Farmacia HOSPITALARIA
Órgano oficial de expresión científica de la Sociedad Española de Farmacia Hospitalaria

SPECIAL ARTICLE
Bilingual edition English/Spanish

Specialized pharmaceutical care in social health centers in COVID-19 times

Atención farmacéutica especializada en centros sociosanitarios en tiempos de COVID-19

Juan F. Peris-Martí[1], Patricia Bravo-José[2], Carmen Sáez-Lleó[2], Elia Fernández-Villalba[1]

[1]Department of Pharmacy, Residencia de personas mayores dependientes La Cañada, Valencia. Spain. [2]Department of Pharmacy, Residencia de personas mayores dependientes Burriana, Castellón. Spain.

Author of correspondence
Juan F. Peris Martí
c/561 s/n
46182 Paterna (Valencia). Spain.
Email:
peris_jua@gva.es

DOI: 10.7399/fh.11493

How to cite this paper
Peris-Martí JF, Bravo-José P, Sáez-Lleó C, Fernández-Villalba E. Specialized pharmaceutical care in social health centers in COVID-19 times. Farm Hosp. 2020;44(Supl 1):S43-8.

Abstract

The COVID-19 pandemic is having a devastating effect on the nursing homes for dependent older people. The difficulty of management of this crisis is aggravated by the frailty of the people served and by the specific characteristics of the care area, mainly the fact of not being integrated into the health system.

The objective of this work is to describe the pharmaceutical care developed by a hospital pharmacy service established in a nursing home and, from a more global perspective, analyze the strengths and weaknesses found from the various experiences of hospital pharmacy in all spanish autonomous communities to deal with this pandemic.

Specialized pharmaceutical care has provided rigor in the validation and treatments review processes from a comprehensive perspective, maximizing safety and collaborating in the establishment of the therapeutic intensity degree most appropriate to the individual situation, has ensured the availability of all necessary medications, has collaborated in the acquisition and management of personal protective equipment, has been able to adapt the dispensation processes to the internal nursing homes sectorization and has facilitated the coordination between the nursing home and the health system.

It is clear that the crisis casued by COVID-19 has put relevance of the need to integrate the social-health level into the health system. And also, the contribution of specialized pharmaceutical care in improving healthcare coverage and coordination with health services has highlighted the urgency of developing the current legislation, prioritizing the establishment of pharmacy

KEYWORDS
Nursing home; Social health centers; COVID-19; Frail elderly; Pharmaceutical care.

Resumen

La pandemia COVID-19 está teniendo un efecto devastador en las residencias de personas mayores dependientes. La dificultad de la gestión de la crisis se ve agravada por la fragilidad de las personas atendidas y por las propias características del ámbito asistencial, principalmente el hecho de no estar integrado en el sistema de salud.

El objetivo del presente trabajo es describir la atención farmacéutica especializada desarrollada por un servicio de farmacia hospitalario establecido en un centro sociosanitario y, desde una perspectiva más global, analizar las fortalezas y debilidades encontradas desde las diversas experiencias de la farmacia hospitalaria en el conjunto de comunidades autónomas para hacer frente a esta pandemia.

La atención farmacéutica especializada ha aportado rigor en los procesos de validación y revisión de los tratamientos desde una perspectiva integral, maximizando la seguridad y colaborando en el establecimiento del grado de intensidad terapéutica más adecuado a la situación individual de la persona afectada, ha asegurado la disponibilidad de todos los medicamentos necesarios, ha colaborado en la adquisición y gestión de los equipos de protección individual, ha sido capaz de adaptar los procesos de dispensación a la sectorización interna de las residencias y ha facilitado la coordinación entre la residencia y el sistema de salud.

Resulta evidente que la crisis provocada por la COVID-19 ha puesto de relevancia la necesidad de integrar el ámbito sociosanitario en el sistema de salud. Y asimismo, la contribución de la atención farmacéutica especializada en la mejora de la cobertura asistencial y de la coordinación con

PALABRAS CLAVE
Residencia; Centro sociosanitario; COVID-19; Anciano frágil; Atención farmacéutica.

