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RESEARCH

Improving Long-Term Care Facilities' Crisis Response: Lessons From the COVID-19 in Chile

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Context: The COVID-19 pandemic hit Chile hard and affected older people the most. Through its National Service for Older Adults, the country implemented a strategy to prevent and mitigate infection and spread in long-term care facilities (LTCF), reaching regulated and registered residences and, for the first time, informal and unregistered residences.
Objective: Identify the challenges and lessons from the COVID-19 response in LTCF with respect to the support received, the implementation of infection control measures, workforce challenges experienced and the measures adopted to promote residents' wellbeing.
Methods: An online questionnaire was sent to all LTCF managers (N = 385, Response Rate = 32.4%). Statistical tests compare results to identify differences across LTCF characteristics: residence size, location and management type (private, public or subsidized, or informal).
Findings: Irrespective of their location, size or management, managers highlight common challenges during the crisis. They include limited personal protective equipment (PPE) availability, staff shortages, low quality of replacement staff, reduced staff mental health, and the difficulty to understand and implement protocols. Managers acknowledge receiving institutional support in the form of PPE provision and opportunities for staff training, but managers noted the need to expand this support to cover staffing surge needs, staff psychological needs, and ensure the continuity of clinical support for residents as well. Managers share a common demand for a more coordinated response from public institutions. Managers recognize that the pandemic and the measures implemented to mitigate it negatively affected staff morale and residents' wellbeing. Many noted that peer-to-peer support was a mechanism to support staff.
Limitations: Results might be subject to selection bias. Data collection covered a limited period of time at the early stage of the pandemic.
Implications: Findings are relevant to assess the COVID-19 response and to better prepare for another COVID-19 wave or similar health or environmental threats in the future.

Keywords: COVID-19; SARS-CoV-2; long-term care; nursing homes; aged care; Chile

1. Introduction

The COVID-19 pandemic hit Latin America with unexpected force. By June 2021, the region had the highest regional incidence of COVID-19, with roughly a third of world new cases coming from the continent. Although there was cross-country heterogeneity within the region, the countries in the region were all dealing with high incidence and mortality rates and faced difficulties in increasing to increase vaccine availability (John Hopkins University, 2021). After several months fighting with the disease and following an apparent plateau, Chile experienced a second wave during 2021, reviving the debate on how to deal with the pandemic (Gobierno de Chile, 2021).

As in other countries, in Chile COVID-19 affected older people the most. Although the people aged 60 or over represented a small fraction of the cases, around 85% of deaths came from this age group (Gobierno de Chile, 2021; Onder and Rezza, 2020).

Among the group of peopled aged 60 or older, institutionalized older people were especially vulnerable. Older people living in long-term care facilities (LTCF) were exposed to a higher risk of contagion than other older people and, because of their context and health conditions, were more likely to experience serious negative outcomes if infected (Comas-Herrera *et al.*, 2021; Thompson *et al.*, 2020). Several Latin American countries, including Argentina, Colombia, Panama and Uruguay, implemented specific strategies to deal with COVID-19 in institutional care settings (Banco Interamericano para el

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Desarrollo, 2021). With some differences across contexts, most strategies included testing, infection prevention and control (IPC) measures, and the development of information and monitoring systems (Chen *et at*., 2020; WHO, 2020). Overall, COVID-19 brought to light the precarious situation faced by LTCF around the world and the need to rethink institutional long-term care policies (Werner *et al*., 2020; Fulmer *et al*., 2020; Villalobos Dintrans *et al*., 2020).

In Chile, COVID-19's impact on LTCF prompted responses from the government, which developed an intersectoral strategy between the Ministry of Health (MoH), the National Service for Older Adults (SENAMA) and the Chilean Geriatrics and Gerontology Society (SGGCh). By March 16, 2020–less than two weeks after the first COVID-19 case was detected in the country–, LTCF visits were banned, sanitary barriers were implemented around each LTCF, and the entry of new residents was halted (Browne *et al*., 2020). A set of IPC measures were progressively implemented, including: 1) the free delivery of Personal Protective Equipment (PPE); 2) the development of protocols and guidelines, including on how to use PPE, to clean and disinfect areas, and on how to set up setting isolation areas; 3) the replacement of staff with COVID-19-related sick leave; 4) field testing with rt-PCR; and 5) the transfer of confirmed and/or suspected cases to sanitary houses where they could be isolated (SENAMA, 2020; Browne *et al*., 2020).

