

Introduction

- Respiratory syncytial virus (RSV) infection is a major cause of morbidity and mortality in immunocompromised children
- Aerosolized ribavirin is approved to treat severe RSV pneumonia in children
- Use is limited due to high cost, uncertain benefit, and challenges in administration
- Recent studies in adults have reported similar outcomes for patients treated with aerosolized and oral ribavirin
- No studies have been performed in children
- We sought to characterize trends in use of ribavirin for hospitalized children.

Methods

- Retrospective study of children hospitalized from 1/1/2010-12/31/2019 in Pediatric Health Information System (PHIS) database
- Patient characteristics and data related to ribavirin use were abstracted
- Summary statistics used to describe patient characteristics and ribavirin use
- Simple linear regression was used to trend ribavirin use over time

Results

- Ribavirin use reported at 37 hospitals with median 11 courses (range 1-261, Fig. 1)
- 837 children received 937 courses of ribavirin
 - Mean age 6.5 years (SD 5.2 years)
 - 485/837 (57.9%) of patients were male
- 496/837 (59.3%) had diagnosis codes for RSV
- 259/837 (30.9%) coded for another viral infection
- Underlying conditions
 - 177/837 (21.1%) with hematopoietic stem cell transplantation
 - 69/837 (8.2%) receipt of chemotherapy or other malignancy
 - 12/837 (1.4%) solid organ transplantation

