

# An analysis of the factors associated with the greatest disease burden in the pediatric population seen at Khayelitsha Emergency Department between 2014-15.

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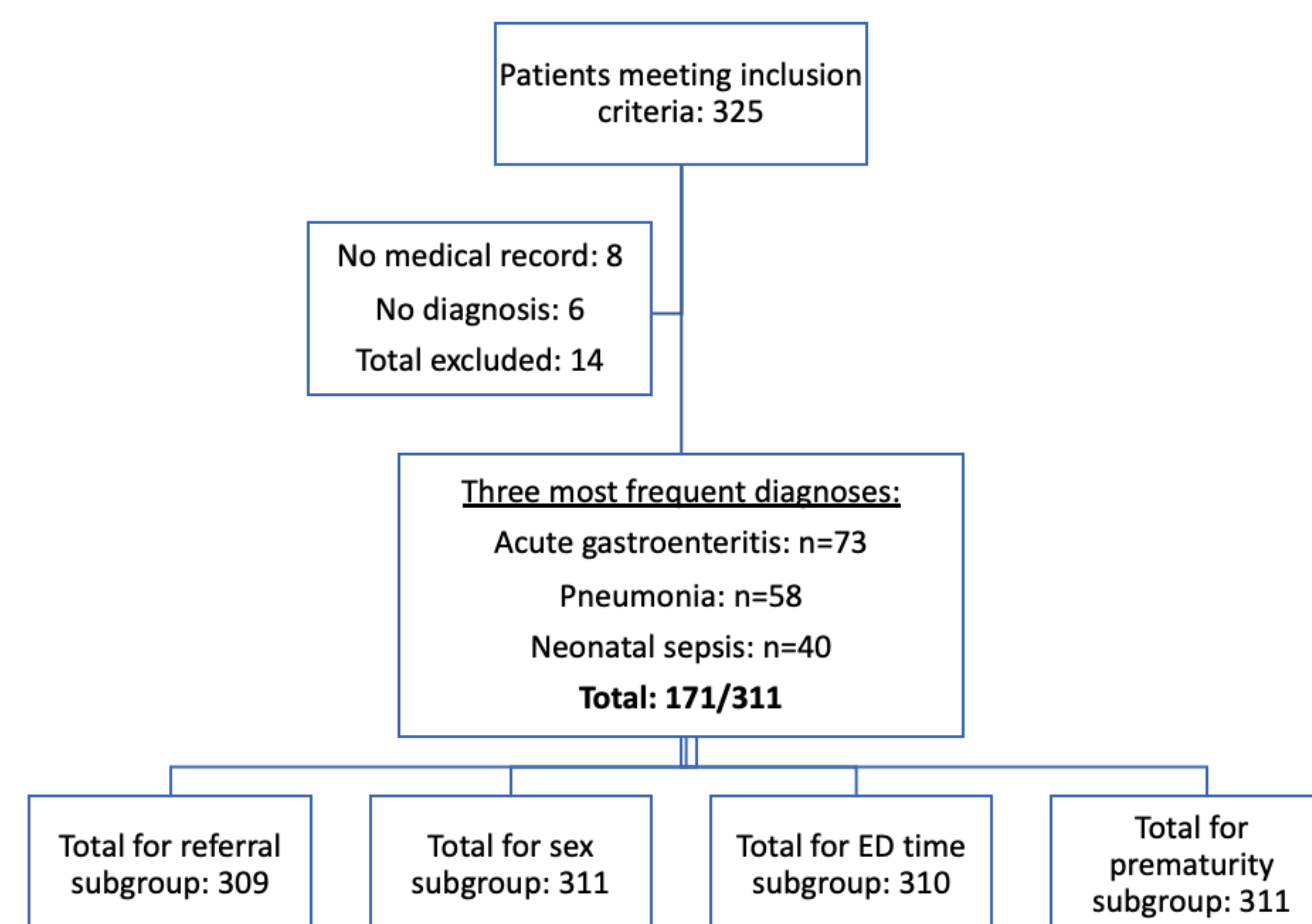
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## Introduction

Khayelitsha District Hospital (KDH) is a district level tertiary hospital serving the partially informal township of Cape Town, South Africa. The under-five mortality rate in 2010 was 45% higher compared to the other three sub-districts in the Cape Metropolitan region.<sup>1</sup> This study examined the pediatric population to determine significant associations in the three most common diagnosis seen at KDH<sup>2</sup> with the goal of identifying opportunities available to minimize the morbidity and mortality of a vulnerable population.

