SENIOR HOUSING:

THE IMPLICATIONS OF A BURGEONING SENIOR POPULATION
DOES THAT TRANSLATE TO INCREMENTAL DEMAND?

FOR

JOHNS HOPKINS UNIVERSITY — CAREY SCHOOL OF BUSINESS
THE EDWARD ST. JOHN DEPARTMENT OF REAL ESTATE

PRACTICUM

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Table of Contents:

Introduction................................................................. 3
Purpose........................................................................... 6
Method ........................................................................... 7
Demographic Trends...................................................... 8
Overview of the Industry ............................................. 13
  Assisted Living: .......................................................... 16
  Assisted Living, Dementia Care (DC): ......................... 17
  Independent Living (IL):............................................. 17
  Nursing Facility: .......................................................... 17
  Continuing Care Retirement Community (CCRC): ......... 17
Profile of the Product and the User: .......................... 18
  Community Type and Unit Mix.................................. 18
A Physical Profile of Senior Housing............................. 22
Research Reviewed...................................................... 23
  A Note on Underwriting and Investing in Senior Living and Long Term Care Properties: Separating the Business from the Real Estate\ ..................................................... 24
  Survival of the Fittest: Competition, consolidation and Growth in the Assisted Living Industry\ ......................................................................................................................... 24
  Trade Area Demand Analysis for Private Pay Assisted Living Facilities\ ......................... 27
  Housing America’s Seniors\ ........................................ 27
  Elderly Housing Consumption: Historical Patterns and Projected Trends............... 28
The Fundamentals of Running a Senior Living Home ................................. 30
A Highlight of Basic Principals ........................................ 33
Conclusion ..................................................................... 40
References:................................................................... 41
Introduction

The “Graying of America” and the impeding surge of the senior population is a topic of great relevance because of the implication that there will be major shifts in the demand for certain resources. For real estate professionals, one could hypothesize that changing demographics will result in a burgeoning demand for senior housing, thereby creating an abundance of opportunities for senior housing developers and operators. According to projections, the population 65 and over will increase from 35 million in 2000 to 40 million in 2010 (a 15% increase), then to 55 million in 2020 (a 36% increase for that decade). The 85 plus population is projected to increase from 4.2 million in 2000 to 5.7 million in 2010 (a 36% increase) and then to 6.6 million in 2020 (a 15% increase for that decade). Much of this growth is attributed to the "baby boom" generation, which will enter their senior years between 2010 and 2030. The following charts illustrate the magnitude of the population trends on the horizon.

1 Administration on Aging – A Profile of Older Americans: 2008 http://www.aoa.gov/AoARoot/Aging_Statistics/Profile/2008/2.aspx
2 Ibid
While the increasing burden on the national benefit programs of Social Security and Medicare tend to steal the spotlight in terms of national concern, the issue of providing for the long term housing and care needs of tomorrow's elderly population is a significant issue. People are living longer and the projection for the number of older people living with Alzheimer’s and other debilitating conditions is expected to rise sharply. It is expected that over 10 million Baby Boomers (approximately 1 out of every 8) develop Alzheimer’s related dementia at some point after the age of 65. With age comes certain limitations and conditions that can affect where a person lives, how they live, and who they live with. Preparing for the future is vital in terms of the overall welfare of society.

The modern senior housing industry evolved in response to the growth in demand for alternative housing and long term care options for American seniors. The growth in this demand is primarily due to the increase in the senior population, as well as a combination of sociological factors that have decreased the likelihood of seniors moving in with adult children as a means of receiving needed care and support. Traditionally, long term elderly care was mostly a burden carried out by way of family, charitable organizations and government sponsored institutions. Currently, a private pay market for senior housing exists to address the intermediary stage of life between independent living and around the clock skilled nursing.

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Senior housing and care can be both need based and choice based. Need based demand comes seniors with disabilities, or those who are no longer capable of living independently; choice based demand comes from independent seniors who consider senior housing an attractive alternative to traditional housing. Whether the demand is need based or choice based, the multi segmented senior housing industry responds to these various needs with a variety products and services. Overall, the senior housing industry has grown significantly over the past three decades and represents a large scale real estate sector estimated to have a capitalized market value of around $180 billion\(^4\). Given the future demographics shifts in the U.S., this paper will examine the future implications for the senior housing market.

**Purpose**

The purpose of this paper is to look at the trends affecting the current senior housing industry, the fundamentals of the business, and what demographics may say about the future of it. This paper will also look at the dynamics of senior housing consumption and discuss some of the implications that would be relevant to senior housing investors or entrepreneurs. The earlier part of this paper is devoted to establishing a general overview of the senior housing and the demographic trends affecting it. The latter part will look at some of the research that has been done on the subject of seniors housing and discuss some of the fundamentals of the business. This paper will conclude by highlighting some basic principals that can be drawn from the information covered.

**Method**

The method used to obtain information reported in this paper was research. There are a number of credible organizations dedicated to the field of the seniors housing research including the American Association of Homes and Services for the Aging (AAHSA), American Seniors Housing Association (ASHA), Assisted Living Federation of America (ALFA), National Center for Assisted Living (NCAL), and National Investment Center for the Seniors Housing and Care Industry (NIC). Both independently and collaboratively these organizations have assembled a bank of data and have published a variety of studies relied on by industry professionals and academia. Other research studied includes real estate trade journals, business magazines and U.S. Census reports. Generally speaking, the organizations that specialize in research and reporting on the senior housing and care industry provide for such research at a cost to users. This is due to the fact that this information is costly to obtain – by way of conducting comprehensive surveys across a broad and diverse group of entities that don’t report public information. Generally speaking, the industry is transitioning from mainly a mom and pop business to a concentrated group of large scale institutional owners. Because the industry is still heavily weighted with smaller, privately held owner/operators, it is relatively more difficult and costly to obtain information that speaks to the senior housing market in the aggregate.
Demographic Trends & Demand

On a macro level, the primary factors that drive demand for specialized seniors’ housing and supportive services are the size of the senior population, marital status, living arrangements and geographic distribution⁵.

