



## Rethinking Demand: Considering a Life Expectancy Perspective

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## Introduction

Demand analysis for seniors housing is both an art and a science and features both quantitative and qualitative elements. Prior to the COVID-19 pandemic, many seniors housing markets were not in equilibrium, with excess supply pushing occupancy levels to record lows as supply exceeded demand. As a result, there is a sentiment among some analysts that aspects of traditional demand models are overestimating demand. Traditional models often use the age 75-plus (75+) cohorts of either households or populations. However, today's resident is often frailer and older than 75. Instead of looking only at the population aged 75+, this analysis examines different potential demand scenarios based on age groups chosen by life expectancy estimations from the Centers for Disease Control (CDC).

**A note about the impact of COVID-19.** Every year the National Center for Health Statistics (NCHS) at the CDC releases updated life expectancy statistics in its National Vital Statistics Reports. In February of 2021 the NCHS published, for the first time, a report that included life tables based on provisional data through mid-year 2020 to assess the impact of the pandemic. The 2021 provisional report indicates that based on data through the first half of 2020 life expectancy at birth for the total US population dropped by 1 year from 2019. The decline in life expectancy at birth varied by sex and by race. Life expectancy at birth for males (-1.2 years from 2019 to 2020) declined more than females (-0.9 year). Out of the reported race-sex combinations, non-Hispanic Black males had the greatest decline in life expectancy at birth from 2019 to 2020 of -3 years. This compared to the decline for non-Hispanic white females of -0.7 year.

The projections and estimates used in the rest of this article come from sources that were published before the pandemic had started and thus do not capture the impact of COVID-19. As such, these figures could overstate potential demand by age cohort and year as these cohorts could experience declines in total population, declines in life expectancy, or both as a result of the pandemic. We feel that although these data do not capture the impact of COVID-19 they still are useful in illustrating the point that some methods of demand analysis may potentially overestimate demand.

## Methodology

In February of 2020, demographers at the U.S. Census Bureau released a report focused on how the population of the United States was living longer that included historical life expectancy back



to 1960 and projected life expectancies. These projections used the life expectancy statistics from the NCHS. For this analysis, we used the life expectancies by sex from life tables from the NCHS for 2018 and before as well as the projected life expectancies from the CDC's publication. We also used population projections from the U.S. Census. We then calculated how many people were expected to have 5 years or less to live per year by sex using the population projections and the life expectancies per year.

Based on the projections from the U.S. Census Bureau and life expectancies from the CDC and Census, this analysis examines what the impact on demand for seniors housing would be if demand was based on the number of seniors that are projected to have 5 years or less to live as opposed to the traditional age 75-plus cohort analysis. The logic here is that most residents live in seniors housing properties for less than five years and these five years are typically at the end of their lives.

The life tables for the year 2018 from the CDC indicate that males aged 88 and females aged 90 were expected to live 4.8 years. Note that it is unclear what the impact of the COVID-19 pandemic will be on life span in the long-term, and these figures could see shifts. The Census' publication used in this analysis was published prior to the virus becoming widespread. Before that point, the life expectancy projections published by the Census in February 2020 projected gains in life expectancy for both males and females.

