

Background

The novel coronavirus (COVID-19) pandemic substantially impacted health care utilization in the United States. Hospital admissions and primary care visits declined precipitously, with outpatient visit volumes only returning to pre-pandemic levels in Fall, 2020.¹⁻³ The pandemic's effect on skilled nursing facilities (SNFs) is of particular interest. SNFs are at high-risk for COVID-19 transmission due to shared living conditions and high-touch care and were particularly impacted by COVID-19 mortality.^{4,5} The pandemic onset also provoked changes to post-acute clinical practice and regulatory policy. The Centers for Medicare and Medicaid Services (CMS) issued a waiver of the 3-day prior hospitalization rule for SNF stays, allowing patients to be admitted to SNFs without a qualifying 3-day hospitalization.⁶ Understanding the impact of these responses on changes to the profile and trajectories of patients admitted to SNF can help guide decision-making in response to future crises.

Research Objective

To describe COVID-19's impact on SNF utilization and post-discharge outcomes in the first half of 2020, compared to the same time period in the previous year.

Study Design

Population: Medicare Advantage beneficiaries ≥65 years of age with discharge from a SNF
Inclusion: Continuous enrollment 365 days prior to discharge (30 additional days required for readmission outcome analysis)
Exclusion: Hospice use, residence in long term institutional care setting

Time Period: January - June 2019 (Comparison Period), January - June 2020 (Pandemic Period)

Data Source: Analyses were conducted using de-identified administrative claims data from the OptumLabs® Data Warehouse (OLDW), which includes medical and pharmacy claims, laboratory results, and enrollment records for commercial and Medicare Advantage (MA) enrollees.⁷ The database contains longitudinal health information on enrollees and patients, representing a diverse mixture of ages, ethnicities and geographical regions across the United States.

Descriptive Variables: Member age at SNF discharge (continuous and categorical), gender (male, female) and Medicare/Medicaid Dual Enrollment status (dual-enrolled, not dual-enrolled)

Outcomes:

- SNF discharge status: community, acute transfer, deceased
- Readmission to hospital within 30 days post-SNF discharge (among members discharged to community).

Analysis

- Unadjusted monthly cross-sectional trends between Pandemic and Comparison Periods
- Absolute (event count) and percentage point (event rate) change between matched calendar months in Pandemic and Comparison Periods

Principal Findings

A total of 139,866 SNF discharges were identified over the entire study period (Comparator and Pandemic months).

- Overall, discharged members were an average age of 80 years (std dev 6.8) and predominantly female (61.6%), with 18.6% dually-enrolled.
- The overall rate of readmission to hospital was 11.3% in 2019 and 10.7% in 2020.
- Readmission was more likely among dually-enrolled (2019: 13.1% 2020: 12.5%) than non-dually-enrolled (2019: 10.8% 2020: 10.3%) members.

Discontinuities in SNF discharges were observed beginning in March 2020.

Table 1. Number and Status of SNF Discharges, January – June 2019 vs. January – June 2020

Discharge Status		Jan	Feb	Mar	Apr	May	Jun
Total Discharges (n)	2020	13,175	12,957	12,479	8,387	7,091	7,765
	2019	12,509	12,379	13,873	13,135	13,399	12,717
	Difference	666	578	(1,394)	(4,748)	(6,308)	(4,952)
Community (% of total)	2020	79.3%	79.9%	80.2%	73.4%	73.7%	76.4%
	2019	76.1%	78.4%	79.0%	79.0%	80.7%	80.4%
	Difference	3.2	1.5	1.1	(5.6)	(7.0)	(4.0)
Acute Transfer (% of total)	2020	18.3%	17.8%	17.3%	19.1%	20.0%	19.8%
	2019	21.8%	19.4%	18.8%	18.7%	17.3%	17.4%
	Difference	(3.6)	(1.6)	(1.5)	0.4	2.7	2.4
Deceased (% of total)	2020	2.4%	2.3%	2.5%	7.5%	6.3%	3.8%
	2019	2.0%	2.2%	2.1%	2.3%	2.0%	2.2%
	Difference	0.4	0.1	0.3	5.2	4.3	1.6

Increase over 2019 Decrease over 2019

Figure 1. Change in Proportion Deceased at Discharge, by Subgroup (absolute percentage-point change, 2020 over 2019)

- The share deceased at discharge increased in April 2020 among all age groups, with those aged 85+ experiencing the largest increase in death.
- Members who were not dual-enrolled experienced a greater increase in share deceased at discharge than dual-enrolled.

