

Public Health Emergency Preparedness and Response: Non-Pharmaceutical Interventions to Reduce Transmission of Viral Respiratory Infections in Long-Term Care Communities

Summary Evidence Table

Abbreviations Used in This Document

- ADL: Activities of Daily Living, score ranges from 0 to 28, higher scores indicating greater functional impairment
- CI: confidence interval
- ED: emergency department
- LTC: long-term care
- N/A: not applicable
- NH: nursing home
- NPIs: non-pharmaceutical interventions
- NPIs evaluated (for definition, please go to the full [Task Force Finding and Rationale Statement](#))
 - ATR: admission or transfer restriction
 - CC: cover cough
 - CD: cleaning and disinfecting
 - HH: proper hand hygiene
 - PD: physical distancing (isolation or cohorting)
 - PPE: personal protective equipment
 - SHS: staff stay home when sick
 - Testing
 - Vent: ventilation
 - VR: visitor restrictions
- NR: not reported
- NS: not statistically significant
- Pct pts: percentage points
- QoL: quality of life
- RCT: randomized controlled trial
- U.S.: United States

Notes:

- **Suitability of design** includes three categories: greatest, moderate, or least suitable design. [Read more](#)
- **Quality of Execution** – Studies are assessed to have good, fair, or limited quality of execution. [Read more](#)

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Author year: Abu-Fraiha 2023</p> <p>Study design: before-after with concurrent comparison group</p> <p>Suitability of design: greatest</p> <p>Quality of execution: good</p>	<p>Location: Israel</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: all LTC communities within Israel</p> <p>Sample size: # of communities: 1107 # of residents: 100,046 # of staff: 62,159</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: 315 NHs; 792 not NHs</p> <p>Population served: older adults, people with disabilities</p> <p>Demographics for residents in intervention group: NR</p>	<p>Intervention period examined: 19 weeks</p> <p>Evaluation period: intervention ongoing</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: NR Community: testing (routine testing; SHS and PD when tested positive) Environmental: NR</p> <p>Additional services provided: resource deployment (assistance with personnel to replace staff in isolation)</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: national</p> <p>Comparison group: Israeli national data from pre- and post-intervention</p>	<p>Outcomes reported: hospitalization due to infection; mortality due to infection overall; mortality due to infection, ≥75 years; proportion of LTC communities with reduced sized outbreaks</p> <p>Infection lab confirmed or self-report: N/A</p> <p>Results: Hospitalization due to infection: Absolute difference: -2.2 pct pts Relative difference: -16.0%</p> <p>Mortality due to infection, overall: Absolute difference: -15 pct pts Relative difference: -33.1%</p> <p>Mortality due to infection, ≥75 years of age: Absolute difference: -11.5 pct pts Relative difference: -21.7%</p> <p>Proportion of outbreaks designated as decreased sized outbreaks (less than 5 residents infected in the 2 weeks following a staff member tested positive for SARS-CoV-2): Absolute difference: 62.4 pct pts Relative difference: 305.3%</p>
<p>Author year: Allan-Blitz 2022</p> <p>Study design: single group before-after</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: Florida, U.S.</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: employees and residents of LTC communities in Florida</p> <p>Sample size: # of communities: 361 # of residents: NR</p>	<p>Intervention period examined: 42 weeks</p> <p>Evaluation period: NR</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: NR Community: testing (semi-monthly routine testing), VR</p>	<p>Outcomes reported: relationship between testing frequency and reduction in COVID cases among residents</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary Based on the coefficients from the multivariable model, authors predicted that a 10% increase in testing frequency would result in a 1% reduction</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p># of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Environmental: NR</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: state</p> <p>Decision maker for implementing NPIs: state</p> <p>Comparison group: alternative education on nutrition and relevant cancer education material from another healthcare community</p>	<p>in the weekly LTC community case rate among residents.</p> <p>Assuming generalizability of the results, the reduction would result in 126 fewer cases per week, or 6,552 fewer cases per year, among LTC community residents across the U.S.</p>
<p>Author year: Angevaere 2022</p> <p>Study design: interrupted time series</p> <p>Suitability of design: moderate</p> <p>Quality of execution: fair</p>	<p>Location: the Netherlands</p> <p>Population density: NR</p> <p>Eligibility criteria: residents ≥60 years of age in Dutch LTC communities. Intervention group consists of residents with one assessment prior to and one during intervention. Those in the comparison group had to have 2 assessments prior to intervention</p> <p>Sample size: # of communities: 42</p> <p># of residents: Intervention: 298 Control: 625</p> <p># of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: all Dutch LTC communities provide</p>	<p>Intervention period examined: 9.5 weeks</p> <p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: NR Community: PD, VR Environmental: NR</p> <p>Additional services provided: virtual visits, group activities, and window visits with family members were allowed in some communities</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: national</p>	<p>Outcomes reported: mental health</p> <ul style="list-style-type: none"> • Aggressive behavior: occurrence of verbal and physical abuse, socially disruptive behavior, and resistance to care in past 3 days, scores from 0 to 12, with higher scores signifying more aggressive behavior • Cognition: Cognitive Performance Scale (CPS); short term memory impairment and executive functioning in past 3 days, 0 (intact) to 6 (very severe impairment), score ≥3 indicates moderate to severe impairment • Conflict with other care recipients: occurrences of conflict with or repeated criticism of other care recipients in past 3 days • Conflict with staff: occurrences of conflict or repeated criticism of staff in past 3 days • Delirium: Delirium Clinical Assessment Protocol (CAP), assessment triggered if at least 1 of the following occurred in past 3 days (acute changes in mental status, different from usual functioning, easily distracted, episodes of disorganized speech, mental function varies over the course of a day) • Depression: Depression Rating Scale (DRS), assessor-rated depressive symptoms, 0 (no symptoms) to 14 (high symptom)

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	<p>24-hour care, are publicly funded, and include residential care homes and NHs</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: Age: 30% 60-79 years; 19% 80-84 years; 28% 85-89 years; 23% ≥90 years Sex: 69% female; 31% male</p>	<p>Comparison group: residents with 2 mental health assessment prior to VR, not part of the intervention group due to lack of assessment during VR</p>	<ul style="list-style-type: none"> • Depression, self-rated: 3 self-reported mood items, scores ranging from 0 to 6, with 6 signifies all 3 mood symptoms were present during the past 3 day (loss of interest, sadness, anxiety) • Loneliness: residents indicated they were lonely in the past 3 days • Withdrawal: occurrence of withdrawal from activities of interest, self-reported <p>Infection lab confirmed or self-report: N/A</p> <p>Results: Narrative summary</p> <ul style="list-style-type: none"> • Aggressive behavior: no change; OR: 0.98, 95% CI: 0.80 to 1.20. The oldest residents (90 years or older) had significant increase in aggressive behavior during intervention • Cognition: no change; OR: 0.03, 95% CI: -0.05 to 0.12 • Conflict with other care recipients: residents in comparison group had higher occurrences of conflict when compared with residents during intervention; OR 1.31, 95% CI 1.02 to 1.68 • Conflict with staff: no change; OR: 1.09, 95% CI: 0.85 to 1.40 • Delirium: no change; OR: 1.09, 95% CI: 0.81 to 1.46 • Depression: no change; DRS score increased 0.03, 95% CI: -0.24 to 0.30; author reported not clinically meaningful • Depression, self-rated: increased during early stages of intervention, but author reported not significantly different towards the end of intervention; score increased by 0.33, 95% CI: 0.01 to 0.64 • Loneliness: no change; OR: 0.94, 95% CI: 0.77 to 1.15 • Withdrawal: no change; OR: 0.95, 95% CI: 0.72 to 1.25. For residents with no or mild cognitive impairment, withdrawal significantly decreased during intervention; for residents

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			with cognitive impairment there was a small increase in withdrawal
<p>Author year: Backhaus 2021</p> <p>Study design: single group before-after</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: the Netherlands</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: NH involved in a Dutch national pilot study assessing impact of visitor restrictions and reopening</p> <p>Sample size: # of communities: 76 # of residents: NR # of staff: NR</p> <p>Community type: NHs or skilled nursing facilities only</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Intervention period examined: 26 weeks</p> <p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: VR (relaxing of VR) Environmental: none</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: LTC community</p> <p>Comparison group: comparing to when VR were in place</p>	<p>Outcomes reported: Mental health: questionnaire results on residents' mood and cognitive decline QoL: questionnaire results on residents' activity and contact seeking behavior</p> <p>Infection lab confirmed or self-report: N/A</p> <p>Results: Narrative summary Compared with the situation during visitor restriction, reopening LTC communities resulted in the following: Mental health: • Residents had more positive mood in 45% of NHs surveyed • Residents showing more cognitive decline in 20% of NHs, same level of cognitive functioning in 55% of NHs, less cognitive decline in 11% of NHs</p> <p>QoL: residents were more active and more actively sought contact with others in 30% of NHs</p>
<p>Author year: Bakaev 2020</p> <p>Study design: single group before-after</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: Massachusetts, U.S.</p> <p>Population density: NR</p> <p>Eligibility criteria: residents at the Hebrew Rehabilitation Center, a multicampus organization of LTC communities</p> <p>Sample size: # of communities: NR # of residents: 723 # of staff: NR</p>	<p>Intervention period examined: 4 weeks</p> <p>Evaluation period: intervention ongoing</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: N/A Community: testing (routine testing; PD when tested positive) Environmental: N/A</p>	<p>Outcomes reported: incidence among residents; new cases identified each week</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary Before universal testing, the number of new cases tripled weekly. After universal testing had been implemented, new cases declined to 14%</p>

