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## Department of Internal Medicine-Pediatrics Posters - 2019

Elizabeth Peacock-Chambers MD

Briana Jurkowski

Michael Moran

Caroline Clark MSW

Kelsy Kaman MD

*See next page for additional authors*

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**Authors**

Elizabeth Peacock-Chambers MD, Briana Jurkowski, Michael Moran, Caroline Clark MSW, Kelsy Kaman MD, Jhill Shah DO, Taylor Koerner MD, Chandrika Sridharamurthy MD, Crystal Cobb DO, Angela Slick MD, and Deirdre Lewis MD

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Briana Jurkowski<sup>1,2</sup>; Carolina Clark, MSW, LCSW<sup>1</sup>; Michael Moran<sup>1</sup>; Elizabeth Peacock-Chambers, MD, MS<sup>1</sup>  
<sup>1</sup>University of Massachusetts Medical School-Baystate; <sup>2</sup>University of Massachusetts Amherst

**BACKGROUND**

- Infants born to parents with opioid use disorders (OUDs) are at higher risk for developmental delays and future educational and behavioral problems
- These infants frequently qualify for Early Intervention (EI) child development services
- EI is a possible source of support at a critical time for parents with OUDs
- There are few targeted approaches to supporting families in recovery through child home-visiting services

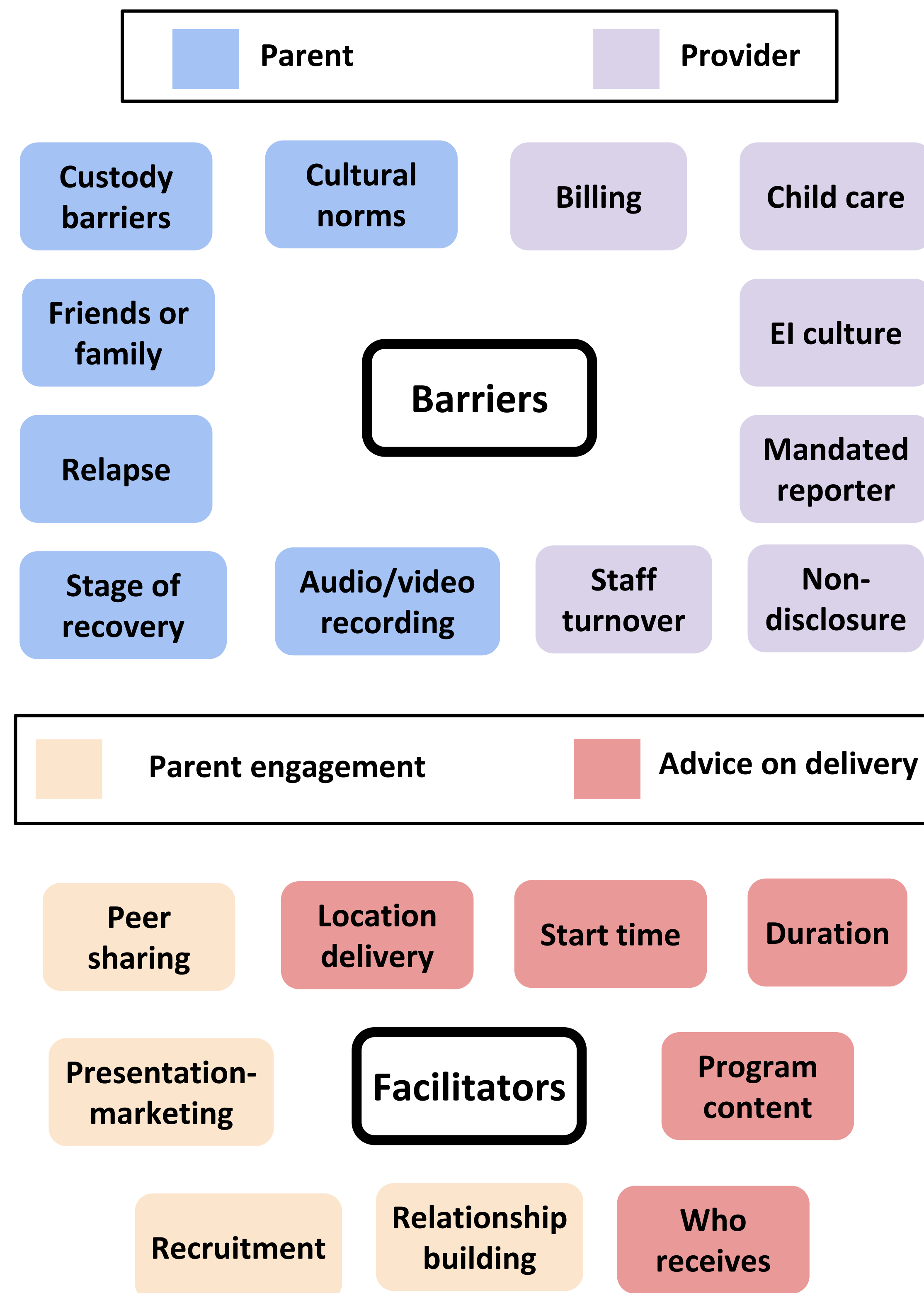
**OBJECTIVE**

To explore barriers and facilitators to integrating a targeted parenting intervention for families affected by OUDs into child home-visiting services

**METHODS**

- **Inclusion criteria:** Parents in recovery from OUDs with children under 10 years of age in Western Massachusetts and providers of addiction child development health or social services
- Semi-structured qualitative interviews and focus groups were conducted (N=38)
- Each interview or focus group was transcribed, coded, and analyzed using a qualitative descriptive approach

**RESULTS**



**ADDITIONAL RESULTS**

- 13 parents and 25 providers
- Provider occupations included EI providers, an EI director, a DPH program coordinator, hospital staff, DCF, social workers, recovery program staff, and mental health providers