Los artículos publicados en esta revista se distribuyen con la licencia
Articles published in this journal are licensed with a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
http://creativecommons.org/licenses/by-nc-sa/4.0/
La revista Farmacia no cobra tasas por el envío de trabajos,
ni tampoco por la publicación de sus artículos.

services able to provid specialized and specific care for this area, so that it meets healthcare needs and is integrated into the health system.

los servicios sanitarios ha puesto de manifiesto la urgencia de desarrollar la legislación vigente, priorizando el establecimiento de servicios de farmacia capaces de proporcionar una atención especializada y específica para este ámbito asistencial, de forma que cubra las necesidades asistenciales y quede integrada en la estructura sanitaria.

Introduction: background and objectives

The epidemic in elderly homes

The COVID-19 pandemic is having a devastating effect on nursing homes (NHs). According to data reported by the Spanish Ministry of Health, as of April 30th, 16,649 EH residents had died with COVID-19 or compatible symptoms in Spain, accounting for 67.84% of the total number of deaths[1].

In addition, remarkable differences were observed between Autonomous Communities (ACs), in line with the global impact of the epidemic. Based on the number of places in NHs[2], the estimated rate of mortality of institutionalized residents was less than 0.2% in the Canary Islands (*n* = 10 deaths), whilst Andalusia (*n* = 459), Asturias (*n* = 162), Valencia (*n* = 462) or Galicia (*n* = 249) did not exceed 2%; and Catalonia (*n* = 2,966), Navarre (*n* = 395), Castile-La Mancha (*n* = 1,944) and Madrid (*n* = 5,811) reached 5%, 6%, 7% and 12%, respectively.

These data are rough estimates —there are no reliable statistics because each AC used a different method to count cases and deaths. However, the magnitude of the figures shows a clear picture of the situation, taking into account that, with some exceptions, only subjects who died with a positive diagnostic test for COVID-19 were counted.

Characteristics of nursing homes in relation to the epidemic

In contrast to hospital and home care settings[3], the environment of NHs has differential characteristics that heavily influence the implementation of work procedures and the outcomes of the epidemic:

- The health care provided is not integrated into the health system (in most ACs).
- It assists frail people with complex care needs.
- The model person-centered care is followed, with comprehensive geriatric assessment being the basis for the development of individualized action plans[4].
- Priority is given to activities aimed at minimizing the degree of functional and cognitive disability two aspects that condition the design and organization of the facility.
- Pharmaceutical care is very heterogeneous, with coexisting models of provision of services from a community pharmacy (the majority) and from a pharmacy service[5].

The aim of this article is to describe the specialized pharmaceutical care (SPC) developed in NHs in the context of the COVID-19 pandemic by presenting the experience of the pharmacy service (PS) of the Burriana NH, as well as to analyze the strengths and weaknesses found, including experiences from other ACs.

Strategic approach followed: specialized pharmaceutical care in an nursing home affected by COVID-19

The Burriana NH, a public institution, has 190 beds, 15 of which are used as day center (average age 83.7 years [SD: 9.5]; 76% women). Of them, 85% of residents are frail (IF-CSS>0.2), and 61% are in a moderately-advanced disease stage[6]. The PS established in this NH includes two specialist pharmacists, a nurse, three pharmacy technicians and an administrative assistant to assist the 450 residents of four NHs.

As the epidemic advanced, successive changes were made to the organization of the NH and the PS, in accordance with the recommendations of public authorities[7]. Figure 1 shows the evolution of the strategy to prevent contagion, the sectorization by enabling specific areas to assist residents according to their situation, and the drug dispensing system established.

Staff management and task redistribution

In phase 2 of the intervention, with active COVID-19 cases, work shifts were restructured. Two groups of pharmacy technicians and nurses (48-h shifts) were established to maintain the daily capacity for the preparation and dispensing treatments.

The two pharmacists redistributed their tasks. The former was a member of the COVID-19 crisis management committee. She participated in the reorganization of the NH and in the prevention, sectorization and design of the COVID-19 area. She was in charge of the use and management of individual protection equipment (IPE), including training workers, and managed the pharmaceutical care of institutionalized patients from other NHs affected. The second pharmacist was mainly in charge of the pharmaceutical care of patients from the Burriana NH (both COVID-19 and non-COVID-19) and unaffected NHs.

Procurement was modified by the emergency of cases, the stocks of certain medicines and fluid therapies were increased to ensure the availability of the best treatments and avoid shortages.