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	<p>Community type: LTC communities, all included</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: <i>Age, mean: 89 years</i></p>	<p>Additional services provided: NR</p> <p>Guidelines used for decision making: national and state</p> <p>Decision maker for implementing NPIs: LTC community</p> <p>Comparison group: pre-intervention</p>	
<p>Author year: Balestrini 2021</p> <p>Study design: before-after with concurrent comparison group</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: United Kingdom</p> <p>Population density: mixed (urban, suburban)</p> <p>Eligibility criteria: residents and staff at several LTC communities dedicated to care of people with epilepsy in and around London</p> <p>Sample size: # of communities Intervention: 1 Control: 1</p> <p># of residents: Intervention: 98 Control: 146</p> <p># of staff: Intervention: 275 Control: 601</p> <p>Community type: residential LTC communities only</p> <p>Community characteristics: NR</p> <p>Population served: people with disabilities</p>	<p>Intervention period examined: 20 weeks</p> <p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: N/A Community: testing (weekly routine testing of residents; PD when tested positive) Environmental: N/A</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: national and regional</p> <p>Decision maker for implementing NPIs: LTC community</p> <p>Comparison group: a comparable LTC community for people with epilepsy in London without testing procedures in place</p>	<p>Outcomes reported: incidence among staff</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Intervention, change: 1.1% Control, change: 2.8%</p> <p>Absolute difference: -1.7 pct pts Relative difference: -61.1%, p<0.05</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Demographics for residents in intervention group: <i>Age, median:</i> 49 <i>Sex:</i> 32.6% female; 67.3% male <i>Race/Ethnicity:</i> Black, Asian, and other groups of minorities, 5%</p>		
<p>Author year: Belmin 2020</p> <p>Study design: retrospective cohort</p> <p>Suitability of design: moderate</p> <p>Quality of execution: fair</p>	<p>Location: France</p> <p>Population density: NR</p> <p>Eligibility criteria: French NHs in which some of the staff voluntarily confined themselves to the community along with residents for 7 days or longer</p> <p>Sample size: # of communities: 17 # of residents: 1,250 # of staff: 794</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: Ownership: 35.3% public; 23.5% private; 41.2% non-profit Size of community: 35.3% ≤60 residents; 41.2% 61-100 residents; 23.5% >100 residents</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Intervention period examined: 2 weeks to 5 weeks (depending on the community)</p> <p>Evaluation period: 8 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: PD Environmental: none</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: LTC community</p> <p>Decision maker for implementing NPIs: LTC community</p> <p>Comparison group: French NHs following standard procedures</p>	<p>Outcomes reported: incidence among residents, staff, and overall; mortality due to infection among residents; proportion of communities with an infection</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Incidence among residents: Intervention, change: 0.4% Control, change: 4.4% Absolute difference: -4.0pct pts Relative difference: -90.9%</p> <p>Incidence among staff: Intervention, change: 0.8% Control, change: 3.8% Absolute difference: -3.0pct pts Relative difference: -80.1%</p> <p>Incidence overall: Intervention, change: 0.5% Control, change: 2.5% Absolute difference: -2.0pct pts Relative difference: -78.6%</p> <p>Mortality due to infection among residents: Intervention, change: 0.4% Control, change: 1.8% Absolute difference: -1.4pct pts Relative difference: -77.8%</p> <p>Proportion of communities with an infection: Intervention, change: 5.9% Control, change: 48.3%</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			Absolute difference: -42.5pct pts Relative difference: -87.8%
<p>Author year: Cazzoletti 2021</p> <p>Study design: cross-sectional</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: Italy</p> <p>Population density: mixed (urban, rural)</p> <p>Eligibility criteria: all NHs for the elderly in the province of Trento; excluded other LTC settings for people with disabilities and hospital based LTC</p> <p>Sample size: # of communities: 45 # of residents: NR # of staff: NR</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: Size of community: 36% small to medium; 64% large (>70 beds) Population density: 24% urban; 76% rural</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: 12 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: HH, PPE Community: PD Environmental: CD</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: NR</p> <p>Comparison group: N/A</p>	<p>Outcomes reported: associations between NPIs evaluated and incidence among residents</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary HH: no statistically significant association between hand hygiene and the median cumulative incidence of COVID-19 in NHs, p=0.915</p> <p>PPE: no statistically significant association between PPE use and the median cumulative incidence of COVID-19 in NHs, p=0.742</p> <p>PD (isolation): isolation of cases was not statistically significantly associated to the median cumulative incidence of COVID-19 in NHs, p=0.941</p> <p>CD (sanitation): no statistically significant association between sanitization and the median cumulative incidence of COVID-19 in NHs, p=0.408</p>
<p>Author year: Ehrlich 2021</p> <p>Study design: single group before-after</p> <p>Suitability of design: least</p>	<p>Location: Connecticut, U.S.</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: NHs selected based on size of their outbreaks and potential immediate effect of control measures</p>	<p>Intervention period examined: 12 weeks</p> <p>Evaluation period: NR</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none</p>	<p>Outcomes reported: incidence among residents adjusted for community prevalence; proportion of communities with reduced incidence; relationship between test frequency and reduction in infections</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results:</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Quality of execution: fair</p>	<p>Sample size: # of communities: 34 # of residents: 437 # of staff: NR</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: Size of community: about 135 beds per NH</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Community: testing (weekly routine testing; SHS and PD when tested positive) Community: none</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: state</p> <p>Decision maker for implementing NPIs: state</p> <p>Comparison group: pre intervention</p>	<p>Incidence among residents: Relative change: -80%, 95% CI: -89% to -64%</p> <p>Narrative summary Proportion of communities with reduced incidence: compared with 4 weeks before implementation, incidence rates in residents decreased in 85% of the communities in the 12-week follow-up period, p<0.05</p> <p>Relationship between test frequency and reduction in infections: a positive but nonsignificant correlation between the number of days between each round of testing and the number of cases identified in a LTC community</p>
<p>Author year: Geeraedts 2022</p> <p>Study design: before-after with concurrent comparison group</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: the Netherlands</p> <p>Population density: urban</p> <p>Eligibility criteria: large LTC communities in the Twente region with an infection prevention professional in service</p> <p>Sample size: # of communities: 7 # of residents: 5,649 # of staff: 13,438</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Intervention period examined: 4.5 weeks</p> <p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: testing (routine testing; SHS and PD when tested positive) Environmental: none</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: regional</p> <p>Comparison group: LTC communities in other regions in</p>	<p>Outcomes reported: incidence prevented; excess death due to SARS-CoV-2 infection prevented</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary Incidence prevented: with an estimated basic Ro between 0.7 and 1.0 for the Netherlands, 101 to 144 secondary infections may have been prevented; with an estimated Ro of 2 to 3 for LTC communities, 288 to 432 transmissions may have been prevented</p> <p>Excess death due to infection prevented: Intervention region: 8% excess death Comparison regions: 21% to 74% One month after intervention implementation, intervention region had excess mortality rate that was 2.6 times (62%) to 9.3 times (89%) lower than in comparison regions</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
		the Netherlands without routine testing	
<p>Author year: Gil-Llario 2023</p> <p>Study design: simple time series</p> <p>Suitability of design: least</p> <p>Quality of execution: good</p>	<p>Location: Spain</p> <p>Population density: NR</p> <p>Eligibility criteria: a single community was selected for evaluation; for residents to be included in the analysis, they need to have diagnosis of mild or moderate intellectual disability; over 18 years of age; residing in the community; assessed by the center on variables of interest before the pandemic</p> <p>Sample size: # of communities: 1 # of residents: 24 # of staff: NR</p> <p>Community type: residential LTC communities</p> <p>Community characteristics: NR</p> <p>Population served: people with intellectual disabilities</p> <p>Demographics for residents in intervention group: <i>Age, mean:</i> 40.2 years <i>Sex:</i> 54.2% female; 45.8% male</p>	<p>Intervention period examined: 30 weeks</p> <p>Evaluation period: 91 weeks</p> <p>Intervention details: Infectious agent: SARS-COV-2</p> <p>NPIs evaluated: Individual: none Community: PD (cohorting), VR Environmental: none</p> <p>Additional services: NR</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: national</p> <p>Comparison group: pre intervention</p>	<p>Outcomes reported:</p> <p>Mental health:</p> <ul style="list-style-type: none"> • Anxiety: level of anxiety symptoms measured by Diagnostic Assessment for Severely Disabled, DASH-II, Spanish version, validated; lower score favorable • Depression: level of depressive symptoms measured by DASH-II, Spanish version, validated; lower score favorable • Organic syndromes: now referred to as neurocognitive disorders, such as increased restlessness, difficulties in focusing attention or remembering things the individual used to know, slower response times, or rapid changes in mood, measured by DASH-II, Spanish version, validated; lower score favorable <p>QoL:</p> <ul style="list-style-type: none"> • Self-determination: assessed through two scales, INICO-FEAPS Scale of Comprehensive Assessment of the Quality of Life of People with Intellectual or Developmental Disabilities; San Martín Scale of Assessment of the Quality of Life of People with Significant Disabilities; higher score favorable • Emotional wellbeing: same scales used to determine scores; higher score favorable • Social inclusion: same scales used to determine scores; higher score favorable • Interpersonal relationship: same scales used to determine scores; lower score favorable <p>Results: Narrative summary Mental health</p> <ul style="list-style-type: none"> • Anxiety: VR didn't increase anxiety; VR + PD (cohorting) increased anxiety; relaxing VR + PD decreased anxiety; results not statistically significant. <ul style="list-style-type: none"> • Pre-intervention: 2.0 ± 2.33 • VR only: 1.79 ± 1.91

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			<ul style="list-style-type: none"> • VR + PD (cohorting): 2.67 ± 3.41 • Reopening: 2.12 ± 2.27 • Depression: VR didn't increase depression; VR + PD (cohorting) increased depression; relaxing VR + PD decreased depression and was nearly approximate to pre-pandemic levels; results not statistically significant <ul style="list-style-type: none"> • Pre-intervention: 4.46 ± 4.42 • VR only: 4.21 ± 4.21 • VR + PD (cohorting): 5.12 ± 5.17 • Reopening: 4.5 ± 4.59 • Organic symptoms: VR worsened organic symptoms, VR + PD (cohorting) worsened symptoms more; relaxing VR + PD improved organic symptoms but did not reach pre-pandemic levels; results statistically significant <ul style="list-style-type: none"> • Pre-intervention: 2.42 ± 1.86 • VR only: 3.26 ± 3.24 • VR + PD (cohorting): 3.79 ± 3.5 • Reopening: 2.83 ± 2.53 QoL <ul style="list-style-type: none"> • Self-determination: VR improved self-determination; VR + PD (cohorting) worsened self-determination; relaxing VR + PD (cohorting) worsened it further but did not reach pre-pandemic levels; results not statistically significant <ul style="list-style-type: none"> • Pre-intervention: 46.33 ± 24.82 • VR only: 47.25 ± 26.25 • VR + PD (cohorting): 44.37 ± 27.16 • Reopening: 44.63 ± 26.71 • Emotional well-being: VR worsened emotional well-being, VR + PD (cohorting) improved it slightly; relaxing VR + PD (cohorting) didn't change it and did not reach pre-pandemic levels; results not statistically significant <ul style="list-style-type: none"> • Pre-intervention: 45.38 ± 23.67 • VR only: 41.58 ± 23.03 • VR + PD (cohorting): 42.79 ± 24.04