Size of the Senior Population

According to U.S. Census Bureau projections, the absolute total senior population is the greatest it has ever been and the most substantial increase in the senior population will occur during the 2010 to 2030 period, after the first Baby Boomers turn 65 in 2011.⁶ The 65 plus cohort in 2030 is expected to be twice as large as in 2000, growing from 35 million to 70 million and representing nearly 20 percent of the U.S. population at the latter date.⁷ The age distribution among seniors is itself aging, with life expectancy increasing. Persons reaching the age of 65 have an average life expectancy of an additional 19 years (20.3 years for females and 17.4 years for males).⁸ There are more seniors in the 75-84 and 85 plus age group than at any point in history. The 85 plus population is projected to increase from 4.2 million in 2000 to 5.7 million in 2010 (a 36% increase) and then to 6.6 million in 2020 (a 15% increase).⁹ It is projected that the there will be 9.6 million people over the age of 85 by

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⁵ Schuetz, Jenny, “Affordable Assisted Living: Surveying the Possibilities”, Joint Center for Housing Studies, Harvard University, 2003
⁷ Ibid
⁸ Administration on Aging – A Profile of Older Americans: 2008
⁹ Ibid
by 2030, up 73% from where it is today.\textsuperscript{10} The oldest old population is projected to grow rapidly after 2030, when Baby Boomers begin to move into this age group.

\textit{Marital Status \& Living Arrangement}

In addition to age, demand for senior housing is heavily influenced by marital status and living arrangements. As will be further discussed in this paper, most of the seniors who move into assisted living are not married and live alone. Older men are much more likely to be married than older women – 73 percent of men versus 42 percent of women.\textsuperscript{11} In 2000, about 55 percent of older, non-institutionalized persons lived with their spouse, while nearly one-third lived alone. Among senior women, 57 percent were single (widowed, divorced or never married) and 40 percent lived alone\textsuperscript{12}. The proportion living alone increases with age for both genders. The market for senior housing with supportive services is mostly geared towards single women, living alone, but there may be an increase in future demand from single men and couples. Because of higher weight of demand from single women, senior housing communities need to respond in specialized ways that cater to the needs of single women such as a heightened security or hair dressing services (as examples).

\textbf{Living arrangements of older adults in the U.S. (2003)}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{living_arrangements.png}
\caption{Living arrangements of older adults in the U.S. (2003)}
\end{figure}

\textsuperscript{10} Ibid
\textsuperscript{11} Ibid
\textsuperscript{12} Ibid
Geographic Distribution

The aging of the population will not be uniform throughout the country. Approximately one half of all persons age 65 and older (about 12.5 million people) lived in nine states: California, Florida, New York, Texas, Pennsylvania, Ohio, Illinois, Michigan and New Jersey. In nine states, (Florida, Pennsylvania, West Virginia, Iowa, North Dakota, Rhode Island, Maine, South Dakota and Arkansas), the senior population constituted 14 percent or more of the total state population, whereas nationally, the senior population represent about 12 percent of the population. Therefore, the distribution of elderly across densely populated areas is roughly similar to the distribution of population overall whereby 50 percent lived in suburbs, 27 percent in central cities and 23 percent in non metropolitan areas.\textsuperscript{13}

\textsuperscript{13} Administration on Aging 2001
Geographic Population Distribution for those 85+

Source: Administration on Aging

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Source: Administration on Aging
It is important to note that there are a number of secondary factors, in addition to basic demographics, which play into the demand for specialized housing and support services. By and large, the need and/or desire to enter senior housing onsets when a person requires additional care or support services that can no longer be provided for in a traditional household. Of the approximately 35 million senior citizens living in the U.S., 18.1 million (52%) had a disability. And, of this number, 12.9 million (37%) had a severe disability and 5.5 million (15.6%) needed assistance with daily living.\textsuperscript{14} There is strong evidence showing that the chance of becoming disabled increases with age and continues to get worse in advanced years. For people 80 and older, the disability rate was 71 percent, with 56 percent having a severe disability.\textsuperscript{15}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Percent_of_America_s_Senior_Citizens_Disabled_2005.png}
\caption{Percent of America’s Senior Citizens Disabled 2005 (Age Groups)}
\end{figure}

\textit{Source: Seniorjournal.com}

\textsuperscript{14} Senior Jounal.com - More Than Half U.S. Senior Citizens have a Disability; Over 70 Percent of Those over 80 http://seniorjournal.com/NEWS/SeniorStats/2008/20081218-MoreThanHalf.htm
\textsuperscript{15} Ibid
Two common measures of senior health status are the ability to perform activities of daily living (ADL’s), such as bathing, dressing and eating, and instrumental activities of daily living (IADL’s), such as laundry, shopping and money management. The need for assistance dramatically increases with age.\textsuperscript{16} In 2000, about 4.5 percent of seniors lived in nursing homes, while 18.5 percent of those age 85 and over, lived in nursing homes. The number of seniors receiving assistance with activities of daily living is projected to increase from 1.4 million in 2000 to 2.7 million in 2030.\textsuperscript{17}

It is also important to note that the potential demand for private pay assisted living relies heavily on ability to pay. Therefore, future projections about demand need to be segmented into two categories: seniors with sufficient income and wealth to afford private pay assisted living, and seniors who will rely on public assistance. The affordability factor can have a significant impact on the quantity of potential candidates for various forms of senior housing.