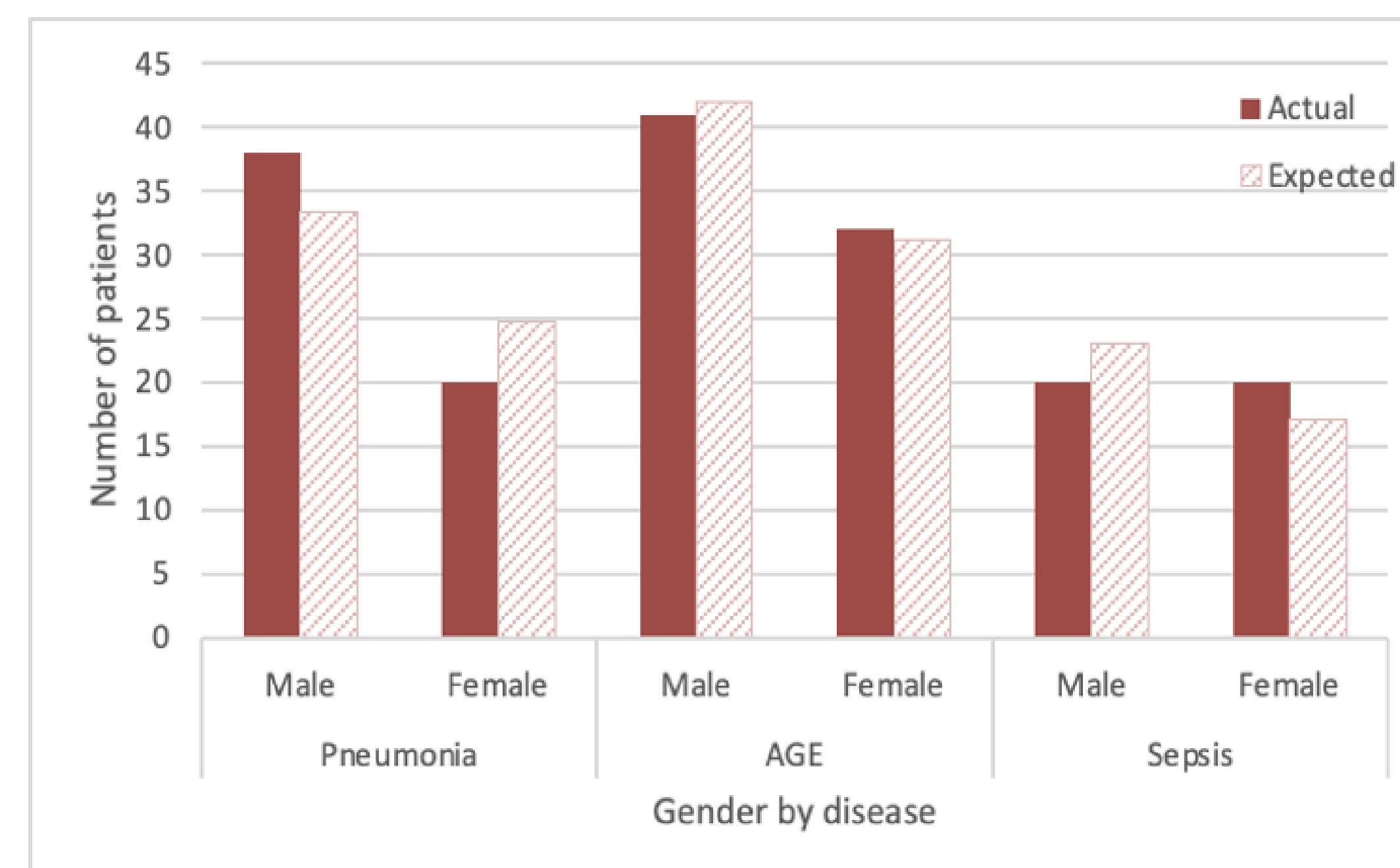
## Materials and Methods

- Retrospective cohort study analyzing 325 pediatric patients seen in the Resuscitation Zone of KDH from 1 Nov 2014 – 30 Apr 2015.
- Chi square statistical analysis by category.



