# An Exploration of the Baby Boomer Crisis

by

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## Abstract

The baby boomer demographic, approximately 74 million Americans, will be eligible to enroll in Medicare by 2030. This large older adult population is expected to place high demand on the already strained United States healthcare system. With more chronic conditions and higher rates of disability the impact of this impending crisis will be both complicated and costly. Hospital capacity has been decreasing in recent years in contrast to the increase in technology advancements in healthcare. Supporting baby boomers' independence will be a crucial part of the overall solution. The personnel shortage must also be addressed when considering the supply side of the equation. Above all, the effect on Medicare must be explored as costs are expected to increase and the program's strength will be impacted due to the large beneficiary increase.

This paper examines various perspectives and subtopics that affect the problem. A multipronged approach will be needed to find innovative solutions to support the health and wellness of older adults. Healthcare industry leaders, public health experts, and policymakers need to create a strategy to confront the upcoming challenge or baby boomers are not going to receive the quality care they have come to expect. The Covid-19 pandemic has contributed to the changing healthcare landscape and the consequences of it will also need to be carefully considered when contemplating solutions. Overall, this complex issue is going need all hands-on deck to ensure a healthy future for this adult population and the healthcare system.

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## 1.0 Background

For the first time in United States history, the older demographic will outnumber children in the coming decades (United States Census Bureau, 2018). Figure 1. shows this by visual display depicting an older population, consisting largely of baby boomers (individuals born between 1946-1964), that is surpassing younger generations within a decade (LeRouge et al., 2014a; United States Census Bureau, 2020). Furthermore, by the year 2030, this population will be eligible for Medicare with enrollment expecting to reach 74 million Americans (Graham, 2020). The increased number of beneficiaries and the chronic condition diagnoses older individuals have are projected to raise Medicare costs to an estimated $1.2 trillion. Costs per beneficiary could increase by about 50% because baby boomers are living longer (Gillespie, 2015). Unless measures are taken to prepare for this surge of beneficiaries, Medicare and the United States healthcare system will crumble, and the boomer generation and their families will suffer; this potential burden must be addressed to prevent this.

More older health consumers are expected to be in poor health when they become eligible for Medicare. Figure 2. illustrates disability type by age and sex; it demonstrates adults, particularly females, over the age of 65 are living with disabilities such as hearing and ambulatory difficulties more than younger people (United States Census Bureau, 2020). This reinforces forecasts by the University of Southern California's Schaeffer Center of Health Policy and Economics for the year 2030 which show an increase in hypertension (79%), heart disease (43%), diabetes (39%), and three or more chronic conditions (40%) for baby boomers. Smaller increases include cancer (26%) and stroke (19%) (Gillespie, 2015). The American Hospital Association

predicts about 14 million baby boomers will be diagnosed with diabetes and 21 million will be obese (Panner, 2019). Dana Goldman, lead researcher at the University of Southern California, said 'It'd be one thing if there was an increase in life expectancy while maintaining health, but this is different. If you have more people that are disabled, it's more costly, and we're paying more because they're living longer' (Gillespie, 2015).

