

COVID-19 Wave 1 Colorado

SEPTEMBER 11, 2020



Health System Collaborative Participants



Kathryn Perkins, MD
Chief Medical Officer,
Western Region
Banner Health



Ben Keidan, MD
Chief Medical Officer
Boulder Community Health



Shauna Gulley, MD
Chief Clinical Officer
Centura Health



Darlene Tad-y, MD
Vice President Clinical Affairs
Colorado Hospital
Association



Connie Savor Price, MD
Chief Medical Officer
Denver Health



Gary Winfield, MD
Division Chief Medical Officer
HCA Healthcare/HealthONE



J.P. Valin, MD
Chief Clinical Officer
SCL Health



William Neff, MD
Chief Medical Officer –
Northern Colorado
UCHealth

About the Data

- ▶ Includes 6,329 COVID-19 confirmed admissions
 - ▶ 98% of statewide admissions (6,441 admissions per CDPHE)
 - ▶ 60,252 patient days
 - ▶ 17,431 ventilator days
- ▶ All patients had a positive COVID-19 PCR test
- ▶ Admitted between March 1, 2020 and July 31, 2020

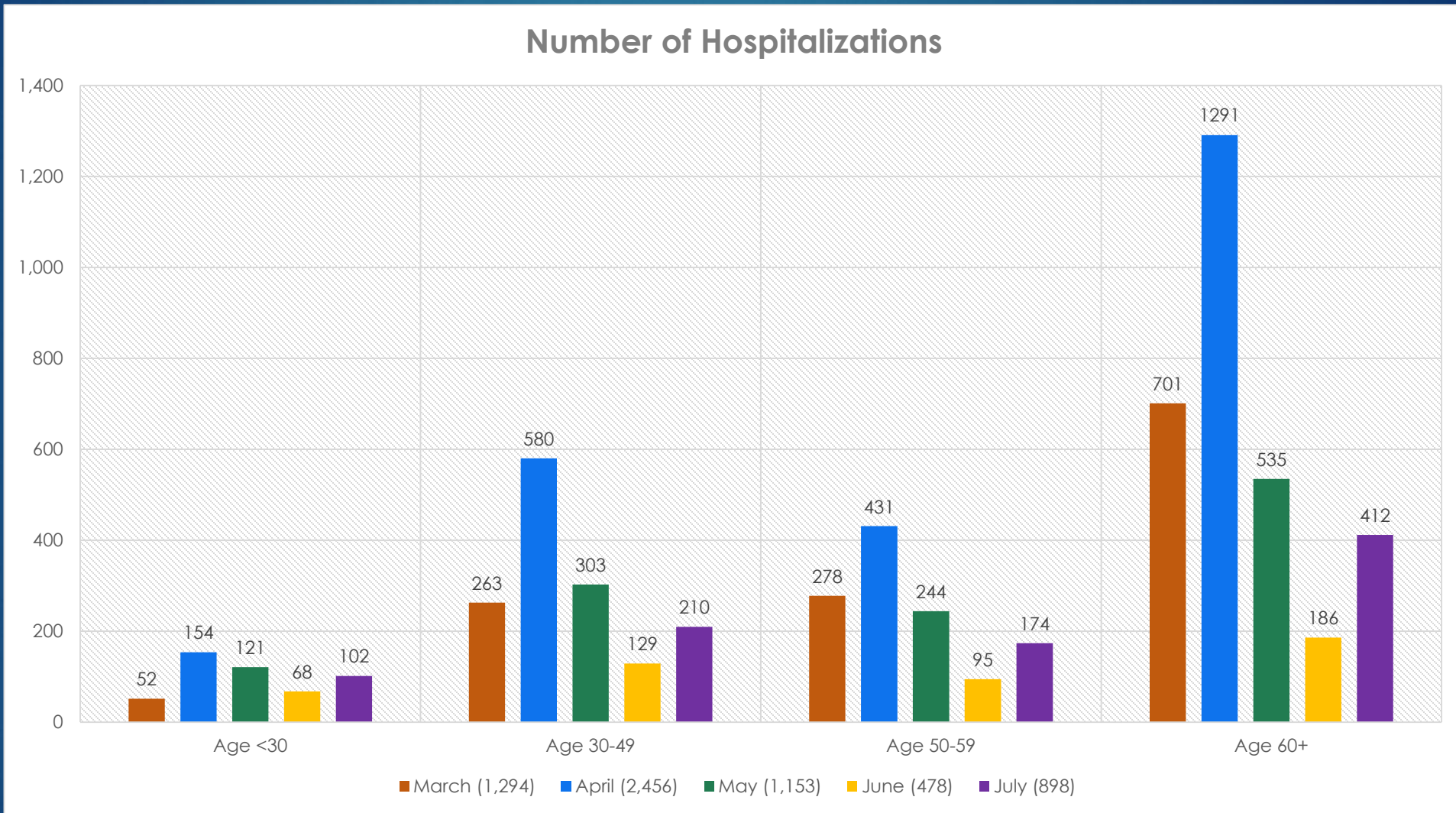
About the Patients

- ▶ 67.2% (4,250) patients discharged to home
- ▶ 18.4% (1,162) patients discharged to another facility (Skilled Nursing Facility, Acute Rehab, Long Term Acute Care Hospital, another Acute Care Hospital or Hospice)
- ▶ Overall in-hospital mortality 13.5% (855)

