

Pediatric Perioperative Clinical Pearls and Guidelines: An “Induction” to Anesthesia Education and Collaboration Among Pediatric Specialties

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Background and Description:

Boston Children’s Hospital’s (BCH’s) perioperative care coordination clinic (PCCC) consists of a comprehensive team of advanced practice nurses (APRN) and nurses (RN), along with other frontline staff and administrators that collaborate and coordinate with surgical colleagues to provide education, anticipatory guidance, and perioperative optimization (Figures 1-4) for pediatric patients with complex medical comorbidities.

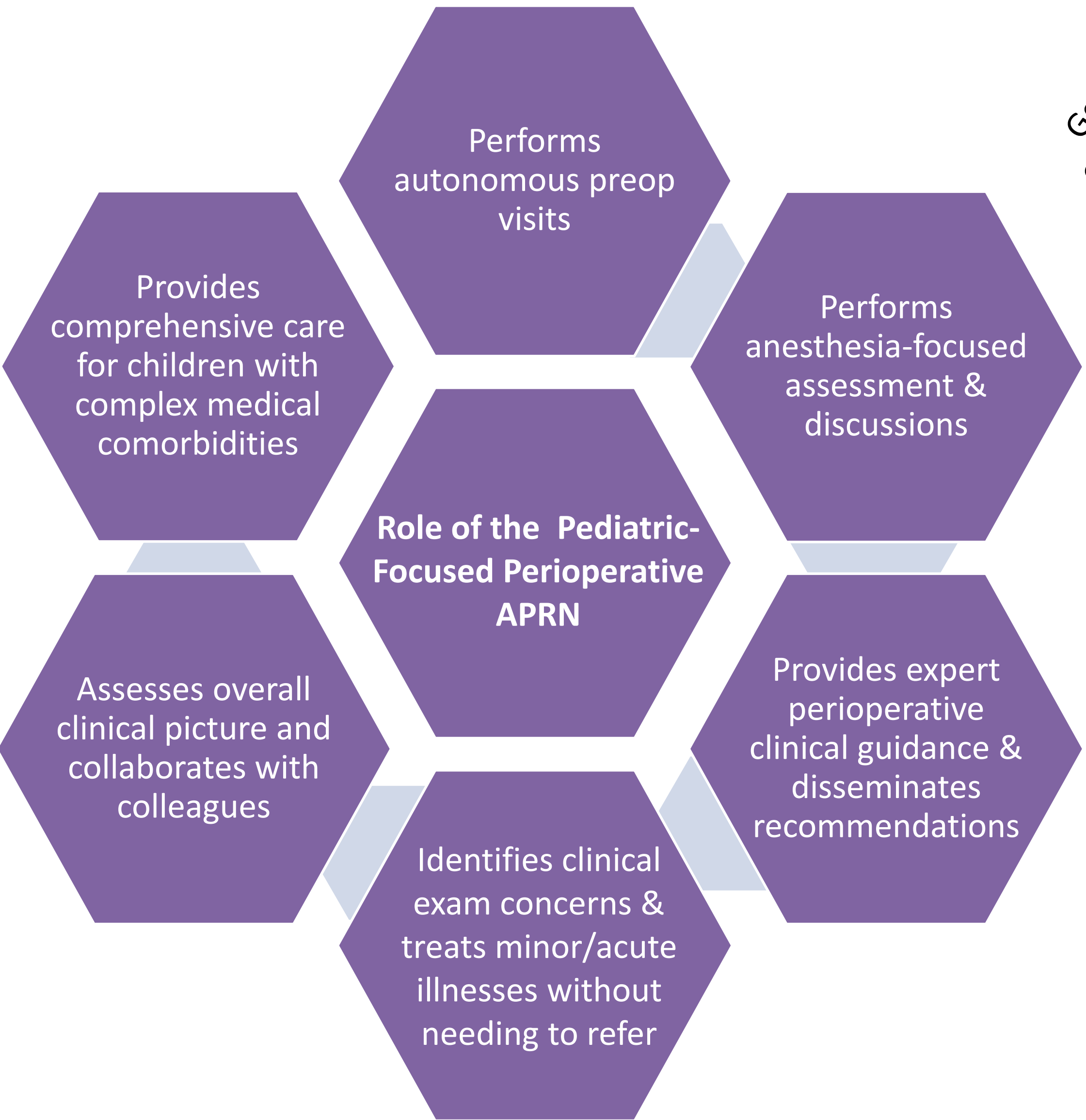


Figure 1. Roles and responsibilities of APRNs

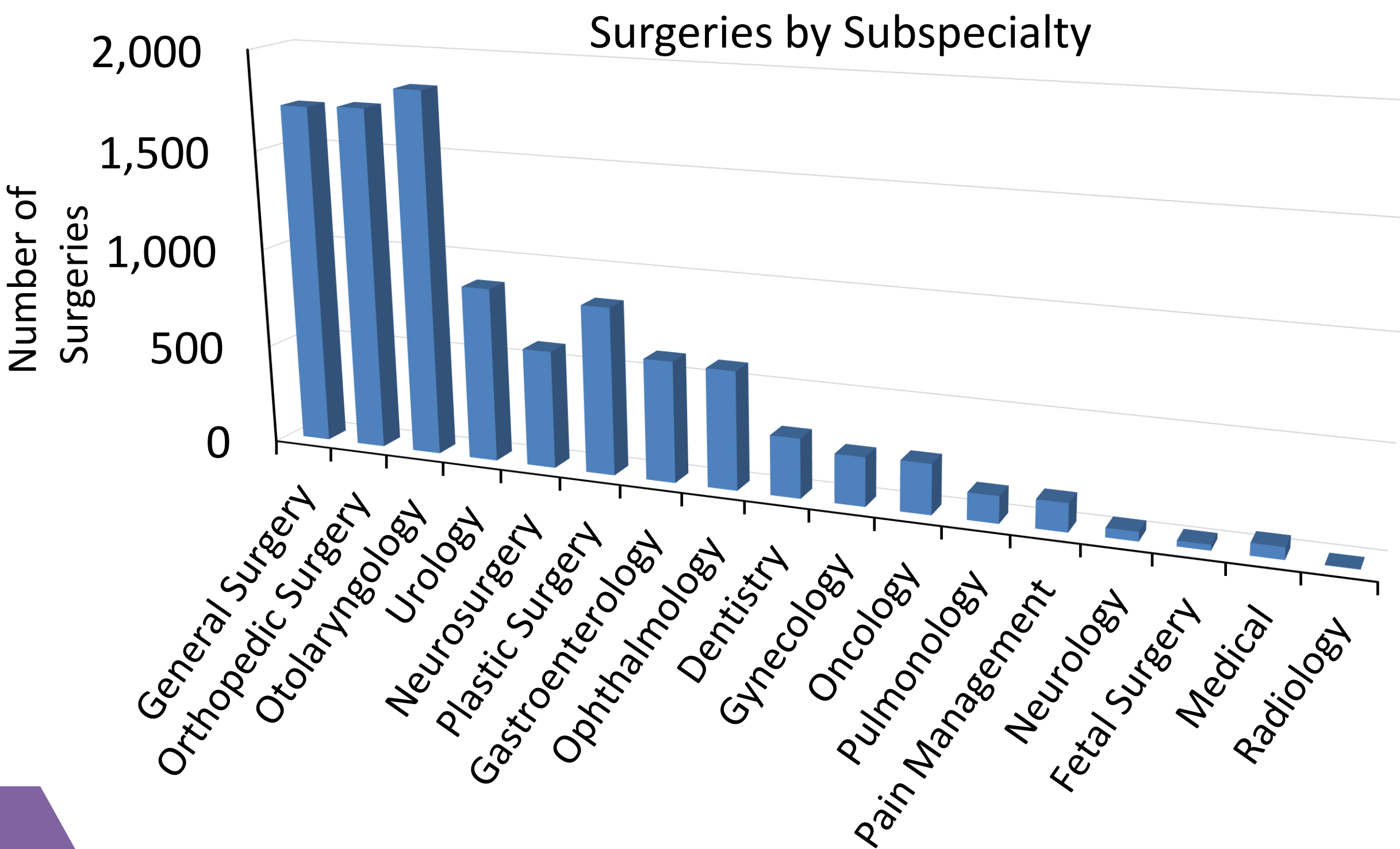


Figure 2. Subspecialty surgical cases (7/1/24-12/31/24)