Reorganization of the dispensing of treatment and medical devices

The distribution of medicines and medical devices (MDs) in the different areas had to be reorganized (Figure 1):

- The capacity for self-management of treatment was re-evaluated with personalized dispensing systems (PDS) to facilitate the care of less dependent residents in their rooms, allowing for a greater interpersonal distance in the dining room.
- Daily and weekly dispensing was redistributed in individualized unit doses, with daily modifications in all care areas.
- COVID-19 area:
  - A medicine storage unit (Table 1) and a specific MD storage unit (Table 2) with weekly restocking were designed and implemented.
  - A weekly-dispensing trolley was fitted out, enabling daily management of treatment changes.
  - Disinfection and cleaning procedures were established for dispensing supports prior to their storage in the MD, along with a quarantine of 2-7 days for returned units prior to their reuse[8].
  - During the first weeks, the procurement of IPE was carried out directly from the MD. When the centralized departmental dispensing cycle was operational, its management was assumed internally.

Pharmaceutical care

- The complete treatment of COVID-19 patients was validated and reviewed to detect potential adverse reactions and interactions, and simplify them by eliminating unnecessary medicines and incorporating simpler dosage regimes[9] (Table 3).
- Daily meetings with the medical staff of the NH and the home hospitalization unit were held to discuss the pharmacotherapy management of the affected patients considering their vulnerability.

Figure 1. *Organization of the Burriana elderly home based on the situation of the epidemic.*

Intervention phase

Phase 0. Pre-COVID-19 organization	
No. of places: 175 + 15 DC	
Staff Medical: 2 Nursing (M/E/N): 3 / 2-3/ 1	
Fitted-out reas (places)	***UDDS***
Dining room (100)	DT (85) PDS (15)
Rooms for assisted patients - Overassisted (35) - 2 intermediate assistance (30)	 WT WT
High-dependency rooms (10-15)	WT
Acute care room (10)	DT
Care objective	
CGA => IAP	

Phase 1. Beginning of COVID-19 (without active cases)	
No. of places: 175	
Staff Medical: 2 Nursing (M/E/N): 3 / 2-3/ 1	
Fitted-out (places)	***UDDS***
Dining room (80)	DT
Low-dependency rooms (22)	PDS
COVID area: 10 rooms to assist possible cases (17)	-
Rooms for assisted patients - Overassisted (35) - 2 intermediate assistance (30)	 WT WT
High-dependency rooms (10-15)	WT
Acute care room (10)	DT
Care objective	

Preventing COVID-19 contagion
- Use of mask and gloves by the staff
- Hydroalcoholic gel dispensers in each room
- Increased distance between residents
- Restricted mobility between areas
- Increased use of PDS by residents after pharmaceutical evaluation
- COVID area:
  - Procedures and workflows
  - Storage of medicines and medical devices	

Phase 2. COVID-19 (with active cases)	
No. of places: 175	
Staff Medical: 2 + 1 (HHU) Nursing (M/E/N): 3 / 2 / 1; COVID area (M/E/N): 1 / 1 / 1	
Fitted-out areas (places)	***UDDS***
Dining room (26-30)	DT
Low-dependency rooms (22)	PDS
Rooms 1st floor (15) Rooms 2nd floor (25-30)	DT DT
COVID area: 17 rooms to assist possible cases (30 places)	WT
Rooms for assisted patients - Overassisted (35) - 1 intermediate assistance (15)	 WT WT
High-dependency rooms (10-15)	WT
Acute care room (10)	DT
Care objective	
Treatment / Reducing risk of contagion - Increased staff (provided by the Department of Health) - Coordination of COVID management with HHU - COVID area: - Implementation of the medicine and PS storage units - Dining room: residents with difficulties to be confined - Gradual and strict confinement of residents in their rooms	

CGA: comprehensive geriatric assessment; DC: day center; DT: daily unit dose tray dispensing trolley; HHU: home hospitalization unit; IAP: individualized action plan; M/E/N: morning, evening and noon shift; PDS: personalized dispensing system; PS-NH: Pharmacy service – Nursing home; UDDS: unit dose dispensing system; WT: weekly unit dose tray dispensing trolley.
WT and PDS are prepared weekly and modified daily in response to treatment changes.

Intervention phase

Phase 0. Pre-COVID-19 organization: established care areas, mobility restrictions, comprehensive geriatric assessment/individualized action plans (CGA-IAP) as the basis for individualized care.