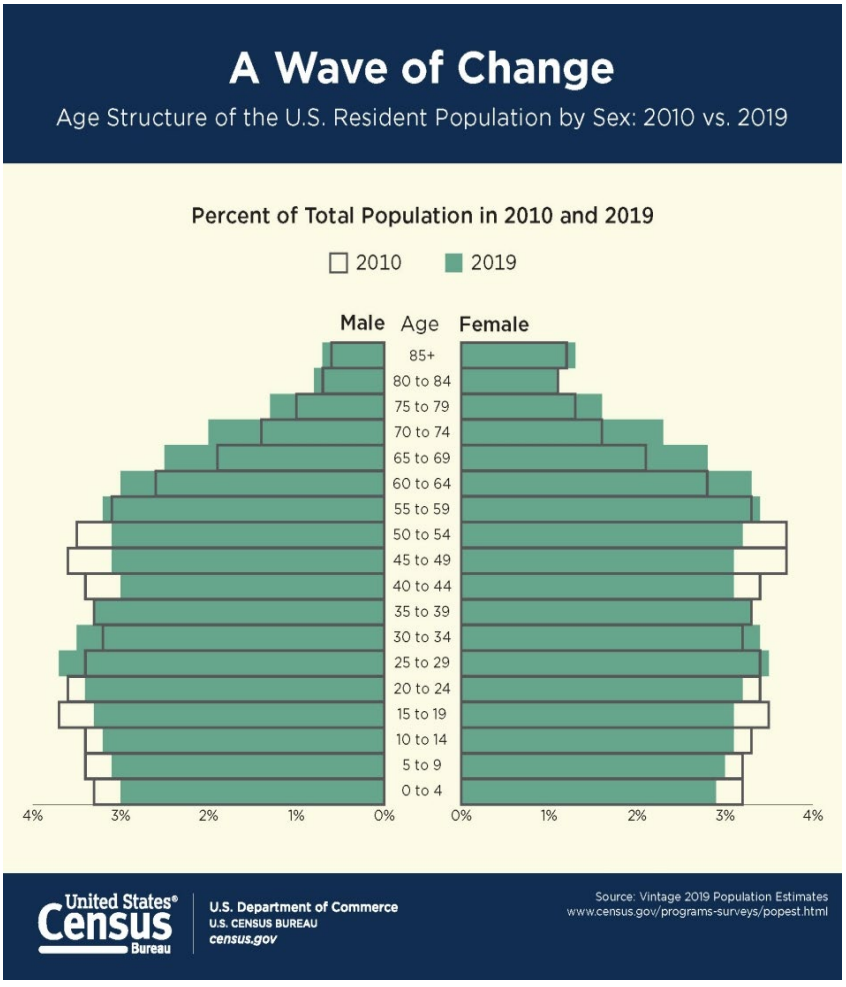


**Figure 1 A Wave of Change**

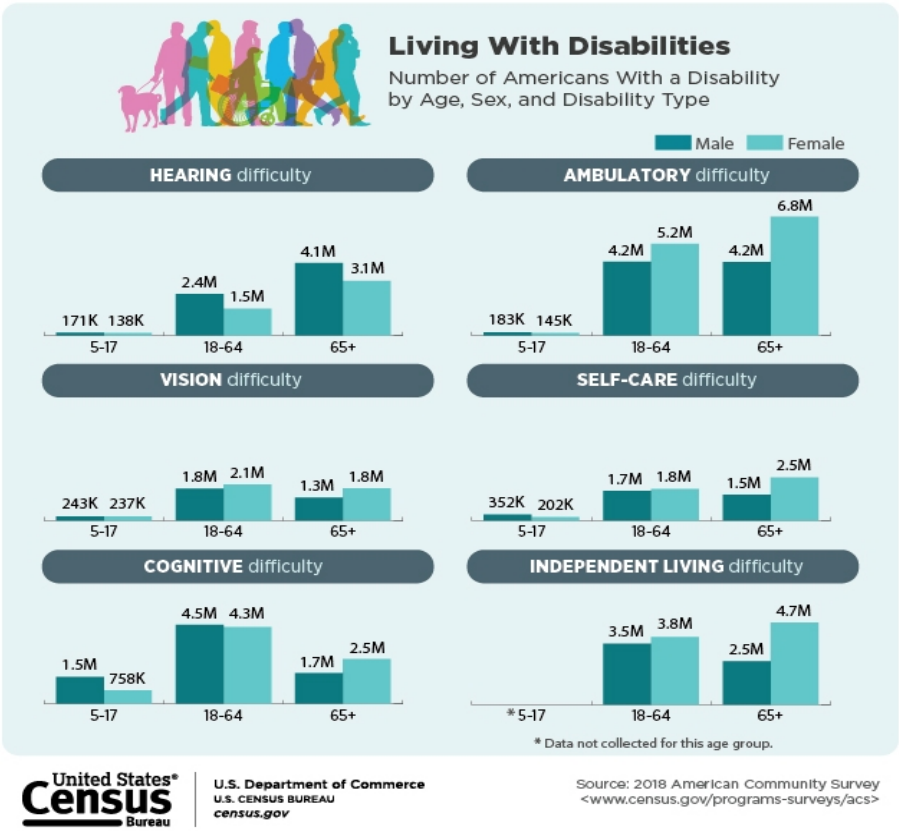


**Figure 2 Living With Disabilities**

## 2.0 Hospital Capacity

In recent years, hospitals across the nation have been closing their doors and decreasing their number of beds. This has been due to changes in the hospital market including acquisitions, mergers, and closures in particular geographic regions of the United States. Yet, most leaders acknowledge that an impending crisis is at hand as the baby boomer generation is expected to increase demand in the coming years. This "juxtaposition of population aging and hospital capacity portends a potentially widening divergence between supply and demand for hospital care" (Song & Ferris, 2018). The United States healthcare system is at crossroads for the future of care delivery, especially when it concerns the care of older health consumers.

A research study examining the transition of excess hospital capacity to strained hospital capacity in the United States highlights reasons for this fluctuation. Researchers used data from the Community Tracking Study from the Center for Studying Health System Change to examine the adjustment in capacity over time. They relied on exploring the five main factors influencing a hospital's demand for services and capacity: "(1) the size and demographic characteristics of the population, (2) the prices charged for services, (3) the extent of the population's insurance coverage, (4) the number of physicians, and (5) the hospital's quality and scope of services" (Bazzoli et al., 2006). Four metropolitan areas including Boston, Miami, Phoenix, and Cleveland were used as points of origin for in depth case studies (Bazzoli et al., 2006).

Scholars analyzed all four case studies and concluded that a hospital's adequacy for determining their capacity was clearly influenced significantly by population growth, changes in the health insurance market, and demand. Physician and nursing shortages also greatly influenced

the decision to increase or decrease capacity based on staffing and concerns about quality care. For example, the shortage of RNs meant that hospitals in the Miami and Phoenix regions expanded capacity at a slower pace while addressing their personnel shortage (Bazzoli et al., 2006).

