

EFFICACY OF COVID-19 PROVIDER RELIEF FUNDING ACROSS US NURSING HOMES

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Background

- US nursing homes have been **significantly impacted** by the COVID-19 pandemic, as their residents are typically **elderly adults** with underlying medical conditions
- HHS announced >\$5 billion in emergency provider relief funds (PRF) under the **CARES Act**
- CMS reported longitudinal data on COVID-19 outcomes in US nursing homes
- Association between PRF funding and COVID-19 outcomes for facilities and residents is unknown

Project Description

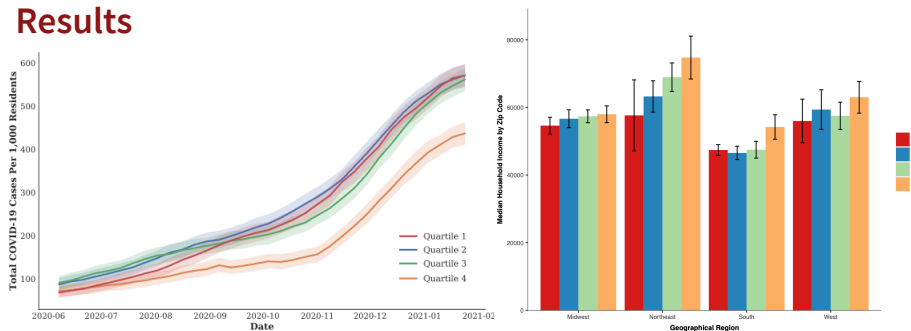
Data Sources

- Center for Medicare & Medicaid Services COVID-19 Nursing Home Dataset (Jun 2020 – Jan 2021)
- US Department of Health & Human Services PRF Dataset (Jan 2021)
- Final merged sample, after quality assurance filtering, includes **107,762 reports on 2858 US nursing homes**

Outcomes Analysis

- Divided nursing homes into **four quartiles** by facility CARES Act funding per resident
- Examined **trends in COVID-19 metrics** (including cases, deaths, staff cases, PPE shortages, and access to testing) across funding quartiles
- Categorized nursing homes into **geographic regions** (Northeast, South, Midwest, West) and analyzed facility geographic distribution and regional median household incomes

Results



Summary Statistics	Total PRF (N = 2914)	PRF Quartile 1 (N = 729, 25%)	PRF Quartile 2 (N = 728, 25%)	PRF Quartile 3 (N = 728, 25%)	PRF Quartile 4 (N = 729, 25%)	P value
Funding per resident capacity, mean \pm SD, \$	13287.09 \pm 82685.79	4462.59 \pm 1804.14	6340.80 \pm 207.98	7123.73 \pm 294.05	35203.28 \pm 163427.58	
Number of beds, mean \pm SD	104.43 \pm 60.59	121.35 \pm 59.18	116.34 \pm 54.12	100.76 \pm 65.91	79.27 \pm 53.36	<0.001
COVID-19 Cases Per 1,000 Residents, mean \pm SD	535.71 \pm 351.78	573.93 \pm 342.26	571.17 \pm 344.49	559.71 \pm 350.48	437.77 \pm 352.12	<0.001
COVID-19 Deaths Per 1,000 Residents, mean \pm SD	116.39 \pm 135.88	112.87 \pm 139.75	133.22 \pm 145.00	117.67 \pm 127.58	91.76 \pm 127.10	<0.001
Mortality, mean \pm SD	20.46 \pm 20.75	20.05 \pm 20.54	22.18 \pm 21.15	19.56 \pm 18.96	19.98 \pm 22.24	0.08
Total staff confirmed COVID-19, mean \pm SD	34.68 \pm 25.56	34.26 \pm 23.97	38.24 \pm 25.23	36.09 \pm 27.09	30.13 \pm 25.21	<0.001
1-week PPE shortage, any type (%)	1850 (64.7)	445 (62.2)	472 (66.1)	499 (68.7)	434 (60.7)	<0.05
Facilities with shortage of staff (%)	2066 (72.3)	552 (77.2)	522 (73.1)	522 (73.1)	470 (65.7)	<0.001

Discussion

- Higher funded facilities have smaller bed capacity, significantly fewer resident cases and deaths, less staff shortage, and fewer staff COVID-19 cases
- Lesser funded nursing homes are clustered in the geographic south, while highest funded homes are in areas with higher median incomes
- Lesser funded nursing homes had a greater proportion of COVID-19 test results taking >7 days

Takeaways

- Highest funded nursing homes tended to be **less impacted** throughout the pandemic on multiple COVID-19 metrics
- Results point to a need for more **equitable** and transparent distribution of emergency funding to nursing homes nationwide

Our Next Steps

- Conduct stakeholder interviews to better understand PRF expenditure
- Quality improvement: Identify supply chain and staffing issues
- Partner and work with nursing facilities**
- Disseminate our results
- Communicate findings to CMS and health policy groups

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