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			<ul style="list-style-type: none"> • Reopening: 42.67 ± 24.56 • Social inclusion: VR improved social inclusion; VR + PD (cohorting) worsened it; relaxing VR + PD (cohorting) worsened it further; results not statistically significant <ul style="list-style-type: none"> • Pre-intervention: 42.63 ± 24.91 • VR only: 44.37 ± 28.31 • VR + PD (cohorting): 40 ± 31.15 • Reopening: 39.92 ± 27.39 • Interpersonal relationship: VR improved interpersonal relationship; VR + PD (cohorting) didn't change it; relaxing VR + PD (cohorting) improved it but not to pre-pandemic levels; results not statistically significant <ul style="list-style-type: none"> • Pre-intervention: 41.29 ± 28.81 • VR only: 43.13 ± 28.98 • VR + PD (cohorting): 43.71 ± 33.12 • Reopening: 44.67 ± 26.8
<p>Author year: Green 2021</p> <p>Study design: single group before-after</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: England</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: all LTC communities with no confirmed or suspected cases in the Liverpool area</p> <p>Sample size: # of communities: 33 # of residents: 812 # of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: Size of community: 856 beds overall</p>	<p>Intervention period examined: 2.5 weeks</p> <p>Evaluation period: NR</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: testing (routine testing) Environmental: none</p> <p>Additional services provided: regular check-in; all LTC communities received extensive advice and support from Liverpool area health and care partners</p>	<p>Outcomes reported: incidence among residents</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary No significant difference between crude prevalence of residents testing positive between the first and second round of testing; p=0.11</p> <p>When COVID-19 prevalence is low, repeat testing at two to three weeks had limited or no public health benefits over regular daily monitoring of staff and residents for symptoms</p> <p>Communities with asymptomatic residents showed no evidence of disease transmission or development of outbreaks, suggesting that current infection prevention and control measures are effective in preventing transmission</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Type of community: 52.9% purely residential in nature, remaining offered nursing care</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: <i>Age, mean:</i> 74 years <i>Sex:</i> 60% female; 40% male</p>	<p>Guidelines used for decision making: local</p> <p>Decision maker for implementing NPIs: local</p> <p>Comparison group: pre-intervention</p>	
<p>Author year: Gustafsson 2022</p> <p>Study design: interrupted time series</p> <p>Suitability of design: moderate</p> <p>Quality of execution: fair</p>	<p>Location: Sweden</p> <p>Population density: NR</p> <p>Eligibility criteria: all respondents who completed both the 2019 and 2020 National Board of Health and Welfare Questionnaires and were age 70 or older in 2020</p> <p>Sample size: # of communities: NR # of residents: 11,782 # of staff: NR</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: <i>Age, mean:</i> 88.2 years <i>Sex:</i> 71% female; 29% male <i>Insurance:</i> 21% private providers; 79% public providers</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: 11 weeks</p> <p>Intervention details: Infectious agent: SARS-COV-2</p> <p>NPIs evaluated: Individual: none Community: VR Environmental: none</p> <p>Additional services: NR</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: national</p> <p>Comparison group: pre-intervention</p>	<p>Outcomes reported: Mental health: loneliness; measured by a survey consisting of 20-25 items covering perceptions of the eldercare and self-rated loneliness and health, administered by the National Board of Health and Welfare in Sweden</p> <p>Infection lab confirmed or self-report: N/A</p> <p>Results: Narrative summary Compared to the period before VR and to the trends of the corresponding periods in 2019, there was a relative decrease in loneliness trends after VR was implemented RR = 0.974, 95% CI: 0.949 to 0.998</p> <p>However, this decrease was not statistically significant after adjusting for other factors, and it became even less significant after also considering health in 2019 and 2020 RR = 0.984, 95% CI: 0.961 to 1.008</p>
<p>Author year: Hodge 2023</p>	<p>Location: Australia</p>	<p>Intervention period examined: NR</p>	<p>Outcomes reported: associations between NPIs evaluated and outcomes that include incidence</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Study design: cross-sectional</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Population density: urban, rural</p> <p>Eligibility criteria: all LTC communities with an outbreak within the Wide Bay Public Health Unit, excluding multi-purpose health services; outbreak defined as 2 or more residents tested positive for SARS-CoV-2 within 5 days and have been onsite at the LTC communities during their infectious period; or 5 or more staff, visitors, and/or residents tested positive within the past 7 days who worked or visited during their infectious period</p> <p>Sample size: # of communities: 27 # of residents: NR # of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Evaluation period: 32 weeks</p> <p>Intervention details: Infectious agent: SARS-COV-2</p> <p>NPIs evaluated: Individual: PPE, SHS Community: testing, PD Environmental: none</p> <p>Additional services provided: collaboration, support, provided by Wide Bay Public Health Unit</p> <p>Guidelines used for decision making: NR</p> <p>Decision maker for implementing NPIs: NR</p> <p>Comparison group: cross-sectional comparison; association between intervention vs. no intervention or different levels of implementation and incidence</p>	<p>among residents and staff, and outbreak duration</p> <p>Outbreak duration: defined by Communicable Disease Network Australia, measured in number of days from outbreak start (the day the outbreak criteria was met) to outbreak end (7 days after the last case in community)</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Incidence among residents and staff</p> <ul style="list-style-type: none"> • PD (staff cohorting) is associated with a 64.3% reduction in incidence, p=0.0073 • Strict enforcement of SHS produced larger reductions in incidence <ul style="list-style-type: none"> • Staff SHS + close contact vs. staff SHS: 3.85 vs. 16.20, -76.2%, NS • Staff SHS + close contact vs. most staff SHS: 3.85 vs. 27.11, -85.8%, NS • Staff SHS vs. most staff SHS: 16.20 vs. 27.11, -40.2%, NS • Shorter turnaround time between sample collection and receipt of results statistically significantly associated with fewer infections <ul style="list-style-type: none"> • Same day turnaround vs. next day: 13.77 to 24.42, -43.6% • Same day turnaround vs. several days later: 13.77 vs. 23.96, -42.5% • Next day vs. several days later: 24.42 vs. 23.96, 1.9%, NS • Strict cohorting was statistically significantly associated with fewer infections <ul style="list-style-type: none"> • All cohorting vs. most cohorting: 11.22 vs. 14.21, -21.0% • All cohorting vs. no: 11.22 vs. 31.47, -64.3%