- Focus groups took place in Greenfield, Northampton, and Springfield, MA

**CONCLUSIONS**

- The presentation and marketing is critical for initial engagement of parents with OUDs
- Methods require future training for EI providers on recovery
- Beginning parenting programs prior to the birth of the child may encourage parent enrollment
- Peer sharing (recovery coach) involvement in some capacity may also be beneficial to parents

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# Collaborative Care for Kids: A Resident Driven School Nurse Education Initiative

Kelsey Kaman MD<sup>1</sup> and Jhill Shah DO<sup>1</sup>, Taylor Koerner MD<sup>1</sup>, Chandrika Sridharamurthy MD<sup>1</sup>

<sup>1</sup>University of Massachusetts Medical School-Baystate

## BACKGROUND:

- In 2018 Springfield was named the worst city in the county to live with asthma
- We met with community stakeholders and realized that collaborating with school nurses would be a great way to help alleviate the burden of asthma in the pediatric population
- During initial meetings, school nurses made us aware that there are many other conditions that they would like more guidance on managing and overcoming barriers to care
- According to the AAP in “Role of the School Nurse in Providing School Health Services”, school nurses are critical in management of ADHD, diabetes, life-threatening allergies, asthma, seizures and behavioral health concerns
- We also recognized that when school nurses are not confident in their skills, they are more likely to send children perhaps inappropriately home or to Emergency Departments resulting in lost time at school for the kids and lost time at work for the parents. By addressing this issue, we hope to be helping every school aged child in Springfield to optimize their health and educational opportunities
- Our aim: Residents to teach 5 courses throughout the year about recognizing and caring for common complaints and urgent situations that could arise in the school setting related to asthma, anaphylaxis, etc.

