



Short Communication

Integrating Advanced Practice Providers into value based care strategies: One organization's journey to achieve success through interprofessional collaboration

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ABSTRACT

As the landscape of healthcare is shifting from volume-based to value-based practice, organizations are challenged to develop models that promote such changes with current resources while enriching the patient experience. A critical component to be successful, is utilizing an interprofessional team approach. An urban academic pediatric hospital developed such strategies by enhancing the use of Advanced Practice Providers (APPs) to optimize care. Through a series of tactics beginning with the strategic plan, results included an increase in volume, APP productivity, and enhanced satisfaction scores for both providers/patients, and an increase in access to pediatric specialty care.

1. Introduction

Radical transformation in the healthcare delivery system is forcing hospitals to shift from volume-based health care delivery and adopt the value equation. The Patient Protection and Affordable Care Act passed in 2014 emphasized the development of value-based practice over the well-established fee-for-service reimbursement models. Healthcare organizations are challenged to evaluate new models of care that support high-quality low-cost care while maintaining timely patient access and reduced wait times. A key mechanism for this new delivery of care model is interprofessional collaboration between physicians and Advanced Practice Providers (APPs). This collaboration is integral to drive down the price point of care while simultaneously improving the access and maintaining the quality of care.

A review of the literature regarding interprofessional collaboration is shown to demonstrate high functioning communication with involvement from multiple disciplines.¹ This model allows input from the disciplines to meet the needs of the patient delivering the highest quality of care.¹ Interprofessional collaboration has demonstrated a positive effect on healthcare outcomes as well related to chronic disease management.² Coupled with this concept, value-based care is supported with the utilization of multiple disciplines and promotes using APPs to their full licensure to enhance care delivery. The Institute of Medicine (IOM)

report on the Future of Nursing demonstrates that nurse practitioners provide care that is high quality, cost effective, and supports practicing at the full extent of their license.³ Additionally, nurse practitioners were shown to have an increase in patient satisfaction while decreasing costs.⁴ A retrospective review of Medicare Part A and B claims during the timeframe of 2009–2010 demonstrated a decrease in cost of 29% to beneficiaries when a beneficiary was seen by a nurse practitioner when compared to physicians.⁵ Another study showed that utilizing a team-based approach with APPs in cardiovascular patients reduced readmissions to the hospital by 58%.⁶ The literature further supports that a strong collaboration with APPs can increase physician's productivity, improve patient outcomes and satisfaction, and fills an important gap in the care delivery system through interprofessional collaboration.⁷

2. Background

In 2016, a 315-bed pediatric urban academic medical center in Western Pennsylvania recognized the tremendous opportunity to enhance APP utilization as a tactical consideration to positively impact the value-based strategy promoting interprofessional collaboration. Feedback received from both physicians and APPs demonstrated gaps in understanding APP scope of practice. To gain a deeper understanding of these issues, a formal 5-point Likert scale survey was administered to

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APP staff. The objective results supported the subjective feedback with low scores in the following areas:

- 25% of responding APPs reported dissatisfaction with their current role related to their utilization to the fullest
- 34% of responding APPs reported the physician saw the same patients >50% of the time
- 36% of responding APPs reported they spent >25% on Administrative Assistant, Medical Assistant, and Nursing tasks
- 48% of responding APPs reported collegial support (physician and coworkers) prevented them from practicing at their full scope

These results supported the strategic plan to enhance the use of APPs in care delivery and represented a key opportunity for significant improvement.

The purpose of this initiative was to improve APP and physician collaboration and provide timely access to pediatric specialty care through interprofessional collaboration.

