

Improving Hypertension Management at the Robert Wood Johnson Medical School

RLA Capstone Project Final Report

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Participants

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Importance of the problem

- ◆ Hypertension (HTN) is the most common condition seen in primary care
- ◆ Estimated prevalence is 75 million US adults with hypertension. An estimate 11 million of them do not know it.
- ◆ If not detected and treated appropriately, HTN can lead to
 - Myocardial infarction (heart attacks)
 - Heart failure
 - Stroke
 - Renal failure
 - Premature death
- ◆ Treatment is highly effective and inexpensive. (Complications are very expensive)
- ◆ Not well-managed; overall, only 50% of cases adequately controlled.

Importance in quality improvement

- ◆ Two important quality measures are included in the most widely used sets of quality metrics.
 - Screening for hypertension
 - Adequate control of hypertension
- ◆ Quality metrics are being incorporated into provider reimbursement as the health care system makes a transition from volume-based care to value-based care.

Goal of the project

- ◆ Develop and implement a comprehensive plan to improve management of hypertension by the faculty practice of the Robert Wood Johnson Medical School*
- ◆ Specific aims:
 - Assessment of current practices in the medical group relating to screening for and management of hypertension.
 - Assess current performance in screening and controlling blood pressure in the practice.
 - Implementation of decision support in the GE Centricity electronic medical record (EMR) to guide screening and management of HTN.
 - Education sessions for the clinical staff and physicians.
 - Measurement of post-implementation performance.

Pre-intervention Qualitative Assessment

- ◆ Medical assistants taking blood pressures incorrectly (e.g. not rolling up sleeves, patients in the wrong position, not waiting long enough before taking reading).
- ◆ Elevated readings not being repeated consistently.
- ◆ No mechanism for recalling patients whose last blood pressure was elevated.
- ◆ No process in place to document follow up plans for patients with elevated blood pressure. (this is required to satisfy quality metrics).

Pre-intervention Quantitative Assessment

◆ Patients with HTN:

Row Labels	# of patients	% of patients	# overdue	% overdue
Controlled	1847	58%	294	16%
Uncontrolled	1335	42%	241	18%
Grand Total	3182	100%	535	17%

◆ Screening in Patients without HTN:

BP Category	# of patients	% of patients	# overdue	% overdue
Missing	24	0.6%	24	100.0%
Normal	3137	78.5%	886	28.2%
prehypertension	732	18.3%	209	28.6%
Stage 1 hypertension	90	2.3%	41	45.6%
Stage 2 hypertension	15	0.4%	3	20.0%
Grand Total	3998	100.0%	1163	29.1%

Project was divided into two teams

◆ Team 1: Recall of patients with HTN

- Contacted patients who were overdue for blood pressure measurements
- Gathering data to assess % of patients with overdue blood pressure after the intervention.
- Results pending.

◆ Team 2: Decision Support for patient without HTN

- Prompts in EMR to repeat abnormal blood pressures
- Automatic classification of blood pressure readings into categories with specific follow up recommendations
- Prompts for follow up recommendations for each category
- Mechanism for documenting follow up intervention for each patient

Decision Support Screen in the EMR

Standard sitting blood pressure readings:

1st Reading:	<input type="text" value="190"/>	/	<input type="text" value="110"/>	Site:	<input type="text" value="L. arm sitting"/>	<input type="text" value="Hypertensive"/>	<input type="text"/>
2nd Reading:	<input type="text" value="150"/>	/	<input type="text" value="90"/>	Site:	<input type="text" value="L. arm sitting"/>	<input type="text" value="Hypertensive"/>	<input type="text"/>
3rd Reading:	<input type="text"/>	/	<input type="text"/>	Site:	<input type="text"/>	<input type="text"/>	<input type="text"/>

Per CMS Measure #317 (e-measure ID CMS22v5) Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented: If there are multiple blood pressures on the same date of service, use the lowest systolic and lowest diastolic blood pressure on that date as the representative blood pressure.

Lowest BP reading this encounter: **150** / **90** **Pre-hypertensive**

Recommendations:

Plan should include one of the interventions listed below.

Action Plan

First hypertensive reading within the past 12 months:

Patient advised to return for BP repeat in 1 day to 4 weeks

AND Patient advised on lifestyle modifications

OR

Patient referred to alternate or primary care provider

Second hypertensive reading within the past 12 months

Patient advised on lifestyle modifications

AND 1 or more of the following:

Patient prescribed antihypertensive therapy

Laboratory tests ordered (CMP, CBC, UA, lipid panel)

EKG ordered

OR

Patient referred to alternate or primary care provider

Patient without a diagnosis of Hypertension

This patient does not have a diagnosis of hypertension on the active problem list. If this is not accurate, please correct the problem list before continuing

Conclusions

- ◆ Baseline performance for HTN control is slightly higher than the national benchmark, but there is plenty of room for improvement.
- ◆ In patients without a diagnosis of hypertension, there is a very high rate of overdue blood pressure measurements, including 42% of patients whose most recent blood pressure reading was in the hypertensive range.
- ◆ The percentage of patients with hypertension whose blood pressure readings are overdue is about the same regardless of whether their last reading was well-controlled or not.
- ◆ The most important intervention appears to be ensuring that patients return for follow up.
- ◆ We need formal training of the providers and ancillary staff.
- ◆ Decision support is feasible to ensure selection and documentation of follow up plans.