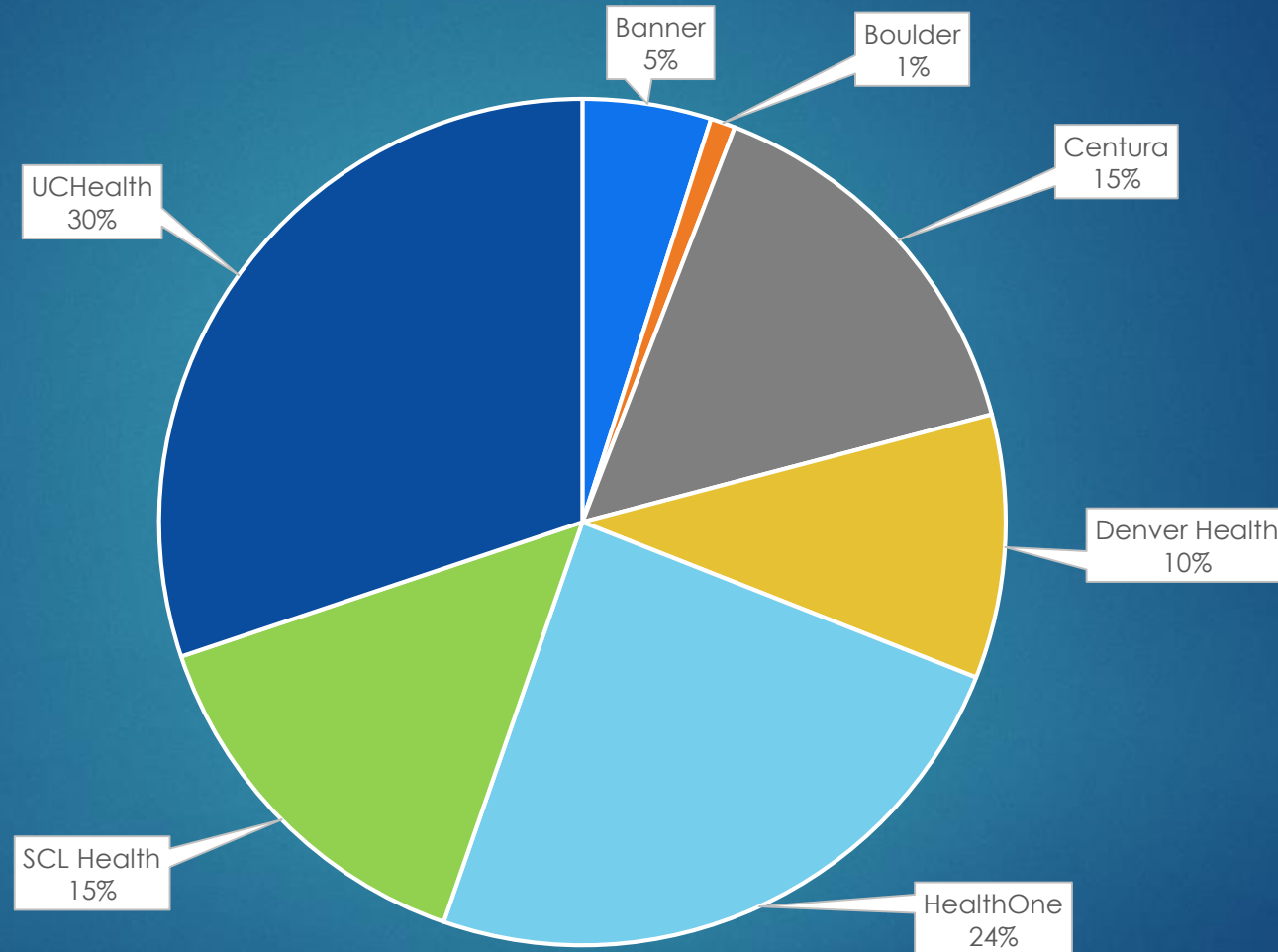
About the Data: Caveats

- ▶ The data is not risk adjusted or case-mix adjusted
- ▶ The data was aggregated and de-identified at a health system level, and then aggregated centrally
- ▶ COVID-19 positive patient readmissions and transfers may be included in the datasets – a single patient may be counted more than once in the data
- ▶ 62 patients in the dataset remained hospitalized at the time the data was compiled, which could slightly skew mortality and length of stay in July