A mass vaccine rollout plan began in February 2021. LTCF residents and staff facilities were prioritized and received free vaccination, only second to health care workers (MINSAL, 2020). By mid-April 2021, 57.5% of residents completed their vaccination scheme (MINSAL, 2021).

According to the most recent Census data, in 2017, 2,003,256 people aged 60 or older were living in Chile. Some 24.4% of them (488,990 people) had some degree of functional ability loss. The large majority of them receive long-term care offered by informal, unpaid, family caregivers (SENAMA, 2020; Villalobos Dintrans, 2019). LTCF provide care to 1.4% of the population aged 65 or older through public, private non-profit, and private for-profit institutions (Villalobos Dintrans, 2018). LTCF are regulated by the *Decreto 14* of the MoH which establishes infrastructure standards (e.g. residents per room), as well as staff requirement and residence-to-staff ratios by staff category (MINSAL, 2010). Although the *Decreto 14* includes healthcare recommendations (e.g., the availability of a nutritionist and physical therapist in an LTCF) it does not contain health protocols or directives on IPC measures to be implemented in case of contagious diseases within the LTCF. LTCF that do not meet the *Decreto 14* standards run *informally* without MoH's authorization and are subject to fines. The number of these informal facilities operating is uncertain. Using census data, Marin *et al.* (2004) estimated that for every regulated LTCF there is at least one unregulated, unregistered, informal LTCF. Chilean LTCF's healthcare services rely heavily on the quality of its staff. Before the COVID-19 pandemic, the availability and quality of healthcare services provided by LTCF were heterogeneous.

Like in other countries, LTCF care quality remains an unsolved challenge in Chile (Mor, 2005; Villalobos Dintrans, 2021). Gascón and Redondo (2014) find that although Latin American countries have shown some improvements in the quality of long-term care services provided, they still need to advance in the establishment and enforcement of standards. In Argentina, Lloyd-Sherlock *et al.* (2019) find similar problems and conclude that quality issues can be more serious in informal LTCF.

COVID-19 brought to light some of these challenges. A lack of information has been a general problem for LTCF in low and middle-income settings, particularly regarding their role during the COVID-19 pandemic (Lloyd-Sherlock *et al*., 2021). In Chile, Browne *et al.* (2021) highlights the need to consider factors such as people's beliefs and institutional culture in improving the effectiveness of COVID-19 measures in LTCF in Chile. Reduced technical staff wellbeing and impoverished communication within the LTCF were key barriers for the effective implementation of COVID-19 measures. Though relevant, this study is limited given the reduced number of LTCF surveyed (n=8) and the resulting low coverage of LTCF management type and location.

In complement to this literature, this study seeks to identify successful elements in the LTCF COVID-19 response in Chile, contributing to the literature on how to better prepare LTCF for future crises in the medium term and, in the long term, improve the quality of institutional care in Chile and other countries.

2. Materials and Methods

SENAMA—the national LTCF governing body–provided the data for this study. With the intention of capturing the challenges faced by LTCF as a result of the COVID-19 crisis and their institutional response, SENAMA adapted Rajan and McKee's (2020) survey. In particular, they sought to measure the positive and negative aspects of SENAMA's IPC measures and LTCF partnership relations. The survey also sought to identify the pandemic's effects on LTCF residents' wellbeing and staff and collect LTCF managers' suggestions regarding opportunities to improve the COVID-19 response by SENAMA. The questionnaire—developed in Spanish—combined single-choice, multiple-choice and open-ended questions. Open-ended responses allowed managers to provide more detail on specific issues. Questionnaire completion took approximately 20 minutes. Appendix 1 provides the English version of the questionnaire.

