## CDC/IDSA Clinician Call

February 1, 2024

Welcome & Introductions



Dana Wollins, DrPH, MGC Senior Vice President, Strategy Infectious Diseases Society of America

- <u>100</u><sup>th</sup> in a series of calls, initiated in 2020 as a forum for information sharing among frontline clinicians caring for patients with COVID-19.
- The views and opinions expressed here are those of the presenters and do not necessarily reflect the official policy or position of the CDC or IDSA. Involvement of CDC and IDSA should not be viewed as endorsement of any entity or individual involved.
- This webinar is being recorded and can be found online at <u>www.idsociety.org/cliniciancalls</u>.

Prevention & Treatment of Respiratory Tract Infections in Long-Term Care Facilities: Challenges & Solutions



#### 1. Burden of RTIs in the Older Population: Current State



Elizabeth A. Mothershed, MS
Deputy Associate Director for Program Safety
Office of the Director
Division of Healthcare Quality Promotion
U.S. Centers for Disease Control and Prevention

#### 2 Vaccination Uptake in Long-Term Care Facilities: The Current State



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David Gifford, MD, MPH
Chief Medical Officer
Director, Center for Health Policy Evaluation in Long-Term
Care
American Health Care Association
National Center for Assisted Living

#### 3. Treatment of RTIs in Long-Term Care Facilities



Michael L. Barnett, MD
Associate Professor
Department of Health Policy and Management
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Morgan J. Katz, MD, MHS Assistant Professor of Medicine Division of Infectious Diseases Johns Hopkins University

4. Q&A/Discussion

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U.S. Centers for Disease Control and Prevention
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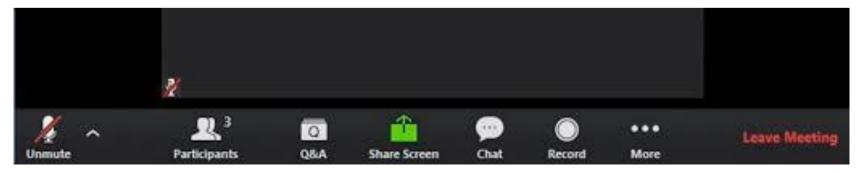
Meghan Pennini, PhD
Chief Vaccine and Therapeutics Officer
HHS Coordination Operations and Response Element
Administration for Strategic Preparedness & Response
U.S. Department of Health and Human Services

# Question? Use the "Q&A" Button





Comment?
Use the "Chat" Button



# Burden of Respiratory Tract Infections in the Older Population: Current State

#### Elizabeth A. Mothershed, MS

Deputy Associate Director for Program Safety
Office of the Director
Division of Healthcare Quality Promotion
U.S. Centers for Disease Control and Prevention



# Updated COVID-19, Influenza, and Respiratory Syncytial Virus (RSV) Cases & Hospitalizations among Nursing Home Residents

**National Healthcare Safety Network (NHSN)** 

Elizabeth A. Mothershed, M.S.

**Deputy Associate Director for Program Strategy** 

Office of the Director

Division of Healthcare Quality Promotion





### **Disclosures**

Nothing to disclose



# CDC

### **Background**

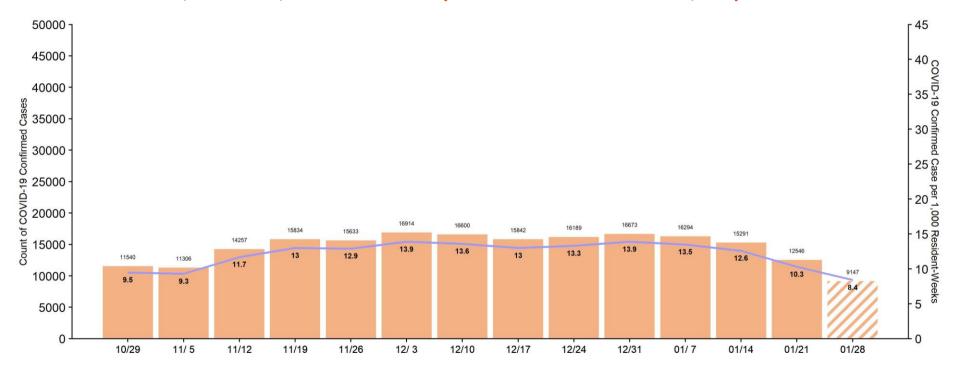
- COVID-19 case reporting
  - Nursing homes required by CMS to report weekly, aggregate COVID-19 case data to the CDC's National Healthcare Safety Network (NHSN) since 12/2020
  - NHSN also collects data on COVID-19 hospitalizations of nursing home residents
    - Hospitalization is defined as any resident admitted to a hospital (for any reason) with a positive COVID-19 test within the past 10 days

- Influenza and RSV case reporting
  - Nursing homes may optionally report RSV and influenza cases among residents since 10/2023





## Skilled Nursing Facilities, COVID-19 Cases per 1,000 Resident-Weeks among Residents, National, Inferred Data\* (Number of facilities = 15,242)

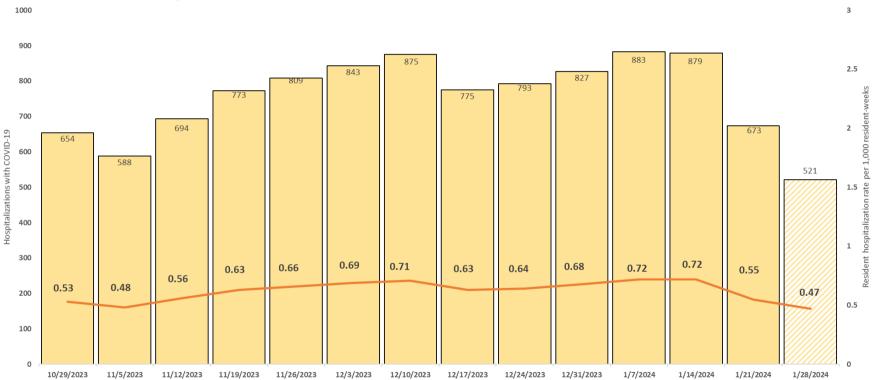


Inferred Data: For the purpose of best epidemiological understanding, data that fail quality checks or appear inconsistent with surveillance protocols are assigned a value based on their patterns of data-entry or excluded.