Phase 1. Beginning of the pandemic, without positive cases: establishment of preventive measures to avoid contagion and reduce the spread of SARS-CoV-2 by the use of masks by all workers and only by users with symptoms (renewal according to stock), placement of hydroalcoholic gel dispensers, mobility restriction between areas, and limitation of group activities. The number of residents assisted in their own rooms is increased to provide greater isolation, and interpersonal distance is increased in the dining room.

Phase 2. Positive COVID-19 cases: health management by the Department of Health, specifically through the supervision of a doctor in the home hospitalization unit (HHU) and provision of nursing staff to the COVID area, who joined the health care volunteers of the center. The medical staff increased the time of face-to-face care to eight hours a day at weekends. Opening of the pharmacy service on weekends and holidays in the morning with a pharmacist in attendance.

- Multidisciplinary screening of patients with compatible symptoms was performed, and fixed analgesic schedules were modified to "only if necessary" schedules to avoid possible masking.

Analysis of strengths and weaknesses of specialized pharmaceutical care in nursing homes

Heterogeneity is the main feature of the environment of NHs. The decisions that public administrations have taken regarding the management of the pandemic and the SPC models and their operation in NHs are not left aside. There are no uniform patterns, and experiences have been different in each case.

In general, the consultations carried out for this work show the capacity of the PS to adapt to the needs of NHs and the difficulties arising from persistent disconnection between the different health and social systems.

Strengths

- Integration of the SPC into the NHs as part of the assistance and crisis management committees.
- Rigor in the validation/review of treatments from an integral perspective: maximizing safety and therapeutic impact according to the situation of each patient.
- Accessibility to the optimal treatment: antivirals, medicines for hospital use and for palliative use in end-of-life situations.
- Organization of pharmaceutical provision in intermediate resources (e.g. medical residences), established to care for affected people.
- Capacity to reorganize and adapt the dispensing systems according to the internal sectorization of the NH.
- Rigorous training and information to NH workers on the indication and management of the specific COVID treatment and the use of IPE.
- Management of the procurement, supply and protocols for the use of the MD and IPE.
- Communication between the NH and the health system (e.g. hospital, health area direction, public health).

Table 1. Composition of the medicine storage unit in the COVID-19 area

Item	No.*	Item	No.*
NUTRITION		DIGESTION AND METABOLISM	
Neutral thickener	1	Aspart insulin pen	2
Lemon flavor thickener	1	Glargine insulin pen	4
ANTIPYRETICS/ANALGESICS		Omeprazole capsules	30
Metamizole 575 capsules	10	CENTRAL NERVOUS SYSTEM	
Paracetamol 1g tablets	50	Clonazepam 0.5 mg	20
Paracetamol 1g sachets	50	Diazepam 10 mg tablets	10
Paracetamol 10 mg/ml I.V.	20	Haloperidol solution 2 mg/ml 30 ml	1
ANTICOAGULANTS		Quetiapine 25 mg tablets	10
Enoxaparin 4,000 IU	20	LAXATIVES/ENEMAS	
CARDIOVASCULAR		Sodium lauryl sulfate rectal applicators	15
Captopril 25mg tablets	10	Polyethylene glycol sachets	10
ANTIBIOTICS		Casen® enemas	3
Azithromycin 500 mg sachets	20	FORMAS TÓPICAS	
Azithromycin 500 mg tablets	20	Zinc oxide cream 10%	3
Ceftriaxone 1g I.M.	10		
Ceftriaxone 1g I.V.	20		
Ciprofloxacin 500 mg capsules	20		
EMERGENCY MEDICINES			
Diazepam 10 mg vials	5		
Diazepam 10 mg enemas	2		
Glucagon 1 mg	1		
Haloperidol 5 mg vials	1		
Methylprednisolone 20 mg	20		
Methylprednisolone 40 mg	20		

*Amounts were modified according to the number of people attended.

Weaknesses

- Lack of pharmacotherapy protocols shared between care levels for this population.
- Limited availability of information and communication technologies (ICTs), personal electronic medical records and other online resources to maintain the remote care activity of the pharmacist (participation in the individualized action plan, connection with the multidisciplinary team, pharmacotherapy review, continuity of care).
- Difficulties in establishing efficient supply lines for IPE and specific COVID medicines and for hospital use in NHs without SPC.
- Difficulties in establishing non-pharmacological and prescription measures due to the changes in care practice resulting from sectorization, including pharmacotherapy follow-up, comprehensive geriatric assessment and individualized action plan for the residents.
- Difficulties in developing global SPC due to a lack of effective integration of nursing homes in the health system.
- Partial or no development of SPC in a high number of NHs, which hampered the management of the pharmacotherapy crisis in these NHs.