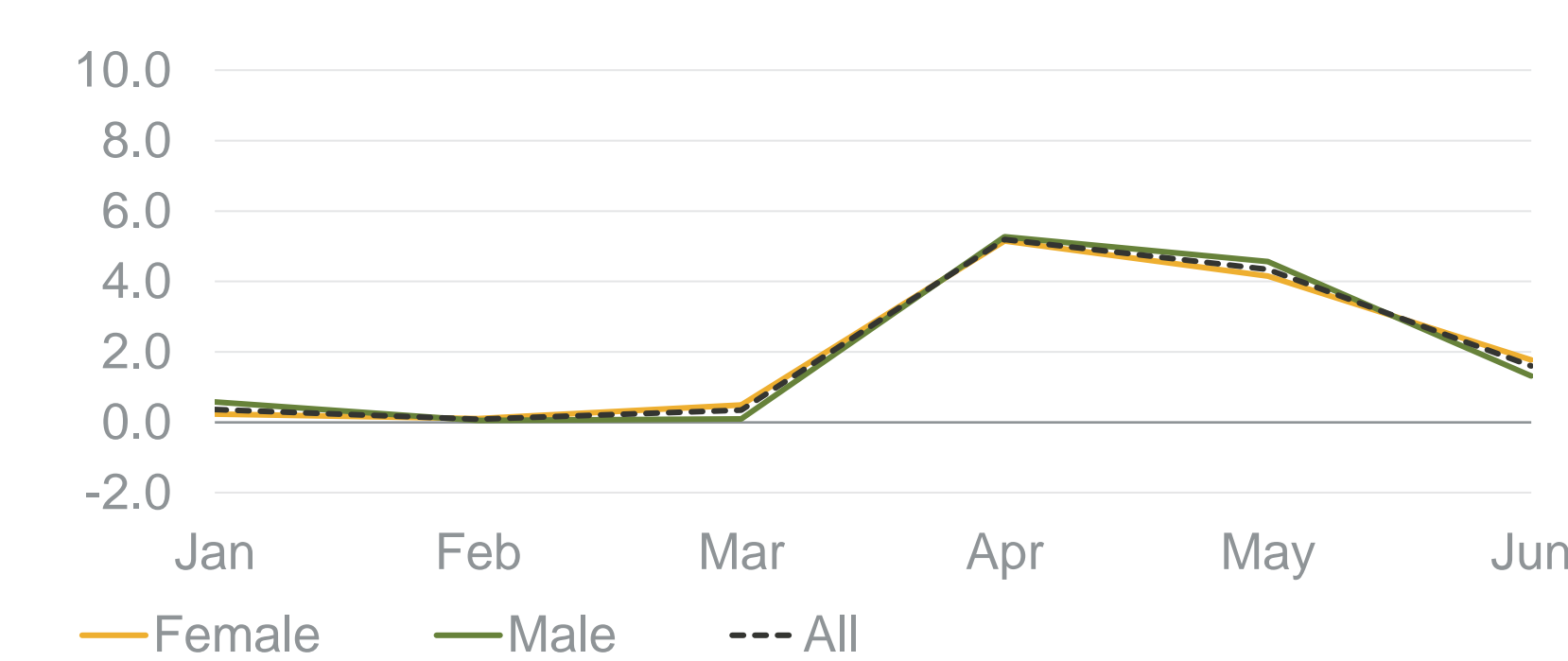
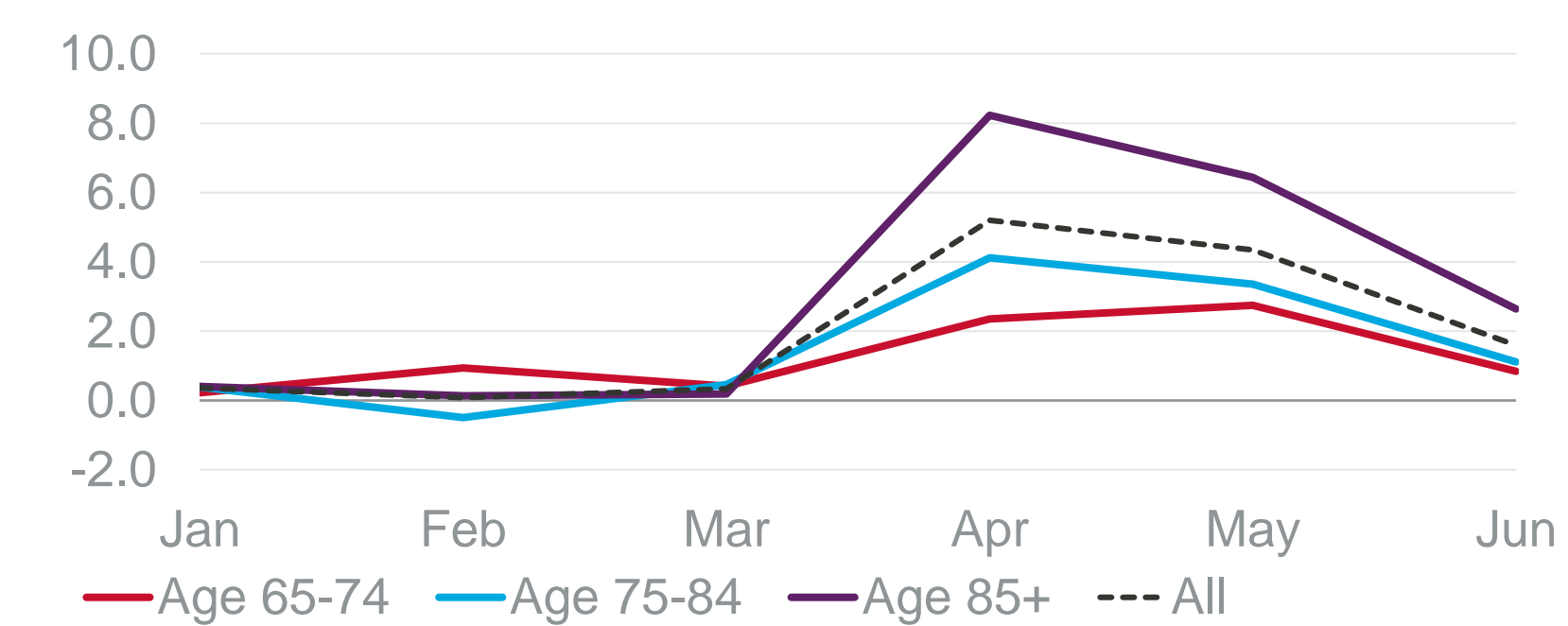