3. Methods

Under the direction of the Executive Administrator for the Department of Pediatrics, and in collaboration with the Health System Chief Advanced Practice Provider Officer, an interprofessional task force that included administrators, APPs and physicians was developed to set the framework to boost APP utilization in collaboration with physicians to optimize care delivery. To achieve this, four primary goals were established:

- (1) Become a national leader in the health care system transformation by optimizing the role of Advance Practice Providers
- (2) Develop a highly engaged community of APPs who are utilized to their full scope of practice and education
- (3) Enhance performance and best practices through innovative clinical efforts and skill optimization
- (4) Create an exceptionally skilled, experienced, high value workforce to improve the overall access to specialty care

To execute these key objectives, an Advisory council comprised of APPs was established with four associated subcommittees that focused on Service, Quality, Education and Personnel strategies:

3.1. Personnel and service: development of APP productivity and maximizing physician effort

Historically, APP work relative value units (wRVUs) were attributed to the supervising physicians which left the APPs to appear invisible to the organization. To capture APP productivity, changes to the electronic medical record billing workflow were made to accurately reflect the APP's level of participation for all billable episodes of APP delivered care. This modification provided the patient level detail and APP wRVU productivity data necessary to identify and capitalize on the opportunities to more fully integrate and utilize APPs in pediatric specialty care to successfully grow and expand services.

3.2. Education: APP fellowships and formal interprofessional mentorship

APP Fellowship programs were developed in every pediatric specialty and was led by a physician and APP in each specialty to fill the gap between formal education and practice. This one-year program weighted in specialty training includes four weeks of general pediatrics "Boot Camp" and is comprised of both didactic curriculum and clinical rotations. Boot Camp offers every APP Fellow a solid foundation in core pediatric topics, including the management of high acuity clinical situations prior to their immersion into a chosen subspecialty and allows the fellows to experience being an integral part of a hospital wide

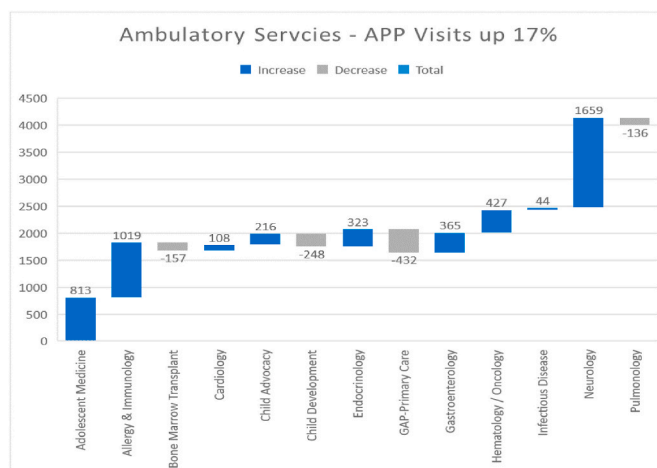


Fig. 1. Ambulatory Services APP Visits.

infrastructure, specifically through exposure to lectures on safety reporting, pharmacy and consultant resources. APP Fellows are directly trained to provide autonomous comprehensive pediatric care, within the scope of their license and in collaboration with their supervising physician in a team-based model. Upon graduation, APP fellows are offered employment through strategically designed employment agreements tied to a retention plan designed to ensure top talent is being retained within the organization.

A crucial factor in the success of the fellowship was the development of an interprofessional mentorship program. Each fellow was assigned a mentor (Attending Physician or APP within the Division) and monthly meeting were held to provide support and ongoing feedback throughout the year. Part of this feedback was the discussion of challenges and barriers, teaching and supporting the fellow, ensuring they are meeting their goals and objectives, and providing overall coaching and development.

3.3. Quality: evidenced based pathways

Evidence based clinical pathways led by physicians and APPs were established to enhance skill optimization and improve patient outcomes. These pathways were developed to provide the best evidence to guide clinical care delivery, reduce the variation in care, improve financial and quality metrics by eliminating non-value-added interventions such as unnecessary testing, improve the coordination of care, and enhancing the patient experience.