Lessons learned. Future applicability in pharmacy services

The health and social breakdown is real and persistent —it has forced improvisation and delayed the establishment of specific measures to provide care according to needs. In this line, with the de-escalation of confinement already under way, there is still no forward-looking strategy for the management of the epidemic in nursing homes. If there is one thing this crisis has shown, that is the need to integrate nursing homes into the health system. Undoubtedly, the pharmacy services providing care in nursing homes have made a significant contribution to improving the quality of care and coordination with health services. This has been possible by incorporating the pharmaceutical care into comprehensive assessment, by carrying out a multidisciplinary evaluation of treatments based on scientific rigor, by being able to adapt to the needs of patients and to the characteristics of social health centres, by facilitating the accessibility of medicines, and by managing the medical devices and the individual protection equipment. Therefore, it is urgent to further enhance the Spanish Royal Decree 16/2012 by prioritizing the establishment of pharmacy services capable of developing specialized pharmaceutical care specifically for this area of care and integrated into the health system. In this way, care and the capacity to deal with future crises would be improved.

Table 2. Composition of the storage unit of medical devices and fluid therapy in the COVID-19 area

Item	No.*	Item	No.*
NEEDLES/CANNULAS		INFUSION EQUIPMENT	
25 x 0.8 mm biosafety needle	50	10 cm three-way key with extension	30
40 x 0.8 mm biosafety needle	50	I.V. infusion flow regulator	15
Insulin safety needle	100	150 cm infusion system	90
I.V. cannula no. 18/20/22	20	*Luer-lock* valve	25
24 G biosafety catheter	4	STRAPS	
DRESSINGS		10 x 2.5 cm paper	12
Protease modulator	20	5 x 5cm fabric	6
15 x 20 adhesive polymeric foam	30	STRIPS AND LANCETS	
6 x 7 peripheral route fixation	50	Lancets	100
10 x 10 ionic silver	20	Glucose strips	50
Absorption polymeric foam heels	24	MASKS	
Absorption polymeric foam sacrum	5	Nasal oxygen mask	30
5 x 7 sterile with pad	50	Oxygen mask with 7 concentrations	30
10 x 10 mesh hydrocolloid	30	ISOLATION MATERIAL	
BANDAGES AND GAUZES		Non-sterile disposable gown	80
10 x 5 folded gauze (bulk)	2,500	Green slippers	150
20 x 20 sterile gauze	280	Sealed protective goggles	15
50 x 50 sterile gauze	10	Hydroalcoholic gel 5 l	1
10 x 10 cohesive elastic bandage	5	Green disposable cap	100
Cotton crepe bandage	10	Surgical paper mask	250
SYRINGES		FFP2 protection mask	50
Sterile two body syringe 2/5/10 ml	100	Waterproof overall	50
DEVICES		Protective screen	10
Glucometer	1	Nitrile glove (L)	200
Forehead laser thermometer	1	Nitrile glove (S/M)	400
ANTISEPTIC SOLUTIONS		FLUID THERAPY	
Alcohol 70° 1 l	2	Glucose 5% 1,000 ml	5
Chlorhexidine 4% 500 ml	2	Glucose 5% 500 ml	5
Chlorhexidine 2% 30 ml	1	Glucosaline 1,000 ml	40
Sodium chloride 0.9% 10 ml	20	Glucosaline 500 ml	20
Povidone-iodine 500 ml	1	Physiological saline 0.9% 100 ml	50
Prontosan®	2	Physiological saline 0.9% 1,000 ml	40
OTHER MATERIAL		Physiological saline 0.9% 500 ml	10
Tablet crusher bag	100		
Inhalation chamber	2		
Mask for inhalation chamber	2		
Disinfectant cleaner	1		
Hydroalcoholic gel dispenser	3		

*Amounts were modified according to the number of people attended.

