

Monitoring and Improving Quality of Adult Primary Care at a Student-Run Clinic

Background

KNIGHTS (Keeping Neighbors in Good Health Through Service) Clinic is a medical student-run free clinic that provides quality healthcare to uninsured populations in Orlando, Florida. Of all patients seen at the KNIGHTS clinic, we serve around 45 patients as their primary care provider (PCP) and place an emphasis on providing preventative health services to reduce morbidity and mortality in this high-risk population. To improve how we provide these services, KNIGHTS clinic created a Quality Improvement (QI) Director board position and completed a Plan-Do-Study-Act cycle from October 2017 – February 2018. We used electronic medical record (EMR) reports to identify patients missing recommended services and had fourth year medical student (MS-4) volunteers contact patients to provide education and schedule these services. The study showed a measurable increase in preventative service rates, but a subsequent decline occurred from February – August 2018. The cause of this decline was multifactorial but was partly attributed to problems with student volunteer turnover and long-term implementation of the MS-4 volunteer protocol.

Methods

CQMs and Benchmarking:

We selected a panel of useful CQMs using the core quality measures for primary care published CMS and best practices followed by Grace Medical Home¹. The NQF database was used for definitions². National averages from the 2018 MIPS data were used for benchmarking³.

Needs Assessment:

We compared our CQM values to benchmarking data, reviewed patient charts to determine causes of missing services, and collected feedback from physician and student volunteers regarding clinic procedures.

Intervention Period:

To evaluate interventions, we monitored CQMs over a six-month period (August 2018 – February 2019). Statistical significance was evaluated from a longitudinal panel study of primary care patients enrolled for the entire six-month period, using an exact McNemar's test (alpha = 0.05).

Long-Term Monitoring:

We implemented changes to our clinic procedures based on the results seen during the intervention period. The sustainability of the positive effects on quality of care was evaluated with a long-term program for monitoring CQMs, which included collecting data through a period of transition to new student leadership.

Results

Identified Needs:

- improved knowledge transfer during student leader transition
- avoidance of a gap in MS-4 volunteers following graduation
- coordination of scheduling between the MS-4 volunteers and our care coordination team
- consistency in providing preventative services at preventative health and acute office visits
- training and guidelines for student volunteers on providing these services

Interventions:

- improved documentation and a longer training period for the new student leaders
- earlier recruitment of rising MS-4 volunteers
- a shared waitlist for primary care appointments
- use of our patient education team for preventative services at routine visits
- creation of a single-page checklist with instructions for preventative services

Patient Demographics:

At the time of the intervention, our clinic served as the PCP for 43 patients aged 21-64. Self-reported demographics were: 51% white, 21% black, 2% Asian, 26% other race. 63% were non-Hispanic and 37% were Hispanic. 70% spoke English as a primary language, 21% Spanish, 5% Russian, and 5% Portuguese.

Longitudinal Panel Study:

Results from the longitudinal panel study of the intervention are shown in Table 1. Relative risk greater than 1 indicates the quality measure was more likely to be met after the intervention.

Long-Term Quality Monitoring:

Measured CQM values over time are shown in Figure 1. CQM values at certain points in time are presented in Table 1 alongside the national averages used for benchmarking.

Table 1 – KINGHTS Clinic CQM Values, Results of Panel Study, and Benchmarking Data

Measured CQM (NQF # ²)	KNIGHTS Clinic Value			Panel Study			Benchmarking National Average ³
	Pre-Intervention	Post-Intervention	Most Recent (Nov '19)	RR	p-value	n	
Cervical Cancer Screen (0032)	77%	80%	75%	1.11	0.69	23	61%
Breast Cancer Screen (2372)	57%	78%	100%	1.67	0.50	5	49%
Yearly Lipid Panel (n/a)	61%	77%	83%	1.25	0.34	23	not published
HTN: BP Control (0018)	73%	73%	22%	1.0	1.0	10	67%
Colorectal Cancer Screen (0034)	54%	60%	46%	1.12	1.0	11	61%
HTN: Creatinine Screen (n/a)	73%	55%	78%	0.80	0.50	10	not published