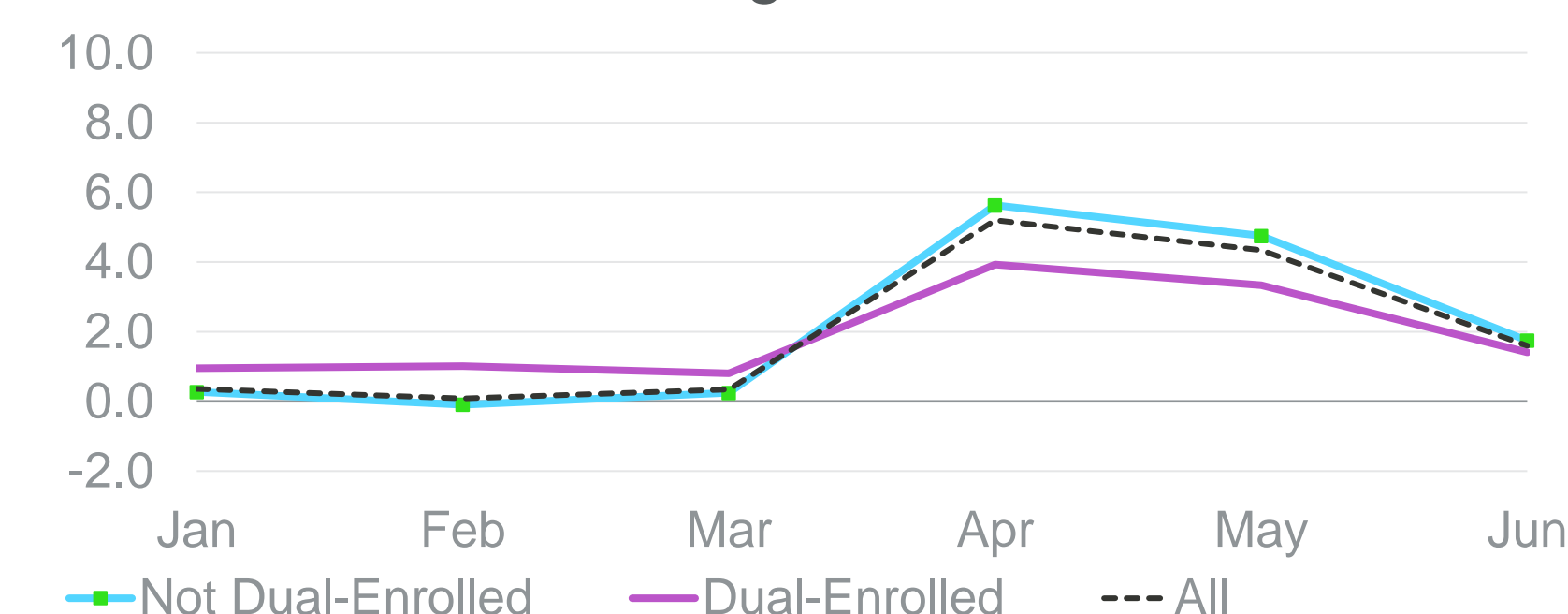