## OBJECTIVE:

- Enhance nursing medical knowledge of common pediatric complaints and management in the school setting
- Foster open, easy, reliable, and efficient communication between school nurses and local pediatricians
- Link school nurses with community resources including non-profit organizations as well as local pediatricians that are accepting new patients

## DESIGN:

- 5 classes over the course of one academic school year held during regularly scheduled professional development classes
- Address 5 areas: Asthma, Allergies, Skin Rashes, Neuro: Seizures and Concussions, and Abdominal Complaints
- Pre-test and post-test at each session
- Incentives for participation include coffee breakfasts, gift cards, and end of the year raffles

## CONCLUSIONS:

- Our first session was asthma and was a very successful event that every school nurse in Springfield attended
- We learned about common misconceptions school nurses have about asthma and were able to address many of them
- Importantly, we also learned things we as community pediatricians can do to help nurses manage asthma better in the outpatient setting such as yearly asthma action plans, labels for inhalers, encouraging kids with asthma (and their families) to continue to walk to school, play outside during recess and participate in gym

## RESULTS:

Figure 1: Pre and Post-Testing scores for Asthma Class  
For asthma session, the average pre-test score was 66.1%. The post-test scored an average of 74.5%.

Figure 1: Pre-test and Post-test Results

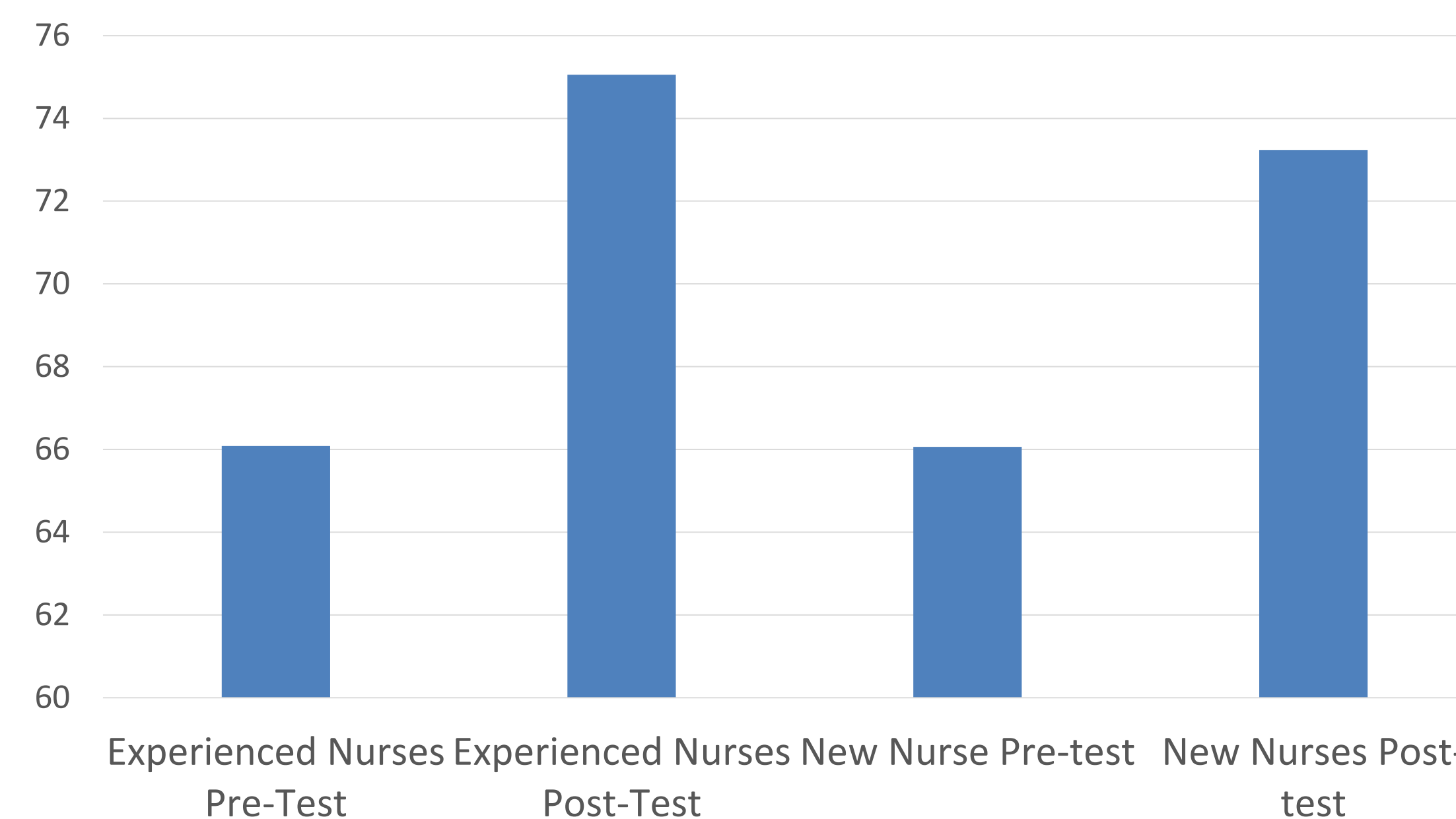
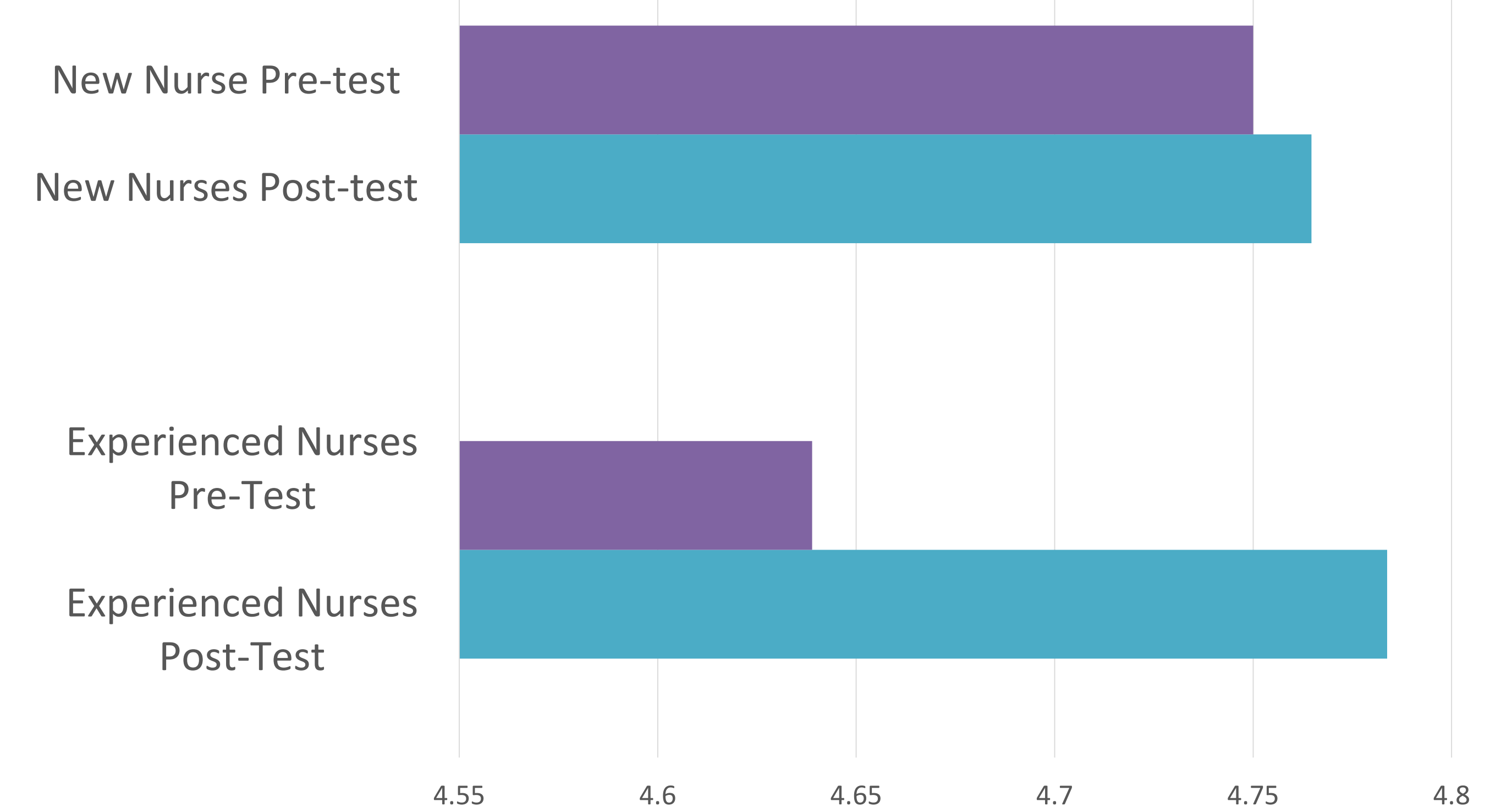


