Evaluation of Nirsevimab (Beyfortus®) Administration in a Children's Hospital

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Background

- Nirsevimab (Beyfortus®) was approved by the FDA in 2023 for the prevention of respiratory syncytial virus (RSV) in infants and children less than 24 months old but was not widely available due to a national shortage.
- Anticipating there would be a significant number of infants less than 8 months of age eligible to receive nirsevimab admitted to Golisano Children's Hospital during the 2024-2025 RSV season, we wanted to systematically characterize how often we immunized eligible patients.

Objective

- Determine the frequency of infants less than 8 months of age who were eligible to receive nirsevimab during their hospital admission.

Methods

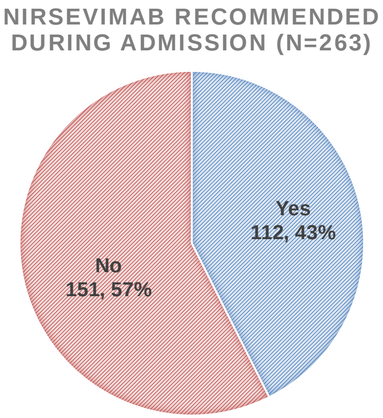
- Pediatric patients less than 8 months of age were reviewed, and a chart note was placed if they were eligible to receive nirsevimab during their hospital admission.
- Patients were eligible if they hadn't received nirsevimab prior to admission and the patient's mother hadn't received Abrysvo® during pregnancy.
- Primary end point: Frequency of infants less than 8 months old whom it was recommended to receive nirsevimab during hospital admission.
- Secondary end points: Percentage of eligible patients who received nirsevimab during admission, trends by month of admission, frequency of previous nirsevimab administration prior to admission, frequency of maternal Abrysvo® administration during pregnancy, prevalence of RSV on admission.
- All data was double checked by second author and analyzed using descriptive statistics utilizing Excel® and Research Electronic Data Capture (REDCap®) software.

Results

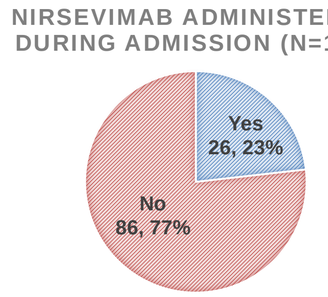
Table 1: Patient Demographics

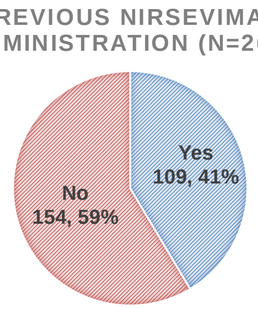
	All Patients (n=263)	Patients Eligible for Nirsevimab (n=112)
Age (median)	2 months	3 months
Gestational age (mean)	37.2 weeks	37.8 weeks
Respiratory Panel Results (n, %)	SARS CoV-2: 8, 3.0% Coronavirus HKU1: 5, 1.9% Coronavirus NL63: 6, 2.3% Coronavirus OC43: 4, 1.5% Adenovirus: 11, 4.2% Human Metapneumovirus: 3, 1.1% Rhino/Enterovirus: 59, 22.4% Influenza A: 9, 3.4% Parainfluenza virus 1: 2, 0.8% Parainfluenza virus 4: 3, 1.1% RSV: 57, 21.7% Bordetella parapertussis: 1, 0.4% Bordetella pertussis: 1, 0.4% Mycoplasma pneumoniae: 3, 1.1% None: 87, 33.1% Test not performed: 35, 13.3%	SARS CoV-2: 2, 1.8% Coronavirus HKU1: 0, 0% Coronavirus NL63: 1, 0.9% Coronavirus OC43: 3, 2.7% Adenovirus: 8, 7.1% Human Metapneumovirus: 1, 0.9% Rhino/Enterovirus: 28, 25% Influenza A: 3, 2.7% Parainfluenza virus 1: 2, 1.8% Parainfluenza virus 4: 2, 1.8% RSV: 36, 32.1% Bordetella parapertussis: 0, 0% Bordetella pertussis: 1, 0.9% Mycoplasma pneumoniae: 2, 1.8% None: 22, 19.6% Test not performed: 18, 16.1%