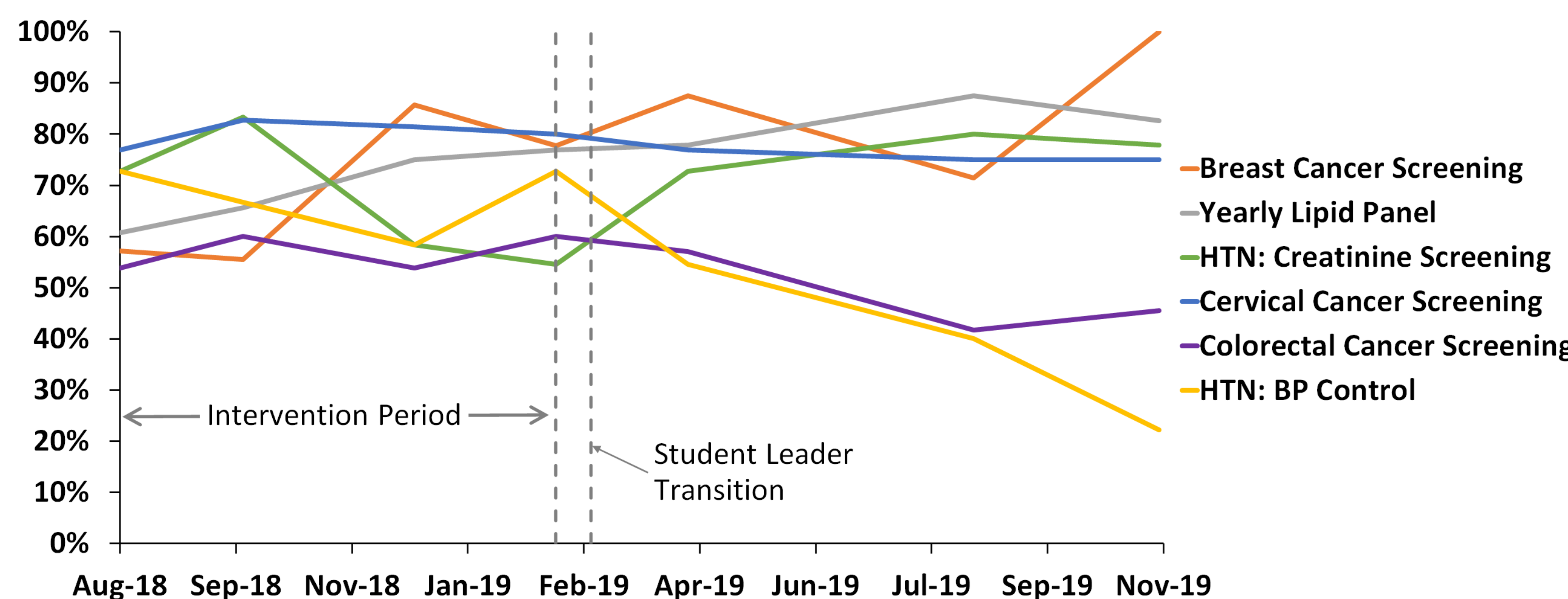


Figure 1 – CQM Values for all PCP patients from Aug. 2018 to Nov. 2019

Discussion

During the intervention period, four CQMs increased, one remained constant, and one decreased. The panel study showed the observed changes were not statistically significant, likely due to our low number of PCP patients.

During the long-term monitoring, continued improvement was seen in three CQMs while a decline was seen in the remaining three. These observations suggest that certain aspects of the care we provide (including breast cancer screening, dyslipidemia screening, and hypertension creatine screening) experienced a sustainable positive change due to the described interventions. Additional QI efforts by new student leaders can address areas that failed to achieve a sustainable positive change.

Monitoring of additional CQMs may be helpful to identify other areas for improvement. However, other quality measures are often limited by our small patient population.

Grace Medical Home is known to provide a high quality of primary care, as evidenced by their status as a patient-centered medical home. At the post-intervention period, the KNIGHTS clinic had achieved CQM values at or above national averages.

Conclusions

- The KNIGHTS Clinic, as part of Grace Medical Home, provides a high quality of primary care to our patients
- Creating a QI Director student leader role lead to a measurable increase in quality metrics at our clinic
- Continuous quality monitoring and improvement efforts led to sustainable positive changes and revealed areas of need for further improvement
- This model for a QI Director student leader can be adopted by other student-run clinics

References

1. Centers for Medicare and Medicaid Services. ACO and PCMH / Primary Care Measures. <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/Core-Measures.html>. Published February 3, 2016. Accessed July 7, 2018.
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