Table 3. Treatment review in isolated or COVID-19 patients

Chronic treatment	
Maintaining the medicines considered essential (risk/benefit ratio appropriate to the therapeutic objective and clinical situation)	• Temporarily removing medicines that can be safely discontinued (e.g. vitamins and minerals; oral bisphosphonates, denosumab) • Checking treatment intensity (e.g. hypoglycemic, antihypertensive, etc.)
Reassessing —and discontinuing when possible— potentially inappropriate medicines, based on the therapeutic objective and clinical situation	• STOPP criteria • STOPP-Frail criteria • Maintaining medicines for symptom control according to the objective
Reassessing medicines that may increase the risk of adverse events (e.g. withdrawal, dose reduction, replacement)	• Sedative load, anticholinergic load • Medicines increasing the risk of pneumonia • Medicines increasing the risk of falls
Reassessing difficulties in administration (e.g. self-management, dysphagia, dependence, masking) and maximizing safety	• Selection of dispensing system • Adaptation and selection of pharmaceutical forms • Preference for OD-PF, L-PF and transdermal route • No nebulization
Rationalizing, optimizing and simplifying dose regimens and time schedules for treatment administration	• Reducing the number of intakes (modified release formulations, once-daily active ingredients) • Grouping medicine administration to reduce visits
Specific treatment for COVID-19	
Reviewing interactions/contraindications/precautions	• Intervention on chronic treatment

L-PF: liquid pharmaceutical forms (e.g. oral syringes); OD-PF: orodispersible (flash) pharmaceutical forms.

Acknowledgements

We would like to thank the pharmacists who have collaborated on this article by sharing their experience in care in nursing homes: Idoia Beobide Telleria, Cecilia Calvo Pita, María García-Mina Freire, Nuria Iglesias Álvarez, Maite Llanos García, Virginia Saavedra Quirós, and Daniel Sevilla Sánchez.

Bibliography

1. Radiografía del coronavirus en residencias de ancianos. RTVE. Madrid: Corporación de Radio y Televisión Española [accessed 04/30/2020]. Available at: https://www.rtve.es/noticias/20200512/radiografia-del-coronavirus-residencias-ancianos-espana/2011609.shtml
2. Abellán-García A, Aceituno-Nieto MP, Ramiro-Fariñas D. Estadísticas sobre residencias: distribución de centros y plazas residenciales por provincia. Datos de abril 2019. Madrid, Informes Envejecimiento en red n.º 24. Fecha de publicación: 10/31/2019 [accessed 04/30/2020]. Available at: http://envejecimiento.csic.es/documentos/documentos/enred-estadisticasresidencias2019.pdf
3. López R, López JA. La reorientación de la asistencia en residencias de ancianos: una perspectiva integradora. Rev Esp Geriatr Gerontol. 2007;42(Supl 1):2-4. DOI: 10.1016/S0211-139X(07)73581-3
4. Ellis G, Sevdalis N. Understanding and improving multidisciplinary team working in geriatric medicine. Age and Ageing. 2019 Jul 1;48(4):498-505. DOI: 10.1093/ageing/afz021
5. Fernández-Villalba EM, Gil-Gómez I, Peris-Martí JF, García-Mina-Freire M, Delgado-Silveira E, Juanes-Borrego A. Prestación farmacéutica especializada en centros sociosanitarios en España. Farm Hosp. 2020;44(1):3-9. DOI: 10.7399/fh.11248
6. Peris-Martí JF, Parro-Martín MA, Fernández-Villalba E, Bravo-José P. Aproximación al desarrollo de un índice de fragilidad basado en la valoración integral geriátrica en centros sociosanitarios. Farm Hosp. 2018;42(4):159-62. DOI: 10.7399/fh.10953
7. Orden SND/265/2020, de 19 de marzo, de adopción de medidas relativas a las residencias de personas mayores y centros socio-sanitarios, ante la situación de crisis sanitaria ocasionada por el COVID-19. Boletín Oficial del Estado, n.º 78 (21 de marzo de 2020).
8. ISMP Medication Safety Alert! Acute Care. 2020;25(7)(Supl):S1-3 [accessed 04/18/2020]. Available at: https://ismp.org/sites/default/files/newsletter-issues/20200416.pdf
9. Brandt N, Steinman M. Optimizing medication management during the COVID-19 pandemic: Implementation guide for post-acute and long-term care. Maryland: University of Maryland, School of Pharmacy, The Peter Lamy Center on Drug Therapy and Aging; 2020 [accessed 04/15/2020]. Available at: https://www.pharmacy.umaryland.edu/PALTC-COVID19-MedOpt