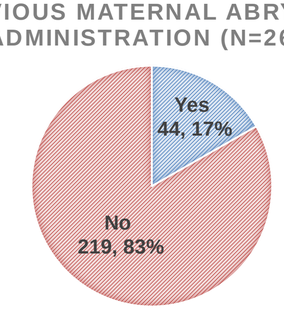
Primary Endpoint

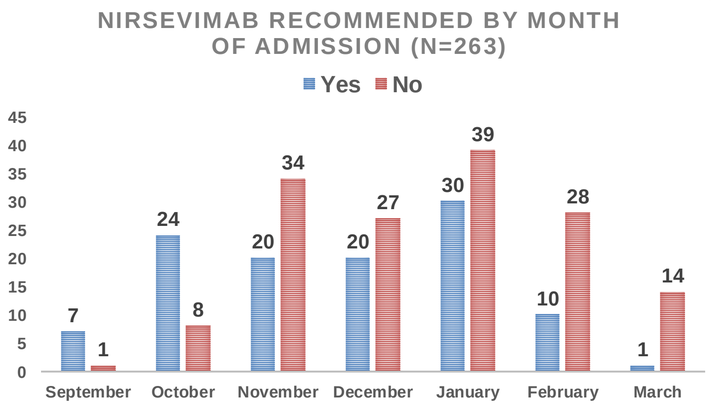


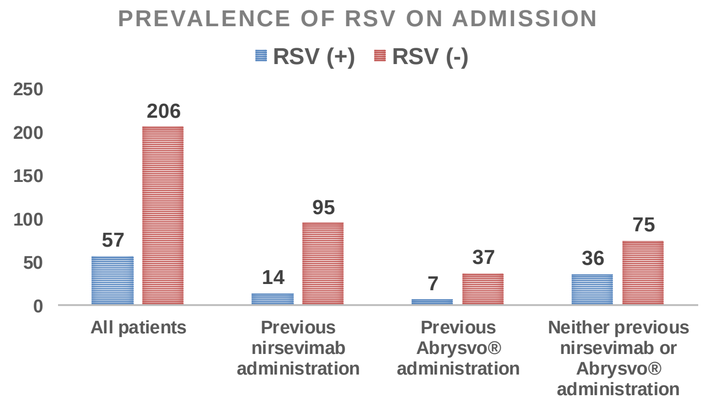
Secondary Endpoints











Discussion

- During the 2024-2025 RSV season 43% (n=112) of patients less than 8 months old that were screened during their admission to Golisano Children's Hospital qualified to receive the RSV immunization nirsevimab (Beyfortus®).
- Of those 112 patients 23% (n=26) received the immunization during admission.
- As the RSV season progressed, fewer patients were eligible to receive nirsevimab during admission as more patients had either previously received nirsevimab or patient's mother received Abrysvo ® during pregnancy.
- RSV was more prevalent on admission in patients who had not previously received nirsevimab or maternal Abrysvo®
- At $470 per syringe, immunizing 26 patients with nirsevimab cost our institution approximately $12,220.

Conclusion

- During the 2024-2025 RSV season our institution had the opportunity to provide nirsevimab to 43% (n=112) of patients less than 8 months old that had not yet received protection against RSV.
- Only 23% (n=26) of those patients received the recommended nirsevimab dose.

Future Directions

- Assess barriers to low percentage of acceptance of recommendation to give nirsevimab during admission to increase uptake in the future.
- Investigate eligibility of patients screened to assess if they may have been eligible for the Vaccines for Children (VFC) Program and if that would provide enough benefit for the hospital to utilize it for inpatient administration of nirsevimab.

Disclosures

- The authors have nothing to disclose.

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