**Overview of the Industry**

According to the National Investment Center for the Seniors Housing and Care Industry (NIC) there was a total supply of 46,131 seniors housing properties with supportive services in the U.S. with a capacity to hold more than 3.4 million seniors as of 1999-2000. Of these 46,131 properties (3,411,891 beds), 50% were assisted living communities, 34% were nursing facilities, 7% were independent living communities, 4% were continuing care retirement communities (CCRCs), and 5% offered a combination of property types. Seniors apartments (that is, seniors housing properties without supportive services) were estimated at 11,726 properties and 821,173 units. The 2004 Update to the

\textsuperscript{16} Schuetz, “Affordable Assisted Living: Surveying the Possibilities,” 2003 p.2
\textsuperscript{17} Ibid.
Size, Scope, and Performance of the Seniors Housing & Care Industry estimated 33,000 market rate professionally managed properties (independent living, assisted living, nursing homes, and CCRCs) with a capacity to hold 3,675,000 seniors.\(^\text{18}\)

According to a report published by the Millennial Housing Commission\(^\text{19}\), the proportion and total number of senior households (65+), living in Supportive Senior Housing Units in 1999 are broken down as follows:

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<th># of Units</th>
<th>% of People</th>
<th># of People</th>
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<td>644,852</td>
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<td>AL</td>
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<td>1.90%</td>
<td>644,415</td>
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<tr>
<td>Skilled Nursing</td>
<td>1,539,000</td>
<td>5.90%</td>
<td>1,539,000</td>
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<tr>
<td>Total</td>
<td>2,691,266</td>
<td>10.20%</td>
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Looking back at the evolution of the modern senior housing, the late 1990’s marked the most significant period of growth for the industry. Convinced that an aging population would be in high demand for assisted living, Wall Street generously opened up capital to fund a massive building spree. While some of the new developments offered independent

\(^{18}\)National Investment Center For The Seniors Housing & Care Industries  
http://www.nic.org/overview/faqs.asp  
^{19} Commission on Affordable Housing and Health Facility – Needs for Seniors in the 21st Century –  
http://govinfo.library.unt.edu/seniorscommission/pages_FINAL_REPORT/keydemo.html
living for self sufficient seniors, most of the product that came on line during that period was in the form of assisted living. What actually came out of this speculative building spree was an excessive supply of assisted living. Occupancy rates collapsed, hitting a low of 83 percent in 2002. The wave of vacancies forced the industry to go through a painful adjustment. Following 2001, new construction stayed below 30,000 units, sharply below the 65,000 units built in 1999. With new demand absorbing the excess supply, occupancy rates for assisted living climbed back to 87 percent by January 2005.\textsuperscript{20} History shows that market demand is difficult to quantify based solely on demographic projections.

It should be noted that there is a private pay bias in the senior housing industry. To date, much of the specialized senior housing and care market has been marketed to the middle class and well to do. This is due to the fact that the majority of the goods and services offered in senior housing are not reimbursable through 3\textsuperscript{rd} party insurance or Medicare, and that most senior housing operators are for profit businesses that want limited exposure to third party intervention. While some healthcare services are covered through medical insurance, modern senior housing properties operate more like hotels where profits are generated off of the real estate and non-healthcare related services, such as meals and support services. For private pay assisted living, roughly 35 percent of fees go towards housing, with the remaining 65 percent going towards payment for services, including meals.\textsuperscript{21}

\textsuperscript{20} Stan Luxenberg, “Is Senior Housing the Next Comeback Kid?” \textit{National Real Estate Investor}, February 1, 2005
\textsuperscript{21} Schuetz, Jenny, “Affordable Assisted Living: Surveying the Possibilities”, Joint Center for Housing Studies, Harvard University, 2003
2006 Overview of Assisted Living provides a fairly comprehensive set of statistical data on the assisted living business, such as property and residential information, occupancy rates, service and payment plans. The report was a collaborative research project of American Association of Homes and Services for the Aging (AAHSA), American Seniors Housing Association (ASHA), Assisted Living Federation of America (ALFA), National Center for Assisted Living (NCAL), and National Investment Center for the Seniors Housing and Care Industry (NIC); it is one of the most significant research studies undertaken on assisted living. The data summarized in the report was collected from 1,175 assisted living communities located throughout the United States in 2005 and 2006. This report is referred to in other sections of this paper. In this section we refer to it to explain the different categories of assisted living and how they are defined.

The report uses the following definitions and nomenclature to define the five major categories, which are: 1) Assisted living (AL); 2) Assisted Living, Dementia Care (AL/DC), 3) Independent Living (AL/IL); 4) Nursing Facilities (AL/Nursing); and Continuing Care Retirement Communities (CCRC’s).

**Assisted Living:** Assisted living is the long-term care option that combines housing, supportive services, personalized assistance with activities of daily living, and health care, and is licensed, certified, or registered by states. Seniors who choose assisted living receive assistance customized to their needs, and benefits that enrich their lives and promote independence and well being. Staff is available to meet both scheduled and

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22 2006 Overview of Assisted Living- A collaborative research project of AAHSA, ASHA, ALFA, NCAL & NIC, National Investment Center for the Seniors Housing & Care Industries. Copyright 2006
unscheduled needs. Communities typically offer dining, social and wellness activities. Assisted Living units may be offered in freestanding communities or in a separate wing or building in a long-term care campus with other types of care.

**Assisted Living, Dementia Care (DC):** State licensed assisted living residences may also care for individuals with Alzheimer’s or other dementia, often housed in a special wing with additional security, cuing devices, and other special services.

**Independent Living (IL):** Independent Living Units are designed for Seniors who pay for some congregate services (e.g., housekeeping, meals) as part of the monthly fee or rental rate, and who require little, if any, assistance with activities of daily living. Residents of independent living units may have some home health care-type services provided to them by in-house staff or an outside agency.

**Nursing Facility:** Nursing Facilities are licensed to provide 24-hour nursing care; custodial care; rehabilitative care, such as physical, occupational or speech therapy; or specialized care for Alzheimer’s patients. Additionally, nursing facilities offer residents planned social, recreational, and spiritual activities.

**Continuing Care Retirement Community (CCRC):** Through long-term care contracts, CCRC’s provide for housing, services, and nursing care, usually all in one location. CCRC’s are governed by state regulations in 38 states, and typically are classified as an insurance model and governed at the state department of insurance or another similar
entity. Each of the components making up a retirement community may also be subject to separate oversight; the housing units could be regulated at the local level, the assisted living regulated by the state, and the nursing home part of the community governed by state and federal regulations.