Number of Hospitalizations

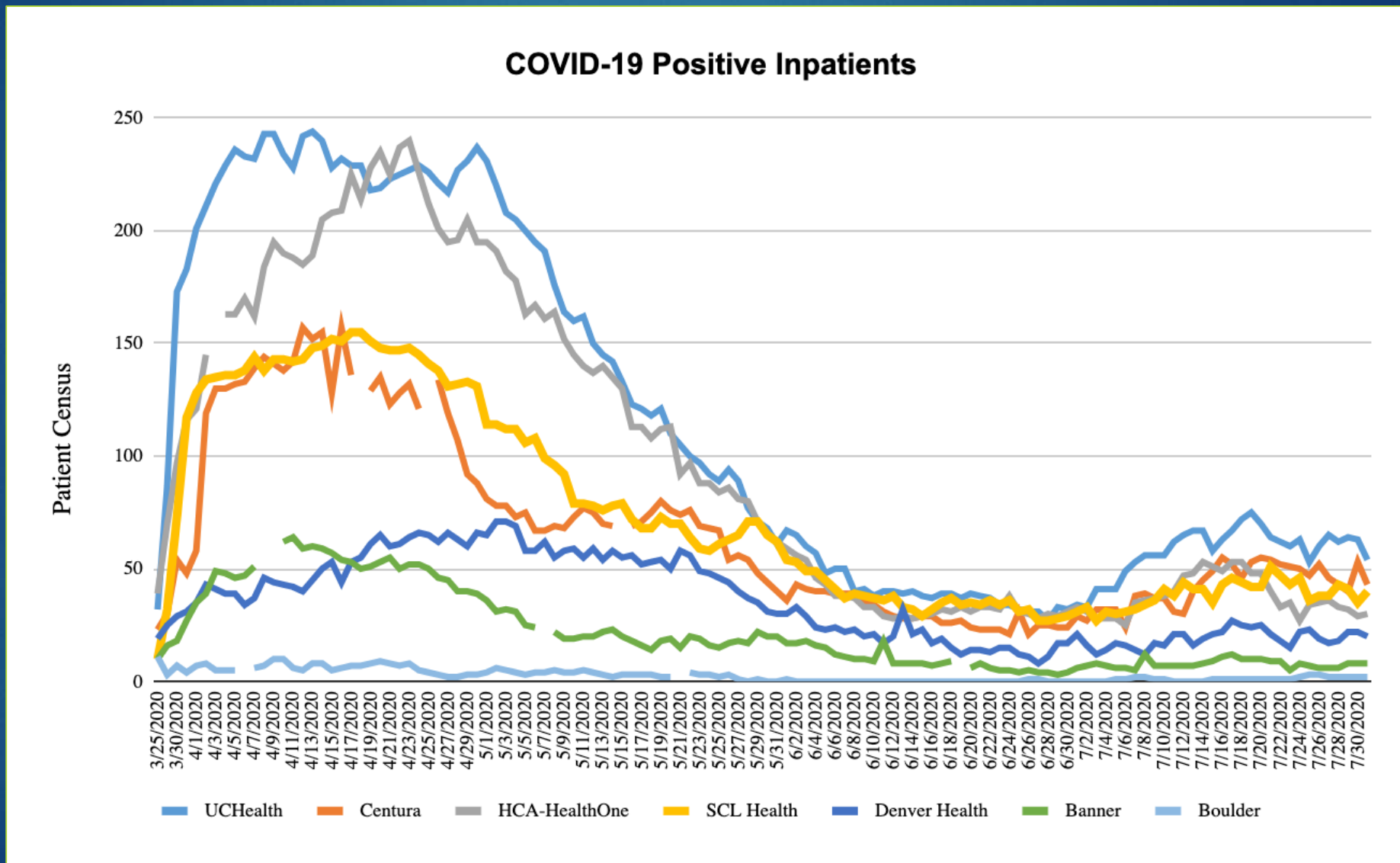


Distribution of Admissions Across Systems

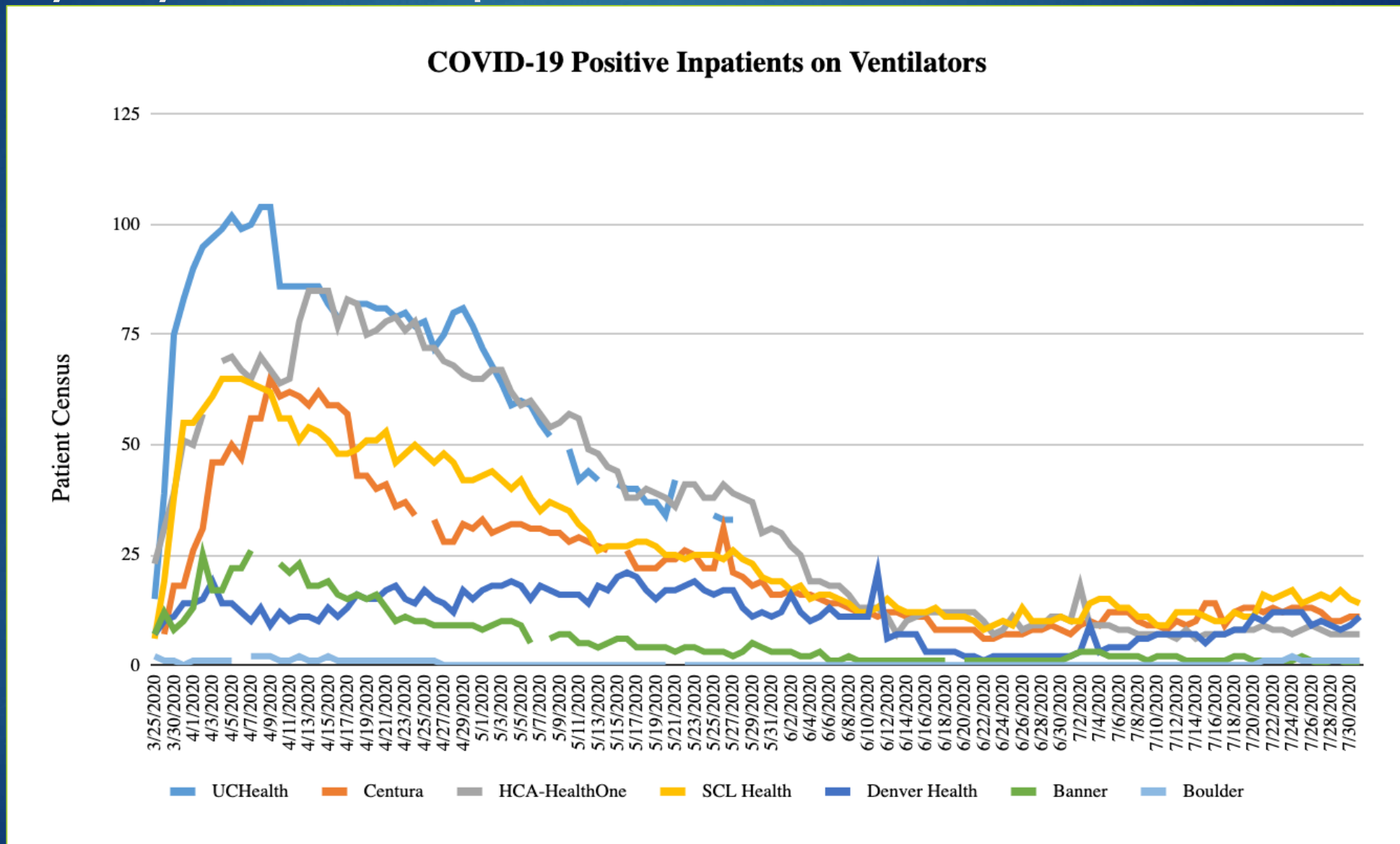


Daily Reported Inpatient Census

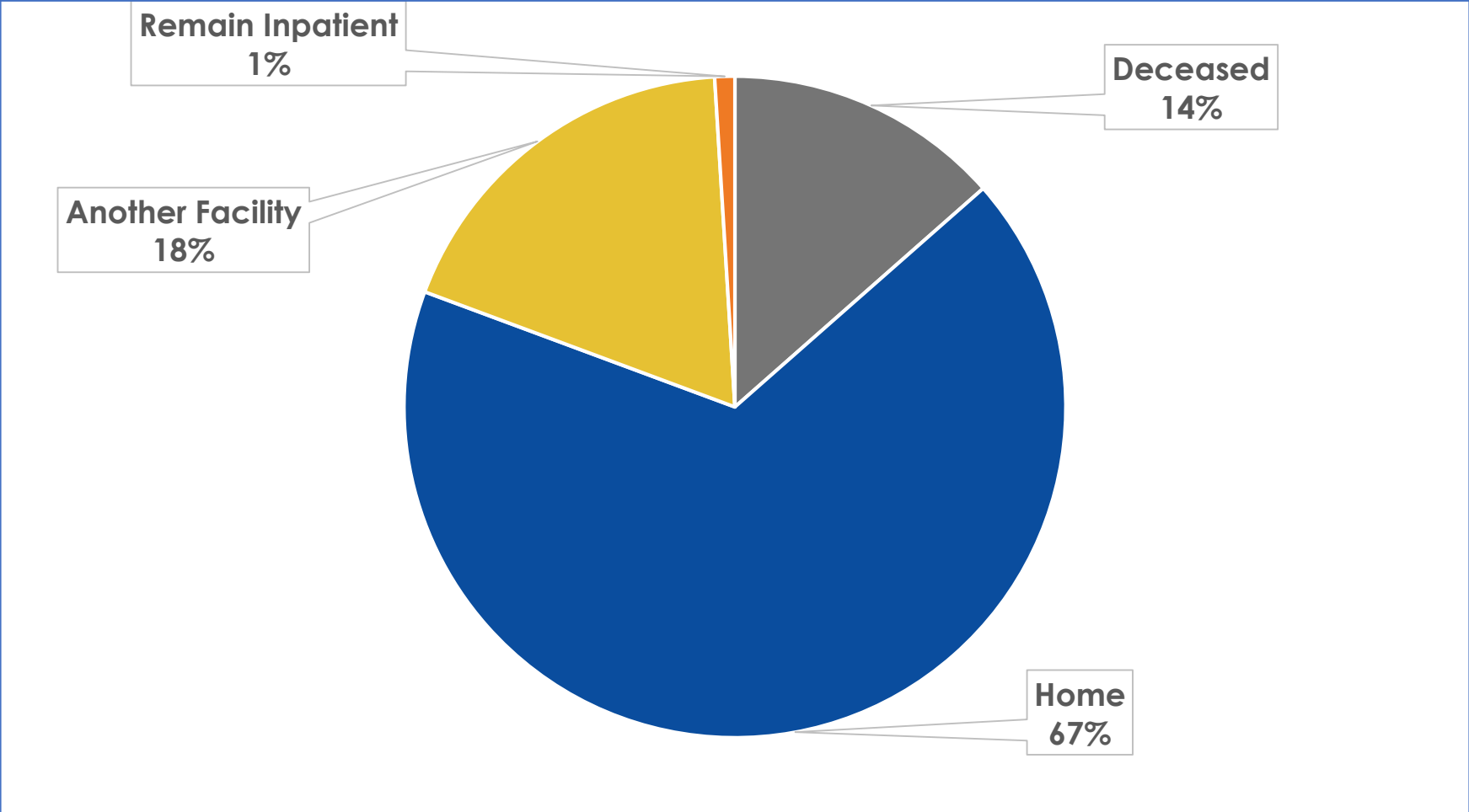
Daily System Inpatient Census



Daily System Inpatient Census

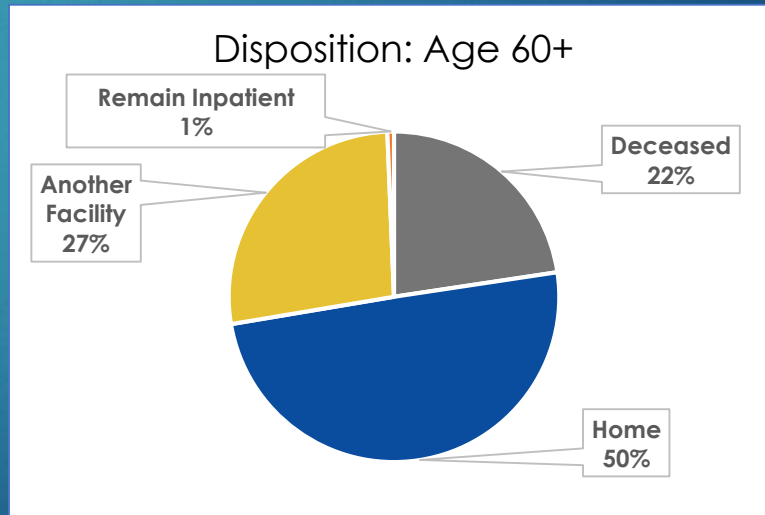
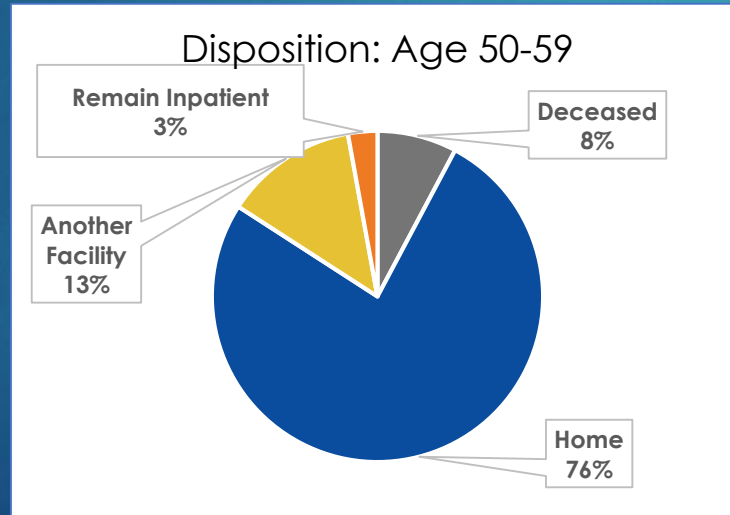
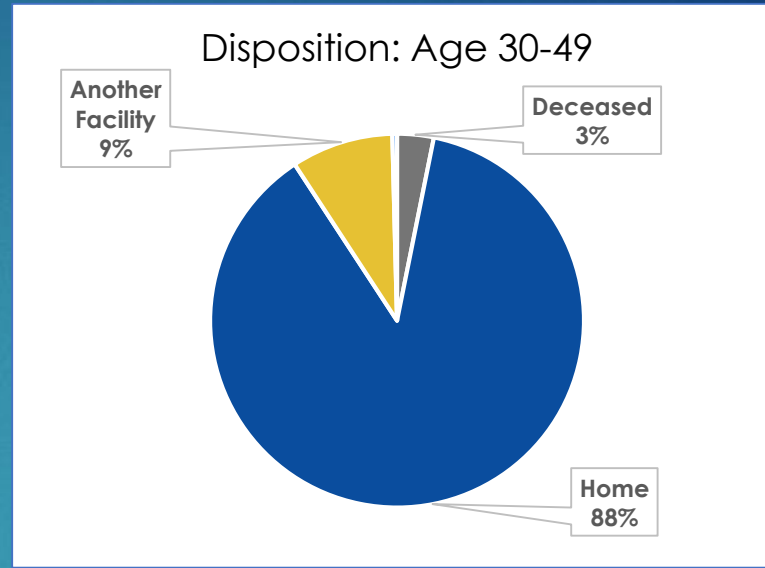
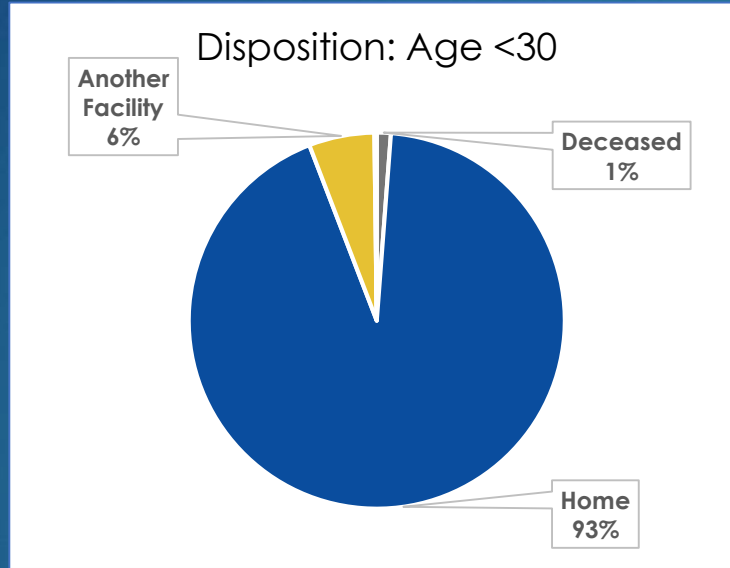


