

Hypertension Management Improvement Automated Cuffs Implementation and Training

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HealthPartners

- Not-for-profit, consumer-governed
- Integrated care and financing system
 - A team of 21,000 people
 - Health plan
 - 1.4 million health and dental members in Minnesota and surrounding states
 - Medical Clinics
 - 1 million patients
 - 1,700 physicians
 - HealthPartners Medical Group
 - Stillwater Medical Group
 - Park Nicollet Health Services
 - 35 medical and surgical specialties
 - 40 primary care locations
 - Multi-payer
 - Dental Clinics
 - 60 dentists
 - 20 locations
 - Six hospitals
 - Regions: 454-bed level 1 trauma and tertiary center
 - Lakeview: 97-bed acute care hospital, national leader in orthopedic care
 - Hudson: 25-bed critical access hospital, award-winning healing arts program
 - Westfields: 25-bed critical access hospital, regional cancer care location
 - Methodist: 426-bed acute care hospital, featuring the Jane Brattain Breast Center
 - St. Francis: 86-bed community hospital





Hypertension Improvement Overview

- Case for change
- Implementation & Training
- BP Accuracy Study
- Use of Audits
- Change management
- Results
- Learnings



Case for Change to Automated Cuffs

- Known measurement inconsistency and bias
- Community Standard trending => automated cuffs
- Anticipated improved outcomes with use of automated cuffs
- 2011 Budget allowed this investment



Implementation 2012: Purchasing

Purchase of equipment:

- Brand of automated blood pressure device selected was the brand used by our HealthPartners Institute for Education and Research due to their positive experience
- One monitor per rooming staff plus 1-2 additional units per clinic or care unit
- Specialty and Primary Care



Implementation: Initial Education & Learnings

- Initial education was provided by the device vendor and Nursing Education Manager at each clinic
- Implemented automated cuffs without change in clinic flow
- Manual cuffs still available for staff use
- Accuracy of blood pressures was questioned and after consultation with the vendor adjustments were made to measurement techniques and education



BP Accuracy Study: Findings

- Comparison of pre-implementation (manual) BP readings with post-implementation (automated) BP readings
- Terminal digit preference observed and quantified (35% “0” and 23% “8”)
- 32.4% of initial BP’s post-automated cuff use were $\geq 140/90$ repeat BP’s obtained only 42% of the time
- Research protocol automated BP after 5 minutes rest were similar across all patients



BP Accuracy Study: Interpretation

- Compared to research automated measurements, clinic manual BP measurements were 6/2 mm Hg lower (unexpected finding)
- Terminal digit preference for 0 and 8 suggests rounding error or bias contributed to the lower-than-expected manual BP
- Automated BP measurement also requires attention to technique. Pre-implementation automated research readings higher in part to cuffs wrapped too tight. Technique corrected for post-implementation research readings.



BP Accuracy Study: Recommendations

- Do not recommend returning to manual BP measurement
- Correct measurement technique is mandatory, regardless of the method
- Reinforce policy to repeat BP after 5 minutes rest when initial BP $\geq 140/90$



Implementation 2013: Ensuring Accuracy of Readings

- Blood Pressure Champions were selected at each clinic with the following responsibilities:
 - Provide initial education and competence testing to staff who do not attend centralized nursing orientation
 - Provide competency testing on two patients in clinical setting
 - Observe BP on one patient in clinical setting each quarter by each staff member
 - Complete Quarterly Audit Tool
 - Serve as resource to staff
 - Provide additional education and re-evaluation as needed



BP Accuracy Study: Recommendations

- When clinic BP is elevated on one or more occasions using the automated device according to recommended procedures, providers should consider intensifying pharmacologic treatment, and reinforce the importance of adherence and lifestyle measures, as per current hypertension guidelines. There should be timely follow-up to document improvement in blood pressure. This should correct the lower BP control observed at the end of 2012 and over time our BP control will again continue to improve.