Profile of the Product and the User:

To describe a general profile of both senior housing and the consumer, the 2006 Overview of Assisted Living is summarized below:23

Community Type and Unit Mix -- 32% of responding communities are freestanding assisted living; 24%, assisted living and dementia; 17%, continuing care retirement communities; 13%, combination assisted and independent living; 8%, combination assisted living and nursing facility; and 5%, freestanding dementia. Freestanding Assisted Living represent one third of the market in terms of properties, but only one quarter in terms of operating units. Assisted Living/Dementia Care represent only one quarter of properties but one third of the operating units. Free standing Dementia Care and Assisted Living with Nursing have fewer units per community on average than other community types. It is important to note that “units” and “beds” were not used interchangeably. The actual number of beds in a community can vary with resident demand. For example, many units can be converted from single occupancy to double occupancy when a couple replaces a former single occupancy occupant. Facilities will frequently have more “licensed” beds than “operational” beds to address the needs of residents who want to live with a spouse or other person. These numbers show that

23 Ibid
approximately one third of the Assisted Living units provide for Alzheimer’s and Dementia care.\textsuperscript{24} With the future Alzheimer’s rate expected to double, from about 5 million today to over 10 million in the next three decades (as Baby Boomers enter into the Senior Age cohort), it appears that Assisted Living with dementia care services will stand out as a growth oriented sector.

Assisted Living communities typically range in size between 37 and 87 beds. Communities with both Assisted Living and Dementia Care typically have the greatest number of assisted living beds (93 on average) compared to an average of 66 for AD or DC independently. Assisted Living with Nursing properties had an average of 40 beds.

By and large, most Assisted Living communities are single occupancy units. Only 10.8\% of units were considered semi private, or having double occupancy. Double occupancy is most commonly found in Dementia Care properties.

**Geographic Distribution of Units/Beds** – 46.6\% of responding communities are in suburban areas. The rest of the communities are evenly distributed between urban (25.4\%) and rural (25.9\%). While urban and rural communities are evenly distributed, 60\% more units are in urban areas than in rural areas.\textsuperscript{25}

**Property Characteristics**—The average number of licensed beds in all AL communities is 68, and the average percent of those licensed beds operating is 91\%. Fifty one percent of all units are characterized as studios, alcoves, or efficiencies, followed by 39\% as one-bedroom apartments. Only 6\% of all units are two-bedroom, and less than 1 percent are three bedrooms. While most assisted living communities reflect this segmentation, two

\textsuperscript{24} Ibid., 6-9
\textsuperscript{25} Ibid., 10-12
types have some notable differences: 1) Freestanding Dementia Care Communities have more studio apartments (77%); and Freestanding AL communities have more one-bedroom apartments on average (48%). This shows that Dementia Care properties have smaller units and therefore more units per property than Assisted Living properties with a larger degree of independent living. The majority of operating units in Freestanding AL & DC communities opened between 1995 and 2000. Almost 60% of all communities opened between 1995 and 2001, with 1998 and 1999 counting for the greatest number of AL community openings (more than 25% of all properties reported). Since 2001, there appears to be a relative slow down in new community opening. Ownership status shows that 51.8% of operating units are for profit/private; 17.7% of for profit-publicly held; and 32.3% not for profit. Ownership statistics shown above support the previous reference in this paper to a private pay bias.

**Primary Payment Plans** -- 51% of responding communities offer tiered pricing for bundled services and 22% offer one all-inclusive rate. For all reported communities and unit types, Freestanding AL communities had the lowest monthly unit rates (medians $1,875 to $2,350 per resident), while Freestanding DC typically have the highest (medians between $3,700 and $4,225 per resident)-with the exception of Alzheimer’s care units in which Freestanding AL communities were on par (median of $4000) with CCRC’s, Freestanding DC, and AL/Nursing rates.

**Occupancy** -- Median occupancy in freestanding assisted living is 95 percent.

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26 Ibid., 13-18
27 Ibid., 19-22
28 Ibid., 23-24
Resident Demographics and ADL Needs -- The median age of female residents is 87, the median age of males is 85. Residents’ median annual income is $15,668. Average ADLs: 2. Of the five ADL’s considered (bathing, dressing, eating, toileting, and transferring), residents need the most help with bathing (68%) and the least assistance for transferring and eating (25% and 22% respectively). The average age at move in of an assisted living resident is just over 83 years old. These figures show that the demand for Assisted Living comes primarily from the older sector of the senior cohort, with ADL issues.29

Services -- 97% of freestanding assisted living communities provide three meals per day in basic rates; and 40% provide assistance with ADLs in basic rates, while 60% provide assistance at no additional charge.30

Annual Resident Turnover--Freestanding Dementia Care communities have the highest average turnover at 46%, while CCRC’s have the lowest average turnover at 32%. The average length of stay for all assisted living residents is 27 months (the median is 20 months). 31

Resident Relocation--On average, assisted living residents relocate from within 10 miles of their previous residence more than 50% of the time. CCRC’s typically see residents move in from a much closer radius (48.7% relocate from within 5 miles. Approximately 60% of residents move to an assisted living community from a private home or apartment. On average, 33.5% of assisted living residents discharge to a nursing home,

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29 Ibid., 25-35
30 Ibid., 40-42
31 Ibid., 31
30.2% pass away while an AL resident, and the rest leave for a variety of other reasons. Only 5% of residents move to a Nursing Home/Other Location due to spend down of assets. Nearly half (46%) of residents in Combination AL/Nursing and CCRC’s tend to discharge to a nursing home for health reasons. Freestanding AL/DC communities report the greatest percentage of residents that die while in the community (48.9%).

**Proximity to Closest Relative** -- Almost 60% of residents are within 10 miles of their closest relative, and almost 80% are within 25 miles.

**Staffing** -- The median number of full-time-equivalent employees at responding communities is 25.

**A Physical Profile of Senior Housing**

From a physical standpoint the following charts describe trends in median size (square feet of seniors housing properties, trends in proportion of gross space allocated to common and rented areas and size of independent living units.

