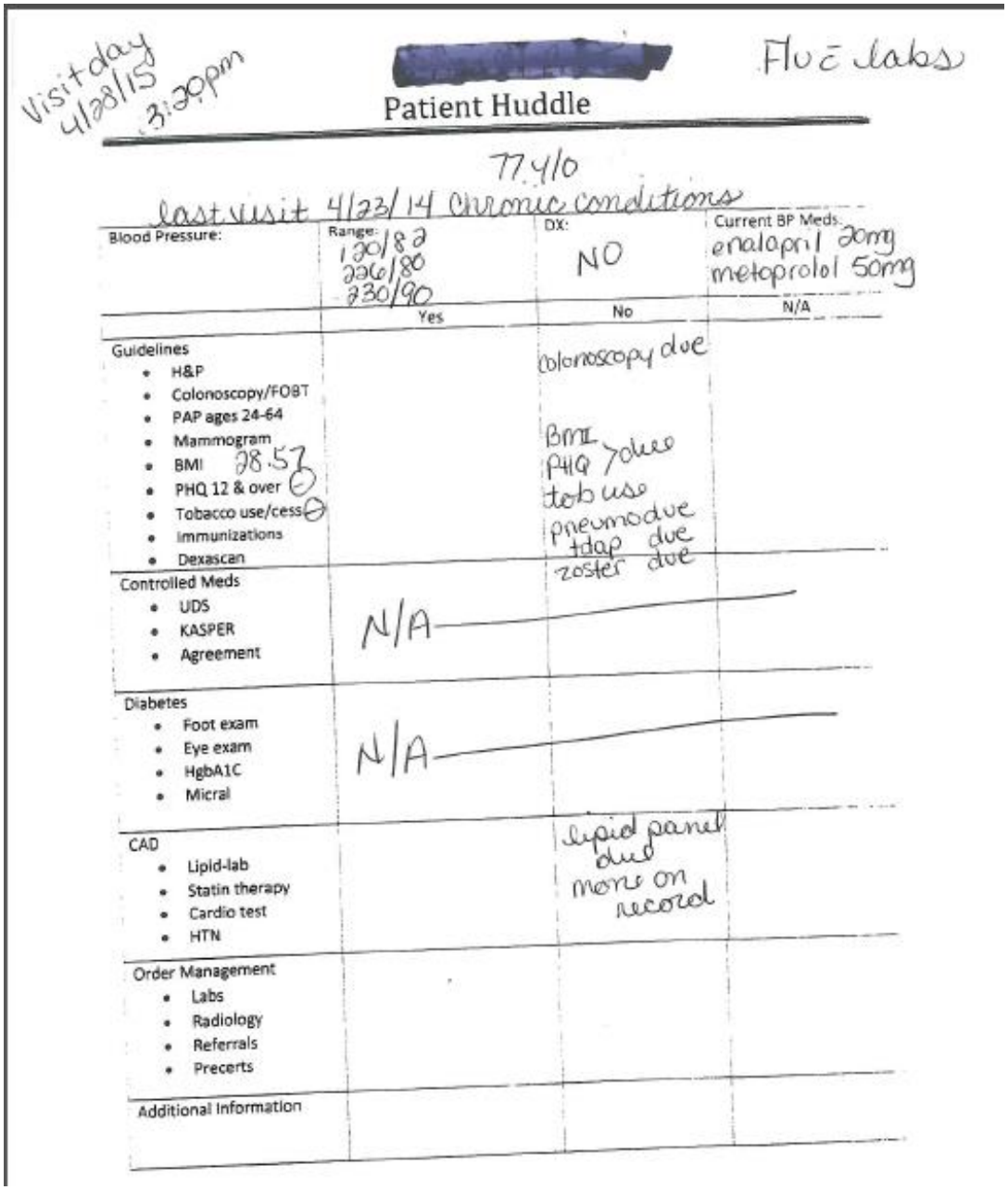
Websites:
American Heart Association: www.heart.org
Center for Disease Control: www.cdc.gov/bloodpressure/
National Institute of Health: www.nhlbi.nih.gov/hbp/index.html
Apps:
Blood pressure log (android): https://play.google.com/
Blood pressure Monitor-Family Lite (iPhone) :): https://itunes.apple.com

