CDC/IDSA Clinician Call
February 1, 2024

Welcome & Introductions

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Senior Vice President, Strategy
Infectious Diseases Society of America

• **100th** 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 [www.idsociety.org/cliniciancalls](http://www.idsociety.org/cliniciancalls).
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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Surveillance Branch
Division of Healthcare Quality Promotion
U.S. Centers for Disease Control and Prevention

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

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Associate Professor
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Morgan J. Katz, MD, MHS
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4. Q&A/Discussion

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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
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Disclosures

- Nothing to disclose
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.
Skilled Nursing Facilities, Hospitalizations with COVID-19 per 1,000 Resident-Weeks among Residents, National, (Number of facilities = 15,242)

*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.
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)
Vaccination Uptake in Long-Term Care Facilities: The Current State

Hannah E. Reses, MPH
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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
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Division of Healthcare Quality Promotion
Disclosures

- Nothing to disclose
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; surveillance definition of UTD defined by reporting quarter
  - 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.
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

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The percent of nursing home residents who received the influenza vaccine has remained near 72-73% for several months.
The percentage of nursing home residents who received the RSV vaccine has increased slowly.

Data are provisional until officially released from CDC.

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

Data for the most recent week are still accruing.

Individuals with medical contraindication to RSV vaccine are excluded from denominator.
Percent of residents vaccinated by US jurisdiction

Updated COVID-19

Influenza

RSV

Vaccination Coverage

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

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

David Gifford MD MPH
Chief Medical Officer

AHCA
American Health Care Association

NCAL
National Center for Assisted Living
All Cause Deaths in LTC
Track Respiratory Virus Season

Count of Deaths of SNF Residents per Week (Jan 2015 - Sep 2021)

COVID-19 Pandemic Starts in USA
Vaccine Becomes Available in LTC

Source: Minimum Data Set (MDS) 3.0 Resident Assessments
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:
  o COVID is not as severe
  o Family declines
  o Natural Immunity from prior infection
  o Too many vaccines already
  o 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

How involved is your medical director in recommending each of the following vaccines to residents?

- Covid-19
- Influenza
- RSV

How involved is your medical director in recommending vaccines to staff?

- Covid-19
- Influenza
Contact Information

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Treatment of Respiratory Tract Infections in Long-Term Care Facilities

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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

https://aspe.hhs.gov/reports/covid-19-antivirals-utilization
NHSN vs. LTC Pharmacy Claims Per Capita Treatments

Monthly Oral Therapy Use per 100,000 NH Residents

- NHSN Data
- ASPE Report

McGarry, Wilcock, Sommers, Barnett, NHSN Data 2023
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
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

6-Week Moving Average

Emergency Use Authorization for Oral Antiviral Treatments

Updated data from JAMA 2023 analysis

Even after oral treatment availability, 40% of SNFs never reported giving any outpatient COVID-19 treatment as of Dec 2022.

SNFs more likely to use any COVID-19 treatment were:
- Larger
- More white
- Higher star rating
- Better staffed
- Had a geriatrician
- Better vaccination coverage
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 re-allocated 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 1-4 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
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CDC/IDSA Clinician Call

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

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Disclosures

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

- REVIEW HOW TESTING AND TREATMENT HAS CHANGED FOR COVID-19
- DISCUSS WHEN TO TEST FOR COVID-19 WITH CASE PRESENTATIONS
- REVIEW TREATMENT RECOMMENDATIONS FOR COVID-19
Test Early, Identify Asymptomatic Cases and Isolate

Late Response

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
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 viruses- positive 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

https://www.cdc.gov/flu/professionals/diagnosis/testing-management-considerations-nursinghomes.htm
Outpatient treatment for COVID-19

• Options for outpatient therapy:
  • **Paxlovid***- 5-day course of oral therapy within 5 days of symptom onset
    • 89% lower risk of hospitalization or death compared with placebo
  • **Remdesivir**- 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

Modeling reduction in hospitalization and mortality with Paxlovid uptake

COVID-19 treatment underused in nursing homes

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

<table>
<thead>
<tr>
<th>COVID Drugs</th>
<th>Co-medications</th>
<th>Drug Interactions</th>
</tr>
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<tbody>
<tr>
<td>paxlovid</td>
<td>atorvastatin</td>
<td><img src="https://www.covid19-druginteractions.org/checker" alt="Check COVID/COVID drug interactions" /></td>
</tr>
</tbody>
</table>
| **Nirmatrelvir/ritonavir (5 days)** | ![Switch to table view](https://www.covid19-druginteractions.org/checker) ![Results Key](https://www.covid19-druginteractions.org/checker) | ![Potential Interaction](https://www.covid19-druginteractions.org/checker)  
Nirmatrelvir/ritonavir (5 days)  
Atorvastatin  
Look for alternatives |
| **Nirmatrelvir/ritonavir (5 days)** | ![Atorvastatin](https://www.covid19-druginteractions.org/checker) | ![Atorvastatin](https://www.covid19-druginteractions.org/checker) |
| **Nirmatrelvir/ritonavir (extended administration; 10 days or longer)** | ![Atorvastatin](https://www.covid19-druginteractions.org/checker) | ![Atorvastatin](https://www.covid19-druginteractions.org/checker) |

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

**Liverpool Masterclass in Antiviral Pharmacology 2023**

Wednesday 8th November 2023 - join us online for the Liverpool Masterclass in Antiviral Pharmacology 2023. Click for programme and free registration.
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 Pfizer's Paxcess website. 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

LAGEVRIIO (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 https://www.idsociety.org/cliniciancalls
- Vaccine FAQ: https://www.idsociety.org/covid-19-real-time-learning-network/vaccines/vaccines-information--faq/

Dr. Reses
- https://www.cdc.gov/nhsn/covid19/ltc-vaccination-dashboard.html

Dr. Barnett
- https://jamanetwork.com/journals/jama/fullarticle/2807529

Dr. Katz
- 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/
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