Disposition: All COVID-19 Patients

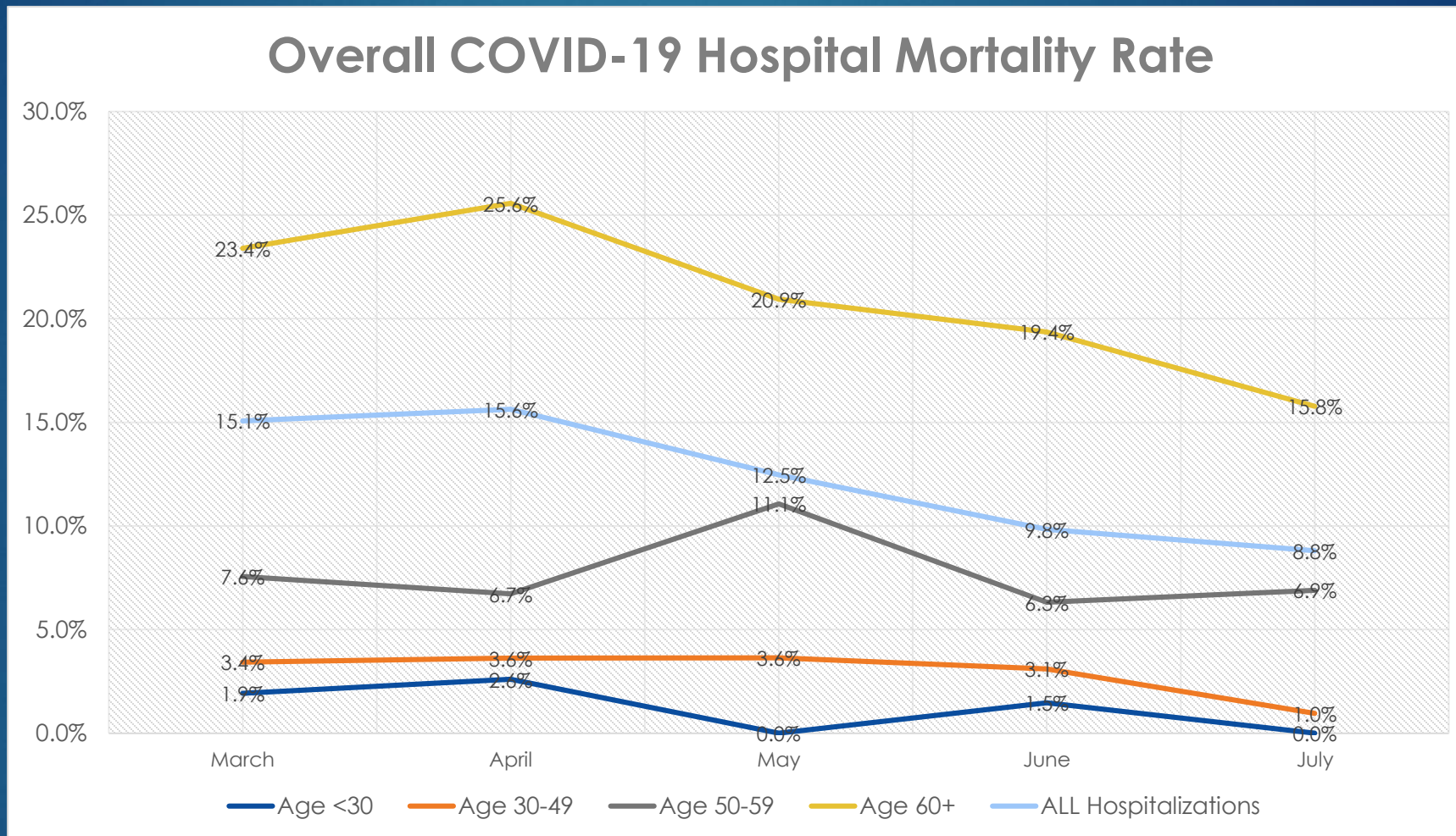


* "Another Facility" includes SNF, LTAC, Rehab, Another Acute Hospital, or Hospice