***Please bring this log to your next appointment.**

Appendix BB: **MH HIPS Huddle Report, *Golden Valley Health Centers***

- The MH HIPS Huddle Report is a morning huddle report that specifically targets HIPS patients ONLY.
- Rather than a normal huddle report that targets several different indicators and care gaps, this particular huddle report looks at the undiagnosed **hypertension** HIPS population and helps the care team identify who is coming in today that the provider should assess for high blood pressure. Without the MH HIPS morning huddle it would be difficult to identify patients on today's schedule that need to be assessed as "hiding in plain" sight as the EMR system doesn't lend itself to that specific use at this time.
- Each care team has three different morning huddles, one that they can run for "today", one they can run the day before for "tomorrow" patients and another they can run before the weekend for "Monday" patients. NOTE: This huddle report is being used as a work around until GVHC completes its i2i upgrade so that the interactive huddle report is available to be run real time.
- After testing several different ideas, the report column criteria is simple, yet descriptive.

Morning Huddle (Today)				
Name	DOB	Med Rec #	NextApptDate	NextApptTime



Visit day 4/28/15 3:20pm

[redacted]

Flu & labs

Patient Huddle

77.4/0

last visit 4/23/14 Chronic conditions

Blood Pressure:	Range: 130/82, 236/80, 230/90	DX: NO	Current BP Meds: enalapril 20mg, metoprolol 50mg
	Yes	No	N/A
Guidelines • H&P • Colonoscopy/FOBT • PAP ages 24-64 • Mammogram • BMI 28.57 • PHQ 12 & over ⊖ • Tobacco use/cess ⊖ • Immunizations • Dexascan		colonoscopy due BMI PHQ 7 due tob use pneumo due tdap due zoster due	
Controlled Meds • UDS • KASPER • Agreement	N/A		
Diabetes • Foot exam • Eye exam • HgbA1C • Micral	N/A		
CAD • Lipid-lab • Statin therapy • Cardio test • HTN		lipid panel due more on record	
Order Management • Labs • Radiology • Referrals • Precerts			
Additional Information			

Appendix CC: Patient Huddle Form, *Grace Community Health Center*

This example indicated that there was NOT a diagnosis of hypertension and served to prompt the provider to diagnose. While this patient was on two medications for high blood pressure, he/she only had the 796.2 diagnosis (elevated blood pressure without a diagnosis of hypertension). The patient was moved to a hypertension diagnosis on the date of this visit.

Appendix DD: Patient Visit Planning Report with Last BP and Interpretation – Azara DRVS, *Jordan Valley Health Center*

De-Identified Patient Visit Planning Report pulled from Azara

Monday, June 15, 2015

2:15 PM [redacted] [redacted] English PCP: [redacted]
MRN: [redacted] Risk Factors:

Alert Type	Message	Most Recent Date	Most Recent Result
BP	Result out of range	5/21/2015	168/92
Flu	Overdue	2/20/2014	

Monday, June 15, 2015

2:45 PM [redacted] [redacted] English PCP: [redacted]
MRN: [redacted] Risk Factors:

Alert Type	Message	Most Recent Date	Most Recent Result

Monday, June 15, 2015

2:30 PM [redacted] [redacted] English PCP: [redacted]
MRN: [redacted] Risk Factors: OBS