Competency Training: Other tools

- Clinic Blood Pressure Champion Auditing Process
- Quarterly BP Auditing Tool
- Blood Pressure Accuracy and Variability Quick Reference
- TIP SHEET (for use of automated device)



Additional 2013 Hypertension Strategies

- Hypertension workgroup recommendations:
 - Ensure accuracy of clinic BP readings
 - Standardize process to ensure follow-up—creation of new orders
 - Standardize nurse BP visit process and guidelines for follow-up depending upon reading
 - Eliminate co-pays for nurse BP check visit

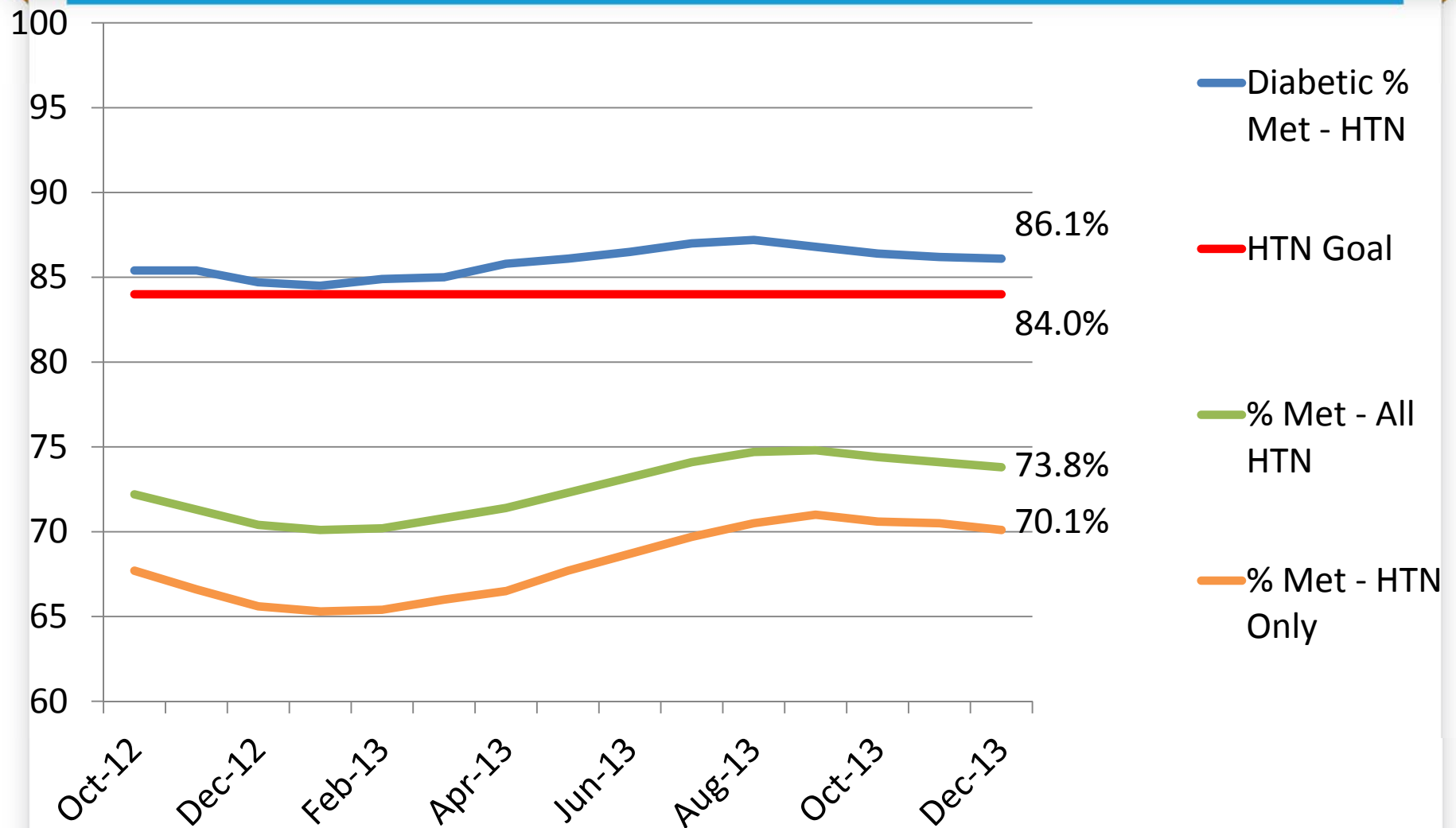


Change Management

- Listened, investigated, and followed up with data
- Data was an effective change management tool—study findings shared, expert visited sites to discuss
- Leverage experts and those with passion for management of hypertension (specialty care, primary care and nursing)
- Engage patients to improve measurement accuracy—whether using manual cuffs or automated