COVID -19 Patient Disposition by Age Group



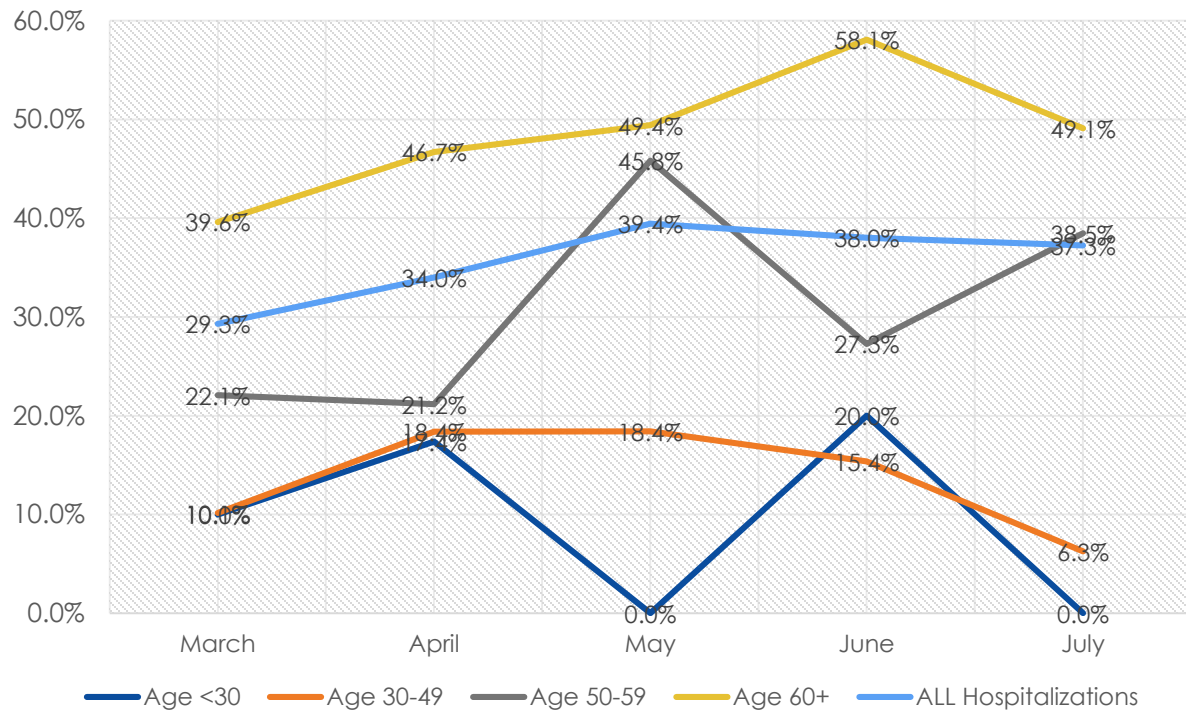
Overall COVID-19 Mortality Rate



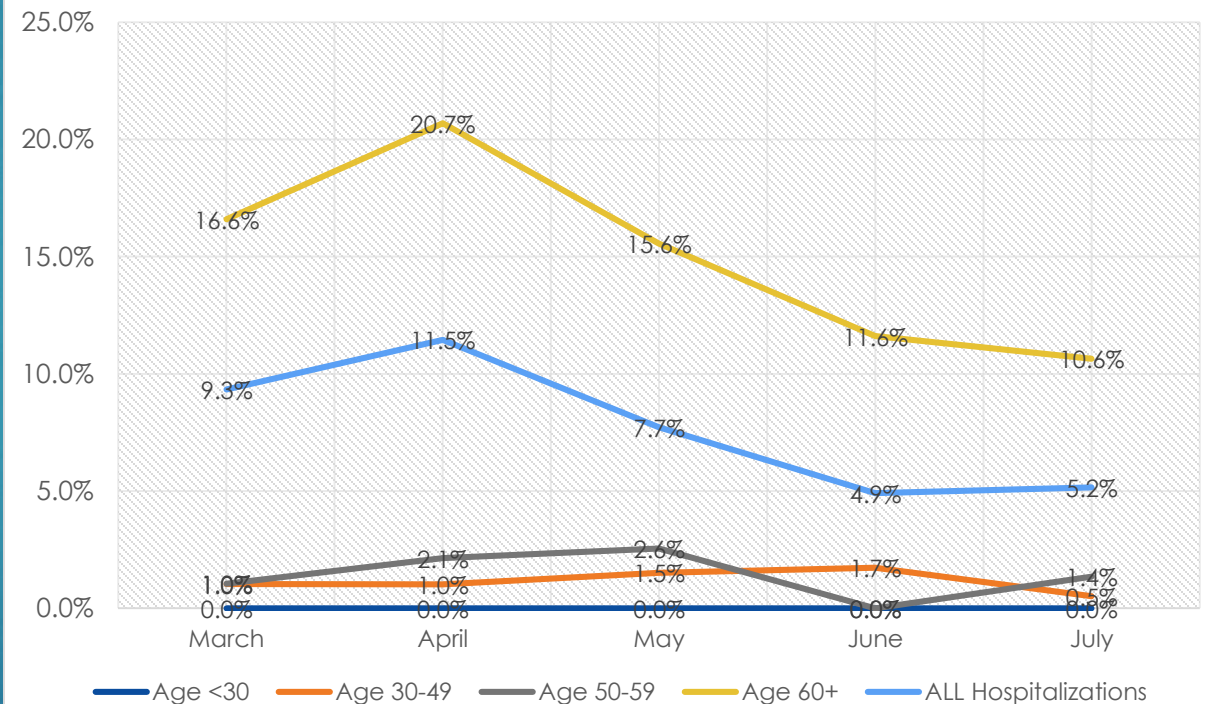
Mortality Rates

Patients Ventilated vs. No Time on Ventilator

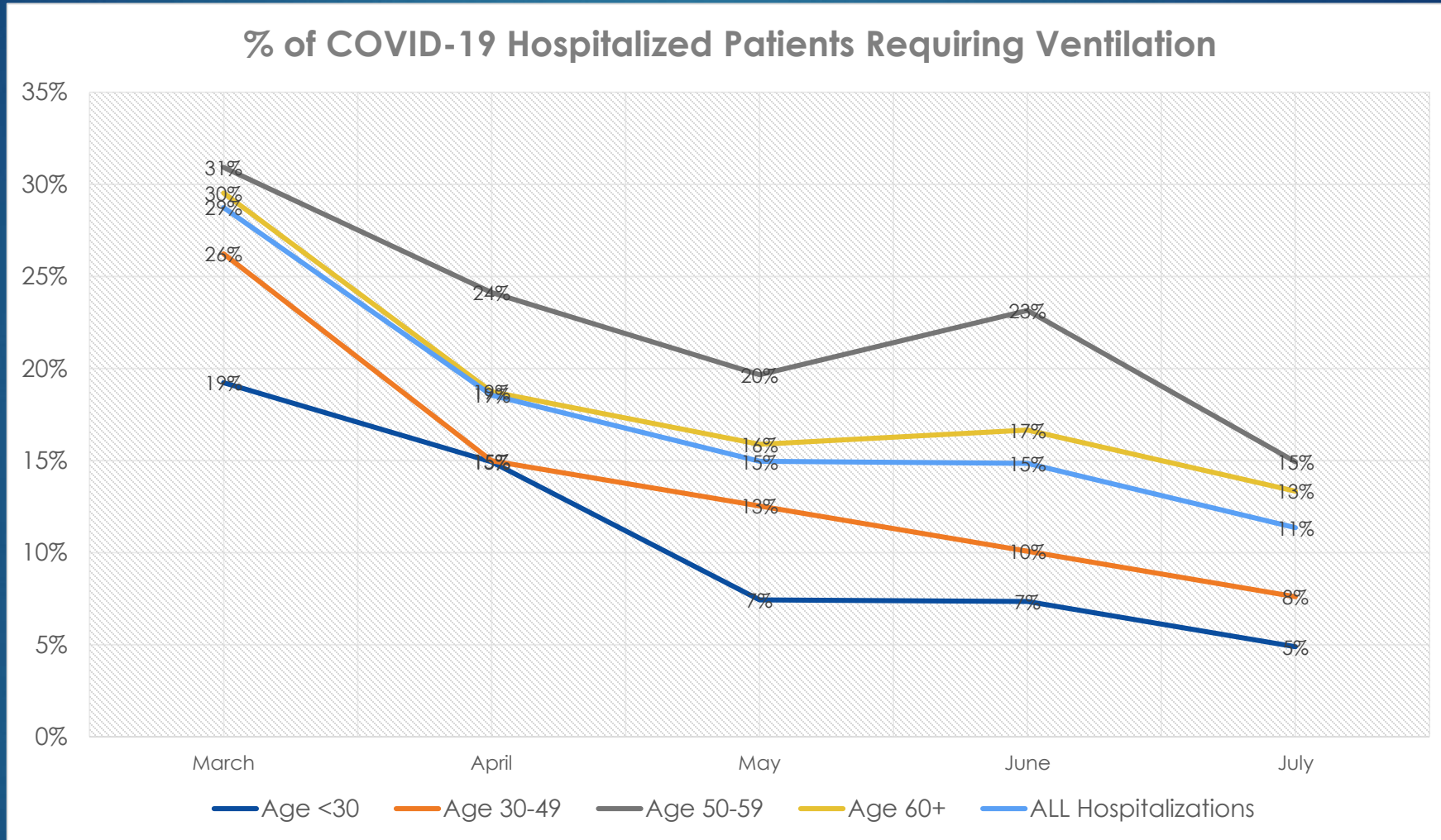
COVID-19 Mortality Rate - Any Time on Ventilator