While Certificate of Need is not required in every state, it also played a role in expansion efforts as the approval process can be lengthy. However, this also forced innovation from hospitals wishing to meet demand but unable to rapidly expand their capacity. For example, Partners HealthCare in Boston improved existing capacity and hospital throughput by directing patients to their community hospital partners. This effort was made while taking into consideration Certificate of Need limits in place (Bazzoli et al., 2006). Out of the box thinking like this will need to persist as hospitals continue to experience fluctuations in demand and therefore must reevaluate their capacity.

Researchers suggest that individual hospitals make decisions about the adequacy of their capacity based on capacity management of service lines and their geographic regions of the market. Hospital leaders, community leaders, and policymakers must carefully contemplate how to manage the delicate balance of supply and demand (Bazzoli et al., 2006). Further research should be conducted as older adults continue to age and change the demographic landscape of the country.

Hospital admissions are expected to double by 2030 (Panner, 2019). Embracing alternatives to inpatient care is critical to lessening the burden of the baby boomer demographic. Lately, there has been a push for an increase in outpatient care as hospital capacity has declined and the healthcare system evolves. Ambulatory surgical centers and urgent care centers have taken their place in the outpatient market (Song & Ferris, 2018).

Nevertheless, acute care beds will always be important for treating patients in need of intense care. Furthermore, hospital beds should be converted into ICU beds for older health

consumers who place increased demand on critical care services (Silverman, 2018). However, capital and human resources should be invested in other forms of care delivery including community hospitals, semi-acute home hospitals, mobile hospitals, and clinics. If outpatient care as a substitution does not keep pace with the demand of seniors, the need for other innovative care solutions will increase substantially (Song & Ferris, 2018).

We have already seen innovative care solutions crop up around the country. The urgent care industry has taken off with places like Walmart and CVS investing in this area as well as health insurance. Additionally, new innovative value-based coordinated care solutions are now receiving more support from the Physician Self-Referral Law (Stark Law), Anti-Kickback Statute, and the Civil Monetary Penalties Law.

Reinvesting in primary care can serve as a complement to the acute care needs of older individuals. As a strategic effort, encouraging family members and allied health professionals to actively participate in intense care management programs for high utilizers of care could strategically decrease costs and better anticipate care needs. Furthermore, health consumers could benefit from health and wellness coaching as means for teaching seniors how to live a healthy lifestyle. Mental and behavioral health should also be addressed in a primary care setting to include a complete model of health and wellness. These innovations in primary care should be utilized to assist in preventing and alleviating high demand for hospital capacity (Song & Ferris, 2018).

In the future, utilizing advances in science and technology and changing healthcare operations at large will also need to substitute for the traditional inpatient hospital care setting. Moreover, creative and efficient innovative solutions in various aspects of the healthcare industry over the next coming years will be critical in leveraging a more progressive care model that finds the balance between conventional and new care delivery techniques for patients of all ages with a

wide range of healthcare needs. Additionally, hospital managers, community leaders, payors, policymakers, researchers, and other healthcare industry leaders will need to be heavily involved in shaping how this transition occurs and what it will look like for both patients and providers alike. Older health consumers expect high quality care from their providers; the healthcare industry must face this expectation head on.

## 3.0 Advances in Technology

With more demand from baby boomer consumers, the healthcare system must continue to innovate and find creative solutions to meet their needs, including new advances in technology. Telehealth has become increasingly popular during the Coronavirus pandemic; it allows seniors to receive services from the comfort of their own homes. Furthermore, telehealth and remote care technologies optimize limited resources such as personnel and bed capacity. Remote care options can provide this demographic with personalized care and convenience while controlling costs (Panner, 2019).

Telehealth solutions are utilized in conjunction with in-person care when personnel are low and critical care is needed. This is especially important in the ICU, where patients require complicated high intense care from intensivists. According to Lou Silverman, CEO of Advanced ICU Care, tele-ICU partnerships bring a ROI to supporting hospitals and 'by integrating experienced critical care teams, technology, reporting and best practices derived from working with the leading hospitals and hospital systems' outcomes improve and reduced length of stay positively impacts patients, families, bedside teams, and hospitals alike (Silverman, 2018).

The creation of the electronic Health Information Exchange (HIE) supports technological efforts to provide seniors with quality care. An electronic Health Information Exchange permits "health care providers and patients to appropriately access and securely share a patient's vital medical information electronically–improving the speed, quality, safety and cost of patient care" (Health IT, 2020). Sharing patient information allows for better informed decisions, improved diagnoses, decreased duplicate testing, and avoiding readmissions and medication errors (Health

IT, 2020). Other benefits of HIE include "a basic level of interoperability among electronic health records (EHRs)," increased patient education and involvement, and the skillful deployment of new technology and services (Health IT, 2017). This decreases costs and aids in the fight for good outcomes for the baby boomer demographic.