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			<ul style="list-style-type: none"> • Most cohorting vs. no: 14.21 vs. 31.47, -54.8% <p>Outbreak duration in days</p> <ul style="list-style-type: none"> • PD (staff cohorting) is not associated outbreak duration • Strict enforcement of SHS shortened outbreak duration <ul style="list-style-type: none"> • Staff SHS + close contact vs. staff SHS: 13.5 vs. 21, -35.7%, NS • Staff SHS + close contact vs. most staff SHS: 13.5 vs. 14, -3.6%, NS • Staff SHS vs. most staff SHS: 21 vs. 14, 50.0%, NS • Turnaround time between sample collection and receipt of results was not associated with outbreak duration <ul style="list-style-type: none"> • Same day turnaround vs. next day: 20 vs. 20.5, -2.4%, NS • Same day turnaround vs. several days later: 20 vs. 22.5, -11.1%, NS • Next day vs. several days later: 20.5 vs. 22.5, -8.9%, NS • Strict cohorting was not associated with outbreak duration <ul style="list-style-type: none"> • All cohorting vs. most cohorting: 21 vs. 20, 5%, NS • All cohorting vs. no: 21 vs. 21, 0%, NS • Most cohorting vs. no: 20 vs. 21, -4.7, NS
<p>Author year: Huang 2021</p> <p>Study design: single group before-after</p> <p>Suitability of design: least</p>	<p>Location: Taiwan</p> <p>Population density: NR</p> <p>Eligibility criteria: one NH was selected for unreported reasons; all residents living in the NH and staff who continuously worked in</p>	<p>Intervention period examined: 36 weeks</p> <p>Evaluation period: NR</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated:</p>	<p>Outcomes reported: ED visits and hospitalization due to viral respiratory infection over 36 weeks; length of hospital stay in days</p> <p>Infection lab confirmed or self-report: electronic records</p> <p>Results: ED visits:</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Quality of execution: fair</p>	<p>the community from 1/2019 to 9/2020</p> <p>Sample size: # of communities: 1 # of residents: 183 # of staff: 127</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: Age: 60.7% were 80+ years old Sex: 64% female; 36% male Underlying conditions: 78.1% with ADL score ≤ 20; 95.6% with Charleston Comorbidity Index ≥ 6</p>	<p>Individual: HH, PPE Community: testing (PD when tested positive), PD, VR Environmental: CD</p> <p>Additional services provided: collaboration with the local hospital, with doctors visit residents weekly, outpatient department visits</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: national</p> <p>Comparison group: pre-intervention</p>	<p>Pre: 93 Post: 42 Absolute change: -51 visits Relative change: -54.8%, $p < 0.001$</p> <p>Hospitalization due to infection: Intervention: Pre: 79 Post: 33 Absolute change: -46 visits Relative change: -58.2%, $p < 0.001$</p> <p>Hospital stays: Pre: 1009 Post: 387 Absolute change: -622 days Relative change: -61.6%, $p < 0.001$</p>
<p>Author year: Jutkowitz 2022</p> <p>Study design: interrupted time series</p> <p>Suitability of design: moderate</p> <p>Quality of execution: fair</p>	<p>Location: Florida, Georgia, North Carolina, South Carolina, U.S.</p> <p>Population density: NR</p> <p>Eligibility criteria: NHs in a same multi-facility corporation in the southern U.S. which agreed to install air purifiers and share community-level data with researchers</p> <p>Sample size: # of communities: 84 # of residents: NR # of staff: NR</p> <p>Community type: NHs or skilled nursing facilities</p>	<p>Intervention period examined: 6 weeks</p> <p>Evaluation period: 8 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: none Environmental: vent</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: NR</p> <p>Decision maker for implementing NPIs: LTC community</p>	<p>Outcomes reported: incidence among residents; proportion of communities with infections per week; proportion of communities with infection-related deaths per week</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Incidence among residents per week: Intervention: Pre: 14.3 infections per week per 1,000 residents Post: 9.3 infections per week per 1,000 residents Change: -35%</p> <p>Comparison: Pre: 25.0 infections per week per 100,000 community members Post: 18.5 infections per week per 100,000 community members</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Community characteristics: one company with LTC communities throughout the Southeastern U.S.</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: <i>Age, mean:</i> 78.3 years <i>Sex:</i> 65.1% female; 35.0% male <i>Race/Ethnicity:</i> 64.5% White; 31.5% African American; 0.9% Hispanic</p>	<p>Comparison group: Incidence: wider community infections from the same period Other outcomes: pre-intervention</p>	<p>Change: -26%</p> <p>Relative difference: -34.5%</p> <p>Regression coefficient translates to a reduction of 1.69 COVID-19 cases per 1,000 residents per week in the post compared to the pre period, controlling for community cases; 95% CI: -4.32 to 0.95</p> <p>Proportion of communities with infections per week: Pre: 21.5% Post: 9.6% Absolute change: -11.9 pct pts Relative change: -55.3%</p> <p>Regression coefficient translates to a 0.02 pct pts reduction in the probability of a community having a COVID-19 case pre week in the post compared to the pre period</p> <p>Proportion of communities with infection-related deaths per week: Pre: 8.8% Post: 1.8% Absolute change: -7.0 pct pts Relative change: -79.5%</p> <p>Regression coefficient translates to a 0.01 pct pts increase in the probability of a NH having a COVID-19 death pre week in the post compared to the pre period</p>
<p>Author year: Kovach 2017</p> <p>Study design: single group before-after</p> <p>Suitability of design: least</p>	<p>Location: Midwest, U.S.</p> <p>Population density: NR</p> <p>Eligibility criteria: all residents of a single LTC community in the upper Midwest; reason for choosing the specific community not provided</p>	<p>Intervention period examined: 52 weeks</p> <p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: pneumonia, respiratory infections</p>	<p>Outcomes reported: incidence among residents; hospitalization due to infection</p> <p>Infection lab confirmed or self-report: symptomatic</p> <p>Results: Incidence among residents Narrative summary</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Quality of execution: fair</p>	<p>Sample size: # of communities: 1 # of residents: NR # of staff: NR</p> <p>Community type: NH or skilled nursing facility</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for intervention group: NR</p>	<p>NPIs evaluated: Individual: none Community: none Environmental: CD</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: NR</p> <p>Decision maker for implementing NPIs: LTC community</p> <p>Comparison group: pre-intervention</p>	<p>Pre-intervention (2012 to 2014) compared with post-intervention (2015) period, LTC community acquired infections had a small decrease, while hospital acquired rates showed an increase; the ratio increased from pretest to posttest indicating that as the hospital acquired rate was increasing the rate of LTC community acquired infections was decreasing or staying the same</p> <p>Hospitalization due to infection: Pre: 15 cases Post: 5 cases Relative change: -66.7%</p>
<p>Author year: Lipsitz 2020</p> <p>Linked to Dufour 2021</p> <p>Study design: simple time series</p> <p>Suitability of design: least</p> <p>Quality of execution: good</p>	<p>Location: Massachusetts, U.S.</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: NHs in MA area with infection control deficiencies, including those that failed an initial audit</p> <p>Sample size: # of communities: Intervention: 123 Control: 237</p> <p># of residents: NR # of staff: NR</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: NR</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: testing (routine testing; SHS and PD when tested positive), PD Environmental: CD</p> <p>Additional services provided: collaboration with government agencies to receive implementation support; assessment and feedback of NPI adherence through checklist; resources deployment; virtual visits; incentives for LTC communities</p>	<p>Outcomes reported: associations between NPIs evaluated and outcomes that include incidence among residents and mortality due to infection</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Incidence among residents:</p> <ul style="list-style-type: none"> • For each 1-point increase in checklist audit score, the weekly infection rate decreased further <ul style="list-style-type: none"> • Overall: -8%, p=0.0007 • Similar reduction for LTC communities whether non-White residents was <20% or ≥20% • LTC communities with low dementia prevalence (0-50%): -1% • LTC communities with middle dementia prevalence (50-62%): -8% • LTC communities with high dementia prevalence (62-100%): -12% • For each 1-point increase in checklist audit score, the likelihood of a zero-infection rate increased by 13%, p=0.004)

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Demographics for residents in intervention group: <i>Age, mean:</i> 81 years <i>Sex:</i> 66% female; 44% male <i>Race/Ethnicity:</i> 85.0% White; 15.0% non-White <i>Underlying conditions:</i> 55% with dementia</p>	<p>Guidelines used for decision making: national and local</p> <p>Decision maker for implementing NPIs: state</p> <p>Comparison group: association between intervention vs. no intervention or different levels of implementation and outcomes</p>	<ul style="list-style-type: none"> • PD (cohorting) was associated with reductions in weekly infection rate <ul style="list-style-type: none"> • Overall: -50%, p=0.004 • LTC communities with <20% non-White residents: -51% • LTC communities with ≥20% non-White residents: -78% • LTC communities with low dementia prevalence (0-50%): -38% • LTC communities with middle dementia prevalence (50-62%): -63% • LTC communities with high dementia prevalence (62-100%): -56% • PD (cohorting) was associated with increased OR of zero-infection rate among residents <ul style="list-style-type: none"> • Overall AOR: 3.00, 95% CI: 1.34 to 6.71, p=0.0076 • LTC communities with <20% non-White residents AOR: 5.4 • LTC communities with ≥20% non-White residents AOR: 5.03 <p>Mortality due to infection:</p> <ul style="list-style-type: none"> • For each 1-point increase in checklist audit score, the weekly mortality rate decreased by 3%, (p=0.179), and the likelihood of a zero-mortality rate increased by 16% (p=0.0009), regardless of resident demographics • PD (cohorting) was associated with a 38% reduction in weekly mortality rate (p=0.0379) and 98% increased odds of zero mortality among residents
<p>Author year: Lipsitz 2022</p> <p>Study design: simple time series with comparison group</p> <p>Suitability of design: greatest</p>	<p>Location: Intervention: Massachusetts, U.S. Comparison: New Hampshire, Rhode Island, Connecticut, U.S.</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: residents at 20 LTC communities in</p>	<p>Intervention period examined: 15 weeks</p> <p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated:</p>	<p>Outcomes reported: incidence among residents and staff</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary Early intervention, May 10 to June 3, 2020: the adjusted risk of infection declined by about 27%</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Quality of execution: fair</p>	<p>Massachusetts where NPIs were implemented; present at the study's beginning, followed for 20 weeks or until developing COVID-19, discharge, or death; new admissions were excluded due to varying state restrictions and potential immunity to new infections</p> <p>Sample size: # of communities: Intervention: 20 Comparison: 45</p> <p>#of residents: Intervention: 2,085 Comparison: 4,493</p> <p># of staff: NR</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: Age: 7% <65; 7% 65–69; 11% 70–74; 13% 75–79; 14% 80–84; 18% 85–89; 30% ≥90 Sex: 67% female; 33% male Race/Ethnicity: 87% White; 4% Black or African American; 9% Hispanic or other Insurance: 30% private insurance; 10% Medicare; 59% Medicaid Underlying health conditions: ADL score of 17.3; 53% dementia; 27% congestive heart failure;</p>	<p>Individual: PPE Community: testing (routine testing; SHS and PD when tested positive), PD Environmental: none</p> <p>Additional services provided: virtual and in-person assessment and feedback by using checklist for shortcomings and ways to improve; resource access and deployment; regular check ins for quality improvement; incentive to staff; virtual visits for residents</p> <p>Guidelines used for decision making: nation and state</p> <p>Decision maker for implementing NPIs: state</p> <p>Comparison group: LTC communities in other New England States (Rhode Island, New Hampshire, and Connecticut); used same provider system as the intervention group</p>	<p>in comparator states (Hazard Ratio [HR], 0.73, 95% CI 0.54 to 1.00) relative to the baseline period; the adjusted risk of infection declined by 66% relative to baseline for Massachusetts; this is a 53% additional reduction in risk beyond that observed in comparator states (state-by-time interaction HR 0.47, 95% CI 0.37 to 0.59)</p> <p>Late intervention, June 3 to August 12, 2020: residents in Massachusetts experienced additional decline in infection relative to the comparator states (HR 0.80, 95% CI 0.64 to 1.00)</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>21% coronary artery disease; 26% asthma or COPD; 28% chronic kidney disease; 80% hypertension; 36% diabetes; 19% post-acute patient</p>		
<p>Author year: Makris 2000</p> <p>Study design: group RCT</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: Delaware and New Jersey, U.S.</p> <p>Population density: mixed (urban, suburban)</p> <p>Eligibility criteria: 8 communities enrolled in the Medisys, Inc, an infection control surveillance program, selected based on similar admission rate, size, acuity levels, availability of services, overall infection rates, and in-house environmental departments</p> <p>Sample size: # of communities Intervention: 4 Control: 4</p> <p># of residents: NR # of staff: NR</p> <p>Community type: LTC communities, unspecified</p> <p>Community characteristics: Intervention: 2 urban and 2 suburban communities, with a total of 443 beds Control: 2 urban and 2 suburban communities, with a total of 447 beds</p> <p>Population served: older adults</p>	<p>Intervention period examined: 52 weeks</p> <p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: respiratory infections</p> <p>NPIs evaluated: Individual: HH Community: N/A Environmental: CD</p> <p>Additional services provided: resource access and deployment; regular check-in; in-person assessment and feedback through mentor and education</p> <p>Guidelines used for decision making: national and LTC community</p> <p>Decision maker for implementing NPIs: LTC community</p> <p>Comparison group: 4 comparable communities maintaining existing infection control policies and procedures</p>	<p>Outcomes reported: incidence of upper respiratory infections among residents</p> <p>Outcome measure: number upper respiratory infections/ 1000 patient days</p> <p>Infection lab confirmed or self-report: symptomatic</p> <p>Results: Intervention: Change: -58.4%</p> <p>Control: Change: -33.1%</p> <p>Absolute difference: -25.3 pct pts Relative difference: -76.6%</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Demographics for residents in intervention group: NR</p>		
<p>Author year: McArthur 2021</p> <p>Study design: single group before-after</p> <p>Suitability of design: least</p> <p>Quality of execution: good</p>	<p>Location: Canada</p> <p>Population density: NR</p> <p>Eligibility criteria: French speaking LTC communities in a private network called Les Visionnaires in New Brunswick, Canada</p> <p>Sample size: # of communities: 7 # of residents: 765 # of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: privately owned LTC communities with between 30 and 85 resident beds</p> <p>Population served: older adults, people with dementia</p> <p>Demographics for residents in intervention group: <i>Age, mean:</i> 81.4 years <i>Sex:</i> 59.5% female; 40.5% male <i>Underlying health conditions:</i> 55.6% Alzheimer’s disease or dementia; 6.8% with a diagnosis of heart failure</p>	<p>Intervention period examined: 10 weeks</p> <p>Evaluation period: 4 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: PD, VR Environmental: none</p> <p>Additional services provided: virtual visits for family members, with recreation staff to foster connections between residents and family members; local government supplied 1 iPad per every 10 residents to help enhance virtual visits</p> <p>Guidelines used for decision making: NR</p> <p>Decision maker for implementing NPIs: regional</p> <p>Comparison group: pre-intervention</p>	<p>Outcomes reported: Mental health:</p> <ul style="list-style-type: none"> • Depression: assessor-rated depressive symptoms using the Depression Rating Scale; scored 0 (no symptom) to 14 (high symptom burden) • Aggressive behavior: severity of expressions and behaviors assessed by using Aggressive Behavior Scale; scored 0 (no behaviors) to 12 (most severe) • Delirium: assessed using Delirium Clinical Assessment Protocol, examining if behavior appears different from usual functioning, either new onset or worsening, such as easily distracted, episodes of disorganized speech, mental function varies over the course of day, or acute changes in mental status from usual state; assessed for residents without or with dementia <p>Results: Narrative Summary</p> <ul style="list-style-type: none"> • Depression: proportion of residents with indications of depression decreased with PD and VR in place (19.9% to 11.5%, $p < 0.002$); multivariate analysis showed reduced odds for experiencing depression (adjusted OR: 0.86, 95% CI 0.66 to 1.11) • Aggressive behavior: with PD and VR, there was no significant change in the proportion of residents experiencing behavioral problems (35.5% to 30.2%, $p = 0.19$); multivariate analysis showed aggressive behaviors decreased during lockdown (adjusted OR: 0.88, 95% CI 0.72 to 1.06) • Delirium, residents without dementia: there was no significant change in the proportion of residents experiencing delirium (4.5% to 3.5%, $p = 0.51$) during PD and VR; multivariate analysis showed increased odds of experiencing