**Trends in Median Size (Square Feet) of Seniors Housing Properties**

<table>
<thead>
<tr>
<th>Year</th>
<th>Independent Living</th>
<th>Assisted Living</th>
<th>CCRC's</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>38279</td>
<td>113021</td>
<td>151300</td>
</tr>
<tr>
<td>1999</td>
<td>38864</td>
<td>103900</td>
<td>151890</td>
</tr>
<tr>
<td>2000</td>
<td>42562</td>
<td>95000</td>
<td>140000</td>
</tr>
<tr>
<td>2001</td>
<td>40000</td>
<td>92300</td>
<td>148069</td>
</tr>
<tr>
<td>2002</td>
<td>39924</td>
<td>91880</td>
<td>136912</td>
</tr>
<tr>
<td>2003</td>
<td>38123</td>
<td>86000</td>
<td>128358</td>
</tr>
</tbody>
</table>

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32 Ibid., 29
33 Ibid., 28
34 Ibid., 43-46
Trends in Proportion of Gross Space Allocated to Common & Rented Areas in Seniors Housing Properties

<table>
<thead>
<tr>
<th>Year</th>
<th>Independent Living</th>
<th>Assisted Living</th>
<th>CCRC’s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Common Area</td>
<td>Net Rentable</td>
<td>Common Area</td>
</tr>
<tr>
<td>1998</td>
<td>25.3%</td>
<td>74.7%</td>
<td>40.0%</td>
</tr>
<tr>
<td>1999</td>
<td>28.5%</td>
<td>71.5%</td>
<td>42.8%</td>
</tr>
<tr>
<td>2000</td>
<td>30.2%</td>
<td>69.8%</td>
<td>39.6%</td>
</tr>
<tr>
<td>2001</td>
<td>31.4%</td>
<td>68.6%</td>
<td>40.0%</td>
</tr>
<tr>
<td>2002</td>
<td>30.3%</td>
<td>69.7%</td>
<td>41.2%</td>
</tr>
<tr>
<td>2003</td>
<td>30.7%</td>
<td>69.3%</td>
<td>33.0%</td>
</tr>
</tbody>
</table>

As the above charts show, senior housing communities have high allocations to non rentable, common areas. These common areas are necessary for operational uses and include commercial kitchens, laundry facilities, medical offices and staff offices; they are also needed to create the amenity filled environments that make such communities marketable to residents. These common areas equate to fixed costs because they are costs that can not be scaled in proportion to resident occupancy and usage. The general implication is that senior housing properties have proportionately higher fixed costs than properties with a larger ratio of net rentable to common area space, and thereby the potential for greater cash flow volatility and risk associated with vacancy.

Research Reviewed

In 1999, The American Real Estate Society, in cooperation with and assisted by the National Investment Center for the Seniors Housing and Care industries sponsored a special addition of the Journal of Real Estate Portfolio Management, dedicated to the
topic of senior housing. The articles published in this journal covered a wide array of subjects related to seniors housing and point out some points to mention.

“A Note on Underwriting and Investing in Senior Living and Long Term Care Properties: Separating the Business from the Real Estate” discusses the question about whether seniors housing and long term care is a business, real estate or both. Because real estate valuation is different from business valuation, the author claims that a lender would need to make a correct allocation between real estate and healthcare services business in order to arrive at a correct valuation of a given senior housing asset. The article concludes by claiming that as a result of the method described in it, lenders and investors in senior living and long term care have a precise methodology to allocate the proper percentage to the real estate and business components, and thus can improve the estimates of value used in underwriting. Two points to note in this article are that senior housing and long term care has both business and real estate risk inherent to it and that the business versus real estate allocation may change over time as operating expense ratios change.

“Survival of the Fittest: Competition, consolidation and Growth in the Assisted Living Industry” reviews existing static demand models that were commonly used in seniors housing industry research to estimate the demand for assisted living facilities of that time, and advance a new dynamic model for estimating the effective demand for assisted living. In the article the authors define assisted living using four broad categories.

36 Volume 5, Number 3, 1999 of the Journal of Real Estate Portfolio Management
38 Jerry L. Doctrow, Glenn R. Mueller & Lauren M Craig, 1999
Category A includes senior apartments; Category B, congregate care facilities; Category C, assisted living facilities; and Category D, skilled nursing facilities. CCRC’s span categories B through D by offering independent living units, assisted living units and skilled nursing beds on a single campus. Multi-level communities combine two categories, but do not offer a full continuum of care. The article describes the potential demand for assisted living units is driven by the three factors: 1) size of the senior population; 2) ability to pay; and 3) level of disability since residents move to ALF’s because they need some assistance with ADL (Activities of Daily Living) care. Supply of Assisted Living Units was estimated using Legg Mason Wood Walker as the source. The supply and demand model was then reconciled to come up with a net effective demand. The authors then expand on this supply and demand model by claiming that two things are missing from the demand analysis. First, a demand reduction estimate of how many seniors who may potentially demand assisted living will create actual effective demand by moving to an ALF. Second, an estimate of how many assisted living units become vacant every year through resident turnover.

Two important ideas that can be drawn from this article are 1) high turnover for assisted living facilities (45% was estimated in the article) and 2) the lower percentage of actual demand compared to the total potential demand of age, income and disability qualified seniors who are moving annually (7-10%). These two ideas imply that growth in effective demand is only a small fraction of the expected growth in potential demand and that with a high rate of turnover, the gap between supply and demand is even less significant. To put this concept into very simple terms, an annual turnover rate of 45% implies an annual supply increase of 45%. The following exhibit was taken from the
article to show how the relationship between total annual demand and net effective demand. In this particular example, data revealed an overall occupancy rate of 93% for assisted living properties at stabilization; and 262 units coming on line in response to 45% turnover\(^{39}\). What this shows is that in a relatively stable market, the bulk of demand growth is absorbed into units that turnover.