Older adults should actively participate in consumer health technologies to engage in their own health journey. A study about baby boomers' readiness and barriers to adopting technology for health purposes found they are ready to adopt telephone voice calls, websites, and emails for health purposes. This generation was the first to embrace these forms of technology with the rise of the Internet. Additionally, they are willing to use home monitoring technology such as personal emergency response and fall detection systems. However, they are reluctant to utilize podcasts, kiosks, smartphone applications, blogs, and wikis. This conclusion is supported by research from the Pew Research Center report stating only 20% of this demographic have had any interaction with a podcast (LeRouge et al., 2014b). It should be noted that this may not speak for the entire generation as technology like kiosks have long been used in the banking and airline industries. Instead, it is possible that this technology was simply not utilized in the healthcare sector creating unfamiliarity with this area.

Experts designing and promoting consumer health technologies for older health consumers should consider readiness and barriers. For example, baby boomers are more likely to adopt technology for health purposes if they are already familiar with the device. People who already use the telephone will prefer medication reminders distributed through voice calls rather than smartphone notification systems (LeRouge et al., 2014b). Kiosks in healthcare settings could be a technological device that is readily accepted by older adults because of prior familiarity. We are seeing an increase in the use of telehealth during the Covid-19 pandemic, and

this could become a new standard. Wearable health tracking devices like the Fitbit and Apple Watch are becoming popular tools for people to track their heart rate, sleep, and exercise. The data from these devices could be inserted into a consumer's EHR for their physician to review. Research studies will need to further examine the concept of technological device use by baby boomers to investigate other possible technological solutions.

A lack of familiarity can be overcome by using consumer health technologies on a trial basis. This allows the consumer to experience the technology and can lead to higher rates of adoption. Vicarious trials, or trials in which another person like a caregiver experiences the trial period, can also be beneficial if the consumer shares their opinion and knowledge. Training will also create a more comfortable experience and knowledge set for the consumer. Overcoming unfamiliarity will ultimately lead to less effort exerted when using the technology and can dispel fears about security and appropriateness of the technology being used (LeRouge et al., 2014b).

Change agents should consider the consumer perspective of the cost-benefit analysis conducted before adoption. Researchers of this technology study concluded that both cost and benefit must be addressed when promoting consumer health technologies for older adults. Furthermore, the focus should be on "consumer health technologies that are (1) familiar to the baby boomers, (2) have clearly perceived benefits, and (3) require relatively little effort to use" (LeRouge et al., 2014b). Ensuring the benefits outweigh the costs, both monetary and nonmonetary, are important for promoting both adoption and consumer engagement within this generation (LeRouge et al., 2014b).

Social technology also plays a role in the health and wellness of seniors by facilitating interpersonal relationships and providing a support network. Social health influences physical and mental health and while people assume that older individuals do not like or utilize

technology, studies have proven that this might not be true. A study conducted by the University of Michigan's Institute of Social Research examined data from the 2012 Health and Retirement Study (HRS) and investigated older adult's connection to social technology based on the following five mediums:

a) Social network (Facebook, Twitter)
b) E-mail
c) Online (Internet) video/phone calls
d) Online chatting or instant messaging
e) Smartphone

The sample of participants chosen had an average of 13.28 years of education, and was 73.9% Caucasian, 17.9% African American, 6.1% Hispanic, and 2.0% mixed race or other. Most participants (64.5%) were in a committed relationship. The results of the study were promising in that "over 70% of the sample reported that they were open to learn new technologies" (Chopik, 2016). Furthermore, "77.2% of older adults said that using technology was either *not very difficult* or *not difficult at all*" (Chopik, 2016). The study also concluded that more technology use was associated with decreased loneliness, superior health, less chronic illness, and reduced depression. This study dismisses the assumption that older consumers do not utilize or learn about technology. Moreover, it demonstrates how technology could support the social, physical, and mental health and well-being of older health consumers (Chopik, 2016).

In concert with this study is a report from Forbes citing new research that more baby boomers believe social media is improving their lives. Additionally, they are likely to visit sites like YouTube, Facebook, Pinterest, and other popular social media outlets that connect them to others. This generation is accustomed to new technology being introduced which might help

explain why they value social media differently than millennials who see it as a burden they have grown up with (Suciu, 2020).

According to the Pew Research Center, 68% of baby boomers between the ages of 55 and 73 own smartphones. This has been a large increase from 25% in 2011. Furthermore, the number of people who use tablets as a technological device is comparable across Gen Xers[1] (55%), millennials[2] (53%), and boomers[3] (52%) (Vogels, 2019). This information should be useful for physicians to promote social technology and discuss using technology, such as online social networks, for improved health and outcomes. Health and wellness programs for seniors should also encourage social technology as a part of the healthcare infrastructure as well as consumer health technologies mentioned earlier (Chopik, 2016). Social technology will assist older consumers while decreasing demand for services at a time when capacity is decreasing. Therefore, it should be promoted more among this demographic and their caregivers.

