

DISTRIBUTION OF RESPIRATORY VIRAL PATHOGENS IN INFANTS ACROSS DIFFERENT CLINICAL SETTINGS FROM DECEMBER 2019 TO APRIL 2020

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1. INTRODUCTION

- Viral acute respiratory infections (ARI) are a leading cause of morbidity and mortality in young children
- Data from the outpatient (OP) and emergency department (ED) settings are limited due to inconsistent clinical diagnostic viral testing, compared to the inpatient (IP) setting
- We aimed to evaluate the distribution of most common respiratory viruses in three different clinical settings

2. METHODS

- Infants less than one year who presented with fever and/or respiratory symptoms were enrolled from December 16, 2019 to April 30, 2020 in Nashville, TN
- Nasal and throat swabs were collected and tested via molecular testing for common respiratory viruses and SARS-CoV-2
- Multivariable logistic regression was used to assess factors associated with ED visits vs. OP visits in virus-positive infants

3. RESULTS

- Of 361 infants enrolled and had nasal swabs collected and tested, 295 (82%) had at least one virus detected
- Rhinovirus/enterovirus (RV/EV) [124 (42%)], respiratory syncytial virus (RSV) [101 (32%)], and influenza (flu) [44 (15%)] were the three most common pathogens detected
- No samples tested positive for SARS-CoV-2
- RSV was the most frequent virus detected in the IP (63%) and ED (37%) settings, while RV/EV was the most common in the OP setting (54%)