**Estimates of Effective Demand for New Assisted Living Units**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmet Potential Demand</td>
<td>3407</td>
<td>3407</td>
<td>3407</td>
<td>3407</td>
</tr>
<tr>
<td>Estimated Annual Movers</td>
<td>7%</td>
<td>8%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Estimated Annual Effective Household Demand</td>
<td>238</td>
<td>273</td>
<td>307</td>
<td>341</td>
</tr>
<tr>
<td>Movers From Other Assisted Living Units</td>
<td>24</td>
<td>27</td>
<td>31</td>
<td>34</td>
</tr>
<tr>
<td>Movers From Skilled Nursing</td>
<td>19</td>
<td>22</td>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td>Estimated Total Annual Effective Demand</td>
<td>281</td>
<td>322</td>
<td>363</td>
<td>402</td>
</tr>
<tr>
<td>Percent Annual Resident Turnover</td>
<td>45%</td>
<td>45%</td>
<td>45%</td>
<td>45%</td>
</tr>
<tr>
<td>Existing Units to be Filled Annually</td>
<td>262</td>
<td>262</td>
<td>262</td>
<td>262</td>
</tr>
<tr>
<td>Net Effective Demand for New Units</td>
<td>19</td>
<td>60</td>
<td>101</td>
<td>140</td>
</tr>
<tr>
<td>Net Effective Demand w/o ALF &amp; SNF</td>
<td>-24</td>
<td>11</td>
<td>45</td>
<td>79</td>
</tr>
</tbody>
</table>

An important point to note in the process of estimating demand is that demand is really a based on a dual need for both housing and support services. Therefore, occupancy does not necessarily imply that demand has been served, or that the market is in balance. It is conceivable that occupancy is stable, but demand for services is not being met. It is also conceivable that demand for support services can be satisfied in alternative ways, such as in home care, thereby reducing the overall effective demand for the combined housing

\(^{39}\) Ibid., 231
and services model. Market segmentation for both housing and service needs to be accounted for in order to truly forecast effective demand.

In “Trade Area Demand Analysis for Private Pay Assisted Living Facilities” 40, Mueller and Tessier attempt to improve on Assisted Living Facility demand feasibility models by providing a statistical analysis of residents in four established ALF’s in order to determine where residents came from and what their demographics are, compared to surrounding community demographics. Key findings of this research indicated that an average of 70% of the residents and 82% of the adult children of residents came from within a fifteen mile radius of the four facilities studied, and 80% of the residents and 95% of the adult children of the residents came from within a thirty mile radius of the four facilities studied, confirming that the market for ALF’s is very local in nature.

According to a report published by the Joint Center for Housing Studies of Harvard University – “Housing America’s Seniors” 41 residents of assisted living tend to be older (i.e., with a household member over the age of 85) and or have no children living nearby. The report indicates that somewhat surprisingly, difficulties with activities of daily living or the instrumental activities of daily living have little relationship to the selection of assisted communities. Some of the other key discoveries in this report are:42

- Households lacking a driver or having difficulties climbing stairs are more likely to choose an assisted living arrangement

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41 Joint Center for Housing Studies of Harvard University, Housing America’s Seniors, Copyright 2000.
42 Ibid.
- There appears to be some demand from seniors who do not yet have difficulties with daily living and that this demand may be driven by the: expectation of future disability; the absence of a spouse; the inability to drive; the desire to arrange for long term care while still able to do it for oneself; and/or the desire to spend less time on household tasks.

- Assisted living communities are more commonly found in metropolitan areas and in the West North Central, South Atlantic and Mountain States.

- Residences in assisted living communities are modest in size, with 80 percent of the units having three or fewer rooms.

- Assisted living communities offer primarily rental units (about 80 percent), with only 8 percent owner occupied and the balance in the “other” category.

Elderly Housing Consumption: Historical Patterns and Projected Trends, attempts to understand some of the challenges that changing demographics will have on the housing market and what may be the implications for housing policy. The study looks at two key issues in the elderly housing consumption research: (1) how the housing consumption of the elderly has changed over time, and (2) what the potential consumption patterns could look like in the future.  

As presented in the report, the rate of elderly living in assisted housing has been relatively stable over the past decade. The report emphasizes that the increasing elderly

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44 Ibid., 1
population, however, means that, even if the rate of elderly living in assisted housing remains constant or even relatively stable, there will be a dramatic increase in the number of assisted housing units required due to the burgeoning elderly population. 

The report discusses how segments of the elderly population may be able to extend the time during which they can live independently or with limited or short-term assistance. The needs of this segment of the elderly population could be met by mechanisms as simple as programs that assist those seeking to remain independent and living in their own home. The study claims that aging in place is feasible only for those with the financial wherewithal to fund the necessary renovations (e.g., bathroom and kitchen upgrades). Those unable to independently afford such renovations from day-to-day accounts may need access to innovative financial instruments. The provision of such instruments could provide societal benefits in that the elderly would not find it necessary to enter into expensive, long-term care facilities (that may ultimately need to be taxpayer funded) as long as possible. 

Based on projections developed during this study’s research, it is estimated that the number of senior households headed by those 85 or older will increase by approximately 88 percent from 2.9 million households in 2005 to 5.4 million households by 2030. It is important to note that this study develops a method for measuring senior household trends, as opposed to senior population trends, due to the fact that household units are substituted and are in some cases occupied by more than one person. To put the growth in senior households into context, the American Housing Study (AHS) has relatively

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45 Ibid., 17
46 Ibid., 26-27
47 Ibid., i
consistently been adding a similar number of households every two-year period for the entire nation. The studies’ projected increase is for only the senior age cohort, and may well be a conservative projection if life expectancies continue to improve. The study claims that careful consideration is warranted on the amount and types of services consumed by older households (i.e., householders in excess of 85 years) since they may consume more services per capita than other age categories.  

The Fundamentals of Running a Senior Living Home

Forbes Magazine published an article in March of 2007, titled “The Fundamentals of Running a Senior Living Home.” The basic premise of the article touches on the same subject discussed in this paper, which is that American senior citizens will account for about 20 percent of the nation’s total population by 2030, up from just 12.4% in 2000; and by 2050, the total number of Americans aged 85 and over could quintuple to 21 million. Given this demographic picture, the article discusses the huge opportunity for entrepreneurs and investors, as well as the fundamentals of the seniors housing business. The article describes the seniors housing industry as “already swelling” and made up of a large spectrum of product types ranging from retirement housing with minimal to no medical support to full blown nursing homes with around the clock care. Consistent with the information already presented in this paper, the article estimates that there are currently an estimated 38,000 assisted living centers, 17,000 nursing homes, 2,200 continuing care retirement communities, and hundreds of other independent living residences geared towards seniors.