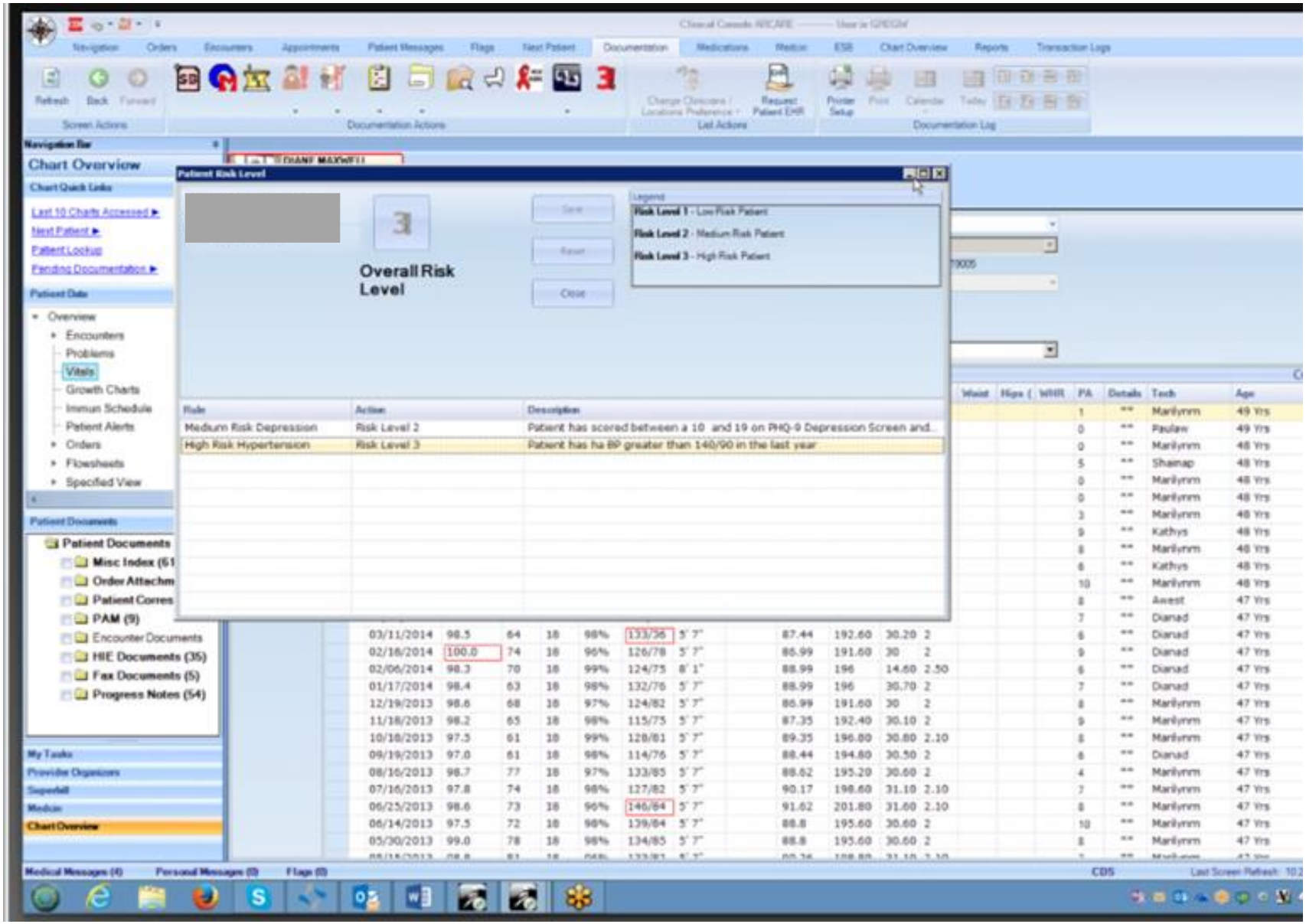
Alert Type	Message	Most Recent Date	Most Recent Result
BP	Result out of range	5/29/2015	146/88
LDL	Result out of range	6/1/2015	136.00
Flu	Missing		

Monday, June 15, 2015

2:45 PM [redacted] [redacted] English PCP: [redacted]
MRN [redacted] Risk Factors:

Alert Type	Message	Most Recent Date	Most Recent Result
Pap Smear	Overdue	11/28/2007	
Depression Screening	Missing		
Flu	Missing		

Appendix EE: Risk Stratification, Incorporating HIPS – SuccessEHS, *ARcare/KYcare*



Appendix FF: Blood Pressure Goals and Actions by Zone, *Grace Community Health Center*

Grace Community HEALTH CENTER

Providing Christian Health Care for the Whole Family

Blood pressure is the force of blood against the walls of arteries. This pressure rises and falls through out the day but when it stays high over time it is called high blood pressure or hypertension. High blood pressure is dangerous because it makes our heart work harder and contributes to hardening of the arteries (atherosclerosis). It increases the risk of heart disease and stroke. Hypertension can also lead to other conditions such as congestive heart failure, kidney disease and blindness.

READY SET! GO FOR YOUR GOAL!

RED ZONE: STOP! SOMETHING NEEDS TO CHANGE!	RED ZONE ACTION PLAN
• TOP NUMBER IS GREATER THAN 160. • BOTTOM NUMBER IS GREATER THAN 100. • YOU ARE EXPERIENCING SUCH SYMPTOMS AS HEADACHES OR VISION CHANGES.	• YOU NEED TO BE EVALUATED BY YOUR HEALTH CARE PROVIDER. • CALL GRACE COMMUNITY HEALTH CENTER AND NOTIFY YOUR PROVIDER.