Figure 1. Distribution of respiratory viruses in different settings

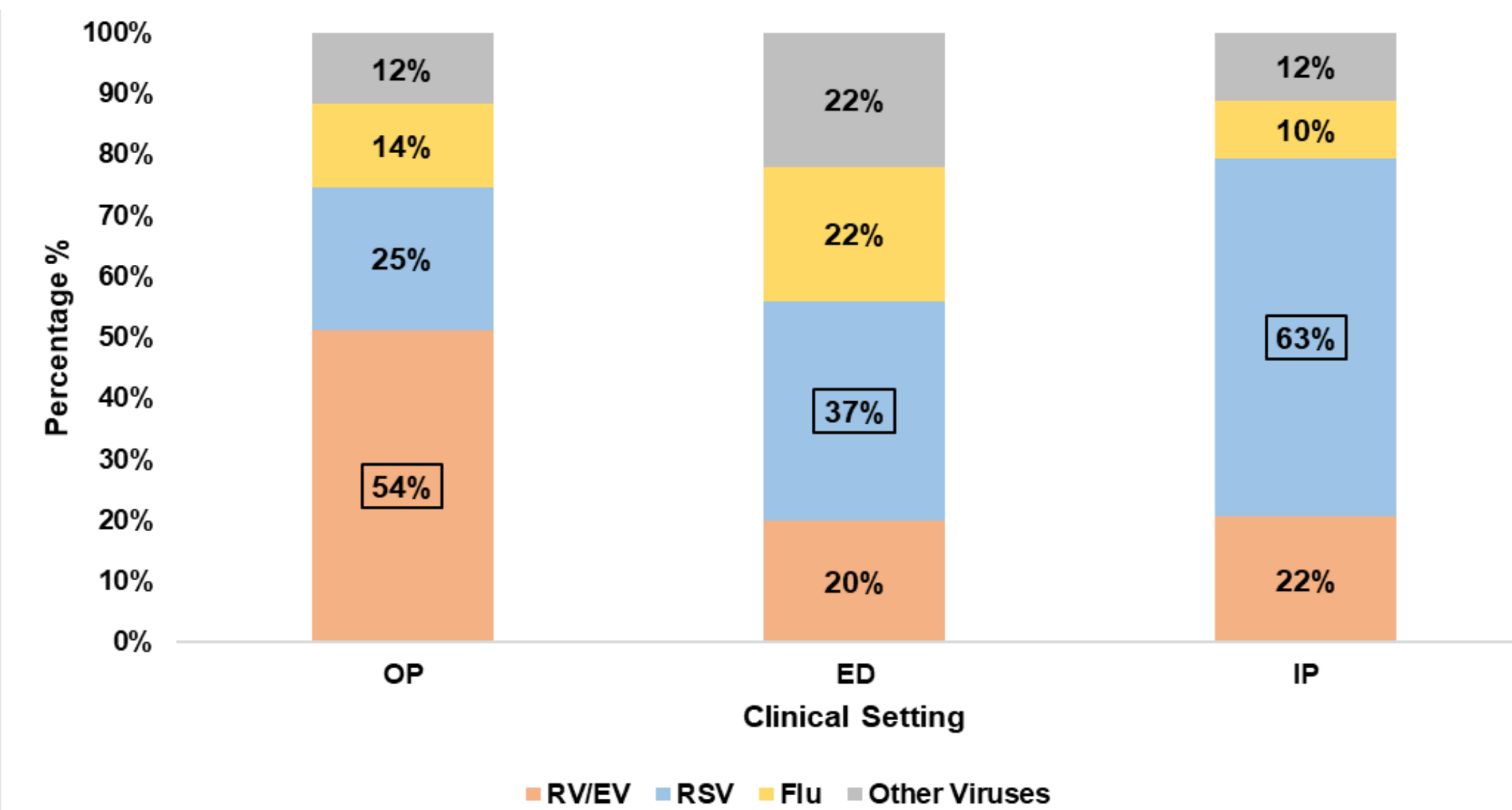
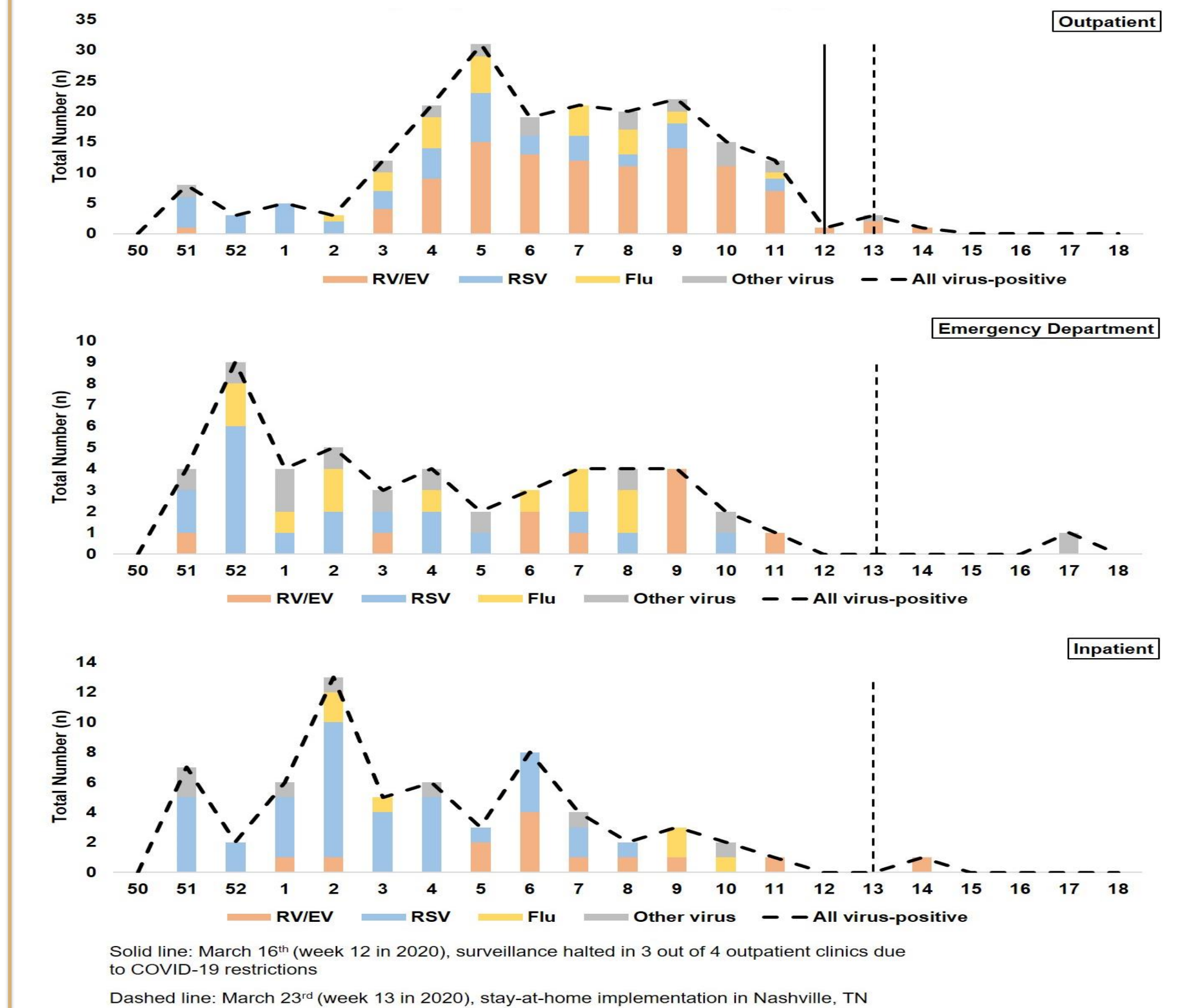


Table 1. Adjusted odds ratio from logistic regression model to evaluate variables associated with ED visits compared to OP visits in virus-positive infants

	ED visits compared to OP visits N=275	
	OR	95% CI
<i>Insurance</i>		
Private	Ref	Ref
None (Self pay)	32.3	6.3-165.8
Public	12.3	3.3-45.9

OR: odds ratio; CI: confidence interval
Adjusted for age, race, ethnicity, gender, underlying medical conditions, and prematurity

Figure 2. Distribution of respiratory viruses in different settings by week



4. CONCLUSIONS

- In the ED, OP and IP settings, most infants presenting with ARI had at least one virus detected
- RSV, RV/EV, and flu accounted for over three-quarters of viral ARI, and RSV was the leading viral pathogen identified in the ED and IP settings
- Clinical setting distribution varied among the most common viruses, and was strongly associated with insurance status

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