Between November 16 and November 25, 2020, SENAMA contacted and sent the online questionnaire to all 1,190 LTCF managers in Chile. This included managers from all private-registered LTCF, all publicly subsidized LTCF, and the informal LTCF that took part in the national LTCF COVID-19 strategy. Because SENAMA does not have legal faculties to oversee the compliance of *Decreto 14*, it keeps contacts with several of these facilities without the need to apply inspections or fines.

At least five members of SENAMA's research department reviewed the questionnaire before data collection began. Participants were informed about the characteristics of

the study prior to their engagement. Participation in the survey was voluntary and responses anonymous. Although data collected for this study is property of SENAMA, aggregated information can be accessed upon request.

Three hundred and eighty-five managers completed the questionnaire (32.4% response rate). We checked the representativeness of the sample against SENAMA's registry, evaluating whether the 95% confidence intervals of the observed LTCF characteristics in the sample contain the corresponding registry values.

Throughout the analysis, we classified responses by key LTCF characteristics: LTCF size (very small, small, medium, large and very large LTCF according to the number of residents: 1–15, 15–29, 30–49, 50–79 and 80+, respectively), geographic area (north, center and south), and administrative type (private registered, private informal, and public or subsidized).

We conduct contingency table Chi-squared tests to identify statistically significant differences between LTCF characteristics at the 95% confidence level. Appendix 2 provides the full results by LTCF characteristics.

We analysed open-ended responses in two different ways. On the one hand, we report responses that provide detail on single or multiple-choice responses as examples of the main trends. In analysing all these open-ended responses, we reached consensus on the specific responses that provided complementary details on the issues reported by the managers. On the other hand, for stand-along open-ended responses (not directly related to a previous single or multiple-choice question) we categorize responses through a data-driven process to identify the most common issues or concepts.

3. Results

Table 1 shows that while most respondents manage facilities with 15 to 29 residents (42.6%), managers from smaller (less than 15 residents) and larger (30 residents and more) LTCF are also represented. The sample covers mainly managers from private registered (60.0%) and public or subsidized facilities (23.1%) LTCF. Managers from private informal facilities are also covered (16.9%) providing information on a type of LTCF that has been scarcely studied before. Most respondents were from the Center region of the country (67.8%), where the majority of the country's population lives. The sample is representative of the registry in terms of LTCF size (number of residents) and management type.

Reports show that 45.2% of the LTCF covered in the study had at least one COVID-19 case and 26.5% had at least one death by November 2020 (**Table 1**).

3.1 Partnerships and Support Received

As **Table 2** shows, most managers mentioned SENAMA, the regional health authority (SEREMI), and the primary healthcare centers (CESFAM) as important sources of support during the COVID-19 pandemic. Private businesses,

Table 1: Sample Characteristics.

	Surveyed Managers N = 385	LTCF Registry N = 1,190
Number of residents		
Less than 15	111 (28.8%)	626 (52.6%)
15 to 29	164 (42.6%)	379 (31.8%)
30 to 49	46 (12%)	87 (7.3%)
50 to 79	35 (9.1%)	56 (4.7%)
80 or more	29 (7.5%)	42 (3.5%)
Type		
Private registered	231 (60.0%)	707 (59.4%)
Private informal	65 (16.9%)	301 (25.3%)
Public or subsidized	89 (23.1%)	182 (15.3%)
Geographic area		
North	31 (8.1%)*	63 (5.3%)
Center	261 (67.8%)*	997 (83.8%)
South	93 (24.2%)*	130 (10.9%)
Covid-19 cases and deaths		
At least one case	174 (45.2%)	
At least one death	102 (26.5%)	

* Statistically different from the Registry (with a 95% confidence interval).

Note: North includes the regions of Arica and Parinacota, Tarapacá, Atacama, and Coquimbo. Center includes the regions of Valparaíso, Metropolitana de Santiago, O'Higgins, Maule, Ñuble, and Biobío. South includes the regions of Araucanía, Los Ríos, Los Lagos, Aysén, and Magallanes y Antártica Chilena.