YELLOW ZONE: BE CAREFUL!	YELLOW ZONE ACTION PLAN
• YOUR TOP NUMBER (SYSTOLIC) IS BETWEEN 140 - 159. • YOUR BOTTOM NUMBER (DIASTOLIC) IS BETWEEN 90-100.	• IMPROVE YOUR EATING HABITS, WATCH YOUR SALT INTAKE ◦ CONSIDER FOLLOWING THE DASH DIET PLAN • INCREASE YOUR ACTIVITY LEVEL. • LOSE EXTRA WEIGHT. • CONTINUE TO TAKE YOUR MEDICATIONS AS DIRECTED. • CONTINUE TO MONITOR YOUR BLOOD PRESSURE. • KEEP ALL SCHEDULED APPOINTMENTS WITH YOUR HEALTH CARE PROVIDER.

GREEN ZONE: GOAL!	GREEN ZONE ACTION PLAN
• YOUR TOP NUMBER (SYSTOLIC) IS LESS THAN 140. • YOUR BOTTOM NUMBER (DIASTOLIC) IS LESS THAN 90.	• YOUR BLOOD PRESSURE IS IN GOOD CONTROL • CONTINUE TO TAKE YOUR MEDICATIONS AS DIRECTED • CONTINUE TO MONITOR YOUR BLOOD PRESSURE • CONTINUE HEALTHY EATING AND ACTIVITY HABITS • KEEP ALL SCHEDULED APPOINTMENTS WITH YOUR HEALTH CARE PROVIDER.

NOTE: The nurse or medical assistant distributes this document to all adult patients post-triage (after vitals are taken) and educates the patient according to the zone in which their blood pressure readings fell, with specific emphasis on actions to take based on the readings. The document is also posted in patient rooms.

Appendix GG: What Is High Blood Pressure? *American Heart Association*

ANSWERS by heart | Lifestyle + Risk Reduction: High Blood Pressure

American Heart Association. Learn and Live

What Is High Blood Pressure?

Blood pressure is the force of blood pushing against blood vessel walls. High blood pressure (HBP) means the pressure in your arteries is higher than it should be. Another name for high blood pressure is hypertension (hi-per-TEN-shun).

Blood pressure is written as two numbers, such as 112/78 mm Hg. The top, systolic, number is the pressure when the heart beats. The bottom, diastolic, number is the pressure when the heart rests between beats. Normal blood pressure is below 120/80 mm Hg. If you're an adult and your systolic pressure is 120 to 139, or your diastolic pressure is 80 to 89 (or both), you have "prehypertension." High blood pressure is a pressure of 140 systolic or higher and/or 90 diastolic or higher that stays high over time.

No one knows exactly what causes most cases of high blood pressure. It can't be cured, but it can be managed. High blood pressure usually has no signs or symptoms. That's why it is so dangerous."

About 76.4 million Americans over age 20, 1 in 3 adults, have it, and many don't even know they have it. Not treating high blood pressure is dangerous. High blood pressure increases the risk of heart attack and stroke. You can live a healthier life if you treat and manage it!

Make sure you get your blood pressure checked regularly and treat it the way your doctor advises.

Who is at higher risk?

- People with close blood relatives who have HBP
- African Americans
- People over age 35
- Overweight people
- People who aren't physically active
- People who consume too much salt
- People who drink too much alcohol
- People with diabetes, gout or kidney disease
- Pregnant women
- Women who take birth control pills, who are overweight, had HBP during pregnancy, have a family history of HBP or have mild kidney disease

How can I tell I have it?

You usually can't tell! Many people have it and don't know it. The only way to know if your blood pressure is high is to get it checked regularly by your doctor.

(continued)

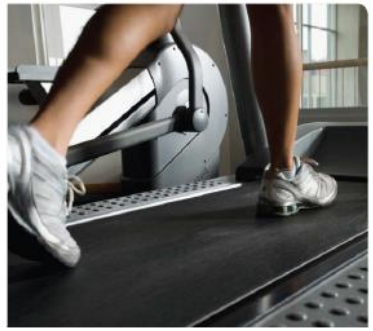
ANSWERS by heart | Lifestyle + Risk Reduction: High Blood Pressure

What can untreated high blood pressure lead to?

- Stroke
- Heart attack, angina or both
- Heart failure
- Kidney failure
- Peripheral arterial disease (PAD)

What can I do about it?