Overall, technology will be a significant tool for baby boomers in dealing with the crisis that is to come in 2030. Public health efforts to expose this group to technology and promote health and wellness should be combined to prepare for the future of the healthcare system in this country. The studies discussed earlier demonstrate the benefits technology has on physical, mental, and social health. As more technologies are developed in the coming years, they will need to reflect the needs of this population to continue easing demand for services.

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[1] Individuals born between 1965 and 1980.

[2] Individuals born between 1981 and 1996.

[3] Individuals born between 1946 and 1964.

## 4.0 Independence and Healthy Living

People are living healthier longer according to the World Health Organization (WHO). In 2019, the World Health Organization reported Japan's Healthy Life Expectancy (HALE) at birth as 74.1 years in comparison to the United States of America's 66.1 years (World Health Organization, 2020). It is clear from this data that the United States must work harder to add healthy life years for their population. To accomplish this and address the looming crisis of 2030, independence and healthy living must be made a priority for the country.

Laura Carstensen, director of Stanford University's Center on Longevity, is optimistic about the situation as scientific studies have shown that "behavior and living environments can alter the trajectory of aging" (Graham, 2020). A study conducted using data from the University of Michigan's Health and Retirement Study (HRS) examined four health factors of the silent generation and baby boomers' perceptions of health. The four primary factors addressed were not smoking, not drinking excessively, being physically active, and not being overweight or obese. Study participants were asked about these primary measures and researchers also assessed an individual's religious attendance to determine if it affected the factors (Shen, 2019).

Overall, the study concluded that baby boomers did indeed trail behind the silent generation[4] "in perceived health and adoption of healthy lifestyles–not smoking, not drinking excessively, and not being overweight or obese" (Shen, 2019). Additionally, the study found that the decrease could be partially attributed to lower religious attendance as reported by the

[4] Individuals born between 1930 and 1945.

demographic. In a positive light, religious attendance was determined to be associated with not smoking, not drinking excessively, and better perception of health (Shen, 2019).

The research results demonstrate how religion can have a positive impact on health. There is great potential for public health programs to partner with religious organizations to promote healthy living. Religious institutions reinforce the work of health education programs by asking people to take personal responsibility for their health by strengthening self-control and self-regulation efforts (Shen, 2019).

Empowering people to take charge of their health is not just related to religion. A research article published in AIMS Public Health gives an ecological perspective to how baby boomers can use Consumer Health Information Technologies (CHIT) for Personal Health Information Management (PHIM) behaviors including "creating personal health history, making lists to support health activities, aggregating health information from different sources, and setting health reminders" (LeRouge et al., 2014a). Researchers propose that as the burden of care continues to shift from provider to patient, empowering patients with the development, promotion, and delivery of personal health information is the essential to the foundation of healthy aging for older individuals (LeRouge et al., 2014a).

Health information is essential in achieving and maintaining quality of life and independence for baby boomers. This group often searches for health information for the following goals:

a) Preparing for consultations with providers
b) Monitoring and assessing personal health
c) Planning preventative care or treatment
d) Making health-related decisions

Health information can be difficult to ascertain though as there exists a variety of sources often presenting conflicting information for individuals to sift through. Older individuals obtain this information from their providers, members of their social networks, and from Internet based resources. Moreover, as concluded by the Pew Internet and American Life Project, individuals who live with a disability or chronic condition are more likely to use health information online to inform the foundation of their goals. Additionally, studies have shown that older health consumers who regularly utilize health information reported positive health assessments and engaged in less risky health behaviors. Further research determining the preferences of how baby boomers store and organize their personal health information will provide suggestions for how CHIT can assist with the progress of this population's PHIM (LeRouge et al., 2014a).

Promoting and advocating for baby boomers' quality of life and independence is required for addressing the sizeable demographic and the demand they place on the healthcare system at large. When older people maintain good health, they require less intense services and save costs for federal programs, like Medicare, and private insurance companies. Independence and aging in place are becoming new long-term goals for the older population.

Public health efforts to support this include encouraging religion and health information, but other efforts should comprise of age friendly communities and a social infrastructure that supports healthy aging. This effort incorporates accessible forms of transportation, affordable housing, modified living spaces for seniors, and programs collaborating to bring together the young and old. The attitude of ageism is also necessary to address in conjunction to the baby boomer crisis; the World Health Organization has taken steps to do so by launching a global campaign against ageism. San Francisco is one of the first U.S. cities to confront the issue through a public awareness campaign. As the boomer population ages and due to their sheer numbers, it is

very possible there could be a shift in the public's attitude and seniors will be accepted and further supported (Graham, 2020).

## 5.0 Personnel Shortage

There is an upset in the balance of supply and demand, especially concerning the personnel shortage in the United States healthcare system. This problem is increasingly alarming as baby boomers are expected to place more demand on an already strained healthcare system. To combat the upcoming crisis and address the shortage serious measures must be taken immediately.

In the past few decades, a nursing shortage in the United States healthcare industry existed. This complex shortage still exists today and must be analyzed from multiple perspectives to create evidence-based solutions to help the nursing industry grow. There are not enough nurses to fill positions to meet current demand of the market. Decreasing turnover and increasing recruitment efforts are broad solutions to the issue.