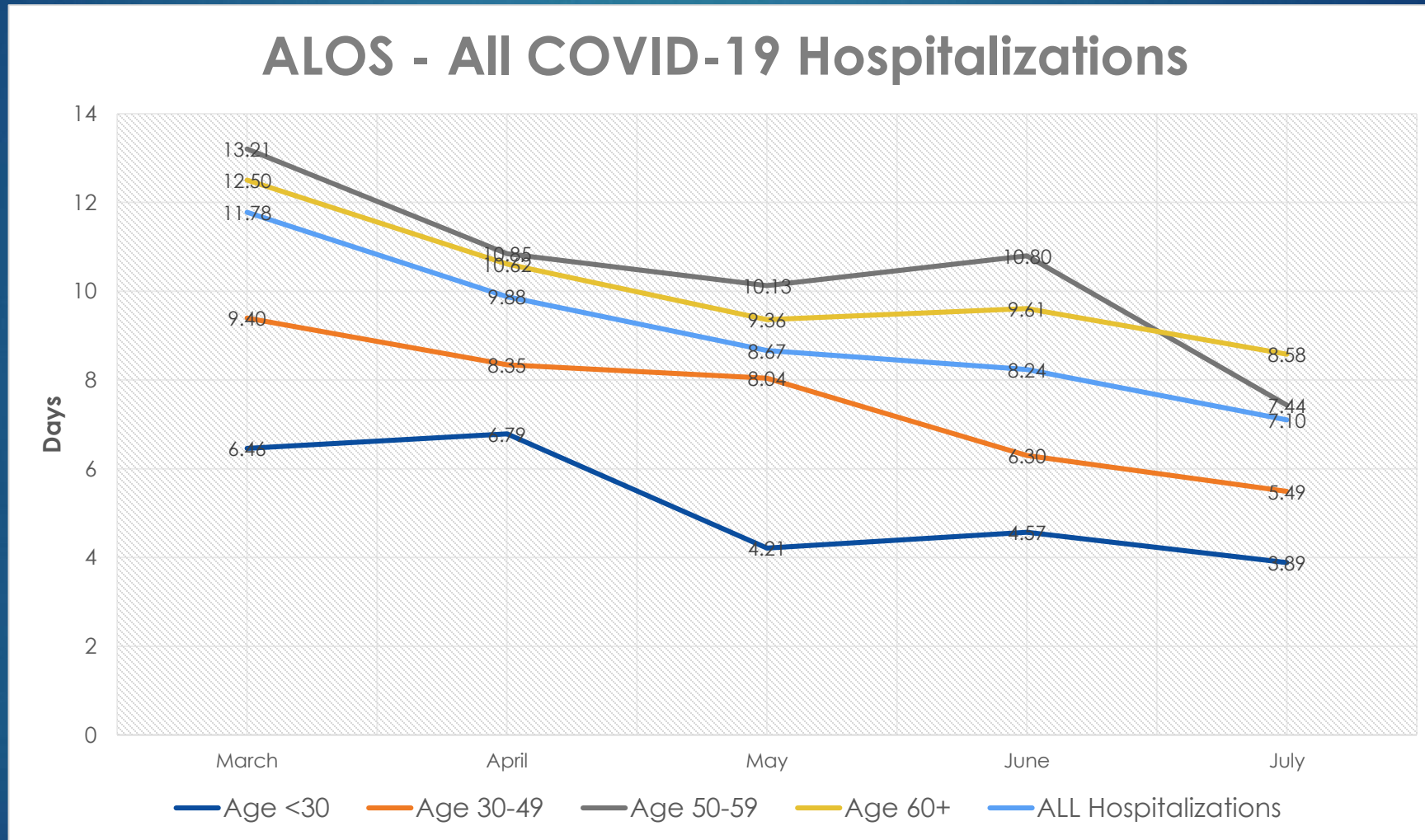
COVID-19 Mortality - No Time on Ventilator



Decreased Use of Mechanical Ventilation

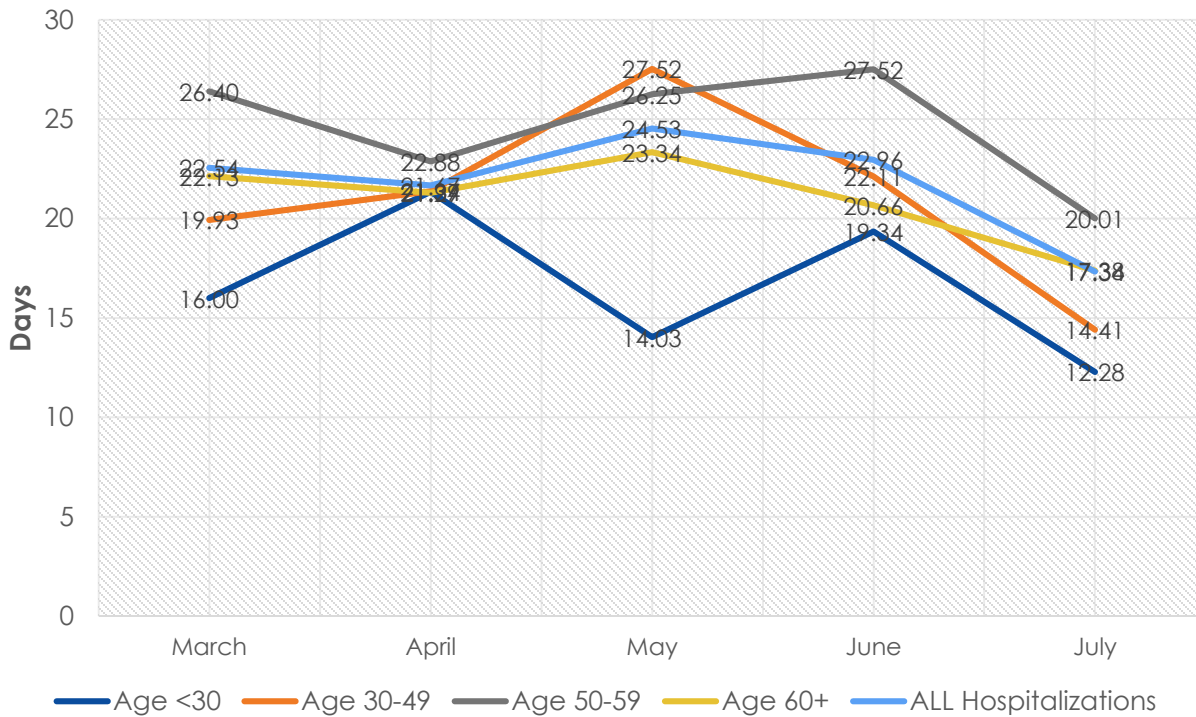


Improved Average Length of Stay (ALOS)