- Lose weight if you're overweight.
- Eat healthy meals low in saturated fat, trans fat, cholesterol, salt (sodium) and added sugars.
- Limit alcohol to no more than one drink per day for women or two drinks a day for men.
- Be more physically active. Aim for at least 150 minutes (2 hours and 30 minutes) of moderate-intensity, or 75 minutes (1 hour and 15 minutes) of vigorous-intensity, aerobic exercise each week.
- Take medicine the way your doctor tells you.
- Know what your blood pressure should be and work to keep it at that level.



How can medicine help?

Some medicines, such as vasodilators, help relax and open up your blood vessels so blood can flow through better. A diuretic can help keep your body from holding too much water and salt. Other medicines help your heart beat more slowly and with less force.

HOW CAN I LEARN MORE?

1. **Talk to your doctor, nurse or other healthcare professionals.** If you have heart disease or have had a stroke, members of your family also may be at higher risk. It's very important for them to make changes now to lower their risk.
2. Call **1-800-AHA-USA1** (1-800-242-8721), or visit **heart.org** to learn more about heart disease.
3. For information on stroke, call **1-888-4-STROKE** (1-888-478-7653) or visit us at **StrokeAssociation.org**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

Will I always have to take medicine?

What should my blood pressure be?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **heart.org/answersbyheart** to learn more.

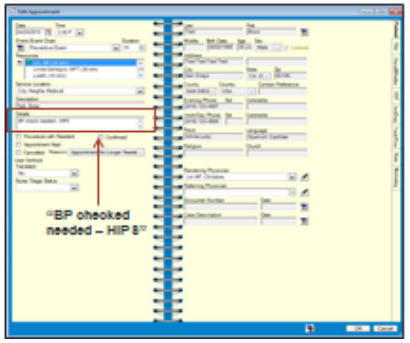
Knowledge is power, so Learn and Live!

American Heart Association.

Appendix HH: HIPS Patients Recall Configuration and Documentation – NextGen, *La Maestra Community Health Centers*

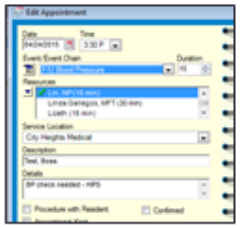
HIPS Patients

- Patients that already have appointments scheduled:
  - Create note on the upcoming appointment detail section ***"BP Check Needed- HIPS"***
  - Place an Alert on PM ***"BP Check Needed- HIPS"***



HIPS Patients

- Patients without an upcoming Appointment and have insurance:
  - Call and schedule an appointment for ***"Follow Up – Blood Pressure"*** with their PCP
  - Create note in the detail section ***"BP Check Needed- HIPS"***
  - Alert on PM ***"BP Check Needed- HIPS"***

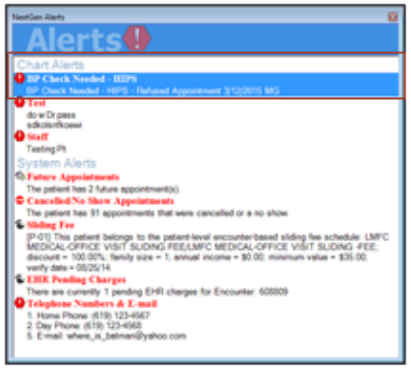


NOTE: These electronic health record (EHR) configurations and workflows were developed to establish a documentation process for recalled HIPS patients, with variations to account for patients with and without appointments already scheduled, with and without insurance, and to annotate appointment refusals.

Refused Appointments

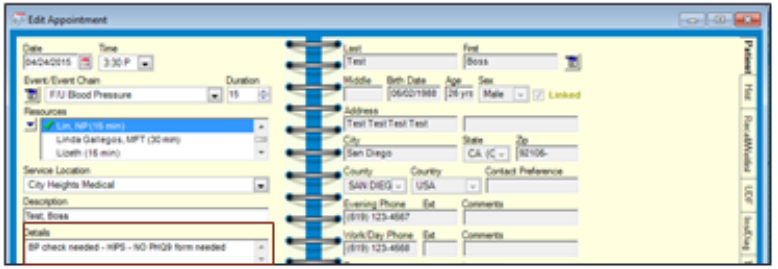
- If patients refuse to make an appointment to re-check BP: Place an alert on EPM documenting

"***BP Check Needed – HIPS - Refused Appointment***"



HIPS Patients

- Uninsured Patients:
  - Schedule nurse visit only for BP check at no cost but if their BP is high they must be seen by the provider and an office visit fee will be charged.
- If they have depression:
  - include in the details "No PHQ9 form needed"



Appendix II: Heart Patient Door Magnet, *Jordan Valley Health Center*

Jordan Valley Health Center used a heart door magnet like this one as a physical alert to cue providers that the patient waiting in the room for them had elevated blood pressure when their vital signs were taken. Physical alerts like a magnet or a laminated heart card clipped to the door pocket can be effective as a supplement to an EHR alert or in environments where providers may not see an EHR alert (for example, some providers prefer to reserve EHR documentation until after the patient encounter).