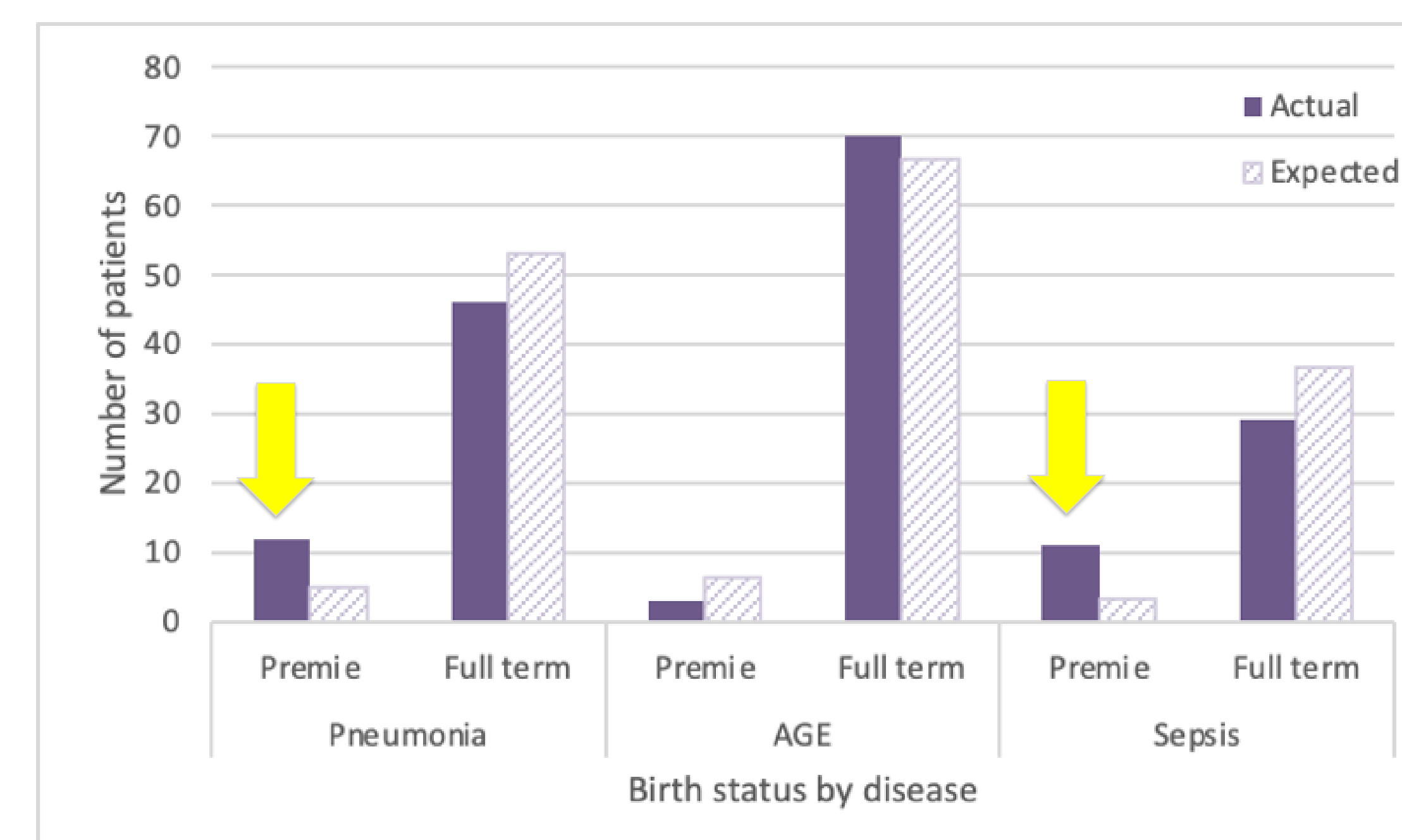
## Results

No significant correlations for sex.