Several factors contribute to the high turnover of the nursing profession. One is the aging of the RN workforce. As baby boomers reach retirement age, so are a large percentage of nurses (Odom, 2000). Moreover, it is well known that nursing is a stressful profession and as demand rises while supply is short more stress is placed on nurses by measures such as mandatory overtime and increased workloads with higher patient to nurse ratios (Plawecki & Plawecki, 2015). Experienced nurses will be retiring and leaving a gap to be filled by new RNs. However, older nurses can still be active participants of the healthcare industry and curb the baby boomer crisis. They can be leaders for community based public health programs for older people by acting as a connection to healthcare providers and utilizing their skills to provide basic health assessments for participants (Plawecki & Plawecki, 2015).

Solutions for retaining nurses should be examined when trying to reduce turnover. This includes ways to keep people motivated and engaged. Incentives can come in the form of flexible scheduling and more autonomy (Odom, 2000). Increasing salaries provides financial incentive as nurses are not paid extraordinarily well considering their demanding job, especially licensed practical nurses and vocational nurses according to Figure 3. (United States Census Bureau, 2020). The recent Coronavirus pandemic might increase the nursing workforce by inspiring more individuals to pursue nursing as a career. However, industry leaders should continue to focus on maintaining morale and interpersonal relations within nursing units to prevent turnover (Duvall & Andrews, 2010).

To combat the decrease in the nursing workforce, new nurses must be recruited. This is another huge undertaking the industry must face to meet demand. Recruiting qualified students to the profession can be difficult but providing scholarships, loan-forgiveness programs, and reforming licensure requirements all can be critical in the process (Bazzoli et al., 2006). Figure 3. shows that majority of nurses continue to be female; inspiring males to join the nursing profession will increase the workforce (United States Census Bureau, 2020). Likewise, offering longer internships and mentorship programs for new nurse graduates can decrease the turnover of new RNs. Employing more nurse faculty to teach in nursing education programs is also a challenge the industry is dealing with. This is partially due to the lower salary nurse faculty accept compared to nurses employed in a clinical setting. Offering higher pay and motivating more nurse leaders to teach future nurses will be important to increase the number of nurse faculty (Plawecki & Plawecki, 2015).

Nursing is a critical profession within the healthcare industry and is directly tied to quality care. It is imperative the shortage be addressed and amended through industry leaders and

policymakers as quality care is not only the current expectation, but it also relates to the financial viability of a healthcare facility through incentives and ratings. An inadequate supply of nurses will decrease quality impacting both patients and organizations alike (Odom, 2000).

Nurses are not the only personnel shortage the healthcare industry is experiencing; physicians are also low in supply. The Association of American Medical Colleges (AAMC) projects the country will have a shortage between 54,100 and 139,000 physicians by 2033 according to the annual study *The Complexities of Physician Supply and Demand: Projections from 2018-2033* (Boyle, 2020). Furthermore, "the study projects a shortage of between 9,300 and 17,800 medical specialists; 17,100 and 28,700 surgical specialists; and 17,100 and 41,900 other specialists, including pathologists, neurologists, radiologists, and psychiatrists" (Boyle, 2020). According to a study published in the Human Resources for Health, by 2030 the West is going to be experiencing the brunt of the shortage. It projects that by 2030 the West will have the largest physician shortage ratio of 69 physicians per 100,000 people and the South will also be struggling greatly (Zhang et al., 2020).

The AAMC study contributes two main factors to the shortage projections including physicians' age and the population's age. The study determined that "more than 2 of 5 active physicians will be age 65 or older within the next decade" while some physicians are reaching retirement earlier due to burnout (Boyle, 2020). Additionally, the general population is aging along with baby boomers both putting more pressure on the system as they require more specialized care (Boyle, 2020). These two trends are contributing to the alarming projections.

The projections could increase substantially if health care access was more equitable in the country. As more uninsured, ethnic groups, and rural populations gain more access to medical care demand will further increase. There are numerous possible solutions to keep up with the growing

demand through services like telehealth and other uses of technology. Using the full capabilities of providers, especially advanced practice providers, by expanding credentials and licensure is another way to meet demand for services of an aging and expanding population (Boyle, 2020). Attracting foreign physicians and recruiting qualified candidates to medical school using methods like those mentioned earlier for nursing students are others way to increase the physician workforce (Zhang et al., 2020). Advanced technology such as clinical decision support and voice dictation are also good options to mitigate the effects of the shortage. Kiosks and wearable devices further support this initiative by streamlining data through automation increasing the potential for valuable personnel to be better distributed where they are needed most. The physician shortage requires a multipronged approach (Boyle, 2020).