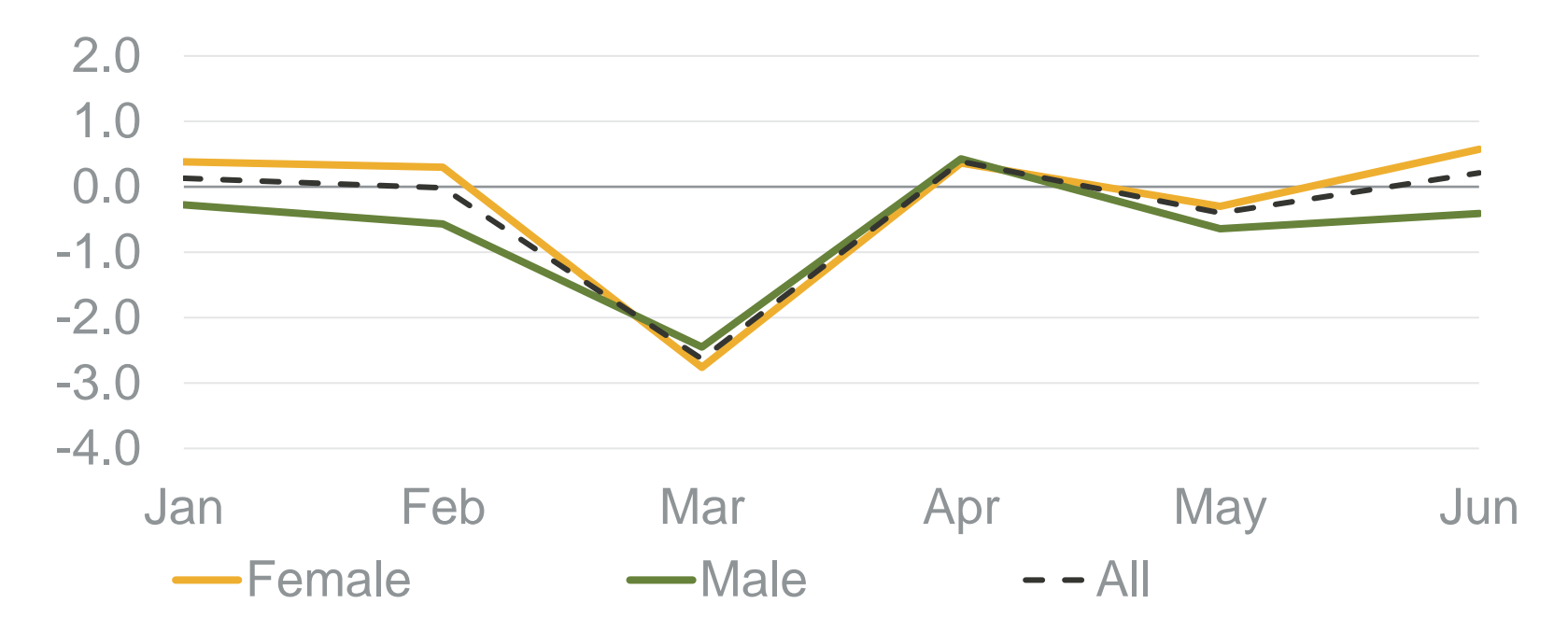
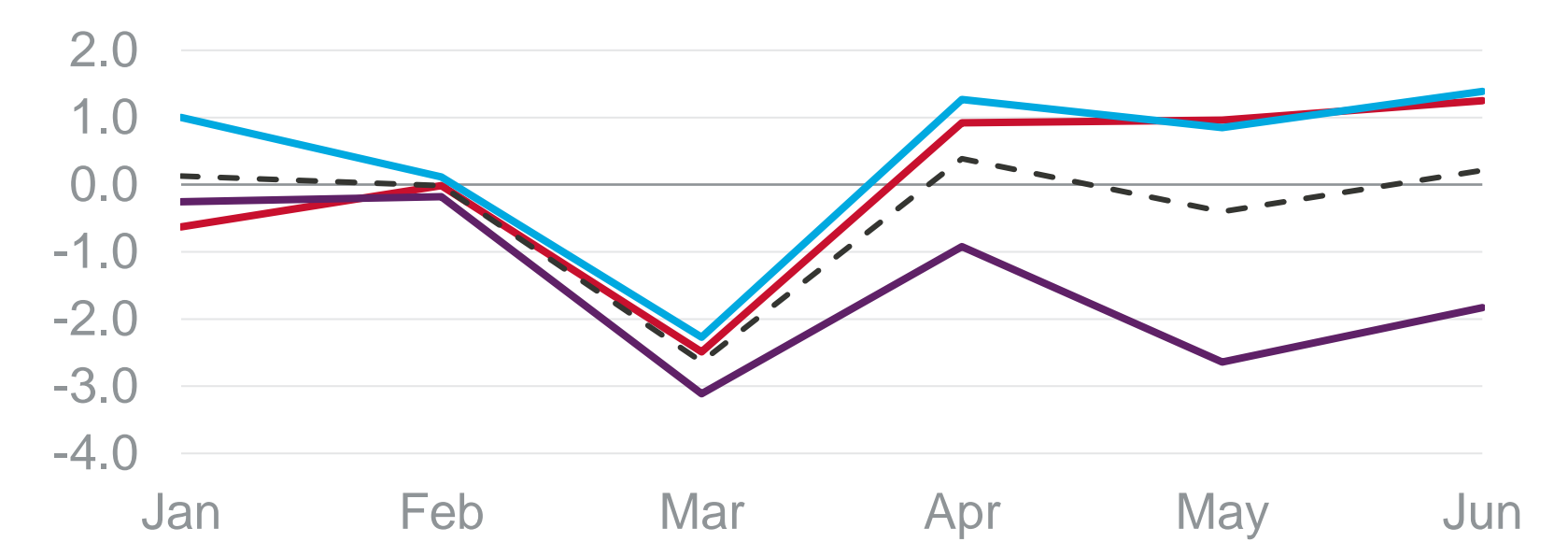