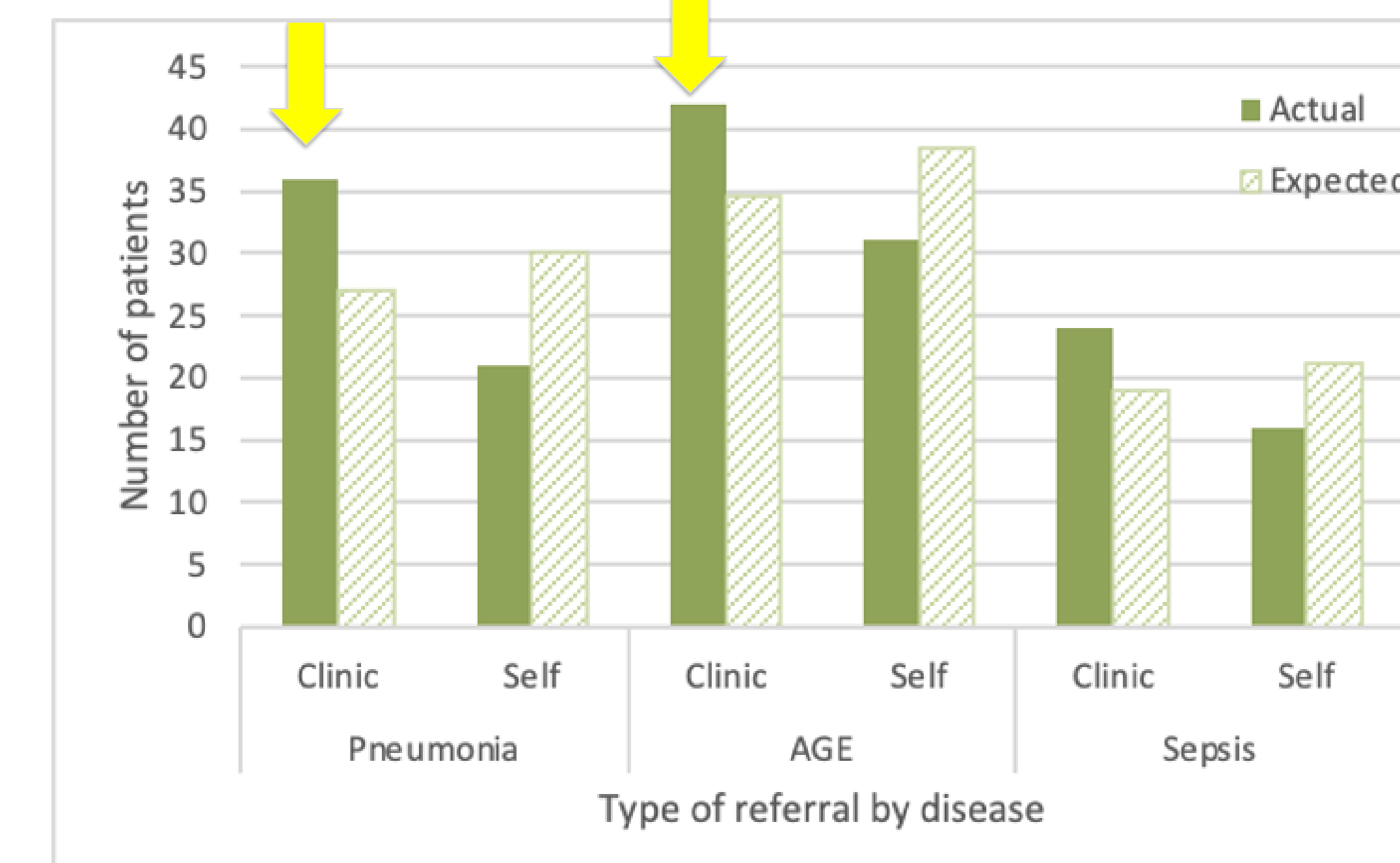
Association between most common diagnoses and sex (male vs female) in the pediatric patients.

Pneumonia ( $\chi^2$ ,  $p = 0.0002$ ) and sepsis ( $\chi^2$ ,  $p = 0.00004$ ) were significantly correlated with higher numbers of disease in children with a history of premature birth