### Demographic Backdrop.

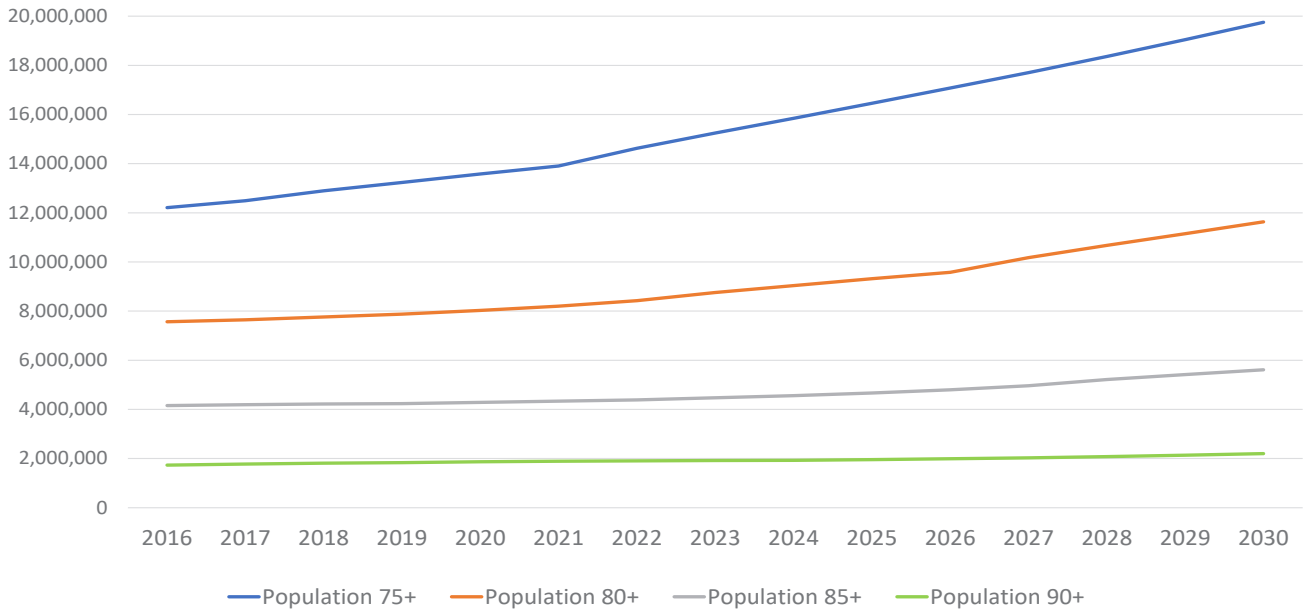
Due to birth rates from the 1920s, 1930s, and 1940s, the U.S. population is aging rapidly as the Greatest Generation gives way to the Lucky Few which gives way to the Baby Boomers. As such, there are clear differences in the number of people within and growth rates of the cohorts.

For example, for 2020, there were a projected 13.6 million women in the age 75+ cohort, a lesser 8 million in the 80+ group, an even fewer 4.3 million women in the age 85+ cohort, and 1.9 million for the age 90+ cohort. By 2030, the female population projected to be aged 75+ grows to approximately 19.8 million, representing an increase of more than 6 million from 2020. For 80+ there are projected to be 11.6 million females (an increase of 3.6 million from 2020) and the 85+ group of females is projected to grow to 5.6 million (an increase of 1.3 million from 2020). The female population projected to be 90+ in 2030 is 2.2 million, an increase of nearly 336,000 from 2020.

At the same time that changes in birthrates are altering the size of older cohorts, life expectancy in the U.S. for older cohorts has also been increasing due to medical advances, lifestyle changes, education, and wealth. For example, in 2018, the female population aged 90+ had a life expectancy of 4.8 years or less according to the life tables from the CDC. For 2030, the life expectancy of females aged 90+ is projected to be 5.6 years for an increase of 0.8 year from 2020.

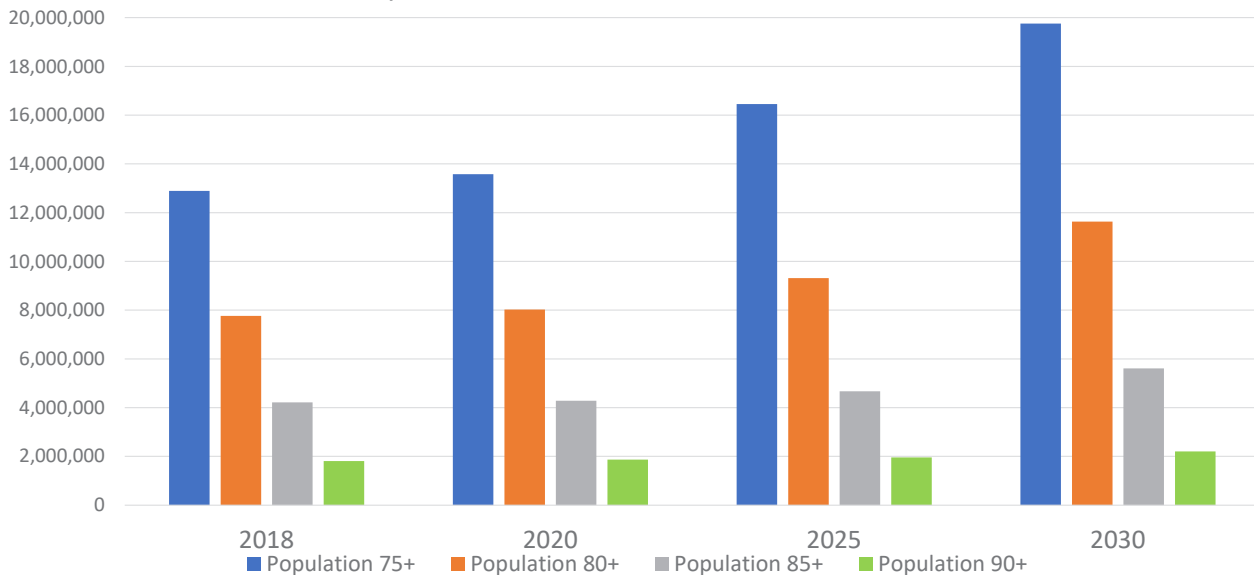
## Female Population Projections – United States

