Improving Access to Care for Pediatric Patients with Hypertension

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Background

- Nationally, pediatric hypertension affects 3.5% of all children ≤18 years, and it is on the rise
- Elevated blood pressure (BP) in childhood and adolescence has been shown to correlate with hypertension in adulthood
- Risks of elevated BP in childhood
  - Left ventricular hypertrophy (LVH)
  - Reduced arterial compliance
  - Impaired cognitive performance
  - Hypertension and atherosclerosis in adulthood
- Problems with identifying elevated BP in pediatric settings
  - Inaccurate measurements leading to misdiagnosis including white coat hypertension (WCH), masked hypertension (MH), and nocturnal hypertension
  - Accurate, elevated BP measurement sometimes dismissed or ignored by provider
- According to the American Academy of Pediatrics (AAP) clinical practice guidelines for elevated BP in the pediatric population, once a diagnosis of Stage 1 or Stage 2 hypertension is made, an ambulatory blood pressure monitor (ABPM) should be ordered and indicated treatment started within one week
- Patients seen in the kidney department at one large, academic, pediatric hospital have:
  - Had the ABPM mailed to them
  - Operated the device with telephonic instructions
  - Instructed to wear for 24 hours and return via expedited mail within 7days
- Typical wait times for ABPMs were 1-3 months, possibly from:
  - Difficulties with mailing and placement
  - Limited number of ABPMs

Purpose

- Develop an Advanced Practice Registered Nurse-run, ABPM clinic for pediatric kidney patients
- Increase the number of ABPMs available for monitoring patients with elevated BP
- Decrease the wait time for patients to have access to an ABPM
- Decrease the turnaround time from ABPM placement until return to the clinic
- Increase the number of patients with elevated BP served
- Maintain revenue stream to ensure that that ABPM clinic is self-sustaining

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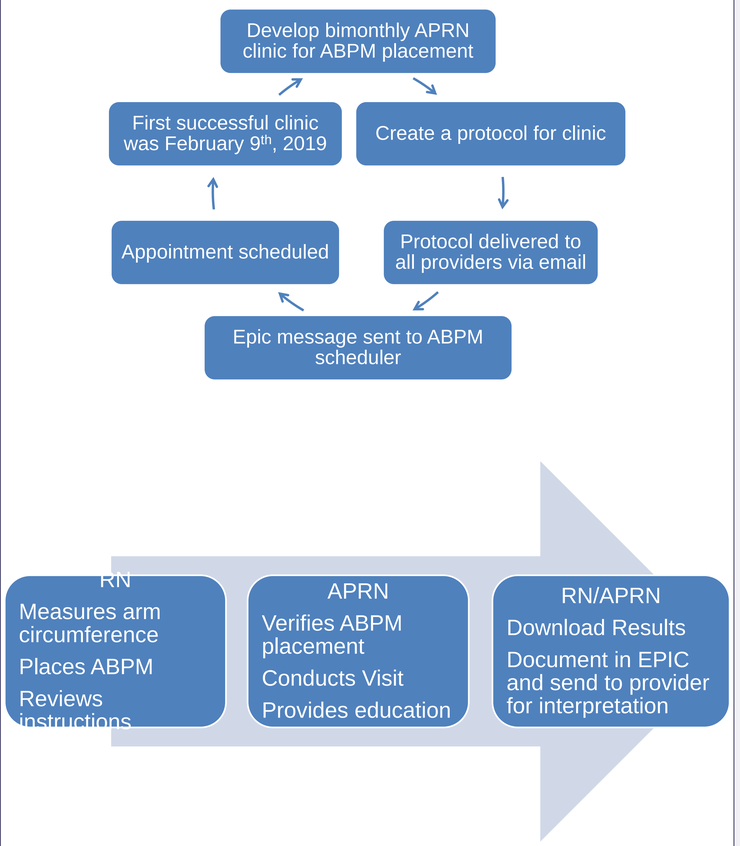
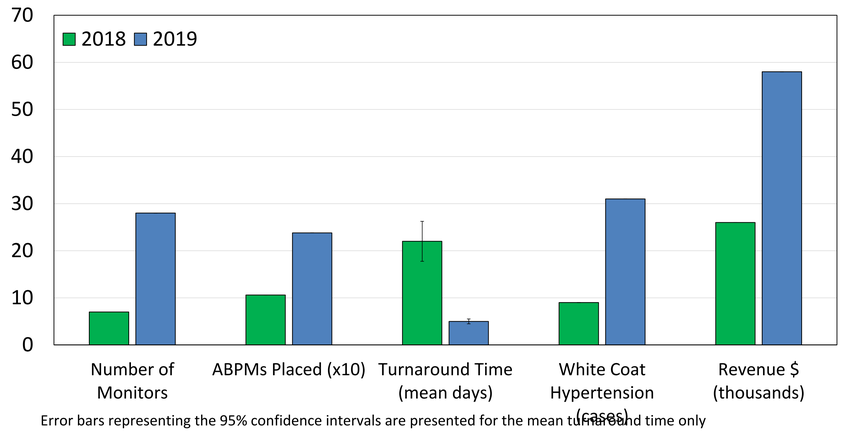
APBM Clinic Intervention



Evaluation Methods

- All data abstracted from Epic
- Date monitor sent based on documented telephone encounter (2018) or patient visit (2019)
- Date monitor returned based on billing codes and/or FedEx receipt
- The monitor results are documented in Epic and routed to the provider. Providers determine diagnosis and document interventions or plans to discuss interventions in the future
- Monthly reports used to track revenue and number of patients receiving monitors

ABPM Clinic Results



Error bars representing the 95% confidence intervals are presented for the mean turnaround time only

- The Kidney Department had 7 ABPMs before the implementation of the APRN clinic and now has a total of 28 after implementation
- Turnaround time from placement to return of ABPM monitors decreased from an average of 22 days in the year before the clinic started to 5 days after implementation of the clinic
- The year prior to the clinic starting, we placed 106 monitors and had a revenue of $26,029
- During the first year of the clinic, we have placed 238 monitors with a revenue of $58,127
- Clinic took place 2 times per month when the clinic began in February 2019 and has increased to 4 times per month starting in December 2019 due to demand
- There is no longer a waitlist for patient's to receive an ABPM. They are now scheduled promptly when the provider decides an ABPM is needed

Conclusion

- The clinic has helped to increased access to care for patients with elevated BP and hypertension
- This was accomplished by increasing the number of monitors and decreasing the turnaround time from placement to return due to the establishment of an APRN run clinic dedicated to placing ABPMs and educating families
- Added efficiencies allow for quicker evaluation, treatment, and management of patients with elevated BP readings and hypertension
- Elimination of wait time allows for greater continuity of care