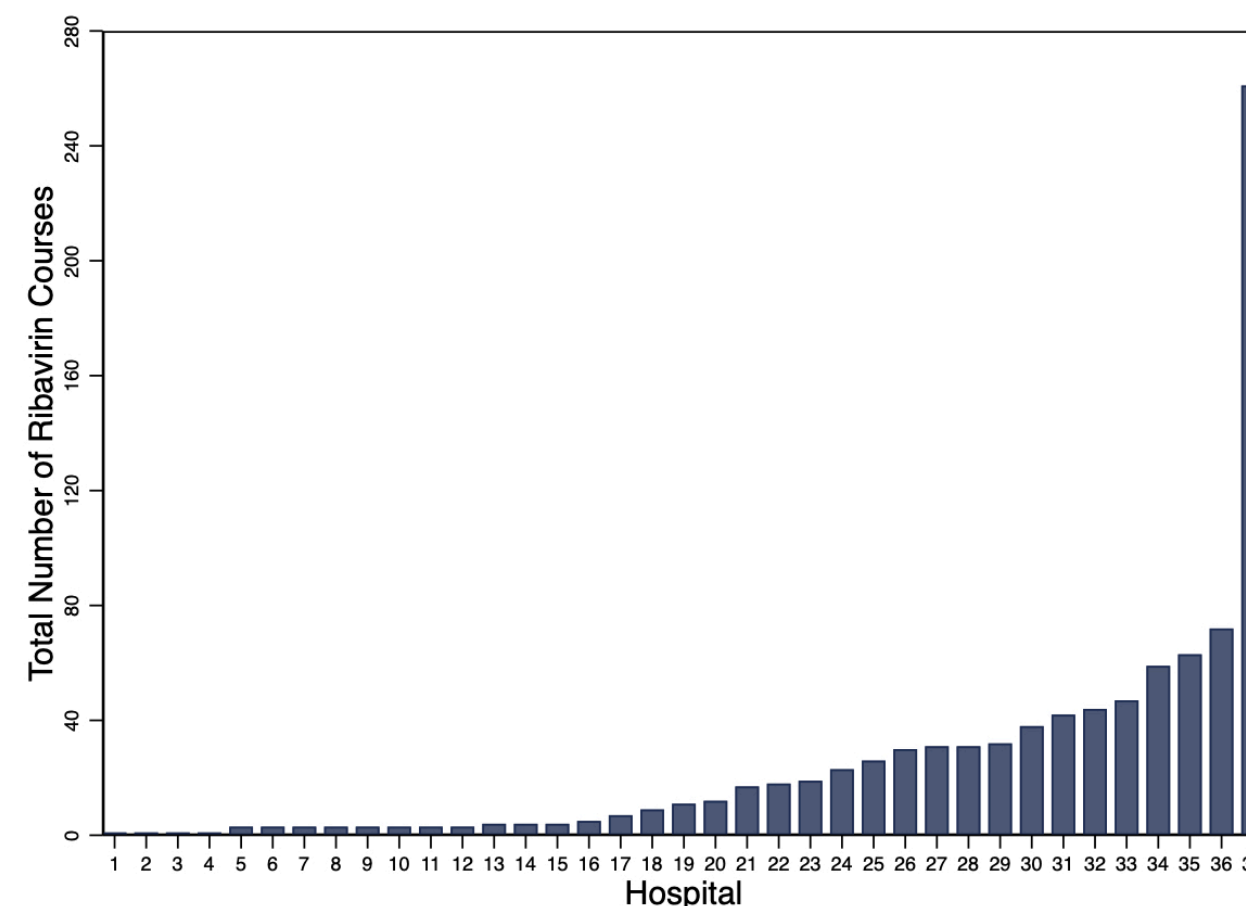


Figure 1: Ribavirin use across hospitals

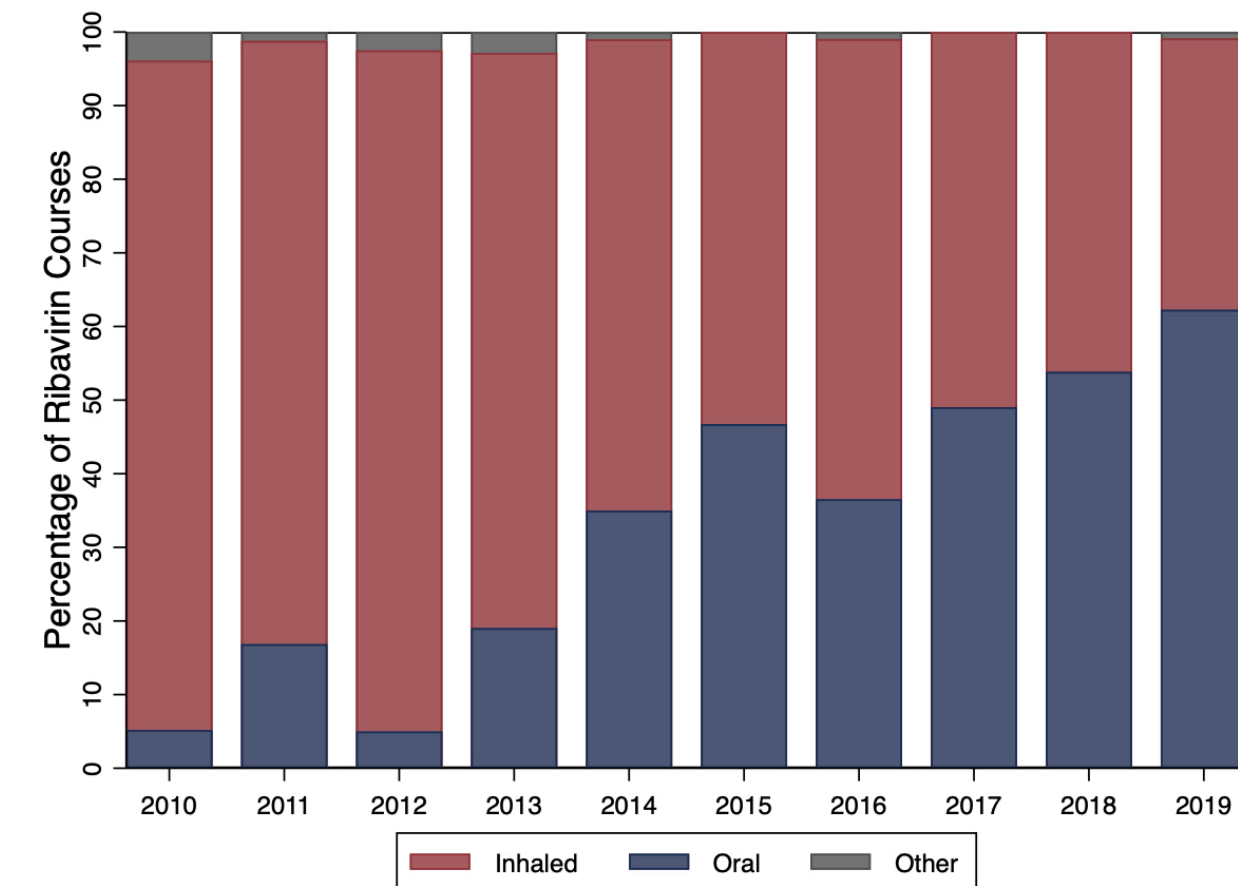


Figure 2: Ribavirin route of administration, by year

- Majority of cases were given via inhalation (603/937, 64%), followed by oral route (322/937 (34%) (Fig. 2)
- Over course of the study, the percentage of ribavirin courses administered orally increased significantly ($R^2=.90$, $p<.001$)

Discussion

- Ribavirin use for hospitalized children is uncommon and varies widely across centers
- Route of administration has shifted from aerosolized to oral administration
- Comparative effectiveness studies are needed to determine if ribavirin offers benefit for vulnerable children with RSV