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			<p>delirium (adjusted OR 1.21, 95% CI 0.57 to 2.57)</p> <ul style="list-style-type: none"> Delirium, residents with dementia: less likely to experience delirium during PD and VR as compared with residents without dementia (adjusted OR 0.29, 95% CI 0.07 to 1.16)
<p>Author year: McGarry 2023</p> <p>Study design: cross-sectional</p> <p>Suitability of design: least</p> <p>Quality of execution: good</p>	<p>Location: nationwide, U.S.</p> <p>Population density: NR</p> <p>Eligibility criteria: NH had to have reported to the National Healthcare Safety Network of Centers for Disease Prevention and Control</p> <p>Sample size: # of communities: 13,424 # of residents: NR # of staff: NR</p> <p>Community type: NHs or skilled nursing facilities only</p> <p>Community characteristics: most had between 107.7 and 111.4 beds and were for-profit</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: <i>Age, mean:</i> 79.4 years <i>Race/Ethnicity:</i> 80.4% White, 19.6% non-White <i>Insurance:</i> 59.5% Medicaid</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: 77 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: testing (routine) Environmental: none</p> <p>Additional services: NR</p> <p>Guidelines used for decision making: NR</p> <p>Decision maker for implementing NPIs: LTC community</p> <p>Comparison group: cross-sectional comparison; association between testing frequency and outcomes of interest</p>	<p>Outcomes reported: association between NPI characteristics and outcomes that include incidence among residents and mortality due to infection</p> <p>Testing frequency: high-testing communities (90th percentile of test volume) compared with low-testing communities (10th percentile)</p> <p>Testing turnaround time: communities that mostly send samples out for testing, with turnaround time with 0-2 days vs. ≥3 days</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary</p> <p>Testing frequency: Incidence among residents: high-testing communities had fewer adjusted COVID-19 cases than low-testing communities; this difference was larger during pre-vaccine period than after vaccines became available High testing vs. low testing, overall: Absolute change: -71.5 cases Relative change: -12.1% High testing vs low testing, pre-vaccine: Absolute change: -300.3 cases Relative change: -28.3%</p> <p>Mortality due to infection: high-testing communities had fewer adjusted COVID-19 deaths than low-testing communities; the</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			<p>difference was larger during the pre-vaccine period than after vaccines became available</p> <p>High testing vs. low testing, overall: Absolute change: -7.1 deaths Relative change: -14.3%</p> <p>High testing vs low testing, pre-vaccine: Absolute change: -41.6 deaths Relative change: -24.9%</p> <p>Testing turnaround time: Incidence among residents: communities with a shorter turnaround time had fewer adjusted COVID-19 cases than communities with a longer turnaround time; the difference was larger during the pre-vaccine period than after vaccines became available</p> <p>Shorter turnaround vs. low testing, overall: Absolute change: -26.5 cases Relative change: -5.2%</p> <p>Shorter turnaround vs. low testing, pre-vaccine: Absolute change: -112 cases Relative change: -12.6%</p> <p>Mortality due to infection: communities with a shorter turnaround time had fewer adjusted COVID-19 deaths than communities with a longer turnaround time; the difference was larger during the pre-vaccine period than after vaccines became available</p> <p>Shorter turnaround vs. low testing, overall: Absolute change: -17.5 deaths Relative change: -29.6%</p> <p>Shorter turnaround vs. low testing, pre-vaccine: Absolute change: -44.1 deaths Relative change: -27.6%</p>
<p>Author year: Oliveira 2023</p> <p>Study design: interrupted time series</p>	<p>Location: Spain</p> <p>Population density: rural</p> <p>Eligibility criteria: included patients with dementia with or without severe cognitive decline,</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: 8 weeks</p> <p>Intervention details: Infectious agent: SARS-COV-2</p>	<p>Outcomes reported:</p> <p>Mental health:</p> <ul style="list-style-type: none"> Anxiety: anxiety status assessed by a clinician using the Hamilton Anxiety Rating Scale; Spanish version, validated; 14 item scale with each item 0-4 points; higher score denotes greater anxiety

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Suitability of design: moderate</p> <p>Quality of execution: fair</p>	<p>with permission from legal guardians; excluded staff and relatives who refused to participate; residents who were terminally ill and those with acute medical conditions preventing baseline evaluation (e.g., fractures, respiratory or severe infections, heart attack, pneumonia, etc.)</p> <p>Sample size: # of facilities: 3 # of residents: 301 # of staff: 119</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: NR</p> <p>Population served: older adults, people with dementia</p> <p>Demographics for residents in intervention group: <i>Age, mean:</i> 85 years <i>Sex:</i> 75.0% female; 25.0% male</p>	<p>NPIs evaluated: Individual: none Community: VR Environmental: none</p> <p>Additional services: NR</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: national</p> <p>Comparison group: pre-intervention</p>	<ul style="list-style-type: none"> • Depression: assessed using Yesavage test for residents, specifically designed for older adults; Spanish version, validated; higher score denotes higher depression <p>QoL:</p> <ul style="list-style-type: none"> • Social support: self-perception of social support assessed using DUKE-UNC questionnaire; Spanish version, validated; lower score denotes lower perceived social support <p>Infection lab confirmed or self-report: N/A</p> <p>Results: Narrative summary Mental health</p> <ul style="list-style-type: none"> • Anxiety: <ul style="list-style-type: none"> • Significant decrease in anxiety in residents when VR was implemented • Anxiety level returned to baseline levels when VR was lifted • Anxiety level not impacted by age of residents • Compared with male residents, female residents exhibited a clear increase in anxiety when VR was implemented • Depression: <ul style="list-style-type: none"> • Significant decrease in depression in residents when VR was implemented • Depression level returned to baseline levels when VR was lifted, indicating increased self-perception of depression • Older residents showed greater increase in depression • Depression not impacted by sex of residents • Compared with residents with dementia, residents with normal cognitive status and mild cognitive decline showed greater reduction in depression when VR was implemented

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			<p>QoL</p> <ul style="list-style-type: none"> • Social support: <ul style="list-style-type: none"> • During implementation and relaxing of VR, residents’ perception of their social support didn’t change • Perception of social support was independent of sex, age, or baseline cognitive status
<p>Author year: Orlando 2022</p> <p>Study design: cross-sectional</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: Italy</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: included all 185 LTC communities in Lazio region in Italy; excluded communities catering specifically to younger adults and those for specific health conditions or rehabilitation communities for drug addicts</p> <p>Sample size: # of communities Intervention: 20 Control: 80</p> <p># of residents: NR # of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: 43 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: PPE Community: testing (PD when tested positive), PD, VR, ATR Environmental: CD</p> <p>Additional services provided: provision of external cleaning company when needed</p> <p>Guidelines used for decision making: NR</p> <p>Decision maker for implementing NPIs: LTC community</p> <p>Comparison group: cross-sectional comparison</p>	<p>Outcomes reported: association between NPIs evaluated and outbreak</p> <p>Outbreak: 2 or more test-confirmed cases of COVID-19 within 14 days</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary</p> <ul style="list-style-type: none"> • ATR: admission of new residents after a COVID-19 outbreak, or lack of admission and transfer restrictions, was associated with an increased risk of an outbreak <ul style="list-style-type: none"> • Binary analysis: OR: 6.46, 95% CI: 1.58 to 27.58, p<0.01 • Multivariable analysis: OR: 4.04, 95% CI: 0.87 to 20.0, p=0.07 • PD (isolation): LTC communities with an isolation environment (isolating residents who tested positive for COVID-19) had increased risk of an outbreak compared with those without <ul style="list-style-type: none"> • Binary analysis: OR: 2.5, 95% CI: 0.72 to 11.27 • PD (reduce interaction): LTC communities with a separate entrance for staff who were and were not in touch with residents had no change in their risk of a COVID-19 outbreak compared with those without