Source: CDC, Census, NIC Analytics



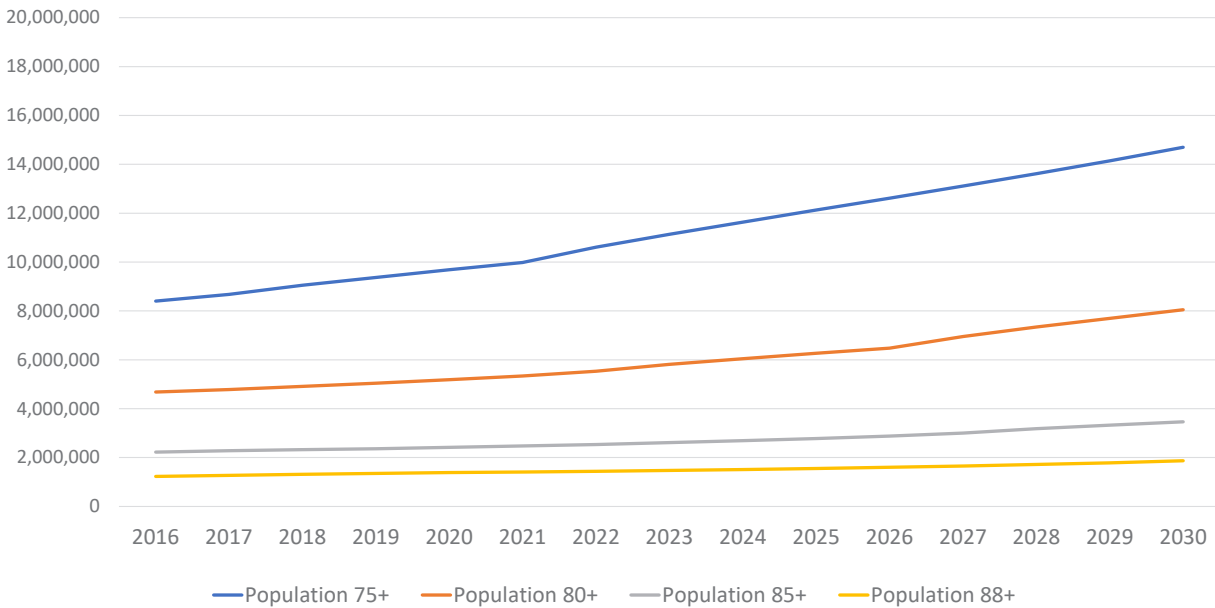
## Female Population Projections – United States