Table 2: Partnerships and Support Received.

	Total N = 385
The most helpful offers of support from key partners (multiple choice answer)	
Provision of emergency PPE	314 (82.0%)
Staff training	233 (61.0%)
Guides and protocols	208 (54.0%)
Support with surge staffing †, Δ	104 (27.0%)
Face to face technical support	98 (25.5%)
Access to psychological support for staff	38 (9.9%)
Other	17 (4.4%)
None	2 (0.5%)
What managers feel they need most from key partners (multiple choice answer)	
Provision of emergency PPE	279 (72.5%)
Continuity of clinical support for residents	216 (56.1%)
Access to psychological support for staff	203 (52.7%)
Staff training	201 (52.2%)
Support with surge staffing	193 (50.1%)
Face to face technical support	114 (29.6%)
Guides and protocols	107 (27.8%)
Other	22 (5.7%)

Note: *, † and Δ denote a statistically significant difference at the 95% confidence level with LTCF region, type and number of residents, respectively.

local communities, and residents' relatives were also identified as important. Managers insisted on the need for continuous support and reported a lack of coordination in the support offered by public institutions, especially SENAMA and SEREMI. Guidance and protocols received from these two bodies were not always coherent, generating confusion and delaying decision making.

When asked to explain their answers, some managers mentioned that during the pandemic, SEREMI had maintained their supervising and auditing role, but refused to adapt their rules to the critical COVID-19 situation. Managers agreed that SEREMI should have focused more on residents' wellbeing and less on what they called 'unimportant details' like applying fines to informal LTCF.

Managers appreciated the role played by local health facilities (CESFAM), particularly through the provision of medicines and physician visits. As one manager commented: 'When we had non-respiratory health problems among our residents, they [CESFAM] provided quick solutions; we have coordinated well the supply of medicines and other medical goods.'

In terms of the specific help received, the great majority of managers reported that PPE provision was useful (82.0% of managers). Also, 61.0% of managers mentioned staff training opportunities were useful and 54.0% that guidelines and protocols were useful. Some 27.0% of managers appreciated support they received with surge staffing, an opinion more common among managers from public or subsidized LTCF (50.6%) and less common among managers from informal LTCF (12.3%) (specific percentages by LTCF management type not shown in the table). Face-to-face technical support was offered by SENAMA through regular visits which were positively evaluated. Though 25.5% of managers identified this as useful form of support received, one manager noted that 'their compassion and regular presence gave us confidence.'

Residents' relatives played an important role by being understanding of the COVID-19 measures implemented (e.g. visitor restrictions), offering emotional support for residents, and helping with supplies. As one manager explained '"our residents"' families were a fundamental support when we had positive COVID-19 cases. They knew that we had few residents and few resources, so they helped us with food and PPE.'"

3.2 Infection Control Measures

Table 3 shows that regarding infection control measures, managers reported challenges related to PPE, isolation of residents, guidance and testing. Only 4.2% of managers reported that PPE had always been unavailable, with 43.1% reporting that they always had enough (managers from very small LTCF [<15 residents] and very large LTCF [>80 residents] were more likely to report that they always had sufficient PPE). Some managers identified challenges related to PPE price surges and proper PPE use among staff. Adherence to PPE use protocols remained a perma-

Table 3: Infection Control Measure.

	Total N = 385
Infection Control challenges: Concerns providing PPE	
Always had enough	166 (43.1%)
Yes, less than 7 days' supply at times	171 (44.4%)
Yes, less than 24 hrs supply at times	32 (8.3%)
Yes, completely unavailable at times	16 (4.2%)
Infection Control challenges: Isolation of residents with confirmed or suspected COVID-19[*,†,Δ]	
Not able to	37 (9.6%)
Able but didn't	89 (23.1%)
Able to and did but not always possible	69 (17.9%)
Able to and always did	190 (49.3%)
Infection Control challenges: Challenges implementing infection control guidance	
PPE supply	296 (76.9%)
Staff shortages	237 (61.6%)
Staff training	233 (60.5%)
Understanding and applying guidance	224 (58.2%)
Applying sanitary barrier	208 (54.0%)
Isolation of confirmed and suspected cases	191 (49.6%)
Access to COVID-19 testing	177 (45.9%)
Keeping residence´s hygiene	160 (41.6%)
Transfer to transitory residences	32 (8.3%)