# CDC

### Skilled Nursing Facilities, Hospitalizations with COVID-19 per 1,000 Resident-Weeks among Residents, National, (Number of facilities = 15,242)



Residents Hospitalized with COVID-19

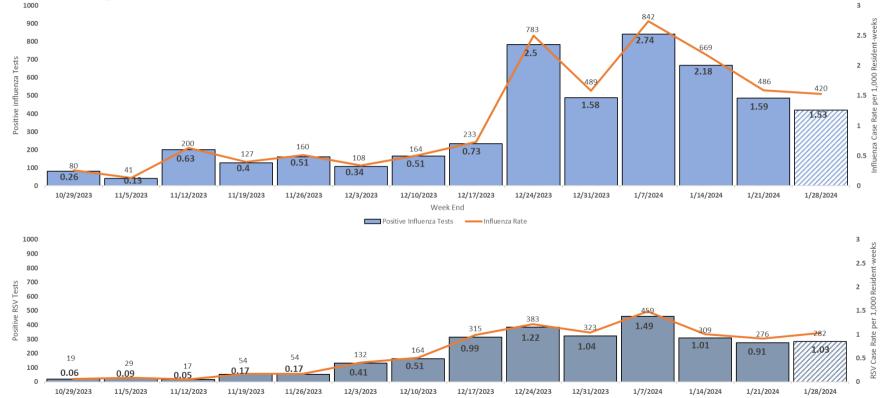
-----Hospitalization Rate



Week End

# CDC

## Skilled Nursing Facilities, Influenza and RSV Cases per 1,000 Resident-Weeks among Residents, National, (Number of facilities = 6,099)





\*Number of facilities reporting may vary from week to week. \*\* Patterned fill represents data is likely still accruing, all data can be modified week-to-week by facilities.

Data are provisional until officially released from CDC – For Internal Use Only (FIUO) – For Official Use Only (FOUO) – Sensitive But Unclassified (SBU)

Week End

Positive RSV Tests ——RSV Rate

# Vaccination Uptake in Long-Term Care Facilities: The Current State

Hannah E. Reses, MPH

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U.S. Centers for Disease Control and Prevention

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# Updated COVID-19, Influenza, and Respiratory Syncytial Virus (RSV) Vaccination among Nursing Home Residents

**National Healthcare Safety Network (NHSN)** 

Hannah Reses, MPH

Vaccination Unit Lead

Surveillance Branch

Division of Healthcare Quality Promotion





### **Disclosures**

Nothing to disclose



# CDC

### **Background**

- COVID-19 vaccination reporting
  - Nursing homes required by CMS to report weekly, aggregate COVID-19 vaccination data to the CDC's National Healthcare Safety Network (NHSN)
  - Reported in NHSN since December 2020
  - NHSN collects up-to-date (UTD) COVID-19 vaccination, currently defined in NHSN as the receipt of a 2023–24 updated COVID-19 vaccine; <u>surveillance definition of UTD defined by reporting quarter</u>
  - Educate on definition changes via webinars and targeted data quality outreach
- Influenza and RSV vaccination reporting
  - Nursing homes may optionally report RSV and influenza vaccination among residents
  - Reported in NHSN since October 2023
  - An estimated 91% of nursing homes residents are aged ≥ 60 years (i.e., eligible for RSV vaccination)
  - Nursing home residence is an important risk factor to consider in shared clinical decision-making

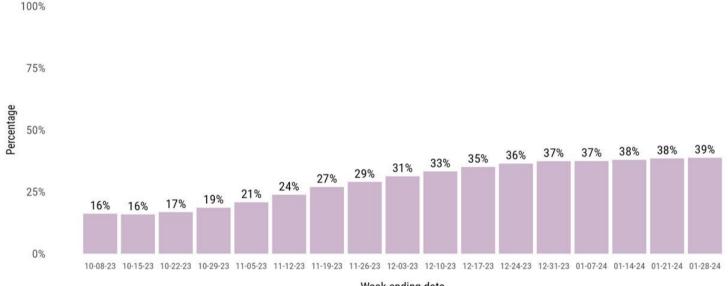


## The percent of nursing home residents who received the updated **COVID-19 vaccine** has plateaued around 38-39% in recent weeks



Percentage of nursing home residents who are up to date with COVID-19 vaccination (N = 14,421 nursing homes)

Up to date defined as receipt of 2023-2024 Updated COVID-19 vaccine



#### Week-ending date

Up to date calculation excludes individuals with medical contraindication from denominator. Data that fail certain quality checks or appear inconsistent with NHSN surveillance protocols are excluded.

The NHSN surveillance definition of up to date is updated quarterly to incorporate CDC guidance changes. See here for NHSN surveillance definitions, including up to date, by reporting quarter. Data for the most recent week are still accruing.



# Most nursing homes report that ≤10% or 40-70% of residents have received the updated COVID-19 vaccine



Facility-level percentage of nursing home residents who are up to date with COVID-19 vaccines

N = 14,421 nursing homes that have reported data for the week of 01/22/24 - 01/28/24 or the most recent week where data are available within the past two weeks

7,500 Number of facilities 5,000 2,216 (15.4%) 2.500 1,812 (12.6%) 1,682 (11.7%) 1,647 (11.4%) 1,615 (11.2%) 1,194 (8.3%) 1,190 (8.3%) 858 (5.9%) 824 (5.7%) 806 (5.6%) 577 (4%) 0% >0-10% >10-20% >20-30% >30-40% >40-50% >50-60% >60-70% >70-80% >80-90% >90-100%

Up to date calculation excludes individuals with medical contraindication from denominator.

Data that fail certain quality checks or appear inconsistent with NHSN surveillance protocols are excluded.

The NHSN surveillance definition of up to date is updated quarterly to incorporate CDC guidance changes. See here for NHSN surveillance definitions, including up to date, by reporting quarter. Data for the most recent week are still accruing.