Figure 2: On a scale from 1-5, how comfortable are you contacting a student's pediatrician to talk about his/her asthma?



## LEARNING OBJECTIVES

1. Review mechanisms for renal injury in cancer patients
2. Evaluate a unique case of IgA nephropathy and explore the possible pathophysiologic mechanisms

## CASE PRESENTATION

A 66 y/o female with a past medical history significant for pancreatic cancer on gemcitabine and paclitaxel presented to the ED with fever, nausea, vomiting, and tachycardia in the setting of recent initiation of chemotherapy. She was initially started on broad spectrum antibiotics for possible sepsis however these were discontinued as it became more apparent that her presenting symptoms were likely side effects of chemotherapy. On hospital day #5 patient's course become complicated by marked increase in creatinine from 0.8mg/dL to 3.2 mg/dL and worsening thrombocytopenia. Her creatinine peaked at 4.6 mg/dL. An ultrasound guided needle kidney biopsy was performed. Biopsy results were significant for acute tubular injury with likely underlying IgA nephropathy. Patient's creatinine normalized with IV fluids.

## DISCUSSION

- Nephrotoxicity is a common complication of treatment in patients with malignancy, however may be underestimated due to subclinical presentation or lack of standardized surveillance.<sup>2</sup>
- This is illustrated in this case as the patient's renal injury was unexpected and likely multifactorial.
- Initially there was concern for thrombotic microangiopathy, a well known complication of gemcitabine therapy, given her rapidly rising creatinine and precipitously falling platelets.<sup>3</sup> Biopsy did not show TMA, however did reveal acute tubular injury (ATN) and IgA nephropathy.