Note: *, † and Δ denote a statistically significant difference at the 95% confidence level with LTCF region, type, and number of residents, respectively. Table A-1 in the appendix provides the full table by LTCF region, type, and number of residents.

nent challenge because awareness about PPE importance was not generalized by November 2020.

Roughly half of managers reported they were able to isolate residents with confirmed or suspected COVID-19 infection. Some 23.1% of managers reported being able to implement isolation measures but decided not to do it. Implementing isolation seemed more challenging for managers in the North with 32.3% reported not being able to do it, compared to fewer than 15% in the other regions (results by location not shown in the table). Managers from informal or smaller LTCF were also more likely to report not isolating people despite being able to do it. Difficulties with isolating residents were related to infrastructure limitations, as many managers indicated not having individual rooms, and having negative outcomes associated with these changes. These challenges were particularly difficult for residents with dementia or cognitive impairment.

As for the guidelines and protocols, 58.2% of managers found them challenging to understand and apply. In their opinion, the guides included too many indications and implementation was difficult due to their numerous and frequent changes and updates. This turned into a significant effort to ensure that staff, residents, and residents' relatives followed the guidelines. One of the most complex tasks was informing residents' families about the ban on visits.

Access to COVID-19 testing was a challenge for 45.9% of the managers. Preventive testing for residents and staff was not always possible. Managers also reported delays in receiving the results. Additionally, staff training and staff shortages were important challenges, as reported by over 60% of the managers. Respondents identified the lack of commitment among the replacement staff as critical, an issue that resulted in lower LTCF staff performance.

When asked what had worked well to control the infection, managers highlighted that, despite the challenges, they had a good evaluation of official guidelines, especially preventive measures such as control of the facilities' entry, cleaning directives, PPE use, limitation of visitors, and lockdowns.

Managers mentioned that guidelines worked better when adapted to local conditions, highlighting that simple and didactic messages—preferably using audiovisual materials— worked better for staff training, and that promoting self-care outside the facility was also key in preventing infections. Infection control worked better when LTCF adopted cohorting measures (i.e. separating positive, suspected and negative cases and staff accordingly) and when there was internal coordination, achieved through better communication between workers, managers, and residents' relatives and when implementing measures to avoid excessive personnel turnover.

3.3 Workforce Challenges

As **Table 4** shows, more than 40% of managers reported that morale, mental health, and wellbeing were the greatest workforce challenges they faced, followed by staffing shortages (28.6%) and staff training (18.7%). Only 6.8% of managers reported that access to and interpretation of COVID-19 tests was their greatest workforce challenge.

Staff morale, mental health and wellbeing was primarily affected by staff's fear of contracting the virus, taking it to or from their homes and the facility. Managers also mentioned exhaustion and stress in staff due to longer working hours, lockdowns, the use of PPE, the implementation of new protocols, as well as the uncertainty that resulted from the lack of knowledge about the disease and the existence of confusing messages from authorities and the media. As described by one manager, dealing with frequent and tense encounters with residents' families contributed to deteriorating the staff's mental health, morale, and wellbeing.

Managers commented that transportation restrictions and lockdowns, workers quitting or being absent due to fear of contagion and the difficulty to attract qualified new personnel with current wages explained the staff shortages they faced during the pandemic.

Regarding staff training, managers pointed out that staff's educational level was usually low, which made it more difficult to train them in the new context. This was especially the case for replacement staff. Managers also noted that training was generally less effective in promoting behavioral change among the more experienced staff.