Facility-level percentage up to date

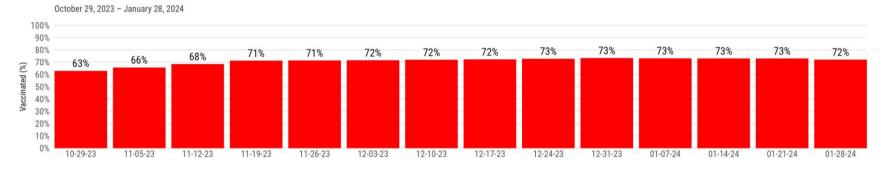


10,000

## The percent of nursing home residents who received the influenza vaccine has remained near 72-73% for several months



#### Percentage of nursing home residents who received a 2023-2024 seasonal influenza vaccine



#### Number of nursing homes reporting



Individuals with medical contraindication to 2023-2024 seasonal influenza vaccine are excluded from denominator

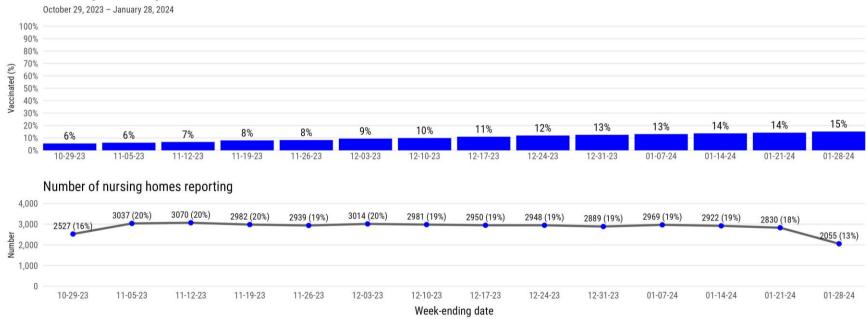
Data for the most recent week are still accruing.



# The percentage of nursing home residents who received the RSV vaccine has increased slowly







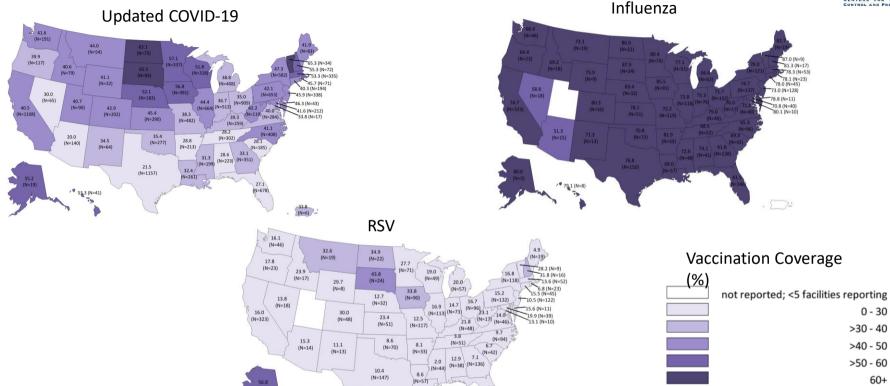
Individuals with medical contraindication to RSV vaccine are excluded from denominator.

Data for the most recent week are still accruing.



### Percent of residents vaccinated by US jurisdiction







Data reported for the week of 1/22 – 1/28, or the most recent week where data are available within 2 weeks.

Interactive data at the national and state level on COVID-19 vaccination coverage in CMS-certified nursing homes is available here: Nursing Home COVID-19 Vaccination Data Dashboard | NHSN | CDC

N = number of facilities reporting

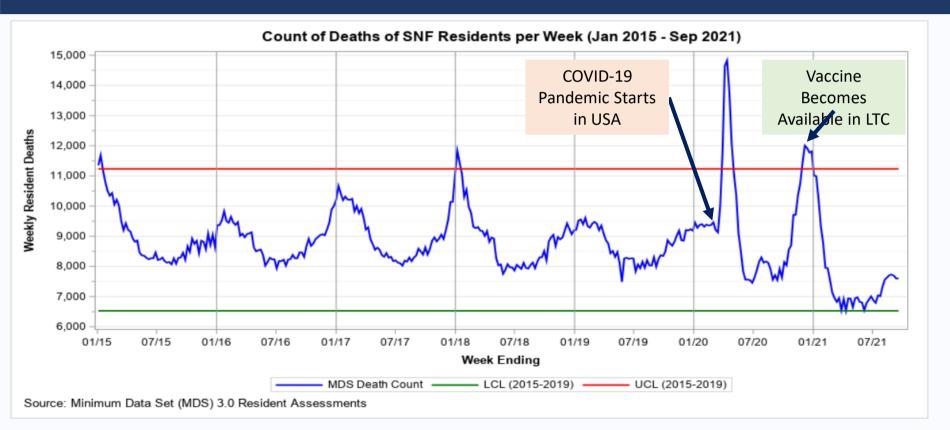
# Lessons about Vaccinations in LTC

David Gifford MD MPH
Chief Medical Officer





## All Cause Deaths in LTC Track Respiratory Virus Season

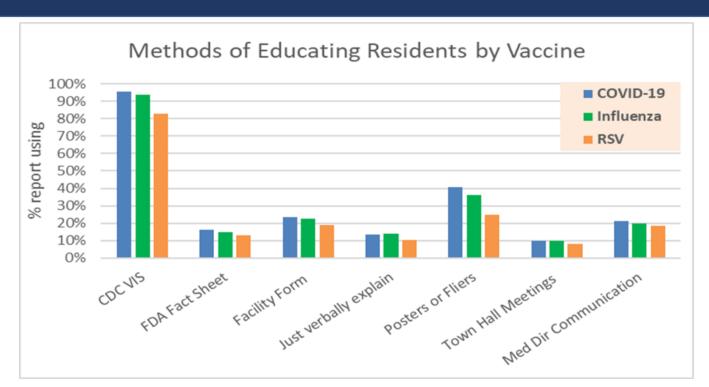


### Everyone's Role to vaccinate high risk individuals

- Older Americans are not getting vaccinated prior to admission
  - 90% of all admissions to nursing homes come from a hospital
    - In 22-23 and 23-24 season <10% received COVID-19 vaccine prior to transfer to SNFs
    - 2/3rds of residents who did not receive was due to family declining the vaccine
    - Resident vaccination rates are equivalent or slightly higher than community vaccination rates