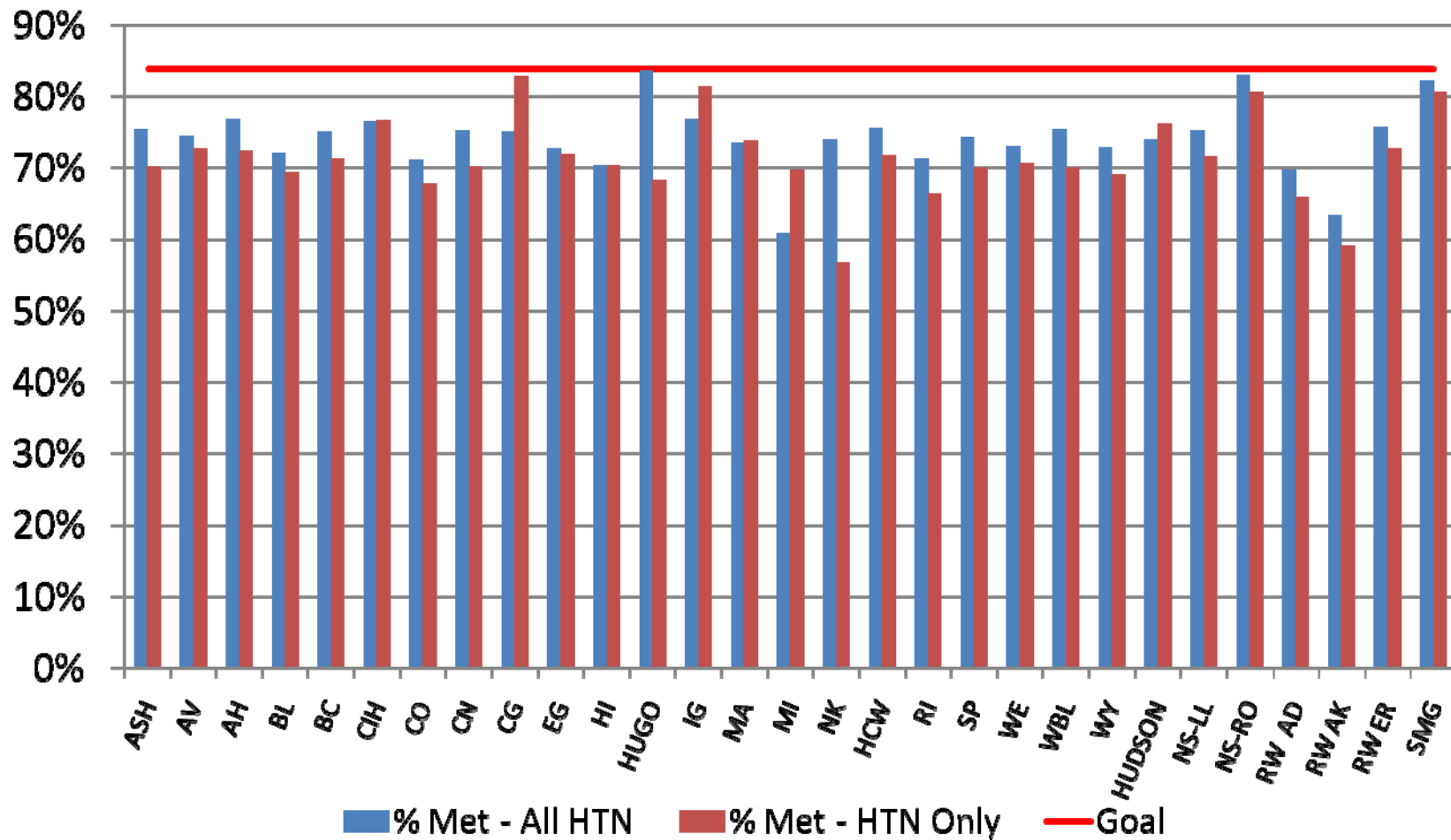


2013 Medical Group Outcomes





2013 Outcomes by Clinic Site



December 2013 data



Learnings

- Learning curve with use of automated cuffs, for patients and staff
- Underestimated the amount of training needed with initial roll out
- Visual reminders are helpful (pop-up reminders, visual queues)
- Proper technique is important regardless of manual or automated reading



Thank You