Most managers identified peer-to-peer support (e.g. WhatsApp groups and staff engagement activities) as the most effective tool to address staff morale (55.3%). They noted that these platforms provided the opportunity to create formal and informal instances to talk about work issues, solve any issue quickly, stay up to date, and foster and strengthen ties within the staff. Some managers organized formal, scheduled and regular meetings, while others promoted informal spaces (e.g. staff gathered to play video games when out-of-shift or commuted together). Only 8.8% of managers declared psychological services as an effective measure, complaining about their low coverage or low quality when available.

3.4 Wellbeing of Residents

As shown in **Table 5**, managers observed that residents experienced low mood and agitation (51.4%) and reduced mobility (22.9%) following the COVID-19 pandemic and the prevention and mitigation measures. Managers reported that these observed changes in residents' wellbeing were the result of fewer social interactions from visitors and other residents (67.8%), and, to a lesser extent, the impact of PPE's use on the relationships between staff and residents, affecting the residents' wellbeing (17.1%) and the reduced access to clinical support (8.6%). Managers noted that, because of visiting restrictions and distance measures adopted in the residence, residents felt abandoned by their outside contacts and that, as residents in some residences did not have access to common spaces, they had to remain in their rooms practically all day, which reduced their activity and mobility. Some managers noted that residents did not recognize caregivers with PPE, negatively affecting their mood.

Figure 1 summarizes these results. The four domains studied present multiple policy challenges, which can be addressed at a macro (central government institutions) or micro (LTCF) level. This highlights the need for a comprehensive response to crisis management in these facilities

Table 4: Workforce Challenges.

	Total N = 385
Greatest workforce challenge	
Morale, mental health and wellbeing	163 (42.3%)
Staffing shortages	110 (28.6%)
Staff training	72 (18.7%)
Access to and interpretation of COVID-19 tests	26 (6.8%)
Other	14 (3.6%)
Workforce challenges: what worked best to address staff morale	
Peer to peer support e.g. WhatsApp groups and staff engagement	213 (55.3%)
Support from national or municipal bodies	84 (21.8%)
Psychological services for COVID-19	34 (8.8%)
Good communications	19 (4.9%)
Recreational and relaxation activities	10 (2.6%)
Other	12 (3.1%)
None	13 (3.4%)

Note: *, † and Δ denote a statistically significant difference at the 95% confidence level with LTCF region, type, and number of residents, respectively. Table A-2 in the appendix provides the full table by LTCF region, type, and number of residents.

that includes coordination between both levels. For example, in response to the workforce challenges identified above, support and training policies for caregivers require actions from the macro-level (e.g. establishing standards, policies, and providing resources) and the micro-level (e.g. generating internal communication channels, peer-to-peer support).

4. Discussion

The study identifies several issues regarding Chile's response to COVID-19 in LTCF. In terms of the results, the analysis shows that, according to LTCF managers, PPE availability, quantity and quality of staff, staff mental health, and the ability to understand and implement protocols have been critical challenges during the pandemic.