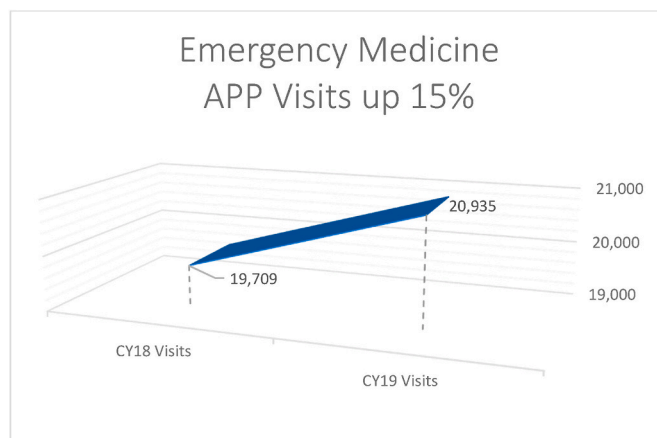


Fig. 2. Emergency Medicine APP Visits.

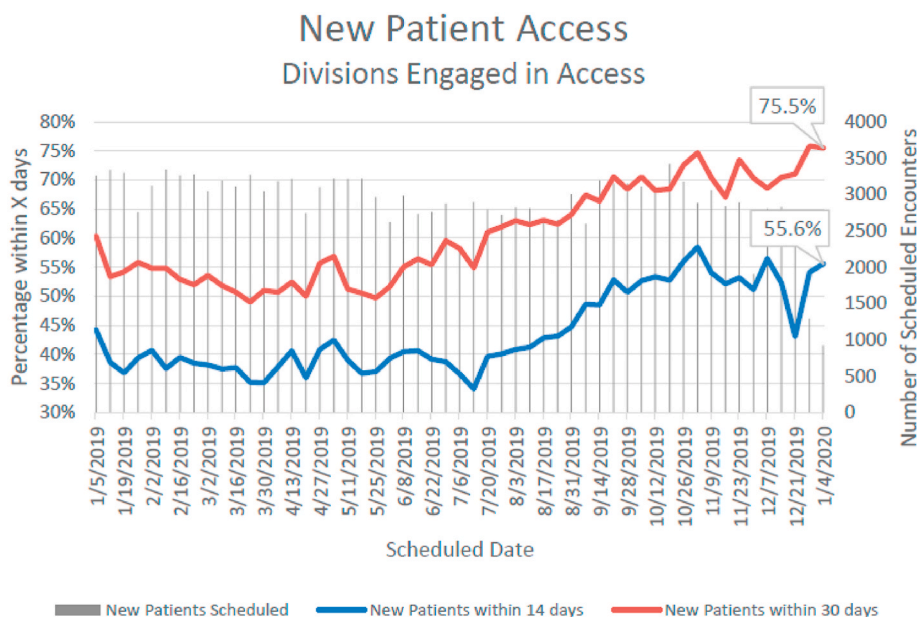


Fig. 3. New Patient Access.