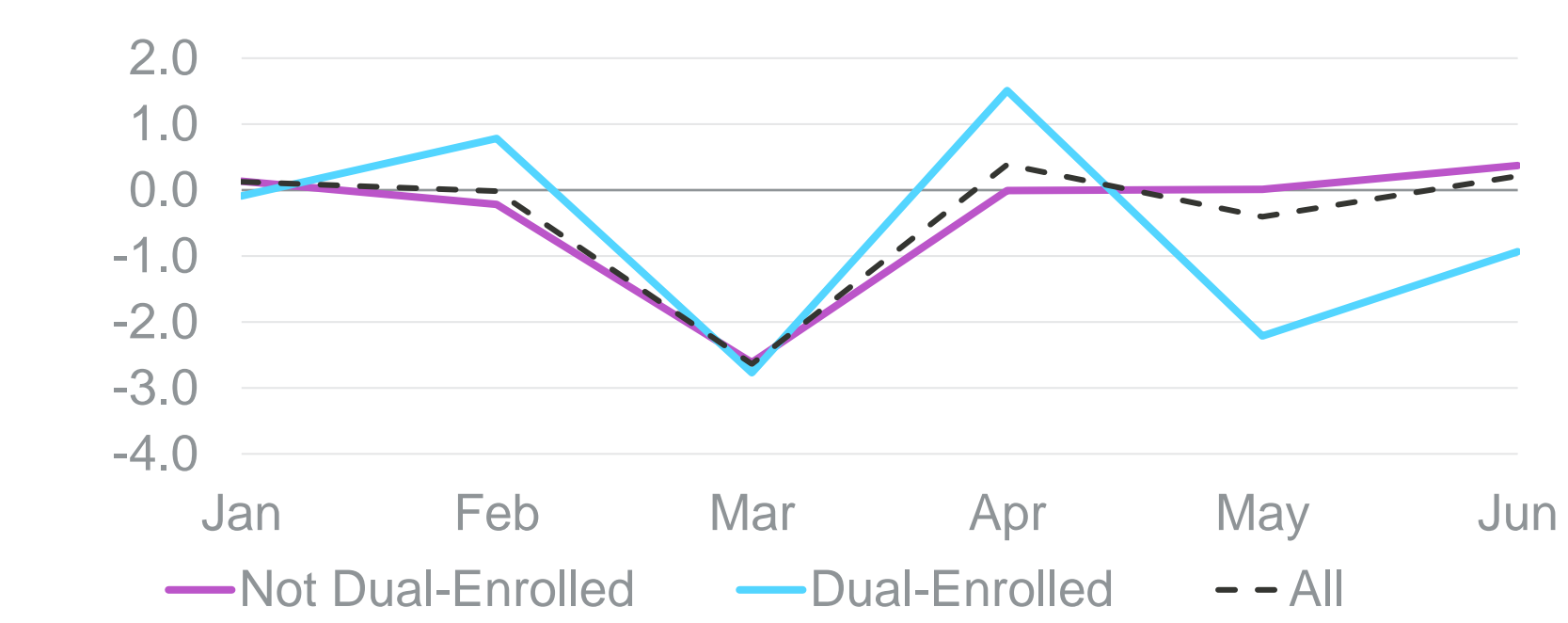