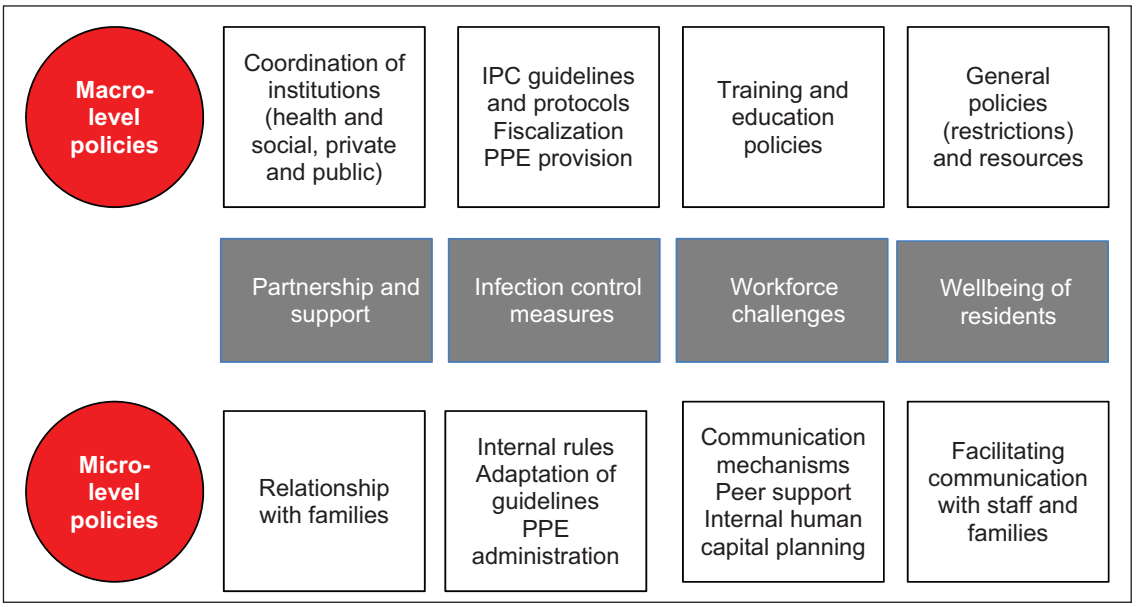

Figure 1: Summary of policy challenges and responses: Examples at macro and micro level.
Note: Grey boxes refer to the domains (challenges) used in the analysis; red circles refer to the level of policy response; white boxes show examples of responses for different challenges at each level.

Table 5: Wellbeing of Residents.

	Total N = 385
Main observed change in residents following isolation	
Low mood and agitation	198 (51.4%)
Reduced mobility	88 (22.9%)
Increased falls	18 (4.7%)
Reduced oral intake/weight loss	6 (1.6%)
All	15 (3.9%)
None	56 (14.5%)
Other	4 (1%)
Factors that influenced resident's wellbeing during the COVID-19 pandemic	
Fewer social interactions from visitors and other residents	261 (67.8%)
Impacts of PPE on relationships with care staff	66 (17.1%)
Reduced access to clinical support for residents	33 (8.6%)
Disrupted routines e.g. mealtimes	11 (2.9%)
All	8 (2.1%)
None	5 (1.3%)
Other	1 (0.3%)

Note: *, † and Δ denote a statistically significant difference at the 95% confidence level with LTCF region, type and number of residents, respectively.

Although support was received in all surveyed LTCF, there are variations in the extent and kind of help received by LTCF location, size, and management type. Despite some observed differences, the study highlights a common demand for permanent and constant support, as well as a more coordinated response from public institutions.

Institutional support covered PPE and staff training, but managers noted the need to expand this support to cover staffing surge needs, staff psychological support, and continuity of clinical support for residents. Besides public institutions, civil organizations were an important source of support for LTCF. Local communities and private companies provided food and other supplies (as observed in other countries, e.g. Rajan and McKee, 2020). Residents' families also contributed with material resources, plus emotional support.

Staff training appears as a key dimension of infection control and a common challenge reported by managers from all LTCF types. Compared to other higher income countries (see, for example, Rajan and McKee, 2020), we observe a specific vulnerability of the Chilean LTCF system, which generally works with non-qualified staff that was unprepared to face a pandemic.

The pandemic and the measures implemented to mitigate it have affected staff morale and residents' wellbeing. Some of these challenges have also been identified as relevant in other countries/settings (Rajan and McKee, 2020). Staff's mental health and wellbeing is especially relevant, considering that evidence from other countries shows that LTCF workers face more health issues than other workers (Rapp *et al.,* 2021). This was a major challenge for managers, an issue also identified in other countries (Rajan and McKee, 2020; Senczyszyn *et al.*, 2020). Peer-to-peer support appears as a mechanism to support staff wellbeing. It is easy and relatively cheap to implement, signalling possible avenues to mitigate the effects of future crises on staff.