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48 Ibid., 26
50 Ibid
The article summarizes the basic fundamentals of the senior housing business, which are categorized into eight groups: Legal Structure, External Threats, Best Role Model, Must Have Technology, Important Performance Metrics, Start up Costs, Permits and Sourcing Supply. As it relates to this paper, the External Threats and Important Performance Metrics sections offer some meaningful information about what investors should consider from the perspective of understanding the components of revenues, expenses and risk.  

Looking at threats, the article states that the major threat is the tsunami of aging baby boomers because the cohort will not only be greater in number, but they will also live longer, place great value on independence and crave a broader array of services; the ability to cater to such demands will require both new and existing operators to meet future demands as opposed to relying on yesterday’s models to work. The biggest threat to the industry is fairly simple in that the future customers may exist, but their willingness to buy in is uncertain. That being said, the investor needs to look beyond the dynamics of today’s market and consider what is being developed to respond to the demands of what may be a different type of consumer.

Notwithstanding the future threats, it is still important to look at performance metrics. According to the Forbes article, the three most significant performance metrics for senior housing are cash flow, occupancy and staff turnover. Cash flow is paramount. Revenues per unit (often measured per bed) must exceed operating expenses per unit, which include staff salaries, marketing costs, food, utilities, insurance, taxes and debt service, or for obvious

51 Ibid
reasons, the business will not survive. According to the article, reasonable annual revenue targets based on median sales per occupied unit are as follows: 52

- Independent Living Communities - $26,333
- Assisted Living Communities (without Alzheimer’s care) - $32,212
- Assisted Living Communities (with Alzheimer’s care) - $49,576
- Continuing Care Retirement Communities - $44,842
- Nursing Homes - $70,912

The above revenue targets again show the positive relationship between level of service and cost. Given that CCRC’s offer a sliding scale of service and care for residents, the average revenue number makes sense because it is a blend of the high cost skilled nursing units and the lower cost independent units.

Given the many negative aspects of senior housing jobs, such as depressing work conditions, unsavory job tasks and sometimes, meager pay, annual staff turnover rates can run in the neighborhood of 85 percent. Given the costs of hiring and training new staff, the investor needs to be careful about accounting for such turnover costs on the expense side of the cash flow model in addition to wages and salaries. 53

Turning to the capital side of the seniors housing business model, the Forbes article claims that new facilities cost between $130,000 and $145,000 per unit (room) in start up costs, or about $11 million for an average sized location with 80 units. Such figures do not account for

52 Ibid
53 Ibid
the all in cost of buying the land, design, furniture and equipment, sales and marketing, but
do offer some insight to the capital requirements that go into building new senior housing
facility from scratch.

From an operating expense side, the Forbes article also describes fixed operating expenses as
high, making it more sensible to spread them out by operating a 70 to 100 unit facility rather
than 20 to 40 unit one. According to the article, the two highest expenses are care giving
staffers and food. For an average 80 unit facility, generating $2.75 million in annual revenue,
such expenses account for about 17 percent and 15 percent of that revenue respectively.
Excessive turnover can drive those percentages even higher. Also for such a facility, one
would generally need to allot 9 percent of revenues to liability insurance, real estate taxes and
utility bills. Approximately 8 percent of revenues go to pay top level administrators,
accountants and lawyers. Security and maintenance account for approximately 7 percent,
followed by marketing efforts at 5 percent, housekeeping and laundry services at 5 percent,
activity directors at 2 percent, and transportation at 1 percent. Summing these figures up, one
would look at a profit margin (before interest, taxes, depreciation and amortization) of about
30 percent.54

A Highlight of Basic Principals

Demographic Assumptions

The large wave of Baby Boomers flowing through the population is aging and will soon
account for the oldest segment of the population distribution. As a whole, the Baby Boomer
cohort represents a massive force, but in terms of sizing up their appetite for specialized
senior housing and support serves, their force is somewhat unpredictable and marginalized.

54 Ibid
Demand is not a function of the senior population over the age of sixty five. Instead demand comes from people in their eighties, living in singer person households. This cohort is further broken down by factors such as income, level of disability, proximity to family members and ability to drive. Currently, only a small fraction of people who fit the profile for senior housing actually enter the market for it. The industry experienced a major correction when it overestimated demand by including people in the age over 65 in the “potential demand” pool.

Precise predictions about the future demand for specialized senior housing are difficult if not impossible to make. There are several reasons for this. Demographics suggest a sharp surge in the number of people in the senior cohort, but they cannot accurately predict the number of people who will actually be in need of specialized long term care, and when they will need it. This is further complicated by the fact that we cannot quantify or project the number of people who will seek specialized long term care by way of in home care services. Generally speaking the demographics suggests that over the next three or four decades, the population of “potential” customers for senior housing will expand, but making precise assumptions about when they will need, or chose, to make a housing change, is difficult to pinpoint.

Need vs. Choice

Seniors housing demand can be a function of both need and choice. In the case of Assisted Living, residents are more likely moving on the basis of need, because of Alzheimer’s Disease, or some other disability that renders a person unable to care for ones self. In the case of CCRC’s, a resident may be basing their choice on a preference. When looking at long term senior housing demand, the “need” and “choice” factors need to be carefully considered. This is because needs and choices may change over time,
causing shifts in demand. Needs may adjust in connection with increasing or decreasing rates of Alzheimer’s affliction, advances in medicine, or the proliferation of in home nursing and support services. Choices may change as the negative stigmas erode and senior housing communities become more and more desirable housing options. Need based demand is not something that can be put off; if a person is mentally or physically incapacitated, that person is forced to seek support services either at home or through senior housing. That being said, their may be a massive amount of latent demand – or a large increase in the number of those who will want senior housing, even if it is not an immediate need for them. It is possible, that we may see a large increase in the number of couples who will want to make provisions for specialized housing in anticipation of future needs.

*Market Dynamics- High Turnover:*

In senior housing markets, one of the more potent dynamics is the flow of market participants in and out of the market place. Occupancy turnover in the senior housing market is relatively high – creating a situation where re-absorption of existing units offsets the need for creating new units. In traditional housing, where residents tend to stay for longer periods of time, increases in new demand tends to require proportionate increases in new supply. Looking towards the future for senior housing markets and the potential for new demand, one also needs to look at what the effects of increasing or decreasing turnover will say about the supply needed to fulfill demand. The following table summarizes annual resident turnover according to American Senior Housing Association.  

