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Editorial

The Future of Long-Term Care

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As I begin my last year as editor of *JAMDA*, I thought it would be of interest to gaze into my crystal ball to foresee the future of long-term care over the next decade. Although technically this is scrying (interpretation of fanciful impressions), I assure my readers that I will try to come closer to augury, which relies on interpretations of objectively observable events to foretell the future.

To successfully foresee the future requires a firm knowledge of history. In the case of long-term care, this began with Saint Helen who developed care homes for the old, sick people in the streets of Constantinopole.[1,2] In the 17th century, poor houses for "old men and women" developed throughout Europe, mostly under the aegis of religious organizations. In the 1850s, similar institutions were developed in the United States. Although in most of the world nursing homes are either social or nursing driven, in the United States, they are much more medicalized.[3] This occurred as a result of 5 main events:

- Hospital Survey and Construction Act (Hill-Burton) of 1954. This tied long-term care facilities to hospitals.
- Medicare/Medicaid in 1965 reimbursed physicians for nursing home care.
- The American Medical Directors Association was founded in 1978 with the purpose to preserve, promote, and expand the involvement of physicians in the long-term care continuum.
- In 1986, the Institute of Medicine issued its report on "Improving the Quality of Care in Nursing Homes."
- In 1987, the Omnibus Budget Reconciliation Act (OBRA) called for standardized assessment; reduction of restraints, psychotropic medications, and Foley catheters; comprehensive care planning and quality indicators. This led to the development of the different iterations of the Minimum Data Set.[4–6] This is known as the Inter-RAI outside of the United States.

These events have been associated with a marked increase in publication on nursing homes (Figure 1, A). It should, however, be noted that the quality has not been high as demonstrated by the minimal number of randomized controlled trials (Figure 1, B). Table 1 lists the 10 most common clinical topics found in PubMed for 2015. Notable for their absence were "postacute care" and "telemedicine" despite the marked increase in concern about hospital readmissions in recent years. Another notable gap is literature on frailty[7–9] and sarcopenia[10,11] in the nursing home despite these syndromes becoming the new giants of geriatrics in the 21st century[12–20] and sarcopenia gaining its own *International Classification of Disease, Tenth Revision, Clinical Modification* (ICD-10) code.[21]

In attempting to develop this view of the future, I have relied strongly on the work of the International Association of Geriatrics and Gerontology (IAGG).[3,22–27] However, I need to acknowledge that this "future history" applies particularly to the changes expected in the United States. In addition, this article specifically addresses postacute care and nursing homes. It is expected that technology developments over the next decade will allow more persons who are older to live at home. In addition, refinements of the Program of All-Inclusive Care for the Elderly (PACE) will also allow more persons to stay in their home.[28,29] Equally important will be the continued development of aging friendly cities[30] and dementia-friendly cities[31] to allow older persons to age successfully at home.[32–35] In the United States, there will continue to be an increase in assisted living facilities for those with functional impairment and Memory Care Units for persons with moderate dementia. I believe that there is a need for increased regulation of Memory Care Units and a need to define the services that they deliver on a regular basis eg, cognitive stimulation therapy,[36–41] reminiscence therapy,[42,43] and exercise therapy.[44–48] In addition, development of group homes for dementia elders such as those in Hokkaido in Japan, "Alzheimer villages", and "Greenhouse" facilities focused on functional decline will further enhance the quality of life for all of us as we age.[49–51]

Over the next decade, I expect the culture change movement to continue to grow, leading to de-institutionalizing of the culture and environments in which care for older persons is provided.[52–54] Culture change will increase the focus on the individual and de-medicalize care in exchange for an increase in activities and friendship for those who are institutionalized.

Postacute Care: The Long-Term Care Dinosaur in the Room

The Centers for Medicare and Medicaid Services (CMS) has aggressively moved to reduce hospitalizations in the 30 days following hospitalization with fines being leveed for both hospitals and nursing homes that fail to do this. Overwhelmingly, the most successful way to reduce hospital readmissions is to have persons coming back from the hospital to develop an advanced directive, which includes that they do not wish to return to hospital.[55,56] For many residents, returning to hospital represents an unnecessary, painful component of their end-of-life care. Certainly in many cases, if these residents opt for hospice care, they may live longer and have a more pleasant end-of-life experience.[57–60] To successfully do this will require a re-education

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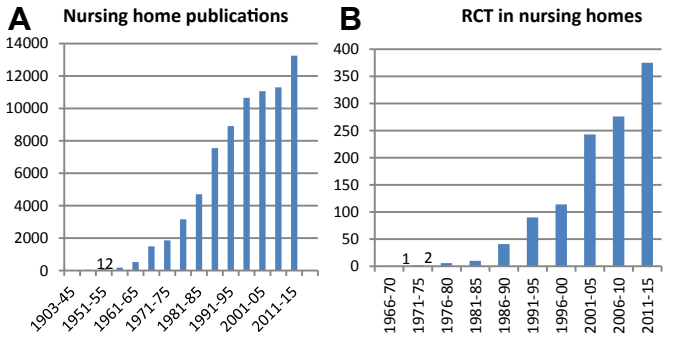

Fig. 1. (A) Growth in nursing home publication and (B) growth in randomized controlled trials in nursing homes. RCT, randomized controlled trial.

of people around the world both on the inevitability of death and that recognition that hospitals do not work miracles. Also, this will require nursing homes to be able to provide a number of services presently provided in hospitals.