# CDC VIS is the method residents are educated about the risk and benefits



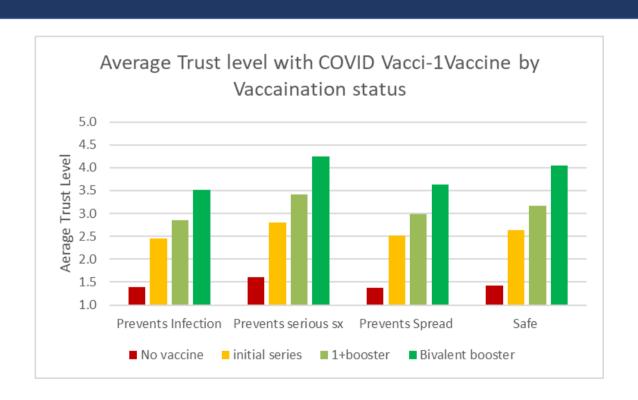


### Dominate Reasons Residents Decline Vaccines

- Ask nursing homes to report of the last 10 residents who decline how many provided the following reasons:
  - COVID is not as severe
  - Family declines
  - Natural Immunity from prior infection
  - Too many vaccines already
  - Safety of Vaccine
- Less frequent reasons included
  - Concerns about reactogenicity
  - Concern with side-effects (e.g cardiac or neurologic)
  - Vaccine will give me an infection



### Demand is Low Because of Distrust



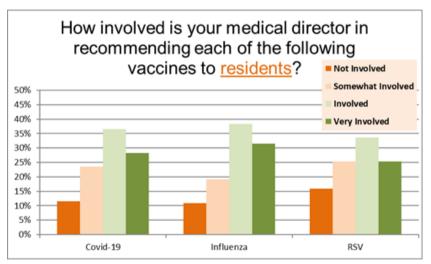


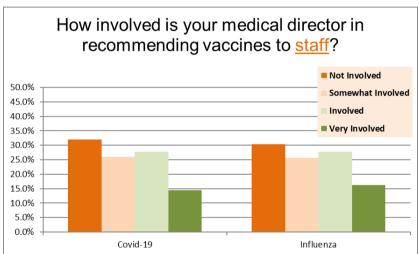
### Reasons Staff Decline COVID-Influenza Vaccines

- Facilities were twice as likely to report that 5 or more staff out of last 10 who decline COVID vs Influenza provided following reasons:
- COVID-19 is less serious as it used to be (35% vs 18%),
- Already have prior immunity (18% vs 9%)
- Concerned with side effects effecting their heart (22% vs 8%)
- Worried about safety of the vaccine (51% vs 23%)
- Worried get COVID/Flu from the vaccine (12% vs 25%)



# Physician Engagement in Educating Resident & Staff







### **Contact Information**

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# Treatment of Respiratory Tract Infections in LongTerm Care Facilities

#### Michael L. Barnett, MD

Associate Professor Department of Health Policy and Management Harvard T.H. Chan School of Public Health Policy Morgan J. Katz, MD, MHS
Assistant Professor of Infectious
Diseases
Johns Hopkins University



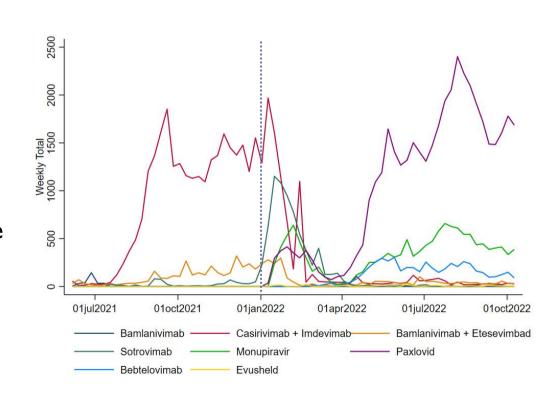
# Outpatient COVID-19 Treatments in SNFs CDC/IDSA Clinician Call, February 2024

Michael L. Barnett, Associate Professor

Harvard T. H. Chan School of Public Health Policy

### Brief history of outpatient COVID treatment options

- Very dynamic landscape for COVID-19 treatment
- Monoclonal antibodies used to be very effective (no longer)
- Key transition date December 2021, when two oral therapies became available via EUA
- Oral therapies can lower risk of hospitalization or death by up to 90%



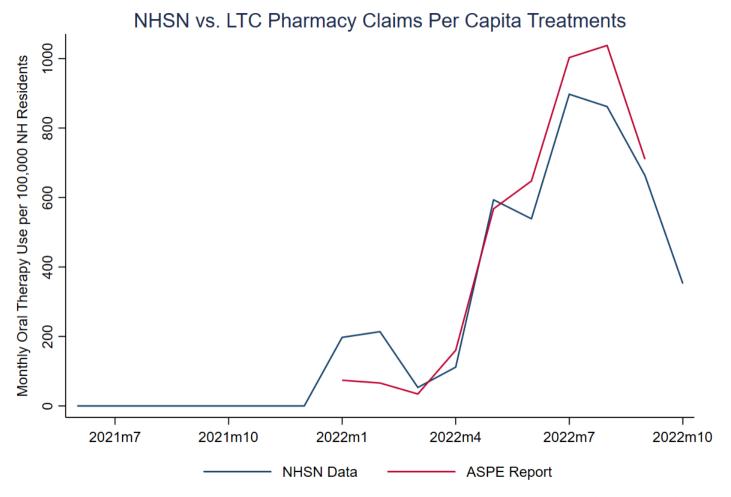
### Study questions

- What is the probability of getting any outpatient treatment for COVID-19 over time?
  - Did this probability change with introduction of oral treatment options?
- What characteristics at the individual, provider, and facility/system level explain differences in use across groups?