Appendix JJ: Patient Visit Summary, *Grace Community Health Centers*

NOTE: Enhancements could include indicating elevated BP readings (and other values out of normal range) in red or providing reference range.

PATIENT PLAN FOR 5/4/2015

Name: [redacted]
Date of Birth: [redacted]
Date of Visit: 05/04/2015 02:20 PM
Visit Type: Office Visit
Location: GCHC Knox

Thank you for choosing us for your healthcare needs. The following is a summary of the outcome of today's visit and other instructions and information we hope you find helpful.

TODAY'S VISIT

REASON(S) FOR VISIT
Sore throat, MA Comments

Completed Orders (this encounter)

Order	Details	Reason	Side	Interpretation	Result	Initial Treatment Date	Region
Patient Health Questionnaire (PHQ-2)				Further testing is not required	0		
Strep swab				negative			

Assessment/Plan

#	Detail Type	Description
1.	Assessment	Acute pharyngitis (462), Acute.
2.	Assessment	Allergic rhinitis (477.9), Acute.
3.	Assessment	HTN (hypertension) (401.9).
	Patient Plan	Medications reviewed; rxd; counseled medication compliance; advised to start low impact exercise daily, advised low sodium, healthy heart diet. Check blood pressure at home, keep log and bring to next visit. Request to wait on any B/P medications while she is trying to lose weight to control

COUNSELING / EDUCATIONAL FACTORS

Counseling / educational factors reviewed.

The patient was checked out at 3:07 PM by Stephanie Napier.

MEDICATIONS

Medication	Dose	Sig Description	Comments
Augmentin 875 mg-125 mg tablet	875 mg-125 mg	take 1 tablet by oral route every 12 hours for 10 days	
benzonatate 200 mg capsule	200 mg	take 1 capsule by oral route 3 times every day as needed	
Flonase 50 mcg/actuation nasal spray,suspension	50 mcg/actuation	spray 1 spray by intranasal route every day in each nostril	
ibuprofen 800 mg tablet	800 mg	take 1 by Oral route every 6 hours as needed for back pain	taking as directed
loratadine 10 mg tablet	10 mg	take 1 tablet by oral route every day	taking as directed

VITAL SIGNS

BP mm/Hg	Pulse/min	Resp/min	Temp F	Height (Total in.)	Weight (lbs.)	Weight (oz.)	BMI
160/92	67	18	97.4		287		42.38

LAB TESTS

Pending Labs

Status	Lab Study	Timeframe	Date	Comments
scheduled	TSH	2 Weeks	06/16/2014	
ordered	CBC w/diff	3 Months	06/16/2014	
ordered	Lipid Panel	3 Months	06/16/2014	
ordered	CMP	3 Months	06/16/2014	

OTHER HEALTH INFORMATION

Smoking status: Never smoker.

ALLERGIES

Medication Name	Ingredient	Reaction	Comment
	NO KNOWN ALLERGIES		

DEMOGRAPHICS

Sex: Female

Race: White

Ethnicity: Not Hispanic or Latino

Preferred Language: English

Appendix KK: Patient Visit Summary (i2i Diabetes Template), *ARcare/KYcare*

NOTE: A hypertension visit summary template is under development. Enhancements could include indicating elevated BP readings (and other values out of normal range) in red and including a graph of historical BP readings with reference lines for interpretation, as well as specific actions for patient to take.