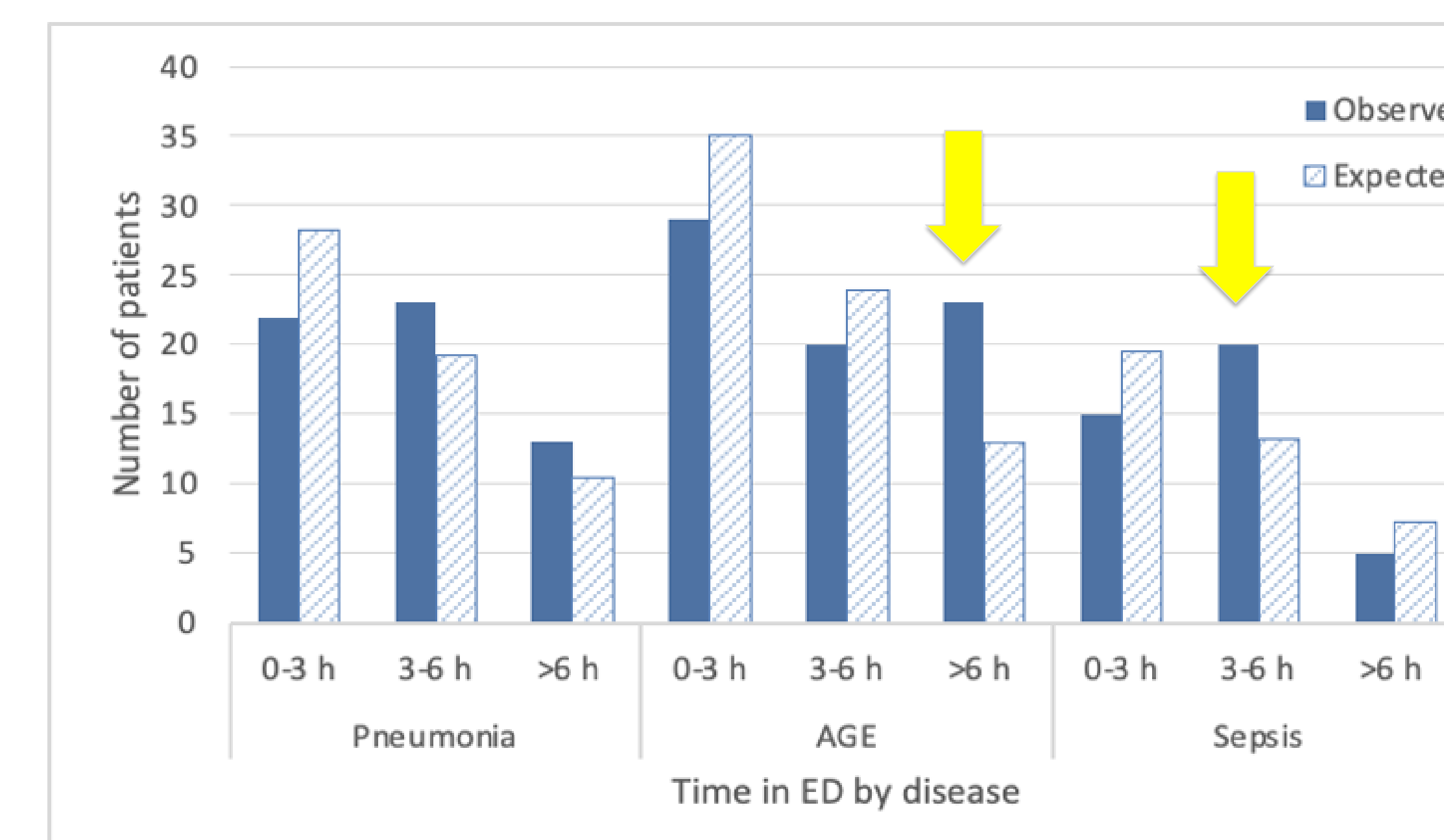
Association between most common diagnoses and prematurity in the pediatric patients.

More cases were referred from clinic sites when compared to self-presenting to the ED for AGE ( $\chi^2$ ,  $p = 0.046$ ) and pneumonia ( $\chi^2$ ,  $p = 0.008$ )



Association between most common diagnoses and nature of referral in the pediatric patients.

AGE was significantly correlated with time in the ED >6 hours ( $\chi^2$ ,  $p = 0.0016$ ), and sepsis significantly correlated in the 3-6 hour category ( $\chi^2$ ,  $p=0.049$ ).



Association between most common diagnoses and time in the KDH Emergency Center in the pediatric patients.

## Conclusions

- Acute gastroenteritis and pneumonia had more cases being referred from clinic compared to self presentation, likely related to the complexity of disease severities and resource availability.
- Prematurity was associated with increased cases of pneumonia and sepsis, indicating need for prenatal care and treatment.
- The length of stay for acute gastroenteritis was associated with higher cases staying in the ED > 6 hours, while length of stay for patients with sepsis was higher than expected for the 3-6 hour timeframe.

## Applications

- Allocating resources and staff to address gaps in care.
- Improving protocols and interventions to reduce morbidity and mortality.
- Areas for education in the community and healthcare providers.

## Limitations:

- Small sample size from 5 years prior.
- Data represents specific region and population.

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## Literature cited

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