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Proactive Geriatric Comanagement of Nursing Home Patients by a New Hospital-Based Liaison Geriatric Unit: A New Model for the Future



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ABSTRACT

During the SARS-CoV-2 pandemic, hospital-based liaison geriatric units (LGUs) were created in Spanish hospitals with the aim to improve health care coordination between nursing homes (NHs) and hospitals. Our university hospital created a comprehensive, proactive LGU serving 31 public and private NHs of different sizes and characteristics to offer support to more than 2500 residents. In the first 3 months of 2021, this LGU performed 1252 assessments (81% as outpatients, 12% at the emergency department, and 7% during hospitalization), avoiding an estimated 49 hospital transfers and 29 hospitalizations. Other activities included giving NHs support and advice during COVID-19 outbreaks, comanagement of selected residents with other hospital-based specialists (implementing telemedicine), and implementation of a protocol that allowed using drugs only approved for hospital use in selected NHs. This model of LGU has been shown to be feasible, to improve residents' health care, and avoid hospital referrals. Long-term care needs to be re-imagined, and hospital geriatric departments need to prove that they are able to offer expertise to support NH health care professionals.

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Problem Significance

In Spain, as in many other countries, nursing homes (NHs) can be public or privately owned and have different legal requirements regarding staff ratios. Most residents have the right to receive care from the public health care system, but such care depends on primary care clinics and is usually fragmented and inefficient.

During the first wave of COVID-19 in Spain (March–May 2020), informal liaison geriatric teams based in public hospitals' geriatric departments were created around Spain to support NH health care professionals in caring for older residents with COVID-19, in line with similar local and global initiatives.^{1–3} When the first wave slackened, a collaboration between hospital-based liaison geriatric units (LGUs) with NHs was formally created in most hospitals of the Madrid region¹ to improve coordination between NHs and hospitals, as suggested by Madrid's College of Physicians and the Spanish Geriatric Society,^{4,5} also following European recommendations to harmonize NH care.⁶ Most LGUs were reactive (working only on demand from NH professionals) and had a limited scope. We opted to design a comprehensive, proactive LGU (*Unidad de Geriatría de Atención a Residencias*, UGAR), which is described here.

Innovation

The UGAR was created in June 2020 within the geriatric department of a 780-bed public university hospital by recruiting 3 geriatricians and 3 advanced nurses specialized in geriatric nursing. This unit was shaped to proactively organize the care of all older persons living in the 31 NHs located in the hospital catchment area (some 600,000 persons, of whom more than 37,000 are older than 79 years). The aim was to build a multicomponent plan to improve NH residents' health care by direct patient care and by improving communication between the NH and the hospital through teamwork and telemedicine.

The plan, illustrated in [Figure 1](#), included a quarterly online census with information on each NH's size, characteristics, and resources. This census was sent to all emergency department (ED) health care professionals and to many other hospital specialists usually involved in residents' health care. An alert was added to the hospital's electronic medical records of all residents, so they could be easily identified as NH residents. Hospital-based specialists and nurses were aware of this fact and of the availability of support by the UGAR if required. In addition, communication with all the NHs was protocolized, based on phone calls when an urgent assessment was needed and by e-mail in nonurgent circumstances; NH professionals were required to use a template ([Supplementary Figure 1](#)) to provide advanced information before any outpatient assessment. The plan also included proactive follow-up of unstable residents (ie, those with a recent hospital admission or ED visit), comanagement telemedicine programs with other specialties

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	CENSUS	ALERTS	OUTPATIENT ASSESSMENT	CO-MANAGEMENT	EMERGENCY DEPARTMENT (ED)	HOSPITAL WARDS	HOSPITAL DRUGS PROTOCOL	COVID-19 SURVEILLANCE
OBJECTIVES	To describe characteristics of all NH in catchment area: -Number of beds&residents -Health care professionals -Resources	To identify all NH residents in hospital medical records To facilitate proactive assessment and communication	To perform a CGA and have management plans for all residents To support care of acute conditions	To cooperate with other hospital specialists To avoid unnecessary transfers	To help with ED management To offer treatment at the most appropriate level of care	To inform treating physicians on resident characteristics To facilitate early discharge back to the NH	To use drugs only authorized for hospital use in NHs under supervision, avoiding hospitalizations	To follow daily any COVID-19 outbreak To cooperate in outbreak management and prevention
METHOD	Initial face to face visits Quarterly online updates Available to ED and other hospital departments	Inclusion of alerts in hospital medical records based on monthly census updates from NH	Development of new telematic and face to face visits On demand support of NH professionals	Setting joint programs with other specialists that usually care for NH residents in outpatient clinics	Daily assessment of residents referred to the ED Communication with NH professionals	Follow-up of NH patients hospitalized in any department Discharge planning	Protocol allowing for individualized prescription of in-hospital drugs	Daily surveillance of outbreaks with primary care, public health and NH professionals
ACTIVITY (February & March 2021)	5 updates	2,550 alerts	1,015 assessments	94 joint consultations	147 assessments	90 residents	34 treatments	5037 IgG tests 17 outbreaks

*CGA: Comprehensive Geriatric Assessment

Fig. 1. Plan for nursing home (NH) patients co-management supported by a hospital by a hospital-based liaison geriatric unit.

such as dermatology or palliative care (to reduce the number of in-person outpatient clinic visits), and a protocol to administer drugs only approved for hospital use in selected NHs with physician/nurse availability. As new COVID-19 waves were expected (in November 2021, a sixth wave is starting with very little impact on NHs), support with epidemiological management to limit outbreaks⁶ and vaccination was offered, together with an extensive seroprevalence study.⁷

Implementation and Evaluation

Immediately after the team was set up, UGAR members visited all 31 NHs to explore the issues raised during the first COVID-19 wave, introduce the UGAR to NH teams, identify key players in each NH, and perform the first census. The size of the NHs ranged from 11 to 365 residents. In July 2021, residents totaled 2550 for a maximum number of available NH beds of approximately 3300. Substantial heterogeneity in health professionals' availability was also noted (42% and 68% of the NHs had a physician or nurse at least 1 shift a day).