Source: CDC, Census, NIC Analytics



## Male Population Projections – United States

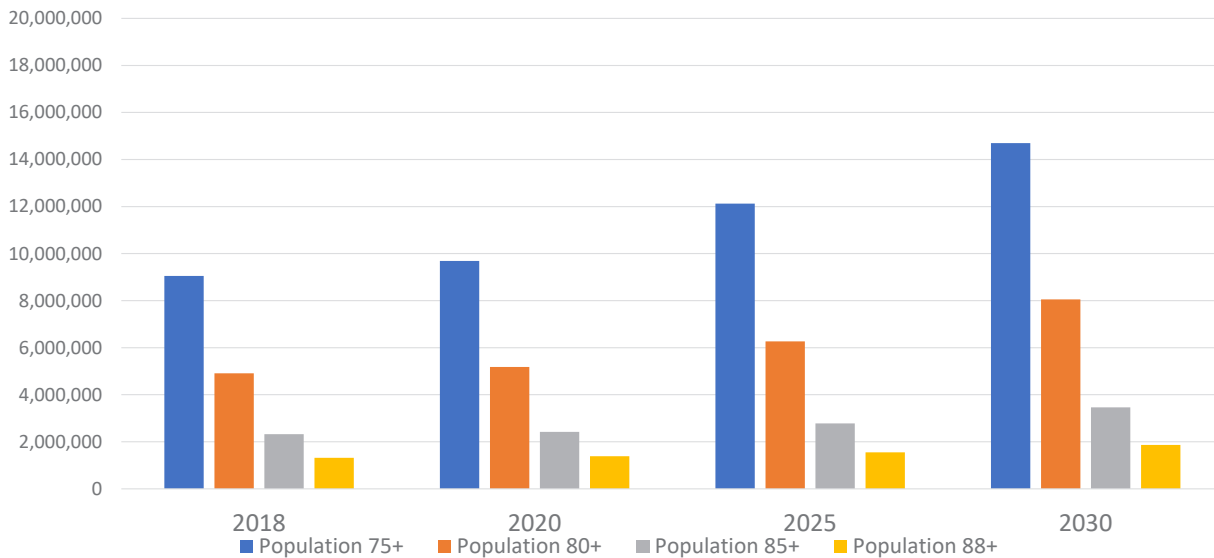
Source: CDC, Census, NIC Analytics



There are differences in the growth and size of age cohorts by sex as well. For example, the male population aged 75+ for 2020 is projected to be approximately 9.7 million, 5.2 million for the 80+ group, and 2.4 million for 85+. Using the CDC estimated life expectancy for males in 2018 of 4.8 years for males aged 88, the projected population of males aged 88+ in 2020 is much smaller than the 85+ at approximately 1.4 million. We chose males aged 88+ to compare to the females aged 90+ group because each age-sex combination was estimated to have 5 or less years to live as of the 2020 projections.

## Male Population Projections – United States

Source: CDC, Census, NIC Analytics

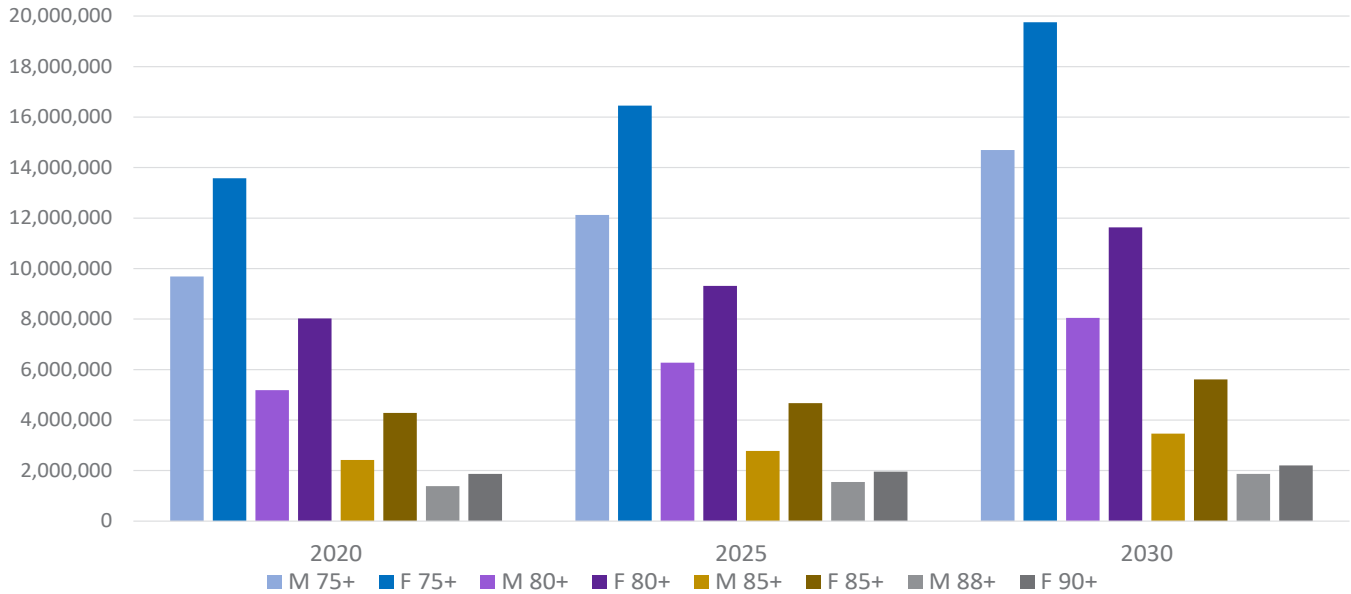


Looking at the projected populations in 2030, the cohort of males aged 75+ are projected to grow by 5 million to approximately 14.7 million, males 80+ are projected to grow by nearly 2.9 million to 8 million, and males 85+ are projected to grow by 1 million to an approximately projected 3.5 million. The 88+ group is projected to grow by approximately 484,000 to be 1.9 million. Males aged 88 are projected to have a life expectancy of 5.6 years in 2030, representing a projected growth of 0.8 year from the CDC’s estimate of life expectancy for males age 88 in 2018.