#### **Data Sources**

#### ▶ SNFs

- CMS COVID-19 Nursing Home Database via National Healthcare Safety Network (NHSN)
- Other data from CMS payroll-based journal, public SNF/provider compare files
- Medicare FFS claims, 100% for 2022
- Comparison to IQVIA data used in HHS ASPE report
  - NHSN should be more accurate for SNF use, self-reported at SNF level for all patients

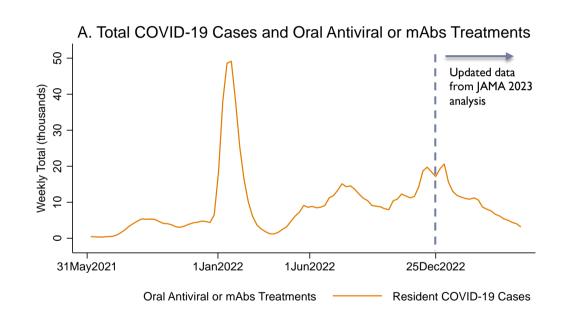


### SNF analysis: outcomes and study variables

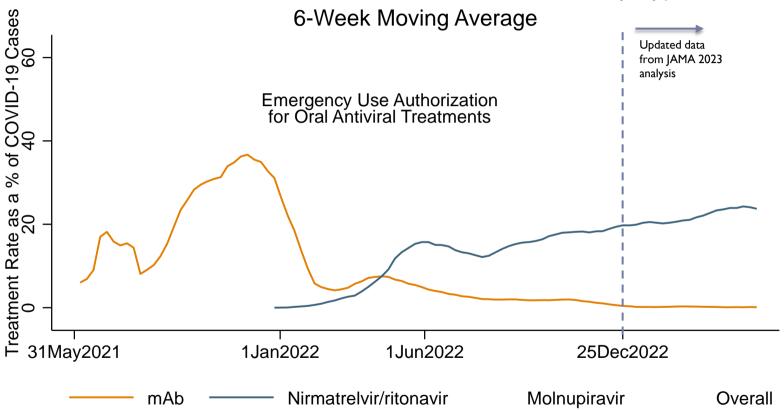
- Weekly number of SNF residents treated with any outpatient COVID therapy (IV or oral)
  - Treatment rate as # of treatments over # of new COVID-19 cases
  - ▶ SNF-level treatment rates
- Other covariates
  - ▶ SNF characteristics for profit, chain, quality rating, staffing levels, etc.
  - Resident characteristics race, dual eligibility, etc.
  - Geriatrician on staff
  - Vaccination rates
- To test independent association of characteristics with COVID-19 treatment, fit either linear probability models or logistic models predicting SNF use of treatment

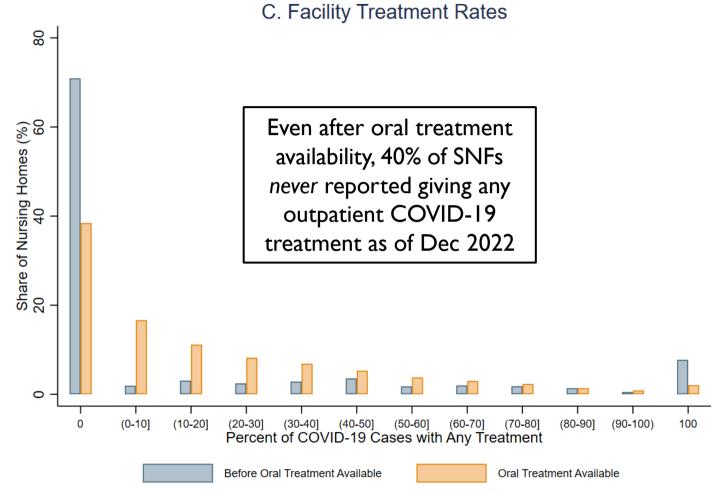
### Treatment volume and rates in SNFs

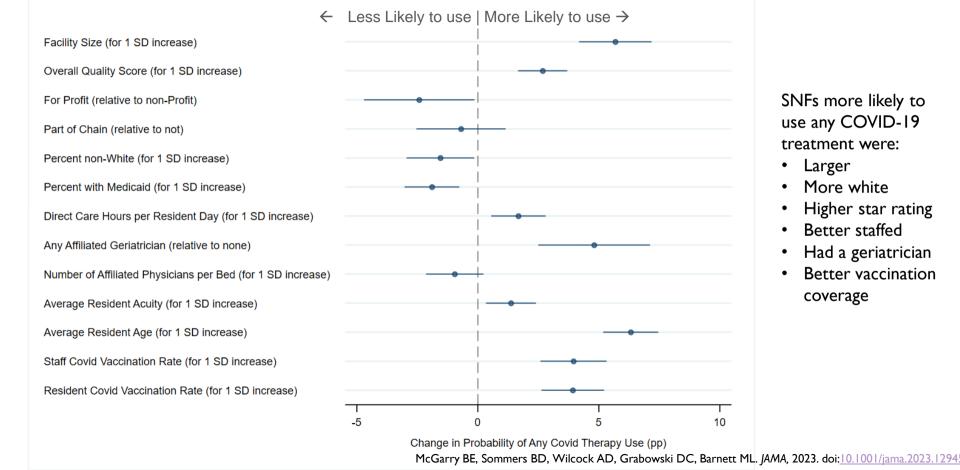
- Despite the enormous potential for COVID-19 antiviral therapy, it remained vastly underused
- Only 18% of COVID-19 cases in SNFs in 2021-2022 received one of these treatments
- Virtually all SNF residents qualify for treatment