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The following chart and graph is used to show the effects of turnover on market supply. The purpose of this is to show that if trends lead to either an increase or decrease in average length of stay for residents in senior housing, there will be significant supply adjustments needed. We used 20.7 months for average length of stay, and 500,000 units
because those numbers correspond to data published on the supply and annual turnover for assisted living properties\textsuperscript{56}.

<table>
<thead>
<tr>
<th>Average Length of Stay (months)</th>
<th>6</th>
<th>12</th>
<th>20.7</th>
<th>24</th>
<th>30</th>
<th>36</th>
<th>42</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Units</td>
<td>500000</td>
<td>500000</td>
<td>500000</td>
<td>500000</td>
<td>500000</td>
<td>500000</td>
<td>500000</td>
<td>500000</td>
</tr>
<tr>
<td>Vacancy Factor</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Units Occupied</td>
<td>475000</td>
<td>475000</td>
<td>475000</td>
<td>475000</td>
<td>475000</td>
<td>475000</td>
<td>475000</td>
<td>475000</td>
</tr>
<tr>
<td>Annual Turnover</td>
<td>200.0%</td>
<td>100.0%</td>
<td>58.0%</td>
<td>50.0%</td>
<td>40.0%</td>
<td>33.3%</td>
<td>28.6%</td>
<td>25.0%</td>
</tr>
<tr>
<td>Units to be Reabsorbed</td>
<td>975000</td>
<td>500000</td>
<td>300362</td>
<td>262500</td>
<td>215000</td>
<td>183333</td>
<td>160714</td>
<td>143750</td>
</tr>
<tr>
<td>Projected # of Units in Demand Over</td>
<td>300000</td>
<td>300000</td>
<td>300000</td>
<td>300000</td>
<td>300000</td>
<td>300000</td>
<td>300000</td>
<td>300000</td>
</tr>
<tr>
<td>Supply/Shortage</td>
<td>675000 (37500)</td>
<td>200000 (85000)</td>
<td>362 (116667)</td>
<td>(39286)</td>
<td>(156250)</td>
<td>(200000)</td>
<td>(400000)</td>
<td>(200000)</td>
</tr>
</tbody>
</table>

Usage

The term usage implies the amount of both housing and services a given resident consumes during their tenancy in a given community. This consumption amount correlates to the income of a given property – higher usage means higher revenues generated and higher

expenses incurred. As previously mentioned in this paper, the allocation of monthly fees that go towards services (about 65%) is generally higher than the allocation of fees that go towards the housing or real estate (about 35%). One implication of this is that, on the property level, occupancy may be less significant. For example, a property with low occupancy and high service consumption may generate more income than a property that has high occupancy but low service consumption. Broadly, the allocation of income attributed to services really complicates the profile of senior housing from a risk perspective.

Another implication of the usage concept is that senior housing markets are not just about supply and demand of real estate, but rather, supply and demand for a bundle of goods and services. A situation could occur where the demand is being met in terms of number of units available, but a shortage exists in the area of not being able to sufficiently provide for services. In senior housing, usage is not uniform throughout a resident’s term in a given facility. Usage can fluctuate based on a resident’s health and degree of disability. Because of the direct relationship between demand and usage, more research needs to be done on the relationship between age, condition and level of usage over the tenure of a typical resident.

**Complex Operations**

Senior housing is both a real estate play, and a hospitality play. The operational side of the business is complex and requires a great deal of skill in managing costs without compromising customer and staff satisfaction. It also requires experience in dealing with healthcare, insurance and regulation. Successful operators excel in marketing and selling their product. Looking towards the future of the industry, successful operators will have to know their customer - a customer who may be quite different from its predecessor, and who
attaches value to a different type of experience. For any investor, being vested with a proven operator is paramount.

**Affordability**

Affordability is going to become one of the biggest challenges. Currently, assisted living is primarily a private pay industry, characterized by relatively large development firms and operators that cater to moderate to high income seniors with a range of housing options. However, increasing attention is being paid to low to moderate income seniors who already face housing affordability challenges. These people may fit the profile of those who would be ideal candidates for assisted living, but who cannot afford it. The alternative for the less fortunate is to enter into a nursing home which is heavily subsidized by the government. Nursing home fees are over twice as high as average assisted living facility fees\(^57\). Therefore, if we take the scenario where someone cannot afford private pay assisted living, and has no alternative but to enter into a government subsidized nursing home, the government will be effectively be paying more than it would otherwise pay for that person to live in assisted living. Looking towards the future, the Federal Government may place a greater emphasis on funding and subsidizing private pay senior housing development and consumption, because it is more efficient, costs less and offers residents a better experience than a nursing home would.

\(^{57}\) Joint Center for Housing Studies of Harvard University, *Housing Americas Seniors*, Harvard University, 2000.
Conclusion

Demographic shifts are clearly on the horizon, and those shifts will undoubtedly affect long term care and senior housing consumption. Evidence suggesting an increase in senior housing demand brought on by broad demographic shifts may have some relevance, but is also inconclusive on many levels. There are a number of variables that could play into either increasing or decreasing demand, which are independent of the actual size of the senior population. Furthermore, the idea that an increase in demand brought on by demographic shifts will help to offset the risk associated with senior housing investment needs to be challenged because it does not accurately account for the usage volatility associated with the high turnover. Additionally, unpredictable supply shifts can occur within a given market.

The growth in the senior housing market has been attributed to a number of factors, other than the size of the senior population. Those include: more women in the workforce; people living longer; a reduced stigma attached to senior housing; and more senior wealth. And while people may need support services, they may not need around the clock skilled nursing. Senior housing bridges the gap between limited independence and total dependency in an older person’s life. Because of this efficiency, combined with societal changes in who cares for the elderly, it is likely that effective demand will increase from where it stands today. If this does in fact occur, the projections for growth in the industry could be very positive. It is still important to realize that senior housing investment is not without risk. It is a product that must be marketed and sold, and there are a number of factors that can cause disruption in the market. It is likely that the future success of the senior housing industry will rely more on positive product innovation, than positive demographic shifts.
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