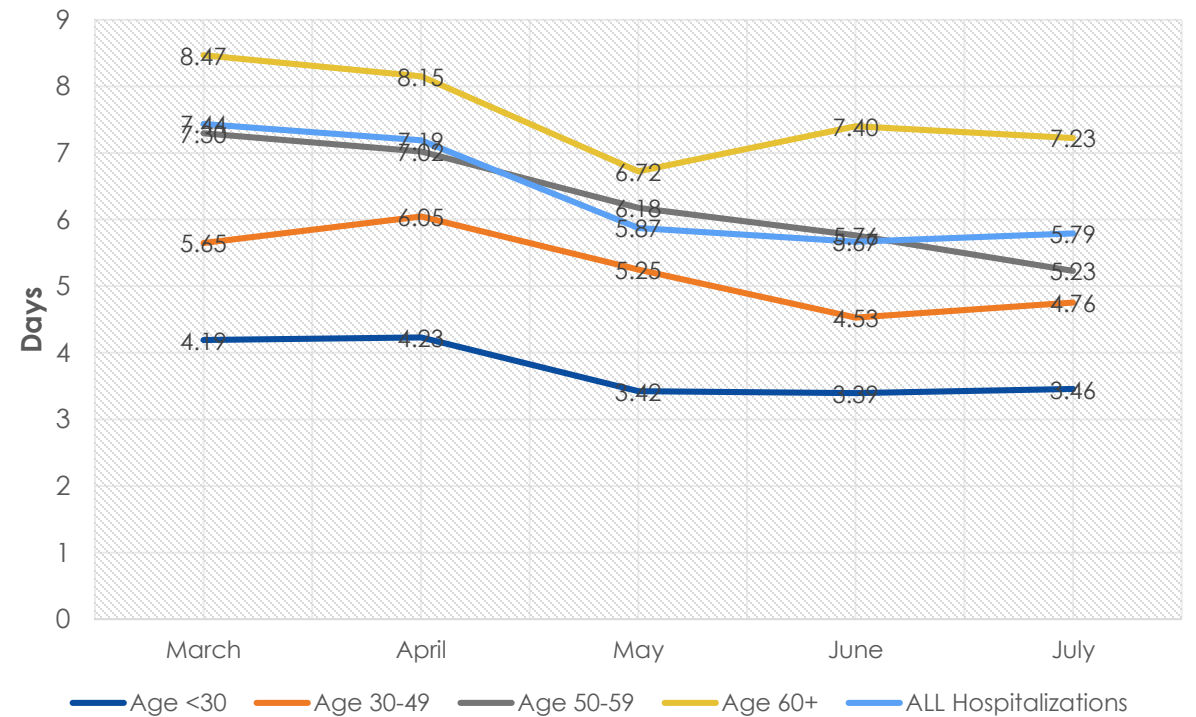


Improved Average Length Of Stay (ALOS) Patients Ventilated vs. No Time on Ventilator

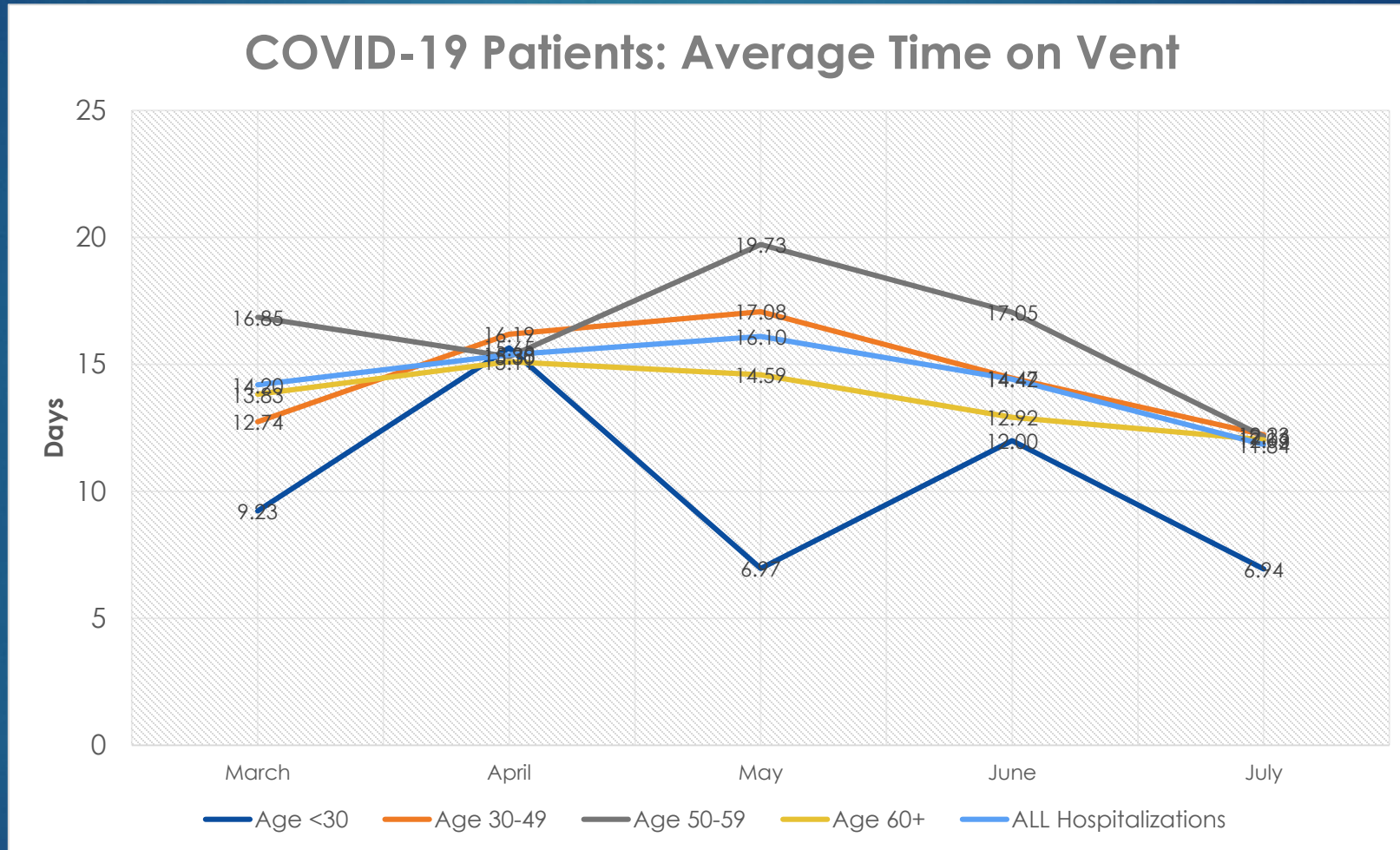
ALOS - COVID-19 Patients - Any Time on Ventilator



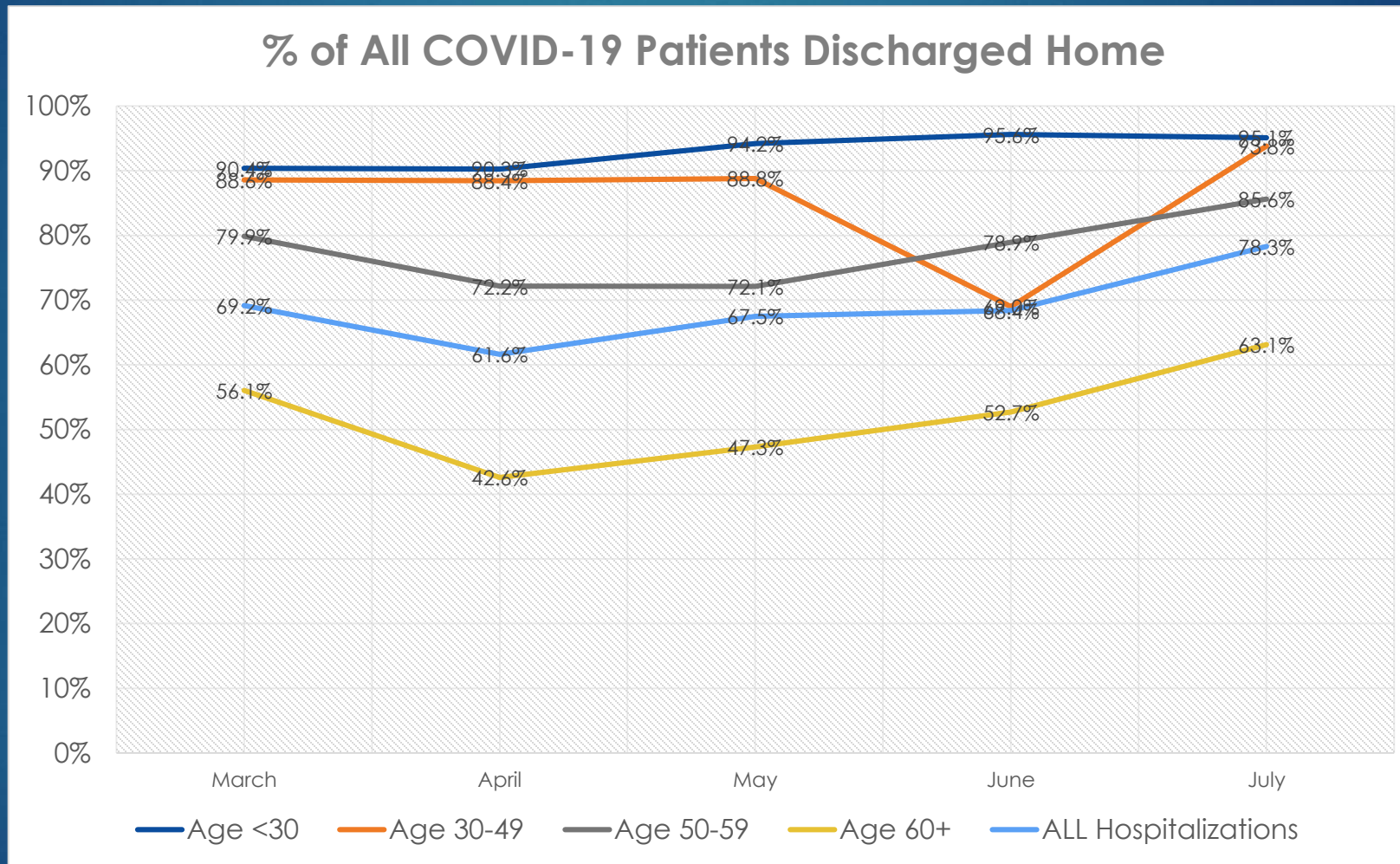
ALOS - COVID-19 Patients - No Time on Ventilator