Figure 2. Change in Rate of 30-Day Readmission to Hospital after SNF Discharge, by Subgroup (absolute percentage-point change, 2020 over 2019)

- Discharges resulting in hospital readmission decreased in March 2020 (March 2019: 11.4%, March 2020: 8.8%), rebounding in April 2020.
- Dual-enrolled members and members 85 and older saw sustained decreases in readmission to hospital through the end of the observation period (June 2020).



Conclusions and Policy Implications

- Discontinuities in SNF-related utilization coincided with COVID-19 pandemic onset.
- Trends suggest the COVID-19 pandemic placed competing pressures on different aspects of SNF-related utilization (propensity to admit, discharge and readmit).
- In April 2020, members in SNFs began to show decreases in discharge to the community and increases in death in SNF, relative to April 2019.
- While general rates of post-discharge readmission to hospital rebounded, dual enrolled and elderly (85+) members saw sustained decreases hospital readmission. Possible explanations include greater effort to avoid hospitalization due to pandemic-related risks, or greater community mortality rates as a competing event.
- Results reflect unadjusted trends. Additional research is needed to confirm association, and to evaluate potential competing risks for discharge and readmission outcomes.
- Findings can help inform stakeholder interpretation of quality and accountability results during the pandemic. Untangling the pandemic's effects is key to ensuring patients continue to receive safe and effective healthcare, with fair accountability for outcomes.

References

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