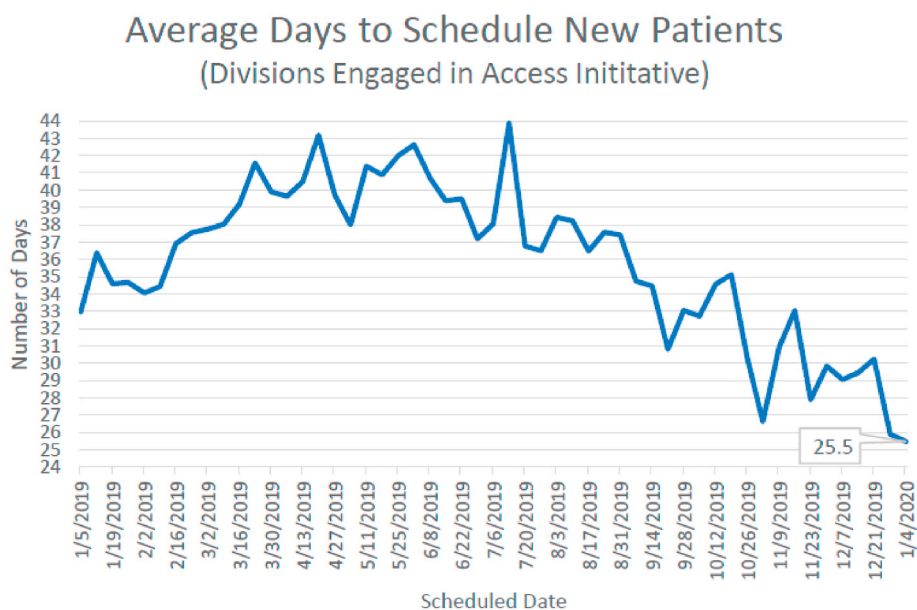


Fig. 4. Average Days to Schedule New Patients.

4. Results

4.1. Personnel and service: development of APP productivity and maximizing physician effort

A review of diagnostic codes for each specialty resulted in the identification of patients that could be seen independently by an APP. Independent templates were developed for APPs which promoted autonomous collaborative practice. This change has led to a growth in APP independent visits by 17% from CY 18 to CY 19 (Fig. 1).

The Emergency Department (ED) embraced the independent APP model reconfiguring the lower acuity “Fast Track” area to be staffed exclusively with APPs. This change has led to a growth in APP independent visits by 15% (Fig. 2) and represents 20% of overall ED discharged volume. In addition, the ED has decreased length of stay of discharged patients by 16%, decreased patients left without being seen

from 1.3% to 0.4%, and improved the overall patient experience.

Focusing on patient access, the ability to utilize APPs to provide autonomous, comprehensive pediatric care, within the scope of their license and in collaboration with their supervising physician has made a substantial impact. The number of full-time APPs increased from 129 in 2016 to 208 in 2019, and overall new patients scheduled within 14 days increased from 35% to 55% (Fig. 3) and the number of days to wait decreased by 33% (Fig. 4).

4.2. Education: APP fellowships and formal interprofessional mentorship

In the inaugural year, 27 APPs completed the Fellowship program amongst 10 different pediatric subspecialties. Data collected via pre and post assessments revealed a 20% increase related to the fellow feeling connected to other professions including physicians after Fellowship completion, as well as 70% felt the pediatric boot camp was essential to

their practice. Mentorship assessment and data is currently being analyzed to determine impact on the fellow and mentor during this inaugural year.

4.3. Quality: evidenced based pathways

In 2019, evidenced based pathways made up approximately 25% of total observation and inpatient discharges in the organization. The interprofessional use of these pathways by both physicians and APPs resulted in a direct cost-savings of \$771,000. In addition, since the release of the Acute Care Sepsis Pathway in 2018, the organization experienced zero unplanned acute care deaths attributable to sepsis in 2019.

5. Discussion and future implications

Full integration of these strategies has been disseminated throughout the remaining pediatric medical and surgical subspecialties, strategically elevating APPs to function at the top of licensure to increase access to high quality care and improve interprofessional collaboration. New innovative care team models such as embedding specialty APPs in primary care practices and opening APP evening access clinics have been developed to meet the objectives and strategies of the organization to improve patient care. As the focus on interprofessional collaboration remains key, representation of APPs on the Medical Executive Committee is being explored to further integrate and enhance communication.

In addition, an analysis of this strategic initiative related to the patient experience in the ambulatory setting needs explored; however, early data shows an increase of 10 percentile points in top box (9s and 10s) patient satisfaction scores from February 2019 to December 2019.

5.1. Conclusion

As healthcare continues to place an emphasis on high-quality low-

cost care and elevating patient satisfaction, organizations must develop strategies to support these concepts. It is essential to be driven by interprofessional relationships, and must include existing provider resources, physician/APP engagement, and staffing models. Through this transformation, our organization was able to improve collaboration, patient satisfaction, and access to specialty care.

Declaration of competing interest

No authors have any reportable conflicts of interest or acknowledgements.

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