In the move to reduce readmissions, there is a growth in physicians serving as skilled nursing facility providers (SNFists); some of these are hospitalists whose care of older persons fails to take into account any of the gerontological principles to improve quality of life. Education of SNFists will be of paramount importance. Such education is being developed by AMDA—the Society for Post-Acute and Long-term Care Medicine.

Over the last decade, there has been an increased awareness of the potential positive role of advanced practice nurses working in concert with physicians in enhancing care in long-term care both in the United States and around the world.[61–64] This has led CMS to create an "Initiative to Reduce Avoidable Hospitalizations among Nursing Facility Residents" (https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/InitiativetoReduceAvoidableHospitalizations/AvoidableHospitalizationsamongNursingFacilityResidents.html). The Project Year 3 report was released in January 2016, and the results are summarized in Table 2. As can be seen, 3 out of the 7 projects reduced hospitalizations and in one of these costs were also reduced. Using MDS quality outcomes none of these improved quality of care (Table 3). Despite the fact that these findings were, at the least, unexciting, I predict a marked increase in advanced practice nurses in nursing homes in the next decade.

The Interventions to Reduce Acute Care Transfer (INTERACT) program has had variable results.[65–69] Although components of it appear very sensible, they have proved difficult to implement in the average nursing home. It is unlikely that, in its present version, it will be playing a major role in nursing homes by the end of the decade.

Telemedicine represents an exciting method to provide on time medical care in nursing homes.[70–73] Intensive care units around the country are already using nurses with physician backup, to monitor patients from a distance.[74] It would seem that a similar system will be developed for nursing homes. This will require the introduction of electronic health records (EHR) in the nursing homes. As we all recognize the poor quality of EHRs with the extra time needed to use them will create a major challenge for many physicians working in nursing homes.

Table 1
Major Nursing Home

Topics in PubMed in 2015	
Rank	Topic
1	Dementia
2	Activities
3	Pain
4	Technology
5	Infections
6	Medications
7	Nutrition
8	Falls
9	Cognitive therapy
10	Anxiety

FRAILTY: A Way to Recognize Those Who Most Need Help

At this stage, it is clear that both the physical phenotype of frailty (Fried) and the Frailty Index (Rockwood) are both excellent predictors of outcomes.[8,15,75–79] The physical phenotype of frailty has been shown to respond to simple interventions eg, exercise, and leucine-enriched essential amino acid.[80–82] The well-validated FRAIL (fatigue, resistance, ambulation, illnesses, and loss of weight) questionnaire[83–91] has been developed to allow a specific approach to the management of frailty. [92–94] In Singapore, the FRAIL questionnaire predicts a high likelihood of readmission to the hospital within 30 days.[95]

A brief FRAIL-NH (nursing home) index has been demonstrated to be as good as the more complex Frailty Index to predict multiple poor outcomes in the nursing home.[96–98] It is an excellent tool to predict those who should be on hospice. Hopefully, it will be used to assess need for hospice and for those who should not return to the hospital in the next decade. We have also had some success in using the Rapid Geriatric Assessment in nursing homes.[99]

Dementia: Focus on Treatable Causes

Dementia has many causes, not just Alzheimer disease.[47,100] All persons need to be assessed for treatable causes (Table 4).[101] Nursing homes need to develop nutritional (Mediterranean diet and extra virgin olive oil), exercise, and socialization processes that slow the progression of cognitive dysfunction.[46,48,102–104] Recognition that all dementia is not Alzheimer's disease, and treatments for vascular dementia[105] and poor cognition in diabetes (ie, metformin[106]) need to be pursued. Most importantly, early diagnosis of screening for mild cognitive impairment is reversible in over one-half of persons.[107–110]

It is important to recognize that it is unlikely that there will be treatments for end-stage Alzheimer disease in the next decade, even if experimental treatments, such as antisense to amyloid precursor protein are successful in early stages.[111–115] For this reason, we need to focus on delaying disease processes and improving care for persons with end-stage dementia.

Physical Restraints: A Medieval Torture Still Practiced in Hospitals and Some Nursing Homes

In 1788, King George III developed a bout of psychotic behavior including violence toward others. This may have been due to porphyria. His treatment consisted of placing him in a bondage chair and physically restraining him. When I first became a medical director of a nursing home in St. Louis 25 years ago, 52% of the nursing home residents were physically restrained. Over the next 5 years, the staff and I reduced medical restraints to 0%. Despite studies showing that physical restraints do more harm than good, they are still used in hospitals and to a lesser extent in nursing homes.[116–119] Patients who are restrained in hospitals are more likely to have pressure ulcers and be weak and fall when they return to the nursing home. In the 21st century with the exception of enabling devices there is no place for restraints or cage beds (which the United Nations designates as torture devices).

Treatment of behavioral and psychological signs of dementia (BPSD) will remain a challenge over the next decade.[120] Antipsychotics