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			<ul style="list-style-type: none"> • Binary analysis: OR: 1.1, 95% CI: 0.3 to 3.41 • Testing: LTC communities with active surveillance for staff (regular temperature checking and, when available, regular testing for COVID-19) had a -26% risk of a COVID-19 outbreak compared with those without <ul style="list-style-type: none"> • Binary analysis: OR: 0.74, 95% CI: 0.06 to 40.88 • Relaxing of VR: LTC communities reporting opening to visitors post first lockdown was associated with a slight increased risk of an outbreak <ul style="list-style-type: none"> • Binary analysis: OR: 1.1, 95% CI: 0.03 to 3.41
<p>Author year: Pereiro 2023</p> <p>Linked papers: Pereiro 2021</p> <p>Study design: single group before-after</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: Spain</p> <p>Population density: NR</p> <p>Eligibility criteria: recruited residents who resided in LTC communities in the Galicia and Valencia regions of Spain, <60 years of age, spent entire study period (March 14 to May 4, 2020) in the LTC, had 2 pre-VR measurements; residents with poor cognitive status were excluded</p> <p>Sample size: # of communities: 4 # of residents: 365 # of staff: NR</p> <p>Community type: LTC communities, unspecified</p>	<p>Intervention period examined: 7 weeks</p> <p>Evaluation period: 12 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: PD, VR Environmental: none</p> <p>Additional services provided: virtual visits, efforts to maintain or increase therapeutic routines</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: national</p> <p>Control group: pre-intervention</p>	<p>Outcomes reported:</p> <p>Mental health:</p> <ul style="list-style-type: none"> • Cognitive function: assessed using Mini-Mental State Examination, a 35-point Spanish adaption of the tool measuring cognitive function; lower score denotes impaired cognition • Depression: assessed using Geriatric Depression Scale, a 15-item Spanish adaption measuring depressive symptomatology; higher score denotes greater depression <p>QoL: functional status; assessed using the Barthel Index, a brief instrument for assessment of functional status in basic activities</p> <p>Infection lab confirmed or self-report: N/A</p> <p>Results: Narrative summary Mental health:</p> <ul style="list-style-type: none"> • Cognitive function: MMSE score was higher at pre-intervention measurements than in the post measurement, indicating a decrease in cognition; however, change in MMSE scores was higher for the pre-intervention period when

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Community characteristics: 60% of beds subsidized by public administration</p> <p>Population served: older adults, people with dementia</p> <p>Demographics for residents in intervention group: <i>Age, mean:</i> 84 years old <i>Sex:</i> 60% female; 30% male <i>Education:</i> 51.2% basic literacy; 35.9% primary school completion; 12.9% high school or university education</p>		<p>compared with post-intervention, suggesting there was a greater downward trend in the pre-intervention period</p> <ul style="list-style-type: none"> • Pre2 vs. Pre2, mean difference: -1.18, SE: 0.27; p<0.001 • Post-intervention vs. Pre2, mean difference: -0.90, SE: 0.27, p<0.001 • In one rural LTC community, there was a decreasing trend in cognitive functions but not statistically significant <ul style="list-style-type: none"> • Depression: GDS scores remained stable through the study period <ul style="list-style-type: none"> • In one rural LTC community, depressive symptoms significantly increased after PD and VR implementation <p>QoL:</p> <ul style="list-style-type: none"> • Functional status: no evidence of worsening of self-reported functional status associated with PD or VR <ul style="list-style-type: none"> • Results from the rural LTC community were comparable to other LTC communities
<p>Author year: Reyne 2021</p> <p>Study design: cross-sectional</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: France</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: residents in the 12 LTC communities in Hérault Department that had experienced a COVID-19 outbreak between March and May 2020</p> <p>Sample size: # of communities: 12 # of residents: 930 # of staff: 360</p> <p>Community type: NHs or skilled nursing facilities</p>	<p>Intervention period examined: N/A</p> <p>Evaluation period: 12 weeks</p> <p>Intervention details: Infectious agent: SARS-Cov-2</p> <p>NPIs evaluated: Individual: PPE Community: PD (isolation) Environmental: NR</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: national and regional</p>	<p>Outcomes reported: association between NPIs evaluated and outbreak size</p> <p>Outbreak size: total number of residents infected per floor of LTC communities</p> <p>Lab confirmed or self-report: lab confirmed</p> <p>Results: Narrative summary PD (isolation): the presence of a COVID unit to isolate patients who were infected was significantly associated with decreased outbreak size</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Community characteristics: public and private LTC communities with an average of 3.3 floors per community</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Decision maker for implementing NPIs: regional</p> <p>Comparison group: cross-sectional comparison</p>	
<p>Author year: Rolland 2020</p> <p>Study design: cross-sectional</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: France</p> <p>Population density: NR</p> <p>Eligibility criteria: all LTC communities registered by the Haute-Garonne department in France</p> <p>Sample size: # of facilities: 124 # of residents: NR # of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Intervention period examined: 1.5 weeks</p> <p>Evaluation period: 6 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: HH, PPE Community: testing (symptomatic testing), PD Environmental: N/A</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: global and national</p> <p>Decision maker for implementing NPIs: regional</p> <p>Comparison group: cross-sectional comparison</p>	<p>Outcomes reported: associations between NPIs evaluated and incidences among residents</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary</p> <ul style="list-style-type: none"> • HH: availability of a satisfactory supply of hydro-alcoholic solution was associated with a higher likelihood a confirmed case; OR: 2.10, 95% CI: 0.61 to 7.24, p = 0.24 • PD (cohort staff): staff compartmentalization within zones was significantly associated with a lower likelihood of having a confirmed case of SARS-CoV-2; OR: 0.17, 95% CI: 0.04 to 0.67, p=0.01 • PD (cohort residents): resident compartmentalization within zones was significantly associated with a higher likelihood of having a confirmed case; OR: 3.01, 95% CI: 0.51 to 18.51, p=0.22 • PD (reduce interaction): reduced interaction was non-significantly associated with reduced likelihood of a confirmed case of SARS-CoV-2 <ul style="list-style-type: none"> • Separating residents during meals: OR: 0.63, 95% CI: 0.34 to 1.15, p = 0.13 • Cessation of group activities: OR: 0.89, 95% CI: 0.41 to 1.91, p = 0.77
<p>Author year: Saegerman 2022</p>	<p>Location: Belgium</p>	<p>Intervention period examined: 6 weeks</p>	<p>Outcomes reported: proportion of communities with one or more infection among staff; mortality due to infection among residents</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Study design: single group before-after</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: all NHs in Wallonia, Belgium</p> <p>Sample size: # of communities: 530 # of residents: NR # of staff: 32,900</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: testing (routine testing, SHS when tested positive) Environmental: none</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: regional</p> <p>Comparison group: pre-intervention</p>	<p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Proportion of communities with 1 or more staff tested positive: Pre: 34.4% Post: 13.4% Absolute change: -21.0 pct pts Relative change: -61.0%; p<0.0001</p> <p>There was a significant linear decrease in the proportion of communities with one or more staff tested positive</p> <p>Mortality due to infection among residents: Compared with non-intervention areas, mortality due to infection decreased more in the intervention area</p>
<p>Author year: Schuengel 2020</p> <p>Study design: interrupted time series</p> <p>Suitability of design: moderate</p> <p>Quality of execution: fair</p>	<p>Location: the Netherlands</p> <p>Population density: NR</p> <p>Eligibility criteria: residents in the long-term care organization Hereen Loo</p> <p>Sample size: # of communities: 1,000 # of residents: 14,027 # of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: NR</p>	<p>Intervention period examined: 14 weeks</p> <p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: PD, VR, ATR Environment: none</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: national and LTC communities</p>	<p>Outcomes reported: Mental health: aggressive behaviors of residents, incidence report by staff on aggressive behavior of residents</p> <p>Infection lab confirmed or self-report: N/A</p> <p>Results: Narrative summary Poisson regression analysis for incidents with aggression showed a significant drop from pre-COVID-19 levels to the start of the COVID-19 phase. Post implementation of PD, VR, and ATR, the trend in aggression incidence inverted from a negative to a positive trend. Authors reported that increasing number of incidents in the COVID-19 phase remained within the bounds observed during the preceding period</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Population served: people with disabilities</p> <p>Demographics for residents in intervention group: NR</p>	<p>Decision maker for implementing NPIs: national</p> <p>Comparison group: pre-intervention</p>	
<p>Author year: Shallcross, 2021</p> <p>Study design: cross-sectional</p> <p>Suitability of design: least</p> <p>Quality of execution: good</p>	<p>Location: United Kingdom</p> <p>Population density: mixed (urban, suburban, and rural)</p> <p>Eligibility criteria: LTC communities identified through a nationwide directory; excluded LTC communities without test results from a nationwide testing program</p> <p>Sample size: # of communities: 5,126 # of residents: 160,033 # of staff: 248,594</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: Size of community: mean number of 32.2 residents per community</p> <p>Population served: older adults, people with dementia</p> <p>Demographics for residents in intervention group: <i>Socioeconomic status:</i> 17.0% of communities from areas considered most deprived based on the social deprivation index</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: 3.5 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: PPE Community: ATR, testing (PD when tested positive), VR Environmental: CD</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: national</p> <p>Control group: cross-sectional comparison; association between intervention vs. no intervention or different levels of implementation and reported outcomes</p>	<p>Outcomes reported: associations between NPIs evaluated and outcomes that include incidence among residents or staff and proportion of communities with infections</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative results Incidence among residents or staff</p> <ul style="list-style-type: none"> • ATR: no change in incidence among residents (OR: 1.01, 95% CI: 1.01 to 1.01) or staff (OR: 1.00, 95% CI: 1.00 to 1.01) with each new unit of admission • CD: higher frequency of cleaning common areas (twice a day vs once a day) associated with reduced incidence among residents (OR: 0.95, 95% CI: 0.91 to 1.00) and staff (OR: 0.91; 95% CI: 0.85 to 0.97) • PD (cohorting staff with infected or uninfected residents): staff cohorting was statistically significantly associated with reduced risk for infection among residents (OR: 0.77, 95% CI: 0.73 to 0.81) and staff (OR: 0.83, 95% CI: 0.77 to 0.88) • PD (inability to isolate residents): difficulty in isolating residents with infection, was associated with increased incidence among residents (OR: 1.33, 95% CI: 1.28 to 1.38) and staff (OR: 1.48, 95% CI: 1.41 to 1.56) • VR (duration of VR): no association between duration of VR and incidence among residents (OR: 1.02, 95% CI: 1.00 to 1.04) or staff (OR: 1.02, 95% CI: 1.00–1.03)