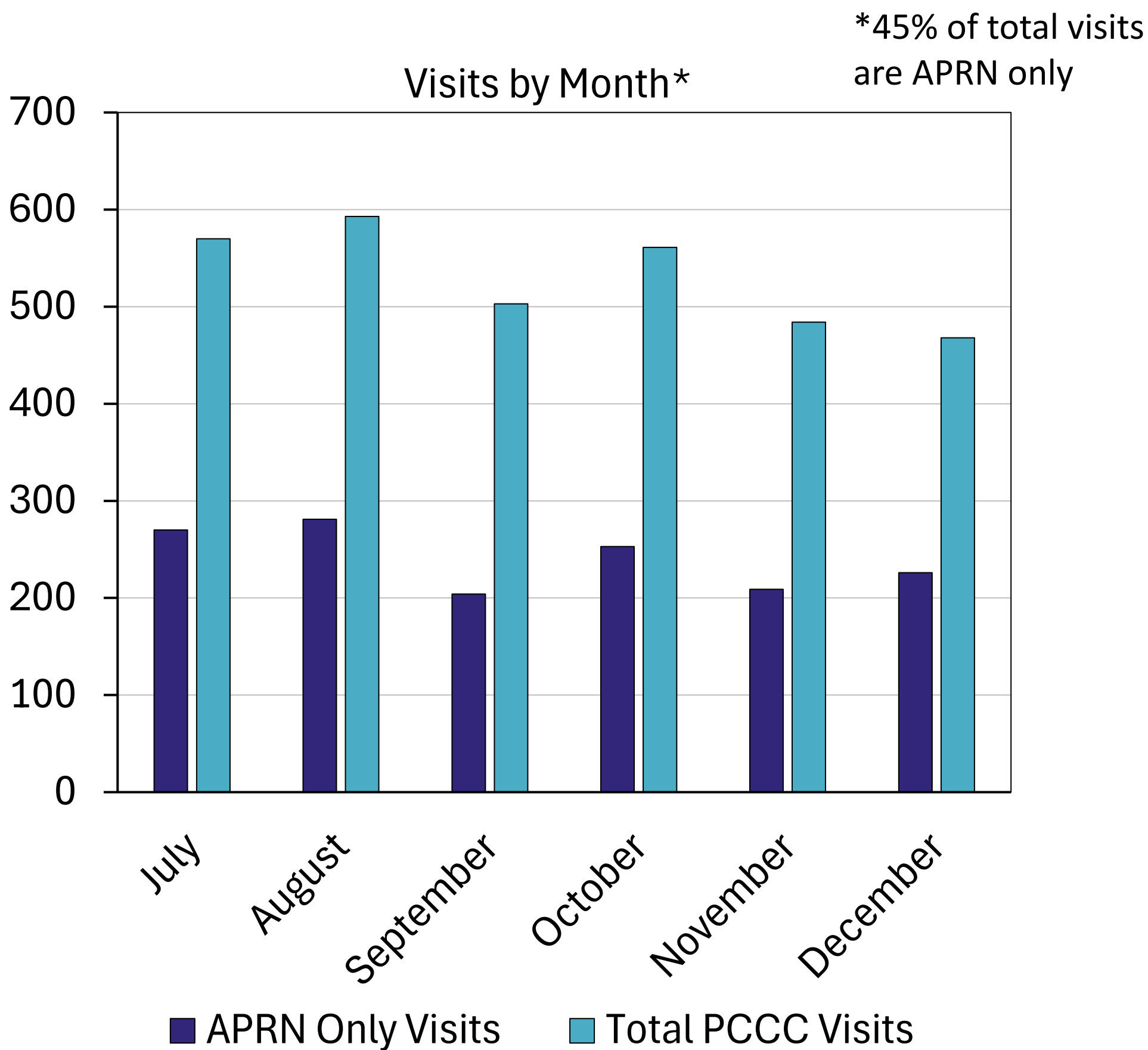


Figure 3. APRN only vs Total PCCC visits (7/1/24-12/31/24)

Bridging All Aspects of Pediatric Care to Ensure Optimized Perioperative Care

Two Examples:

9 m/o full-term female PMH: Pierre Robin sequence presenting for GT placement

6 m/o ex-24-week male with Vein of Galen Malformation (VOGM), new onset seizures, presenting for neuro IR embolization procedure

Care coordination: Review PCP records, subspecialist notes, labs, imaging, surgical/anesthesia history, family history

Red Flags: glossoptosis, cleft palate, mandible hypoplasia, OSA symptoms

Red Flags: PCP concern for feeding difficulties, occasional episodes of perioral cyanosis, breath-holding spells

Further investigation: Visits, labs, imaging, clearances

Concern: Difficult airway/intubation risk

Concern: Risk of pulmonary hypertension due to abnormal shunting of blood flow

-Anticipate need and coordinate for ICU bed postoperatively
-Consider coordination of ORL/plastics evaluation, sleep study

-Consult with neurosurgery specialist
-Obtain neurologist recommendations
-Coordinate cardiac evaluation, imaging, and clearance

Figure 4. Process of perioperative care

Considerations:

Anesthesia considerations for pediatric specialists and surgical colleagues (Figure 2 and 4):

- Identify clinical changes from patient baseline
- Consider anesthesia recommendations regarding timing of surgery in proximity to illness
- Recognize appropriate location for surgery (main hospital vs satellite)
- Address any previous anesthesia/surgical complications
- Investigate family history and identify any red flags
- Identify any potential difficult airway, cardiac abnormalities, genetic/metabolic concerns, or acute/chronic pain concerns
- Consider potential difficulty with a prolonged NPO period requiring an early case or pre-admission
- Obtain time-sensitive perioperative recommendations, subspecialty visits, lab work, imaging needed
- Documentation of potential anesthesia concerns and communication with perioperative colleagues
- Assess patient competency for consent and consider need for legal guardianship
- Facilitating multidisciplinary discussion of risks and benefits
- Discuss wishes for perioperative life-sustaining treatment