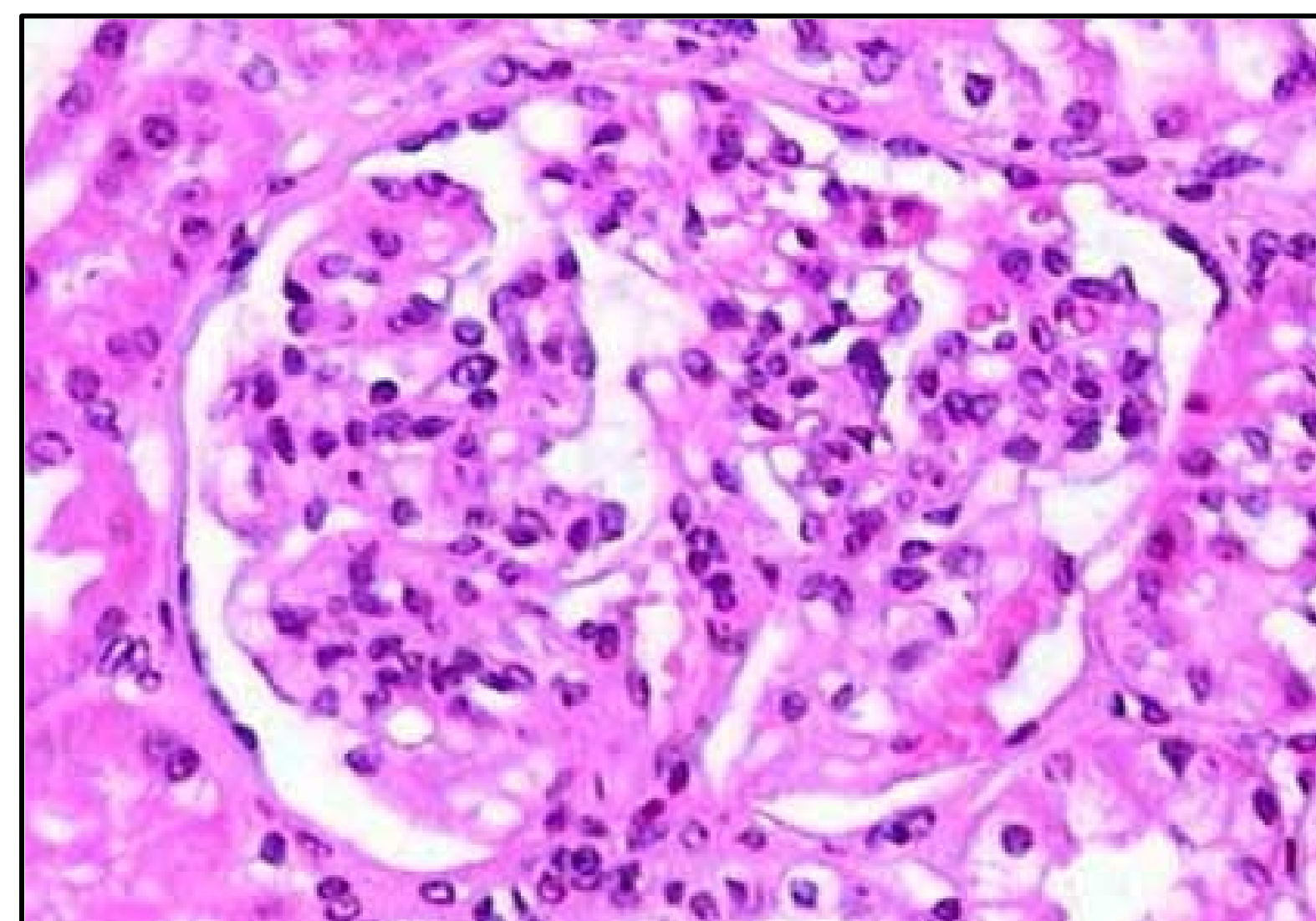


Figure 1: Renal Biopsy. Glomerular tuft with hypercellularity consistent with IGAN and confirmed by light microscopy<sup>4</sup>

HOSPITAL DAY #	CREATININE (mg/dL)	PLATELETS k/mm <sup>3</sup>
4	0.8	80
5	2.9	72
5 (recheck)	3.2	72
6	4.2	66
7	4.6	67
8	4.6	79
9	4.4	95
10	4.3	95

Figure 2: Patient's lab data. Illustrates patient's steep rise in creatinine with falling platelet count and the start of subsequent recovery

## DISCUSSION CONTINUED

- This patient's underlying pancreatic cancer and chemotherapy likely caused IgA nephropathy.
- IgA nephropathy is thought to be a result of genetic and environmental factors in a "multi-hit" model of renal injury.<sup>1</sup>
- IgA nephropathy may be primary or secondary. Secondary IgA nephropathy can be caused by a variety of systemic illnesses including neoplastic disorders and is thought to be due to increased IgA production, production of abnormal IgA or impaired clearance.
- There have been case reports of association with malignancy and chemotherapy that posit mucosal injury secondary to metastatic disease itself, chemotherapies, radiation and surgery lead to glomerular IgA immune complex deposition.
- Other confounders in this case include acute tubular injury secondary to contrast induced ATN from a CT scan done as part of her workup, possibly augmented by dehydration from the side effects of chemotherapy.

## CONCLUSION

Malignancy and chemotherapy can both cause renal injury such as IgA nephropathy. Thus, it is important to remain vigilant about monitoring for potential effects of malignancy and antineoplastic drugs. Increased monitoring of renal function may be indicated in patients with malignancy in order to better understand and prevent renal injury.

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