Study	Setting and Population Characteristics	Intervention Characteristics	Results
			<p>Proportions of communities with infections</p> <ul style="list-style-type: none"> • ATR: each new unit of admission is linked to 8% increased risk of having infections in LTC communities (OR: 1.08, 95% CI: 1.05 to 1.10) • CD: higher frequency of cleaning common areas (twice a day vs once a day) associated with reduced likelihood of infections in LTC communities; OR: 0.95; 95% CI: 0.73 to 1.25 • PD (cohorting staff with infected or uninfected residents): staff cohorting was statistically significantly associated with reduced likelihood of infections in LTC communities (OR: 0.39, 95% CI: 0.29 to 0.52) • PD (inability to isolate residents): difficulty in isolating residents with infection, was associated with increased likelihood of having infections in LTC communities (OR: 1.84, 95% CI: 1.48 to 2.30) • VR (duration of VR): no association between duration of VR and likelihood of having infections in LTC communities (OR: 0.99, 95% CI: 0.92 to 1.07)
<p>Author year: Shimotsu 2021</p> <p>Study design: before-after with concurrent comparison group</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: Pennsylvania, U.S.</p> <p>Population density: rural</p> <p>Eligibility criteria: all residents, staff, and visitors involved in the Twin Pines LTC community’s daily activities</p> <p>Sample size: # of communities: 1 # of residents: 111 # of staff: 92</p> <p>Community type: LTC communities, all included</p> <p>Population served: older adults, people with dementia</p>	<p>Intervention period examined: 10 weeks</p> <p>Evaluation period: NR</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: PPE, HH Community: testing (routine testing; PD and SHS when tested positive), PD, VR, ATR Environmental: CD</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: national</p>	<p>Outcomes reported: incidence among residents</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary Based on data obtained, the LTC community’s case number was 17 times lower than that of neighboring communities when adjusted for the community census</p> <p>Frequent testing and symptom surveys enabled the detection of infected staff members early enough to prevent spread within the community</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Demographics for intervention group: NR</p>	<p>Decision maker for implementing NPIs: LTC community</p> <p>Comparison group: neighboring LTC communities that did not use the above bundle of NPIs</p>	
<p>Author year: Simoni-Wastila 2021</p> <p>Study design: cross-sectional</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: nationwide, U.S.</p> <p>Population density: NR</p> <p>Eligibility criteria: researchers collected community-level data from 13,156 U.S. NH, representing 85% of all Medicare and Medicaid LTC communities; data taken from Nursing Home Compare</p> <p>Sample size: # of communities: 13,156 # of residents: NR # of staff: NR</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: NR</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: PPE Community: none Environmental: none</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: NR</p> <p>Decision maker for implementing NPIs: NR</p> <p>Comparison group: cross-sectional comparison; association between implemented NPIs and outcomes</p>	<p>Outcomes reported: association between NPIs evaluated and outcomes that include incidence among staff and residents, hospitalization due to infection, and mortality due to infection</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary PPE availability: compared with no shortages, N95 mask shortages were associated with increased odds of incidence among residents or staff (OR: 1.21, 95% CI: 1.05 to 1.40), increased odds of a community having at least one hospitalization due to infection (OR: 1.26, 95% CI 1.13 to 1.40), and no change in mortality due to infection.</p>
<p>Author year: Stemler 2022</p> <p>Study design: group non-randomized controlled trial</p>	<p>Location: Germany</p> <p>Population density: mixed (urban, suburban)</p> <p>Eligibility criteria: NHs in the Cologne region in Germany,</p>	<p>Intervention period examined: 8 weeks</p> <p>Evaluation period: NR</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p>	<p>Outcomes reported: incidence among residents; mortality due to infection</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results:</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>selected based on resident numbers and willingness to participate in study</p> <p>Sample size: # of communities Intervention: 2 Control: 2</p> <p># of residents: Intervention: 260 Control: 261</p> <p># of staff: Intervention: 335 (nursing staff 162) Control: 425 (nursing staff 207)</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>NPIs evaluated: Individual: none Community: testing (routine voluntary testing; SHS and VR when tested positive) Environmental: none</p> <p>Additional services provided: NR</p> <p>Guidelines used for decision making: regional and LTC communities</p> <p>Decision maker for implementing NPIs: LTC communities</p> <p>Control group: other NHs in the region without frequent regular testing</p>	<p>Narrative summary Incidence among residents: no significant benefit of increased testing frequency compared with the control communities</p> <p>Mortality due to infection: one intervention LTC community experienced one SARS-CoV-2 outbreak, with a three times higher mortality in the fourth quarter of 2020; however, all LTC communities in the study had slightly lower COVID-19-related mortality when compared with other communities during the same period</p>
<p>Author year: Suwono 2022</p> <p>Study design: before-after with concurrent comparison group</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: Germany</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: LTC communities in Germany</p> <p>Sample size: # of communities: NR # of residents: NR # of staff: NR</p> <p>Community type: LTC communities, all included</p>	<p>Intervention period examined: 30 weeks</p> <p>Evaluation period: NR</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: PPE Community: testing (routine testing), VR Environmental: none</p> <p>Additional services provided: NR</p>	<p>Outcomes reported: incidence among residents and staff; hospitalization due to infection; mortality due to infection for residents ≥65 years; incidence prevented</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Incidence among residents and staff: Pre: 7.4% Post: 6.2% Absolute change: -1.2 pct pts Relative change: -16.0%</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Community characteristics: NR</p> <p>Population served: older adults, people with dementia, people with disabilities</p> <p>Demographics for residents in intervention group: <i>Age, mean:</i> 85 years <i>Sex:</i> 71.60% female; 28.40% male</p>	<p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: national</p> <p>Comparison group: pre-intervention</p>	<p>Hospitalization due to infection: Pre: 18.1% Post: 10.9% Absolute change: -7.3 pct pts Relative change: -40.1%</p> <p>Mortality due to infection for residents ≥65 years: Pre: 27.5% Post: 21.1% Absolute change: -6.3 pct pts Relative change: -23.0%</p> <p>Incidence prevented: Narrative summary Estimated using a counterfactual model, there were 4,657 SARS-CoV-2 LTC community outbreaks and 34,039 infections prevented in 2nd pandemic wave when NPIs were implemented</p>
<p>Author year: Teesing 2021</p> <p>Study design: group RCT</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: the Netherlands</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: 33 NHs with 2 NH units each, recruited from different NH organizations, situated throughout the country to capture diversity, providing intense psychogeriatric and or somatic care to geriatric residents</p> <p>Sample size: # of communities: 33 NHs with 66 NH units Intervention: 36 NH units Control: 30 NH units # of residents: NR # of staff: NR</p>	<p>Intervention period examined: 12 weeks</p> <p>Evaluation period: 43 weeks</p> <p>Intervention details: Infectious agent: influenza-like illness, pneumonia, rhinovirus</p> <p>NPIs evaluated: Individual: HH Community: none Environmental: none</p> <p>Additional services provided: reminders in the form of signs etc., assessment and feedback, incentive for staff, regular check-in, e-learning for staff, arts and craft projects for residents</p>	<p>Outcomes reported: incidence among residents, environmental contamination</p> <p>Infection lab confirmed or self-report: symptomatic</p> <p>Results: Incidence of influenza-like-illness: intervention group had reduction in incidence when compared with control group Incidence Rate Ratio (IRR): 0.51, 95% CI: 0.31 to 0.82, p<0.01</p> <p>Incidence of pneumonia: intervention group had reduction in incidence when compared with control group IRR: 0.87, 95% CI: 0.60 to 1.26, p=0.47</p> <p>Environmental contamination: reduction in total positive Rhinovirus samples after intervention implementation, and multi-level regression model showed a weak association (p=0.07)</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: Size of communities: intervention arm had more small and medium-sized NHs (<88 beds, 88–118 beds) while the control arm had larger NHs (>118 beds)</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Guidelines used for decision making: global and national</p> <p>Decision maker for implementing NPIs: national</p> <p>Control group: Usual NPIs</p>	<p>between presence of rhinovirus in the living area and HH compliance</p>
<p>Author year: Telford 2020</p> <p>Study design: simple time series with comparison group</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: Georgia, U.S.</p> <p>Population density: mixed (urban, suburban)</p> <p>Eligibility criteria: LTC communities in Fulton County that performed early testing for infection</p> <p>Sample size: # communities: Intervention: 13 Control: 15</p> <p># of residents: Intervention: 2,868 Control: NR</p> <p># of staff: Intervention: 2,803 Control: NR</p> <p>Community type: LTC community, all included</p>	<p>Intervention period examined: 4 weeks</p> <p>Evaluation period: 4 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: testing (routine testing) Environmental: none</p> <p>Additional services provided: collaboration between local Fulton County Board of Health and LTC communities for implementation support</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: local</p>	<p>Outcomes reported: incidence overall or among residents or staff, hospitalization due to infection overall or among residents or staff, mortality due to infection overall or among residents or staff</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Incidence overall: Intervention, change: +0.8 pct pts Control, change: +9.1 pct pts Absolute difference: -8.2 pct pts</p> <p>Incidence among residents: Intervention, change: +1.0 pct pts Control, change: +14.4 pct pts Absolute difference: -13.4 pct pts</p> <p>Incidence among staff: Intervention, change: +0.7 pct pts Control, change: +4.4 pct pts Absolute difference: -3.7 pct pts</p> <p>Hospitalization due to infection, overall: Intervention, post: 18.8%</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Population served: older adults, people with dementia</p> <p>Demographics for residents in intervention group: NR</p>	<p>Comparison group: LTC communities with reactive testing, performing testing 1 to 5 days after the identification of the positive case</p>	<p>Control, post: 16.6% Absolute difference: 2.2 pct pts</p> <p>Hospitalization due to infection, residents: Intervention, post: 29.4% Control, post: 19.9% Absolute difference: 9.5 pct pts</p> <p>Hospitalization due to infection, staff: Intervention, post: 6.7% Control, post: 6.1% Absolute difference: 0.6 pct pts</p> <p>Mortality due to infection, overall: Intervention, post: 0.2% Control, post: 3.0% Absolute difference: -2.8 pct pts</p> <p>Hospitalization due to infection, residents: Intervention, post: 0.3% Control, post: 6.4% Absolute difference: -6.1 pct pts</p> <p>Hospitalization due to infection, staff: Intervention, post: 0.1% Control, post: 0.0% Absolute difference: 0.1 pct pts</p>