Average Time on Ventilator

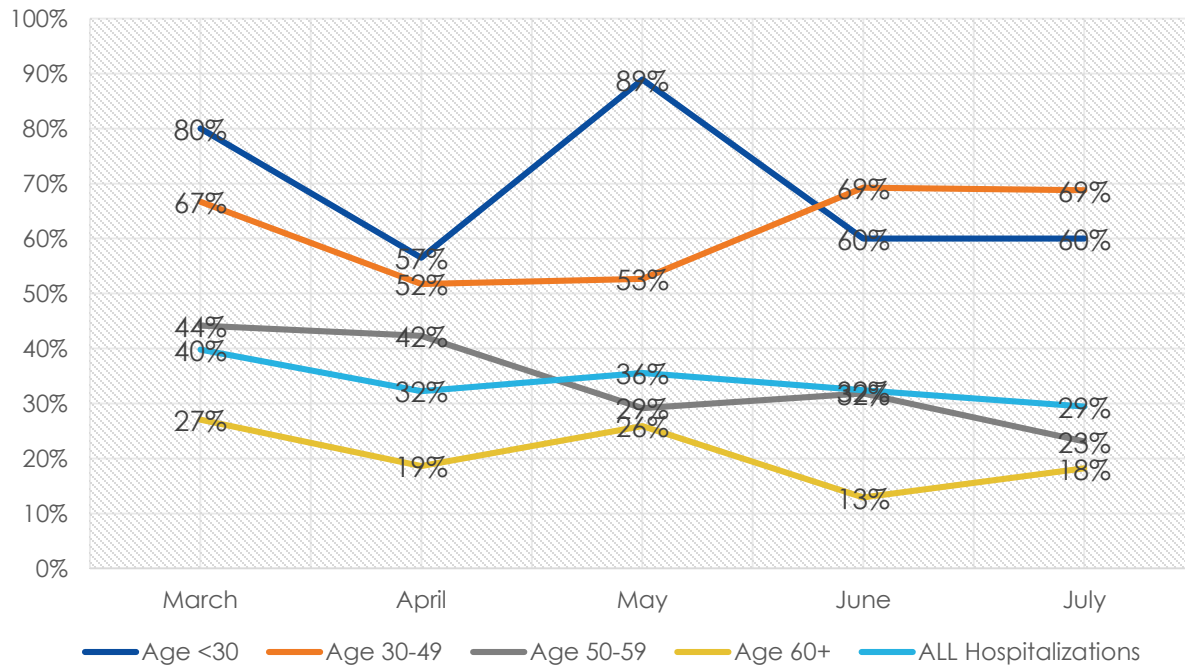


Discharge to Home: All Patients

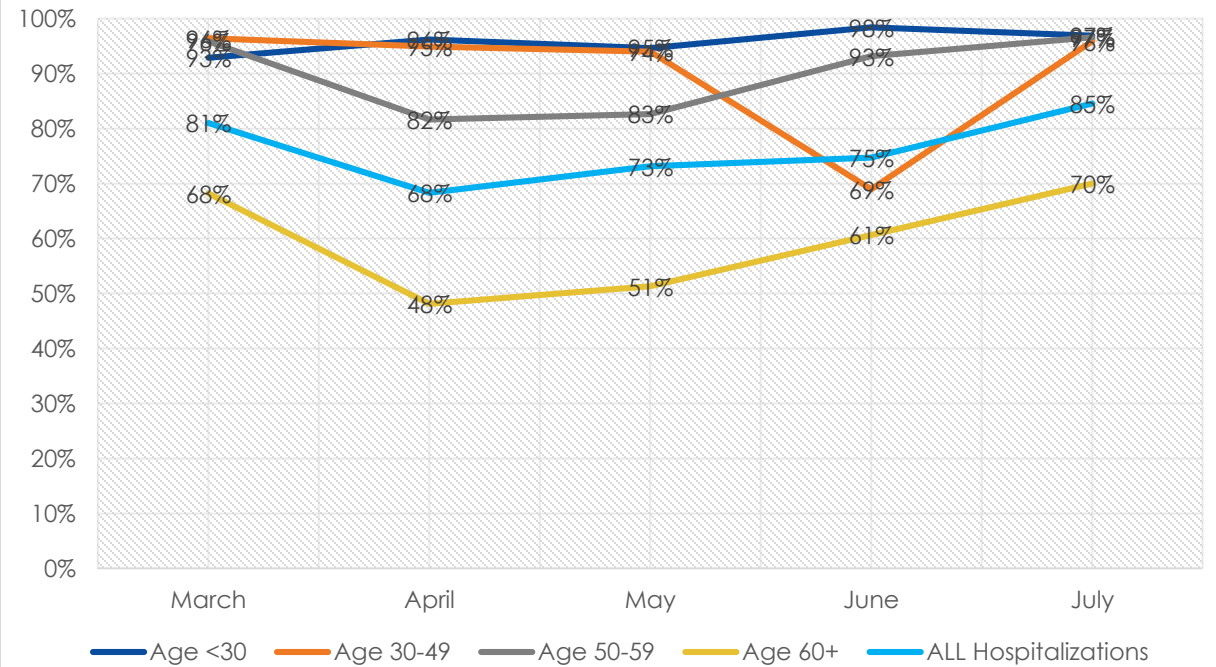


Patients Discharged to Home: Ventilated vs. No Time on Ventilator

% Discharged Home - COVID-19 - Anytime on Vent



% Discharge Home - COVID-19 - No Time on Vent



Summary

- ▶ This dataset provides a comprehensive view of Wave 1 of COVID-19 in Colorado
- ▶ Length of stay, mortality rates and ventilator use rates were observed to be higher in older age groups
- ▶ Patients requiring mechanical ventilation were observed to have:
 - ▶ Higher mortality
 - ▶ Longer lengths of stay
 - ▶ Lower rates of discharge to home

Summary

- ▶ Ventilator utilization decreased between March and July
- ▶ Study was not designed to evaluate the cause of improved outcomes, but could be related to:
 - ▶ Improved patient management and treatment algorithms
 - ▶ Rapid sharing and dissemination of knowledge and best practices
 - ▶ New therapies including antivirals and convalescent plasma
 - ▶ Baseline patient characteristics and comorbidities
- ▶ Rates of ventilator use and length of stay data can help with future surge planning for potential future waves of COVID-19 in Colorado

Thank You to the Real Heroes!