Among the different infection control measures put in place to protect residents, fewer social interactions and visitors have particularly affected residents' wellbeing, as also observed in several countries (Bethell *et al.*, 2020; Rajan and McKee, 2020; Van der Roest *et al.*, 2020). We expect many of these results to apply in different contexts, especially in the Latin American region where community COVID-19 incidence and mortality rates remained high well into 2021. Non-pharmacological interventions such as PPE availability and staff training needs are key to control and prevent infections in general and to prepare for eventual new COVID-19 surges around the world. Recommendations should be applied, *mutatis mutandis*, in each case. Results also highlight the need to take a broader approach to understand the relevance of implementation factors in improving the interventions effectiveness (Browne *et al.*, 2021).

An important contribution of this study is its **scale and representativeness**. The information presented covers different LTCF characteristics, including heterogeneity by geographical areas, number of residents and management type. From a public policy perspective, this is crucial to design and implement effective measures to solve particular problems taking into account the different concerns and needs of different LTCF.

Our findings that observed challenges by managers are mostly shared across regions and LTCF types—with some differences—signal the importance of giving immediate and cross-cutting attention to these issues by monitoring how they play out across these settings. As highlighted before, this is a challenge Chile shares with other countries (Lloyd-Sherlock *et al.*, 2021).

Although we acknowledge that informal LTCF might be still underrepresented in this study, the inclusion of this traditionally ignored group constitutes a milestone in terms of making them visible as part of the network of institutional care. The lack of knowledge about these facilities and their label as 'illegal' push them out from the public policy action.

This study's results are subject to certain **limitations**. Data collection covered an early stage of the pandemic and given its dynamic evolution, results may change as PPE supply chains stabilized throughout 2020, mobility and visiting restrictions eased towards the end of 2020, and mass vaccination began in 2021. Also, results are subject to selection bias, as we report results from managers who replied to the questionnaire. Though it is possible that non-respondents have similar views to respondents, it is also possible that non-respondents were particularly burdened by COVID-19 measures or that they did not consider it relevant as COVID-19 did not affect their operations.

Future research could explore how these results evolved with the pandemic or how it invited long-term processes and activities within the LTCF or with other institutions. In addition, a deeper understanding of the differences between different groups of LTCF is needed. Finally, it is important to explore how these experiences can shape the development of protocols for other emergencies or identify particular interventions that were successful in dealing with residents' wellbeing and staff morale, and mental health.

We hope these results contribute to fostering the debate around institutionalized care among different stakeholders—policymakers, LTCF managers, and families—to generate changes to improve the quality of life of the current and future care recipients in institutions.

Regarding the **lessons** from the study, findings are relevant to assess the past processes but also to better prepare for another COVID-19 wave or similar health or environmental threat in the future. Although the information collected was COVID-specific, many lessons can be applied to future non-related crises and can be used to identify spaces of improvement for LTCF in Chile (e.g. need to improve regulation, infrastructure, and human resources policies) in the medium and long run (Villalobos Dintrans *et al.*, 2020). In this line, it is important to note that, although we observed some differences across LTCF (by geographical area, size, and management type), an important result is that all facilities report problems related to the preparedness to face crises. The LTCF debate generally operates under the assumption that informal facilities are vulnerable less prepared, and offer a low-quality service. Though we cannot reject this hypothesis, it seems that other facilities (including private for-profit and public ones) are not necessarily better off when it comes to crisis preparedness

and quality, inviting to advance structural changes regarding LTCF crisis preparedness and management policies (Villalobos Dintrans *et al.*, 2020). The cross-cutting nature of the challenges raises concerns, particularly considering that one of the main initiatives to improve institutional care is the formalization of informal facilities. Formality does not guarantee preparedness. Other measures—such as setting and enforcing standards, implementing a certification or reporting process—can contribute to improving preparedness in these facilities.

Additional Files

The additional files for this article can be found as follows:

- **Supplementary Tables 1–4.** Open-ended questions. DOI: https://doi.org/10.31389/jltc.93.s1
- **Appendix 1.** Questionnare English version. DOI: https://doi.org/10.31389/jltc.93.s2
- **Appendix 2.** Full Tables. DOI: https://doi.org/10.31389/jltc.93.s3

Competing Interests

Josefa Palacios and Maureen Neckelmann completed paid consultancy work from SENAMA as part of the data acquisition for this study.

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