

Screening for Undiagnosed Hypertension

HLC Screening Briefing
Ken Anderson, D.O., M.S., CPE
June 6, 2014



NorthShore University HealthSystem

- 1000 beds/9,500 Employees
- 2,400 Physicians
- 1.2 million office visits
- 60,000 hospital cases
- 125,000 ED visits
- \$100M Research Institute
- University of Chicago principal teaching affiliate
- Top 100 Hospital x 13
- Top 15 Teaching Hospital
- Leapfrog Award winners



Hypertension Screening Importance

- Prevalent: affects 30% of Americans > 18 yrs
- Leading modifiable risk factor for:
 - Coronary Artery Disease
 - Stroke
 - Congestive Heart Failure
 - Chronic Kidney Disease
- Annual cost in medical care for these diseases and lost productivity: \$338.2 billion
- 29% of hypertensive patients are unaware

Why Hypertensive Americans Are Unaware

- Screening protocols are present but largely NOT followed by patients.
- Variability in BP readings is distracting to patients AND providers.
- “Gold Standard” ambulatory BP monitoring is not well-tolerated and widely unavailable.
- Physician and patient reluctance to “label” patients as “hypertensive”.

The Billion(s) Dollar Question

- Can we identify patients who are at high risk for complications of hypertension using stratified screening methods that rely on the electronic medical record and data analytics as enablers?

Overview of the Program

- BP readings automatically entered from EMR into NorthShore Data Warehouse.
- Algorithms created to weave data points into probability index for diagnosis.
- Patient Portal and telephonic outreach promote advanced screening for index patients.
- Automated office blood pressure recordings confirm or refute diagnosis.
- Identified patients enter treatment protocols.

Results From Intervention

- Rate of unidentified patients decreased from 14% to 8% over first 18 months of program.
- 1,586 patients identified through algorithms as having putative hypertension.
- 1/3 of these patients had advanced screening.
- 38.5% of advanced screening patients had verified diagnosis, 41.5% had relevant “pre-hypertension”
- 50-75 newly diagnosed patients each month referred for lifestyle modification or treatment.

Conclusions

- EMR and advanced analytics provides a useful adjunct to improve screening and recognition of hypertension.
- Patients and Providers found the screening program to be successful and desirable.
- Prevention of secondary vascular conditions will provide reduction in health care expense.