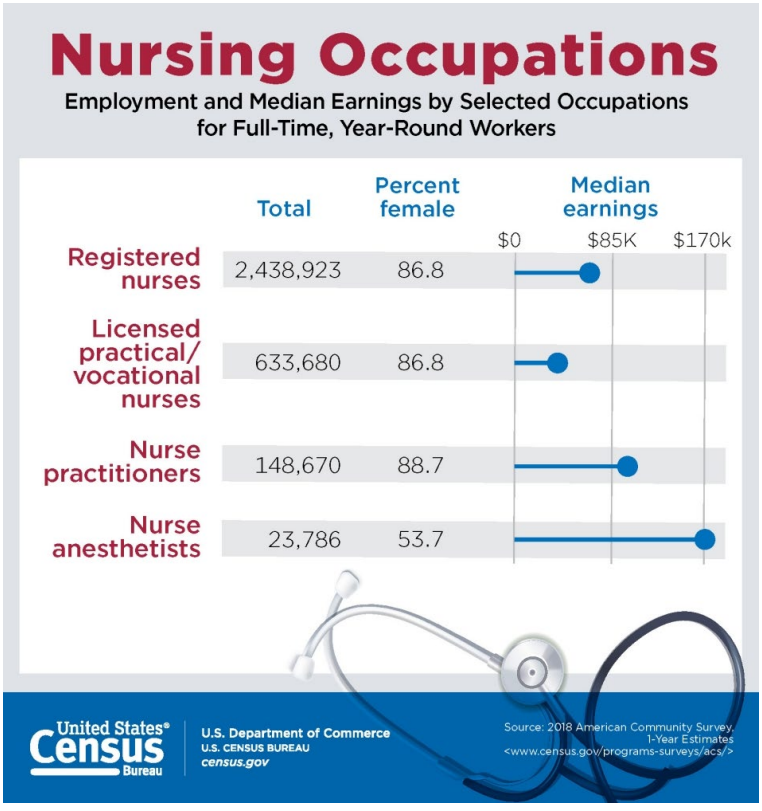



**Figure 3 Nursing Occupations**

## 6.0 Impact on Medicare

Medicare was established as a federal healthcare program in 1965 by President Lyndon B. Johnson; its first beneficiary was Harry Truman. Medicare was created to help adults age 65 years of age and older afford medical care in a hospital setting. The program also ensured a steady stream of business for the hospital industry at a time when more people were employed in the steel, automobile, and railroad industries. While Medicare is meant to support older and disabled people's financial security, public health and government officials now worry about sustaining and strengthening the program for future generations (Gaudette et al., 2015).

Medicare will feel the full burden of baby boomer enrollment by 2030 and the average Medicare beneficiary will change along with the demographic. By 2030, "the typical elderly beneficiary will continue to be female but slightly younger, less likely to be white, more educated, more likely to have never smoked but more likely to be obese, and more likely to be disabled and have more chronic conditions" (Guadette, 2015). The sizeable demographic living with disabilities and chronic conditions will place more strain on Medicare. Furthermore, the largest growth in enrollment age will be about 15.4 million young elderly, or people ages 65-74. For more details about how the typical Medicare beneficiary has changed from 2010 to 2030 see Figure 4. (Gaudette et al., 2015).

Researchers from the University of Southern California Shaeffer Center for Health Policy and Economics have synthesized the Future Elderly Model (FEM) to critically assess future projections about Medicare. FEM is "an economic-demographic microsimulation" supported by the Centers for Medicare and Medicaid Services and other healthcare organizations. The focus of

FEM is to follow individuals 51 years of age and older and forecast their health and medical spending over years (Gaudette et al., 2015).

FEM forecasts Medicare spending considering the health and wellness of the baby boomer demographic as discussed earlier. Due to older adults increased number of disabilities and chronic conditions along with a rise in life expectancy, medical costs for Medicare are expected to grow. The total lifetime cost for an average 65-year-old Medicare beneficiary is forecasted to increase by 72% in 2030 compared to 2010 and it will reach about $223,000 (Gaudette et al., 2015). Overall spending for Medicare is also expected to increase. Forecasts predict it will increase from $446 billion in 2010 to more than $1.2 trillion in 2030 and will be about 4.1% of the GDP (see Figure 5.) According to the Kaiser Family Foundation, Medicare spending was $605 billion accounting for 15% of total federal spending in 2018; by 2029 it is projected to reach 18%. “Medicare per capita spending is projected to grow at an average annual rate of 5.1 percent over the next 10 years (2018 to 2028), due to growing Medicare enrollment, increased use of services and intensity of care, and rising health care prices” (Cubanski et al., 2019).

Researchers assessed two different medical intervention methods for controlling costs for Medicare: disease specific and delayed aging. They concluded that delayed aging was more beneficial as shown by longitudinal forecasting. Addressing specific diseases did not provide evidence for extending the life of older people and elderly with multiple chronic conditions will not benefit. Instead, the delayed aging approach with therapeutic interventions, like yoga therapy, and healthier behaviors is projected to add 6.9 % more older adults to the population by 2060. Moreover, delayed aging will increase the number of non-disabled elderly in 2030 and 2060 with estimates rising to 65 million and 87 million respectively (see Figure 6.). Investigators predict that

the benefits of delayed aging outweigh those of specific disease interventions and should be future priority despite the additional spending it would require (Gaudette et al., 2015).