While the groups of males included in this analysis had projected growth over the coming decade, these gains in population were smaller than the projected gains for females. A driving factor here is the gap between male and female life expectancy, with females on average living longer than males.

## Male vs. Female Population Projections – United States

Source: CDC, Census, NIC Analytics



### Findings

As the above discussion shows, projected gains in population and projected gains in life expectancy vary between the sexes and ages. This analysis assumes that residents live in seniors housing for 5 years in the case of the age of 88+ for males and 90+ for females (chosen from the 2018 reported life tables from the CDC.) This 5-year period could possibly be on the longer side for many residents. The projected life spans also saw gains over the years from 2020 to 2030 but for the charts we chose to use the 88+ and 90+ groups. The tables below illustrate the differences in populations and projected years between the traditional 75+ age cohort and the older cohorts.

MALES					
Year	Population 75+	Projected Years Left	Population 88+	Projected Years Left	Difference in Populations
2018	9,053,252	11.3	1,317,413	4.8	7,735,839
2020	9,685,273	11.9	1,384,062	5.4	8,301,211
2030	14,695,983	12.4	1,867,986	5.6	12,827,997

Source: CDC, U.S. Census

FEMALES					
Year	Population 75+	Projected Years Left	Population 90+	Projected Years Left	Difference in Populations
2018	12,891,771	13.1	1,811,791	4.8	11,079,980
2020	13,576,856	13.7	1,868,385	5.3	11,708,471
2030	19,755,231	14.3	2,204,235	5.6	17,550,996

Source: CDC, U.S. Census

When we compare these other age groups as estimates of potential demand for seniors housing to that of the more traditional age 75+ cohort analysis, the demand estimates are considerably less.

The differences in increases between age 75+ groups (+ 6 million for females between 2020 and 2030, + 5 million for males) and the females 90+ (+ 336,000) and males 88+ (+ 484,000) are dramatic and underscore the importance of considering different demographics in demand analyses. Looking only at the projections for population age 75+ suggests a much higher possible demand pool than looking at more conservative age groups that may be closer to the average ages of residents moving into seniors housing.

## Conclusions

For demand analyses focusing on younger population cohorts as the potential demand pool, the coming growth of the baby boomers appears to be a potential massive increase in demand. While demographics certainly appear to favor seniors housing and care, if you instead evaluate the potential demand pool of older and frailer seniors the coming demographic growth may be less dramatic.

When considering demand analysis, it's important to evaluate which cohort is being served for specific property types and amenity packages and possibly consider more conservative demand estimates. As with most market factors, these dynamics vary at a local level and evaluating the local demographics of product offerings is crucial. Finally, we want to reiterate that these numbers are based on data that have not seen any impact of COVID-19 yet and the impact of the virus may change these numbers dramatically.



## Assumptions and Limitations

There are some limitations to the current analysis as well as some assumptions to consider.

- At time of writing, it is not clear how COVID-19 will impact life expectancy in the future. While there are now effective vaccines that are being deployed, we still don't know what the long-term impact on life expectancy will be from the virus. Hence, depending on the impact of the pandemic and outcome of vaccines, these data and projections could see notable shifts.
- Outside of differences in life expectancy by sex, there are also differences in life expectancy by race. Using the total female and male population projections and life span estimates does not capture racial differences in life span. COVID-19 has disproportionately impacted communities of color and again, the provisional report from the CDC shows racial disparities in decreases in life expectancy.
- There is also uncertainty how the opioid crisis will continue to impact life expectancy in the future if the crisis is not effectively addressed.
- There can be geographic or local differences in life expectancy. More localized data is available from the CDC that could be utilized for similar analyses.
- These population cohorts haven't been income qualified in these scenarios. The percent of people who are income qualified may vary by year with their age and may vary as well depending on the long-term economic impact of COVID-19.
- The projected populations per year from the CDC are of an older vintage. As the 2020 Census is processed and these tables are updated there could be additional shifts in projections.
- Not all people in these projected population age groups will live to their full life expectancy. If we were looking only at those expected to live their full life span, these numbers would be smaller.

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