<p>Author year: Temte 2023</p> <p>Study design: group RCT</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: Wisconsin, U.S.</p> <p>Population density: NR</p> <p>Eligibility criteria: 44 LTC communities were invited to participate and 20 agreed; sites with insufficient resources, property sale, or not an LTC community were excluded</p> <p>Sample size: # of communities: Intervention: 10 Control: 10</p>	<p>Intervention period examined: 108 weeks</p> <p>Evaluation period: immediately after intervention ended</p> <p>Intervention details: Infectious agent: influenza</p> <p>NPIs evaluated: Individual: none Community: testing (symptomatic, rapid onsite testing; early testing) Environmental: none</p>	<p>Outcomes reported: ED visits due to infection, hospitalization due to infection, mortality due to infection</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary ED visits due to infection: 2% increase in ER visits for respiratory illness when LTC communities used rapid testing compared with traditional sent out testing</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p># of residents: NR # of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: Size of community: max bed capacity (intervention, 83.8; control, 72.3); average number of residents (intervention, 63.4; control, 53.4); average bed occupancy (intervention, 80.1%; control, 75.3%)</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: Age, mean: 83.7 years Sex: 70.3% female; 29.7% male</p>	<p>Additional services provided: researchers providing support to staff via email/calls</p> <p>Guidelines used for decision making: state and LTC communities</p> <p>Decision maker for implementing NPIs: LTC communities</p> <p>Comparison group: LTC communities following regular protocols, performing testing by sending out the tests; late testing</p>	<p>Hospitalization due to infection: 11% decrease in hospitalization due to respiratory illness when LTC communities used rapid testing compared with traditional sent out testing</p> <p>Mortality due to infection: 19% decrease in deaths due to respiratory illness when LTC communities used rapid testing compared with traditional sent out testing</p>
<p>Author year: Tulloch 2021</p> <p>Study design: before-after with concurrent comparison group</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: United Kingdom</p> <p>Population density: urban</p> <p>Eligibility criteria: all LTC communities in the Liverpool City Council (LCC) region; 11 out of the 86 communities enrolled in the intervention</p> <p>Sample size: # of communities Intervention: 11 Control: 71</p> <p># of residents: NR # of staff: NR</p> <p>Community type: LTC communities, all included</p>	<p>Intervention period examined: 6 weeks</p> <p>Evaluation period: 1.5 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: none Community: testing (SHS and VR when tested positive) Environmental: none</p> <p>Additional services provided: collaboration, receiving support from LCC</p> <p>Guidelines used for decision making: national and regional</p>	<p>Outcomes reported: proportion of LTC communities with infections, proportion of residents and staff who were infected</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Narrative summary Proportion of LTC communities with infections: there was no statistical difference in the proportion of outbreaks observed during the study period Odds ratio: 2.1; 95% CI 0.5–9.4%; P = 0.32 Intervention: 54.5%; 95% CI 23.4–83.3% Control: 36.6%; 95% CI 25.5–48.9%</p> <p>Proportion of residents and staff who were infected: there was no statistical difference in the</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Community characteristics: NR</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Decision maker for implementing NPIs: LTC communities</p> <p>Comparison group: LTC communities in LCC not participating in the intervention</p>	<p>size of outbreak amongst residents and staff, P = 0.42</p> <p>Intervention: median 0%, range 0–38.8%</p> <p>Control: median 0%, range: 0–64.8%</p>
<p>Author year: Vijh 2021</p> <p>Study design: interrupted Time Series</p> <p>Suitability of design: moderate</p> <p>Quality of execution: fair</p>	<p>Location: Canada</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: LTC communicates in the Vancouver Coastal Health region, Canada, with lab-confirmed COVID-19 cases</p> <p>Sample size: # of communities: 7 # of residents: 1,144 # of residents: 1,298</p> <p>Community type: NH or skilled nursing facilities</p> <p>Community characteristics: Size of communities: 108 to 259 staff and 107 to 210 residents per community</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: Age, mean: 87 years Sex: 67% female; 33% male</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: 16 weeks</p> <p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: PPE Community: testing (routine and symptomatic testing, PD when tested positive), PD, ATR Environmental: CD</p> <p>Additional services provided: collaboration with local health department using a team-based approach, resource deployment, regular check-in</p> <p>Guidelines used for decision making: NR</p> <p>Decision maker for implementing NPIs: regional</p> <p>Control group: pre-intervention</p>	<p>Outcomes reported: incidence among residents and staff</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Incidence among residents: there was a reduction in infection after NPIs were implemented Relative change: -16%, 95% CI: -49% to 36%</p> <p>Incidence among residents vs. staff: a greater reduction in infection for staff when compared with residents RR: 0.30, 95% CI: 0.10 to 0.88, p<0.05</p>
<p>Author year: Vijh 2022</p> <p>Study design: cross-sectional</p>	<p>Location: Canada</p> <p>Population density: mixed (urban, suburban, rural)</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: 45 weeks</p>	<p>Outcomes reported: associations between NPI adherence and incidence overall</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
<p>Suitability of design: least</p> <p>Quality of execution: good</p>	<p>Eligibility criteria: LTC communities within the company Fraser Health that were monitored for exposure or outbreaks; excluded 12 private-pay communities, a new community built in April 2020, and a pediatric LTC community</p> <p>Sample size: # of communities: 74 # of residents: NR # of staff: NR</p> <p>Community type: LTC communities, all included</p> <p>Community characteristics: Size of communities: ranges from 26 to 252 beds per community, with a median of 101</p> <p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p>	<p>Intervention details: Infectious agent: SARS-CoV-2</p> <p>NPIs evaluated: Individual: HH, PPE SHS Community: testing (symptomatic testing), PD, VR, ATR Environmental: CD</p> <p>Additional services provided: assessment and feedback on ways to improve NPI implementation, access to resources</p> <p>Guidelines used for decision making: national</p> <p>Decision maker for implementing NPIs: regional</p> <p>Comparison group: cross-sectional comparison; association between implemented NPIs and outcomes</p>	<p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results:</p> <ul style="list-style-type: none"> • NPI adherence examined using assessment tool score: for every item not met in the assessment tool, there was a 22% increase in the attack rate; adjusted rate ratio: 1.2, 95% CI: 1.1 to 1.4 • This is especially pronounced when NPIs in the dining areas were not met, which include both HH and CD, with an adjusted rate ratio of 6.4, 95% CI: 2.7 to 15.0
<p>Author year: Vogazianos 2021</p> <p>Study design: simple time series</p> <p>Suitability of design: least</p> <p>Quality of execution: fair</p>	<p>Location: Cyprus</p> <p>Population density: mixed (urban, suburban, rural)</p> <p>Eligibility criteria: national initiative with all residents or staff in LTC communities in Cyprus</p> <p>Sample size: # of communities: 165 # of residents: 3,100 # of staff: 2,015</p>	<p>Intervention period examined: NR</p> <p>Evaluation period: 4 weeks</p> <p>Intervention details: Infectious agent: SARS-COV-2</p> <p>NPIs evaluated: Individual: PPE Community: testing (routine testing), PD, VR Environmental: CD</p>	<p>Outcomes reported: incidence among residents and staff</p> <p>Infection lab confirmed or self-report: lab-confirmed</p> <p>Results: Incidence overall: Pre: 2.8% Post: 1.5% Absolute change: -1.3 pct pts Relative change: -45.6%</p> <p>Incidence among residents: Pre: 3.7%</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Community type: LTC communities, all included</p> <p>Community characteristics:</p> <p>Size of community: ranging from <10 to >50 residents per community</p> <p>Population served: older adults, people with disabilities</p> <p>Demographics for residents in intervention group: NR</p>	<p>Additional services provided: resource deployment; assessment and feedback through a checklist; collaboration with the task force set up by Cyprus government</p> <p>Guidelines used for decision making: global</p> <p>Decision maker for implementing NPIs: national</p> <p>Comparison group: pre-intervention</p>	<p>Post: 1.6% Absolute change: -2.1 pct pts Relative change: -56.8%</p> <p>Incidence among staff: Pre: 1.6% Post: 1.4% Absolute change: -0.2 pct pts Relative change: -12.5%</p>
<p>Author year: Yeung 2011</p> <p>Study design: group RCT</p> <p>Suitability of design: greatest</p> <p>Quality of execution: fair</p>	<p>Location: Hong Kong, China</p> <p>Population density: mixed (urban, rural)</p> <p>Eligibility criteria: private and semi-private residential LTC communities in the city recruited by snowball sampling</p> <p>Sample size: # of communities: Intervention: 3 Control: 3</p> <p># of residents: Intervention: 255 Control: 420</p> <p># of staff: Intervention: 72 Control: 108</p> <p>Community type: NHs or skilled nursing facilities</p> <p>Community characteristics: NR</p>	<p>Intervention period examined: 2 weeks</p> <p>Evaluation period: 26 weeks</p> <p>Intervention details: Infectious agent: pneumonia</p> <p>NPIs evaluated: Individual: HH Community: none Environmental: none</p> <p>Additional services provided: reminders provided as signs etc.</p> <p>Guidelines used for decision making: NR</p> <p>Decision maker for implementing NPIs: LTC communities</p> <p>Comparison group: LTC communities matched to intervention group based on nursing staffing levels and levels of resident disability; received a</p>	<p>Outcomes reported: hospitalizations due to infection</p> <p>Infection lab confirmed or self-report: hospital records</p> <p>Results: Intervention: Pre: 0.09% Post: 0.03% Absolute change: -0.06 pct pts Relative change: -66.7%</p> <p>Control: Pre: 0.037% Post: 0.053% Change: 0.02 pct pts Relative change: 44.5%</p> <p>Absolute difference: -0.1 pct pts Relative difference: -76.9%</p>

Study	Setting and Population Characteristics	Intervention Characteristics	Results
	<p>Population served: older adults</p> <p>Demographics for residents in intervention group: NR</p> <p><i>Underlying health</i> conditions: 79.2% with moderate to severe disabilities; 20.8% with severe disabilities</p>	<p>basic life support program and continued usual hand hygiene practices</p>	