

Improving Recognition of Hypertension in a Pediatric Primary Care Office

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Background

- The American Academy of Pediatrics recommends routine blood pressure measurements at 3 years, or earlier for those at risk for hypertension (HTN).
- HTN is under-diagnosed in children and adolescents. Insufficient knowledge or inappropriate data interpretation are major contributors to under-diagnosis of HTN.

Aims

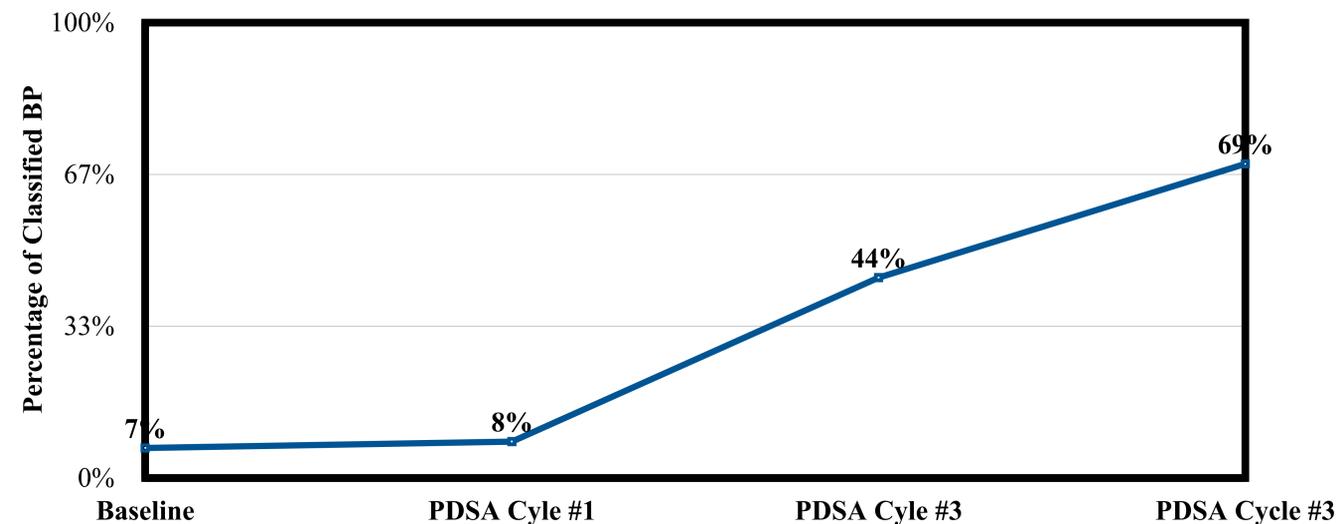
- To improve the documented classification of blood pressure as normal, prehypertensive, stage I HTN, or stage II-HTN at UofL Pediatrics-Stonestreet well child checks (WCC) from 0% to 50% in a 6-month period

Methods

- The PDSA method of quality improvement was used with the completion of three PDSA cycles within six months, from November 2017 to May 2018.
- PDSA Cycle #1:** Addition of a diagnosis code for normotension, prehypertension, stage I hypertension, or stage II hypertension for each WCC.
- PDSA cycle #2:** Addition of a "BP reviewed" check box within the template for WCC for children ≥ 3 years of age.
- PDSA Cycle #3:** Changed wording of the check box to, "BP reviewed and normal."
- Pre-clinic didactic time, email and faculty meetings were used to update residents and providers with the changes each cycle. After six weeks of each intervention, a chart review was completed to assess our outcome measures of appropriate documentation and classification of blood pressure at WCC.
- The AAP EQUIPP module based on the "Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood pressure in Children" was used to gather baseline data and perform PDSA cycles

Results

Percentage of BPs Classified by PDSA Cycle



Comparison Between Baseline and PDSA Cycles

	Baseline	PDSA Cyle #1 (Dx Code)	PDSA Cycle #2 (BP Reviewed)	PDSA Cycle #3 (BP Reviewed/Normal)	P-value
Reviewed	9%	8%	72%	70%	<0.01
Classified	6.6%	8%	44%	69%	<0.01
Classified Correctly	60%	83%	88%	98%	0.013
Prevalence of HTN	8%	13%	13%	9.3%	1.74
Discussion of Lifestyle Modification	69%	60%	64%	76%	0.17

Discussion

Appropriate classification of blood pressure in a pediatric clinic setting can be challenging because often the vital signs are reviewed, but there is no definitive documentation made in the chart. The addition of a check box resulted in a significant increase in the percentage of blood pressures reviewed and ultimately lead to a statistically significant increase in the percentage of correctly classified blood pressures in patients ≥ 3 years of age in an ambulatory clinic setting.

Some limitations of this study include inability to review all well child checks during the described time period. In this QI project, only 75 charts were reviewed per PDSA cycle. Additionally, in many cases, it was not possible to track the patients who were recommended to follow up for repeat blood pressure measurements due to the time constraints of the project.

Conclusions

Implementation of a check box within the note template, indicating that blood pressure was reviewed and normal, improved the documented classification of blood pressure as normal, prehypertensive, Stage I, and Stage II HTN. Although the AAP released new clinical practice guidelines to replace the "Fourth Report" in September 2017, the principles of interpreting, classifying, and documenting blood pressure remain critical in the primary care setting, and we expect our QI improvement results to remain effective with updated guidelines.

Future Direction

- Repeat chart review to demonstrate stability of implemented changes
- Updating of clinic reminders to reflect new guidelines

The AAP EQUIPP module based on the “Fourth Report on the Diagnosis , Evaluation, and Treatment of High Blood pressure in Children “ was used to gather baseline data and perform subsequent PDSA cycles on patients presenting for WCC at the UofL Pediatrics- Stonestreet Clinic.