### B. Oral Antiviral or mAbs Treatment Rates by Type





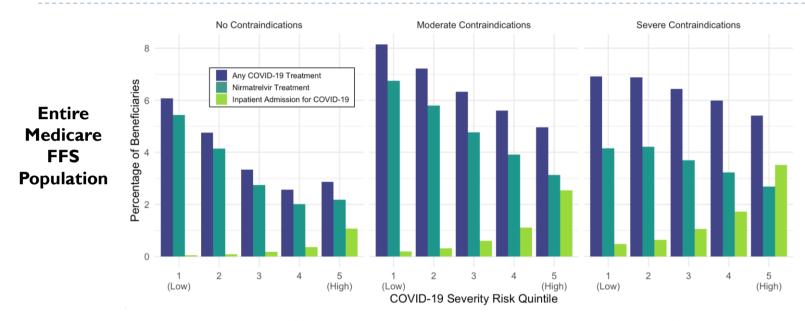


Estimated Change in Probability of Any COVID Therapy Use by SNF Characteristics

## Medicare FFS analysis: outcomes and study variables

- ▶ Per capita rate of any outpatient COVID therapy (IV or oral)
  - Captured all observed + unobserved COVID cases (41% of oral prescription fills had no associated COVID-19 diagnosis)
- Beneficiary covariates (beyond standard demographics)
  - Predicted COVID-19 mortality score (in quintiles)
    - Linear regression predicting death within 30 days of COVID diagnosis in 2021 data
  - Treatment contraindications for Paxlovid (none, mild, moderate, severe)
- Simulation analysis of Paxlovid re-allocation
  - Modeled a scenario where number of Paxlovid doses in 2022 was constant, but reallocated according to COVID-19 mortality risk
  - Assumed that 60% of COVID-19 diagnoses were observed in claims, and a 70% reduction in mortality, 40% in hospitalization

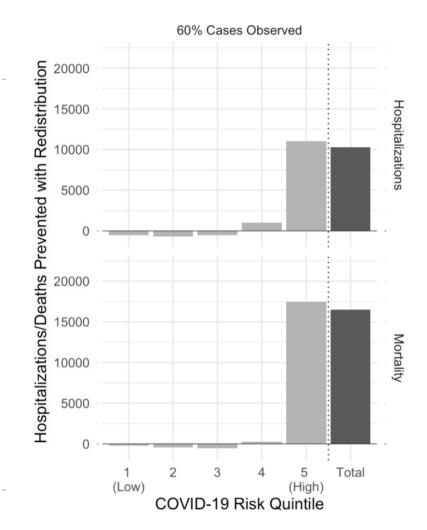
## In Medicare, treatment use is not tied to clinical risk



- Not contraindications (higher use than no contraindication group)
- Not visits or testing (higher use in lower treatment groups)
- Not primary care practice (PCP fixed effects make minor change in observed disparities)

### Simulated re-allocation of rx

- What if we took the same 6.0% rate per capita and re-allocated in proportion to mortality risk?
- Dramatic difference for the highest risk group, which had least use
- Quintiles I-4 have small drops in prevented mortality/hospitalization (i.e. worse outcomes)
- Overall, corresponds to 16.3% drop in overall mortality



## Implications for policy

- No clinical justification for this pattern of treatment
- There may be a formidable gap in quality of medical providers at SNFs adapting to new conditions
- SNFs are already crushed with regulation, so non-financial, non-administrative approaches may be least burdensome, e.g. individual clinical feedback on treatment levels and what might be expected.



### Our team

- **▶** HSPH
  - Ben Sommers
  - Yonatan Grad
- **HMS** 
  - David Grabowski
  - Ateev Mehrotra
  - Andrew Wilcock
- Rochester
  - ▶ Brian McGarry\* (lead author, SNF analysis)
- ▶ Colorado
  - Stephen Kissler

## Acknowledgements

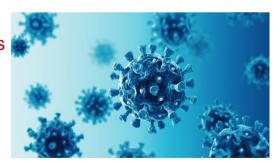
- ▶ Thank you again to co-authors
- And grateful for NIA funding:
  - ► K23 AG058806
  - ► K01 AG078441
  - R01 AG075507
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## **CDC/IDSA Clinician Call**

# Testing and Treatment for COVID-19 in Long-Term Care



Morgan Katz, MD, MHS
Assistant Professor of Infectious Diseases
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## Disclosures

- Consultant for HealthCare Quality Innovators
- Grant funding from CDC and AHRQ
- Legal Expert Witness work

# Objectives





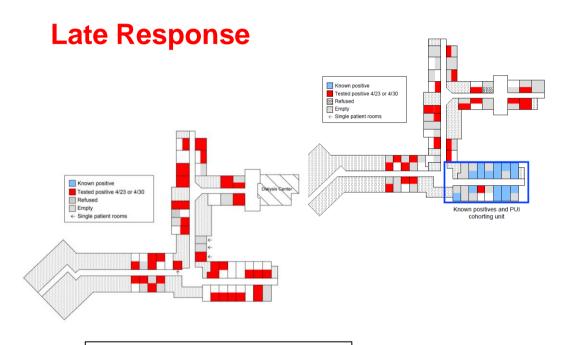


FOR COVID-19 WITH CASE PRESENTATIONS



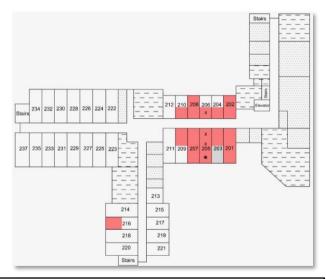
REVIEW TREATMENT RECOMMENDATIONS FOR COVID-19

# Test Early, Identify Asymptomatic Cases and Isolate



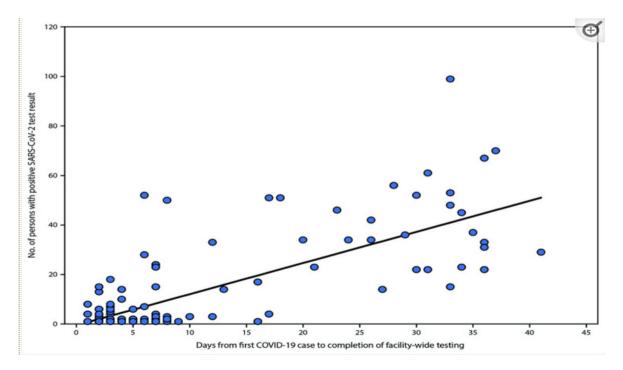
Universal Testing performed after 12 residents tested positive, 3 transferred to hospital

## **Early Response**



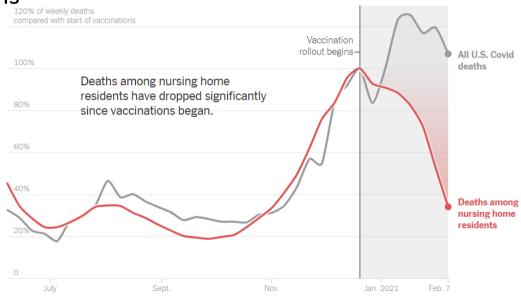
Universal Testing performed after one resident was transferred to hospital and tested positive

## Rise in Cases the Longer We Wait for Facility-wide Testing



# Guidance has changed now that we have other measures of protection

- Adequate rapid testing and PCR tests with quick turnaround times
- Respiratory protection plans
- VACCINATION!
- Treatment



Source: New York Times database; U.S. Department of Health and Human Services - Data shown is normalized compared with the weekly deaths for the week ending Dec. 20, 2020 and is through Feb. 7.