Date Printed: 6/11/2015

Patient Visit Summary (i2i Diabetes Template)

								Last Vitals	This Visit
Patient ID:	[redacted]	MR:	[redacted]	Age:	[redacted]	DOB:	[redacted]	Sex: M	Date:	2/11/2015	
Name:	[redacted]			Race:	[redacted]				Blood Pressure:	136/86	
Address 1:	[redacted]			Language:	ENGLISH				BMI:		
Address 2:				Phone:	[redacted]				Weight (lbs):		
City:	[redacted]			PCP:	[redacted]						
State:	[redacted]	ZIP:	[redacted]	Insurance:							

ALLERGIES:

PROBLEMS: BENIGN ESSENTIAL HYPERTENSION - 401.1; Diabetes (Types I & II); Diabetes mellitus type II; DIABETES MELLITUS TYPE II - 250.00; HTN (Hypertension); Hyperlipidemia; HYPERLIPIDEMIA - 272.4; Nutrition Counseling - V65.3; OVERWEIGHT BMI >25 - Diagnosis - 278.02; Vascular: HTN (I2I)

MEDICATIONS: ACE Inhibitor, Unspecified (I2I); Antihypertensive Pharmacologic Therapy; Aspirin (I2I); ASPIRIN 81 MG; Biguanides; CIPRO 500 MG; Diabetes Medications (NQF); GLIPIZIDE 10 MG; GLIPIZIDE 5 MG; GLIPIZIDE 5 MG; Lipid Lowerer (NQF); LISINOPRIL-HYDROCHLOROTHIAZIDE 20 -25 MG; METFORMIN 1,000 MG; PRAVASTATIN 40 MG; SILVADENE 1 %; Sulfonylurea, Unspecified (I2I)

Alerts:

Due: Immunization: Flu (I2I)	Due: Immunization: Pneumovax (I2I)

Upcoming Items:

Education	C	N
Diabetes (I2I)		
Exercise (I2I)		
Nutrition (NQF)		
Smoking Cessation Edu	E2/11/15	

Immunizations	C	N
Due: Flu (I2I)		
Due: Pneumovax (I2I)		

Goals	C	N
Diabetic Goal		

Procs / Refs	C	N
Dental Visit (I2I)		
Depression Screening (	E2/11/15	
Eye Exam		
Foot Screening (I2I)		

Other	C	N
Smoking Status (N	Current	

Labs	C	Date	R
HbA1c	9.2	2/13/2015 1:	☐
Chol	211	2/13/2015 1:	☐
LDL	SR	2/13/2015 1:	☐
HDL	25	2/13/2015 1:	☐
TG	741	2/13/2015 1:	☐
eGFR	95	2/13/2015 1:	☐
Cr	0.82	2/13/2015 1:	☐
Microalb/Creat Ratio	25	8/12/2014 6:	☐

Blood Pressure	
Date	Val
2/11/15	136/86
2/11/15	136/86
10/28/14	142/82
10/28/14	142/82
8/11/14	130/84
8/11/14	130/84

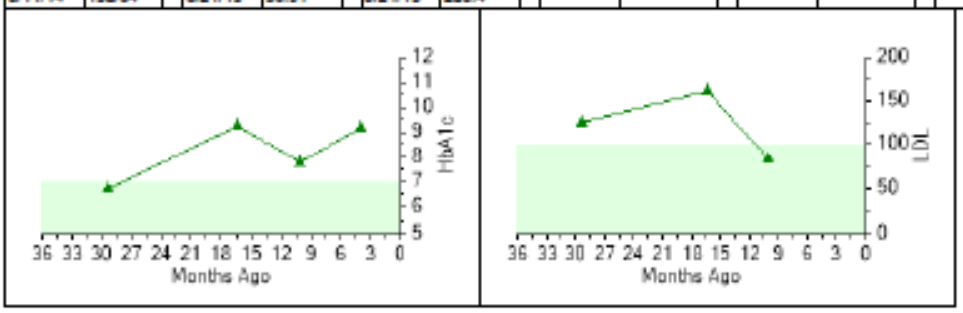
BMI	
Date	Val
2/11/15	27.62
10/28/14	27.37
8/11/14	37.37
5/9/14	38.26
2/4/14	37.2
8/21/13	36.91

Weight (lbs)	
Date	Val
2/11/15	221
10/28/14	219
8/11/14	211
5/9/14	216
2/4/14	210
8/21/13	208.4

HbA1c	
Date	Val
2/13/15	9.2
8/12/14	7.8
2/4/14	9.3
1/10/13	6.7

LDL	
Date	Val
2/13/15	See Results
8/12/14	83
2/4/14	161
1/10/13	125

Microalb/Creat Ratio	
Date	Val
8/12/14	25
1/11/13	13



Appendix LL: Patient Education with Print or Send (Publish to a Patient Portal) Options - eClinicalWorks, *Neighborhood Healthcare*