Figure 1 shows some data on the UGAR activity, recorded prospectively between February 2021 and April 2021. During these 3 months, 1252 assessments and joint consultations were made in 521 residents (mean age 87.9 years) from 30 different NHs. Among the 1015 outpatient assessments and consultations, 98% were made by phone or e-mail, mainly to discuss management of medical conditions (48%), geriatric syndromes (23%), or coordination of health care (15%). Assessments prompted treatment changes in 57% of those cases, including recommendations on the use of nonpharmacological approaches (30%), deprescription of drugs (29%), administration of hospital drugs (3%), and the use of nutritional supplements (3%). Twenty-eight residents were referred to the ED for further assessment and 8 were managed at the Day Hospital. Using objective criteria, we estimate that at least 27 urgent and 22 scheduled transfers to the hospital were prevented.

At the ED, 147 assessments were made by the UGAR (67% face-to-face), coordinated care with other specialists was started in 67% of these cases, treatment was changed in 33%, and hospital admissions were prevented in 20%. In addition, 90 assessments were performed

during hospitalization of NH residents, mainly to start or improve health care coordination between the hospital and the NH (43%), followed by direct patient care (36%) and management of geriatric syndromes (11%). Continuity of care after hospital discharge was planned in 66% of the hospitalized cases through scheduled follow-up calls from UGAR to NH staff. Regarding COVID-19, surveillance and management of outbreaks in 17 NHs has been carried out since September 2020.

Satisfaction of NH health care workers with the UGAR was assessed in February 2021 through an anonymous online questionnaire sent to the 31 NHs, with a global satisfaction of 4.7 of 5.0 based on 44 answers; at least 1 questionnaire was received from 29 NHs. Highest satisfaction rates were reported for the items of improved accessibility to hospital resources and telemedicine (4.7 of 5.0), easier health care coordination (4.6), availability of hospital drugs (4.6), comanagement with other specialists (4.5), and improved support with COVID-19 care (4.4). NH health care workers mentioned agility, decision-making support, and the decreased number of ED referrals or hospitalization as the main strengths of our unit.

Comment

We present a feasible, dynamic, and successful example of a hospital-based LGU supporting local NHs based on the cooperation between all actors involved, which is aligned with similar initiatives.^{1,8,9} The LGU of the Hospital La Paz is quite similar regarding the onset, composition, and activities, including also on-site physical visits at the NHs. However, it does not include our proactive assessment model based on the implementation of alerts in hospital medical records that allows uncovering residents with undetected health needs.¹ California's plan is based on routine visits by the geriatric team of residents in only 2 skilled nursing facilities.³ The Gericare model is hub-based with regular teleconsultations and on-site visits,⁹ while the website implemented in 18 long-term care facilities in Ontario in 2018 allowed access to different specialists, including geriatricians.⁸ An innovative aspect of our LGU is the fact that it gradually implements a

proactive scheme in which all residents are tracked along their health care path during ED visits, hospitalization, and outpatient visits.

We performed a high volume of telematics outpatient assessments, lower than Hospital La Paz¹ and higher than other international initiatives.^{8,9} The main indications were medical comorbidities and geriatric syndromes. There was a low number of COVID-19 consultations due to the lessening of cases in NHs after almost universal vaccination of residents and workers in the first months of 2021 (currently a third vaccine dose is being administered to all residents and a booster is planned also for all health care workers). In contrast, the Gericare program mainly used medication review.⁹ Our unit systematically included medication review and deprescription, provided hospital drugs, and avoided 49 urgent transfers and 29 admissions, in line with other local initiatives.¹ The INTERACT program based on training and communication obtained similar results.¹⁰

Identifying older people who live in NHs in hospital medical records by setting an electronic alarm has not been described before and, in our opinion, was key to allow for a proactive assessment. Satisfaction of NH workers was high, as expected from other experiences.^{3,8}

A final strength of our solution is its scalability. Once the NH support structure is active, it can gradually include other interventions that may be judged to be relevant (ie, perioperative care with short hospital stays, diagnosis and management of different geriatric syndromes at the NHs, creating a research network, or providing structured training) with little investment. As long-term care is reimagined, hospital geriatric departments need to show their ability to put their expertise wherever patients are in need. We believe that collaboration between NHs and hospitals is key to offer high-quality health care to residents, but the sustainability of LGUs relies on the continuity of newly recruited professionals. Also, additional research on the impact of such units is needed.

In conclusion, we present a liaison unit that links NHs with a geriatric hospital department based on telemedicine and comanagement that intends to be comprehensive and proactive. We show some positive effects in patients' health care and NH workflows. We believe that our multicomponent management program may be helpful in similar settings.

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Supplementary Data

Supplementary data related to this article can be found online at <https://doi.org/10.1016/j.jamda.2021.12.006>.

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The pragmatic innovation described in this article may need to be modified for use by others; in addition, strong evidence does not yet exist regarding efficacy or effectiveness. Therefore, successful implementation and outcomes cannot be assured. When necessary, administrative and legal review conducted with due diligence may be appropriate before implementing a pragmatic innovation.