# Case example

85 year old resident with new onset fatigue, anorexia, and a fall. CNA noticed they "do not look right" Mild stuffy nose and dry cough

### Next steps:

- a. Test for influenza and SARS-CoV-2
- b. Test for SARS-CoV-2
- c. Place on transmission-based precautions and test for SARS-CoV-2 and influenza
- d. Increase monitoring and watch the resident

# The resident tests positive for SARS-CoV-2

- You call the department of health and notify them of the positive case and continue isolation with airborne and contact precautions.
- What are your next steps in testing?
  - a. Test everyone in the facility
  - b. Perform contact tracing and test all exposed residents and staff once
  - c. Perform contact tracing and test all exposed residents and staff on days 1
    - 3, and 5
    - d. Transfer the resident out and close the outbreak.

## When to test for SARS-CoV-2

- Anytime someone has symptoms
  - Antigen test- must be repeated at 48 hours in symptomatic resident OR confirm negative with PCR test
  - PCR test- no need to repeat test
- When someone has been exposed (days 1,3,5)
- What are symptoms?
  - Not only respiratory symptoms- older adults with COVID-19 may present with vague symptoms
    - Anorexia
    - · New or worsening malaise
    - Diarrhea/nausea/vomiting
    - · Falls, dizziness or acute change in mental status
    - Headache
- Remember, when influenza is circulating, test symptomatic residents for both virusespositive SARS-CoV-2 does not preclude concurrent influenza infection
- Place resident on transmission-based precautions while awaiting test results
- If confirmed positive: Airborne and contact precautions
  - Gown, gloves, fit-tested N-95, eye protection when entering room

# Outpatient treatment for COVID-19

- Options for outpatient therapy:
  - <u>Paxlovid</u>\*- 5-day course of oral therapy within 5 days of symptom onset
    - 89% lower risk of hospitalization or death compared with placebo
  - <u>Remdesivir</u>- 3-days IV therapy within 7 days of symptom onset
    - 87% lower risk of hospitalization or death compared with placebo
  - Molnupiravir \*alternative therapy- 5 day oral therapy within 5 days of symptom onset
    - 31% reduction in hospitalization or death compared with placebo

# How does antiviral therapy work?

- Prevents the virus from replicating inside of the body
- MUST be given early in order to work effectively
- Purpose is to prevent hospitalization and death, not to decrease symptoms or to help patients recover faster
- The decision to prescribe should be made based on a patient's risk factors for severe disease, regardless of symptom severity.



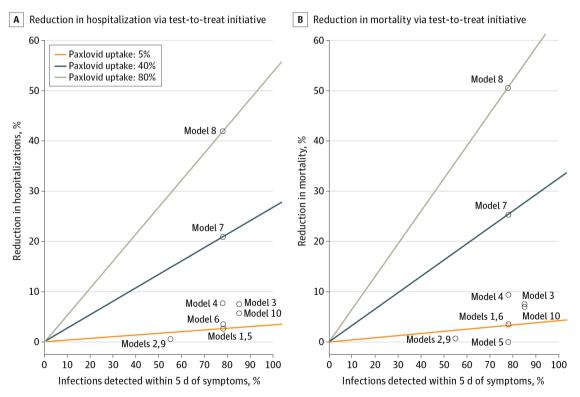
# Most COVID-19 disease does not become severe until days 7-10

Table 2. Clinical and Utilization Outcomes Among Patients by Activation Status

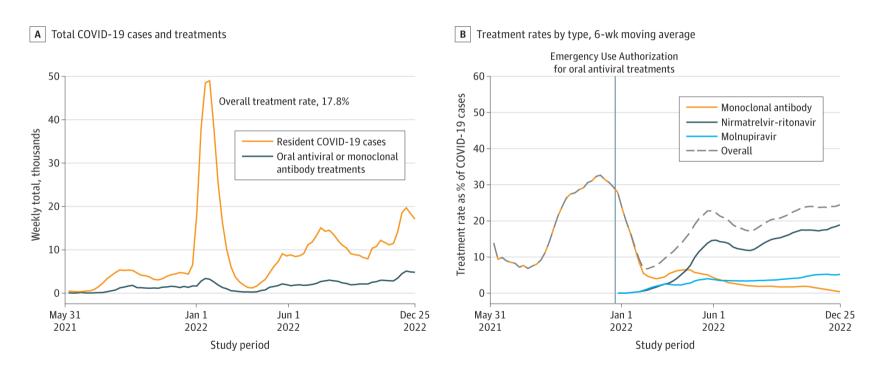
	Patients, No. (%)		_
Outcome	Activated (n = 5364)	Not activated (n = 4014)	P value
Hospitalized	128 (2.4)	158 (3.9)	<.001
Length of stay, mean (SD), d	4.44 (4.43)	7.14 (8.63)	.001
Time from symptoms to hospitalization, mean (SD), d	9.84 (3.69)	8.47 (4.21)	.004
Time from positive test to hospitalization, mean (SD), d	6.67 (3.21)	5.24 (3.03)	<.001
Intensive care utilization	15 (0.3)	44 (1.1)	.001
30-d Mortality	4 (0.1)	24 (0.6)	.001
90-d Mortality	10 (0.2)	26 (0.6)	.001

Crotty BH, Dong Y, Laud P, et al. Hospitalization Outcomes Among Patients With COVID-19 Undergoing Remote Monitoring. JAMA Netw Open. 2022;5(7):e2221050.

