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Table 1
Older Adults' Openness to Telehealth Use

Question	n (%)
Willing to use telehealth for emotional health*	
Yes	28 (43.1)
No	37 (56.9)
Level of comfort using telehealth for emotional health*	
Very comfortable	13 (20.0)
Somewhat comfortable	11 (16.9)
Neither comfortable nor uncomfortable	9 (13.8)
Somewhat uncomfortable	7 (10.8)
Very uncomfortable	25 (38.4)
Attitude toward using telehealth for all care after COVID-19†	
Would receive most or all care by telehealth as appropriate	8 (12.9)
Would receive some care by telehealth	20 (32.2)
Would receive most or all care in person	17 (27.4)
Would not use telehealth	17 (27.4)

*n = 65.
†n = 62.

opportunities to incorporate telehealth into practice. Research shows that negative attitudes toward telehealth utilization are related to exposure and community-based strategies may improve uptake.[9]

This study is limited by its small convenience sample from a single clinic and limited response rate (18.2%) but provides a valuable snapshot of rural older adults' attitudes toward telehealth. As its availability is not likely to diminish and infrastructure continues to improve, interventions are needed to increase awareness and engagement in telehealth for older adults, including those that highlight its benefits and provide instruction, particularly for rural residents with limited access to care.[10]

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Clinical Factors Related to COVID-19 Outcomes in Institutionalized Older Adults: Cross-sectional Analysis from a Cohort in Catalonia

To the Editor:

In its early stages, the COVID-19 pandemic particularly affected older people living in long-term care (LTC) facilities, who were the hardest hit population in terms of mortality, and on clinical and psychological outcomes.[1,2]

We carried out a cross-sectional cohort study, to expand and complement an earlier study carried out in the same study population[3] by focusing on SARS-CoV-2 infection and its consequences in LTC older residents from an individual-level perspective during the first wave of COVID-19 in a cohort under follow-up in Catalonia (Spain). We included all LTC residents in the study area between March 1 and June 30, 2020, who were ≥65 years old and on whom at least 1 PCR test was performed during the study period. For each patient, we recorded age and sex, underlying comorbidities, designated as complex chronic patient/suffering advanced chronic disease (CCP/ACD), Barthel Index score, laboratory test results [specific polymerase chain reaction (PCR)] and clinical outcome (recovery/death), as well as the size of the LTC facility (number of residents) and cumulative incidence of COVID-19 in the catchment area where the facility was located. Data were entered in the

Th authors declare no conflicts of interest.

Table 1
Risk Factors Associated With SARS-CoV-2 Infection and Death

Variable	Infection		Death	
	OR (95% CI)	*P*	OR (95% CI)	*P*
PCR positive	—	—	4.26 (3.6-5.1)	<.01
Gender				
Male	1.09 (0.9-1.3)	.34	1.75 (1.5-2.1)	<.01
Female	—	—	—	—
Age (pooled)	1.08 (1.0-1.2)	<.01	1.16 (1.1-1.2)	<.01
Barthel Index score ≥50	1.22 (1.0-1.5)	.03	2.42 (1.8-3.2)	<.01
Comorbidities				
Respiratory disease	1.36 (1.1-1.7)	.01	1.15 (0.9-1.5)	.21
Cardiovascular disease	1.38 (1.1-1.7)	<.01	1.15 (0.9-1.4)	.24
Cerebrovascular disease	0.74 (0.5-1.2)	.22	1.32 (0.9-2.1)	.22
Hypertension	1.02 (0.9-1.2)	.80	1.02 (0.9-1.2)	.84
Dementia	0.95 (0.8-1.1)	.57	1.33 (1.2-1.6)	<.01
Chronic renal disease	1.03 (0.9-1.3)	.84	1.36 (1.1-1.7)	<.01
Diabetes mellitus type 2	1.00 (0.8-1.0)	.92	1.03 (0.9-1.2)	.78
CCP/ACD	0.89 (0.8-1.0)	.11	1.29 (1.1-1.5)	<.01.
Number of residents,* pooled OR	1.67 (1.6-1.8)	<.01	1.03 (0.9-1.1)	.53
Community incidence,† pooled OR	1.67 (1.0-2.7)	.04	1.19 (1.1-1.3)	<.01

CCP/ACD, complex chronic patient/suffering advanced chronic disease; CI, confidence interval; OR, odds ratio; PCR, polymerase chain reaction.
*Adjusted by clustering (LTC facility and catchment area).
†Adjustments for clustering included only the catchment area.

database using different sources: an in-house app[4] developed ad hoc, the health system service's digital patient records, and the PCR test results sent from the reference laboratory serving the region. The study was approved by the respective ethics boards and registered under the reference number PI-20-349.

In March 2020, there were a total of 9158 residents ≥65 years residing in 168 LTC facilities. Those who underwent at least 1 PCR test during the study period comprised 87.6% and were included in the analysis. Women accounted for 5939 of the residents (74.1%). The mean age was 86.4 years (SD = 7.4, range 65-107). A total of 6013 patients had a Barthel Index score <50 (80.3%) and 4171 (52.0%) had been previously identified as CCP/ACD. In the 4-month study period, SARS-CoV-2 infection was detected in 2225 participants (27.7%), and 909 deaths were reported, of which 554 corresponded to residents tested PCR positive [case facility rate (CFR), 24.9%]. Table 1 shows the results of our adjusted analysis of risk factors associated with infection and mortality. Clinical profile factors related to PCR test positivity were older age, having cardiovascular disease, respiratory disease, and Barthel Index ≥50. Risk factors associated with mortality were PCR test positive, male sex, older age, Barthel Index ≥50, CCP/ACD profile, dementia, and chronic kidney disease.

Results from LTC in our territory indicate that the risk of SARS-CoV-2 infection was related to contextual epidemiologic factors rather than individual factors; in contrast, the clinical outcome of death was more influenced by individual-level factors. In particular, size of residence and community incidence showed the highest influence on infection acquisition, as has been observed previously.[5,6] The increased risk of infection associated with cardiovascular and respiratory disease should be regarded with caution, because the data could easily be biased in a population with a high prevalence of such conditions. In relation to functional status, the association with infection may be explained by the fact that residents with greater autonomy may have had a higher rate of social contacts inside the LTC facility and therefore a higher probability of exposure to infection. Furthermore, a high Barthel Index score was, in turn, independently associated with an increased risk of mortality. This may be a consequence of higher viral load exposures or multiple exposures (closeness to and increased frequency of risky contacts), which has been correlated with mortality.[7] In contrast, several clinical complexity chronic conditions and morbidities were identified as risk factors for mortality. Being identified as resident with complex chronic or advanced disease, increased age, and male sex were already related with case fatality in previous analysis.[3,8] Besides chronic kidney disease, it was found related to 30-day all-cause mortality in a US nursing home cohort study.[9] Dementia as an independent risk factor for mortality has been previously described, with multiple underlying reasons. First, dementia is a risk factor for mortality per se. Second, clinical manifestations of COVID-19 are more difficult to detect and unspecific in patients with dementia.[10] Finally, patients with dementia are at higher risk of exposure to SARS-CoV-2 because of their need for close assistance. In this sense, dementia is a paradigmatic disease that leads to cognitive and functional impairment, which are factors related to negative outcomes.[8]

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