# Modeling reduction in hospitalization and mortality with Paxlovid uptake



# COVID-19 treatment underused in nursing homes



McGarry BE, Sommers BD, Wilcock AD, Grabowski DC, Barnett ML. Monoclonal Antibody and Oral Antiviral Treatment of SARS-CoV-2 Infection in US Nursing Homes. *JAMA*. 2023;330(6):561–563.

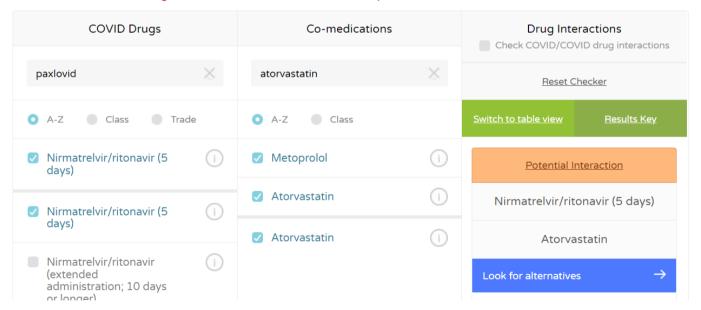




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nesday 8th November 2023 - join us online for the Liverpool Masterclass in Antiviral Pharmacology 2023. Click for programme and free reg

If a drug is not listed below it cannot automatically be assumed it is safe to coadminister.



https://www.covid19-druginteractions.org/checker

# Risk of rebound should not prevent treatment

- Rebound=Recurrence of signs or symptoms or a new positive viral test result after initial recovery from COVID-19.
- A systematic review, including one randomized controlled trial, found no significant differences regarding risk of rebound in treated vs. untreated individuals
- Factors which may increase risk for rebound:
  - Age 18-65 (vs. >65)
  - High Comorbidity prevalence
  - Concomitant corticosteroid treatment
- **No** hospitalizations or deaths were reported in those who experienced rebound, and symptoms were mild

# Takeaways



Test for both SARS-CoV-2 and influenza in residents with respiratory symptoms, place on precautions while awaiting results



USE the treatment based on risk, not symptoms-most residents who develop severe disease take a turn at day 7, and you have missed the window to start therapy



HINT: ALL nursing home residents likely qualify for treatment



Interactions can be easily checked and in most cases, do not preclude therapy.

# **Q&A/ Discussion**

## Programs Provide Free or Low-cost Options for COVID-19 Outpatient Antiviral Therapeutics

### PAXLOVID (nirmatrelvir packaged with ritonavir)

- Patients, caregivers, provider or pharmacists can enroll patients for these programs for free or low cost Paxlovid via <a href="Pfizer's Paxcess website">Pfizer's Paxcess website</a>. No one needs to pay full price for Paxlovid. Everyone on Medicare, Medicaid and uninsured have access for free, either directly at the counter or via enrollment in the PAP.
- Publicly insured and uninsured patients receive **free Paxlovid through December 31, 2024**, with the U.S. government (USG) **Patient Assistance Program (PAP)** operated by Pfizer. This program uses USG-procured Paxlovid inventory and includes any patient who is:
  - Publicly insured, including through Medicaid or Medicare (with or without Part D, Part B, or Part C and inclusive of Medicare Advantage)
  - Uninsured
- Patients with private (commercial) insurance can use the Pfizer co-pay savings program for Paxlovid at little or no cost

### LAGEVRIO (molnupiravir)

• The MerckHelps Patient Assistance Program provides Lagevrio free of charge to patients who meet eligibility criteria and who, without assistance, could not otherwise afford the product. Learn more at MerckHelps.com/Lagevrio

In addition, federal entities, including HRSA-supported health centers, Indian Health Service health centers, and others, have continued access to free, USG-procured Paxlovid and Lagevrio supply for their patients.

### VEKLURY (remdesivir) for outpatient use

• Gilead has an Advancing Access® program to help eligible patients. Learn more here: Advancing Access® program

#### **Selected Resources**

#### **Program Links:**

- This webinar is being recorded and can be found with the slides online at <a href="https://www.idsociety.org/cliniciancalls">https://www.idsociety.org/cliniciancalls</a>
- COVID-19 Real-Time Learning Network: <a href="https://www.idsociety.org/covid-19-real-time-learning-network/">https://www.idsociety.org/covid-19-real-time-learning-network/</a>
- Vaccine FAQ: https://www.idsociety.org/covid-19-real-time-learning-network/vaccines/vaccines-information--faq/

#### Dr. Reses

- https://www.cdc.gov/nhsn/pdfs/hps/covidvax/UpToDateGuidance-508.pdf
- https://www.cdc.gov/nhsn/covid19/ltc-vaccination-dashboard.html

#### **Dr. Barnett**

- https://aspe.hhs.gov/reports/covid-19-antivirals-utilization
- https://jamanetwork.com/journals/jama/fullarticle/2807529

### Dr. Katz

- <a href="https://www.cdc.gov/flu/professionals/diagnosis/testing-management-considerations-nursinghomes.htm">https://www.cdc.gov/flu/professionals/diagnosis/testing-management-considerations-nursinghomes.htm</a>
- <a href="https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-adults/nonhospitalized-adults-therapeutic-management/">https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-adults/nonhospitalized-adults-therapeutic-management/</a>
- https://www.covid19-druginteractions.org/checker

#### Dr. Panini

- https://paxlovid.iassist.com/
- https://www.merckhelps.com/
- https://merckhelps.com/LAGEVRIO
- https://www.veklury.com/patient-support/



An online community bringing together information and opportunities for discussion on latest research, guidelines, tools and resources from a variety of medical subspecialties around the world.



### **Specialty Society Collaborators**

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Society of Hospital Medicine
Society of Infectious Diseases Pharmacists

www.COVID19LearningNetwork.org

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## **THANK YOU**

We want to hear from you!

Please complete the post-call survey.

A recording of this call, slides and the answered Q&A will be posted at <a href="https://www.idsociety.org/cliniciancalls">www.idsociety.org/cliniciancalls</a>

-- library of all past calls available --

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