Policymakers will need to prioritize the future of Medicare in the coming years as costs skyrocket and beneficiaries live longer. The Federal Government will need to find ways to support the elderly and disabled. Public health efforts should consider the FEM research and create health and wellness programs surrounding delayed aging as a method of innovation for baby boomers. Reducing costs and extending the life and capabilities of Medicare will be a significant challenge as boomers continue to enroll.

Characteristics of a Typical Elderly Medicare Beneficiary, 2010 and 2030.

| | 2010 | 2030 |
|---|---|---|
| Age | 76.1 | 75.8 |
| Sex | Female (57%) | Female (56%) |
| Race | Non-Hispanic white (81%) | Non-Hispanic white (76%) |
| Highest educational attainment | High school diploma | College |
| Smoking status | Former smoker | Never smoked |
| Body mass index (BMI) | 27.2 (Overweight) | 30.2 (Obese) |
| Proportion disabled | 32% | 34% |
| Chronic conditions | 1.8 | 2.2 |

Source: Future Elderly Model (FEM), University of Southern California Leonard D. Schaeffer Center for Health Policy and Economics.

Disabled is defined as having one or more limitations in instrumental activities of daily living, which include using a telephone, taking medication and handling money; having one or more limitations in activities of daily living, which include bathing, eating, dressing, walking across a room and getting in or out of bed; living in a nursing home; or a combination of the three. Chronic conditions refer to disease categories projected by the FEM and include: diabetes, high-blood pressure, heart disease, cancer (except skin cancer), stroke or transient ischemic attack, and lung disease (either or both chronic bronchitis and emphysema). Medians are shown for categorical variables (sex, race, educational attainment and smoking status); averages are shown for numerical variables (age, BMI and number of chronic conditions).

**Figure 4 Characteristics of a Typical Elderly Medicare Beneficiary, 2010 and 2030**

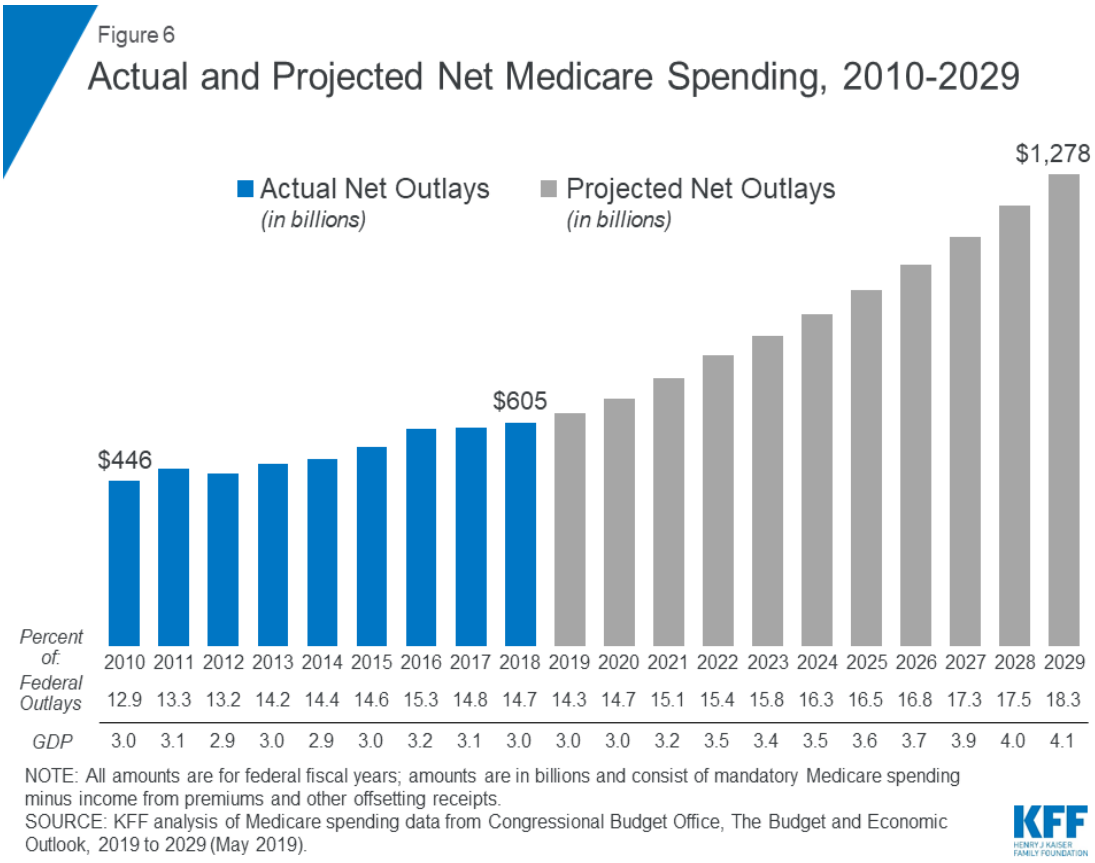
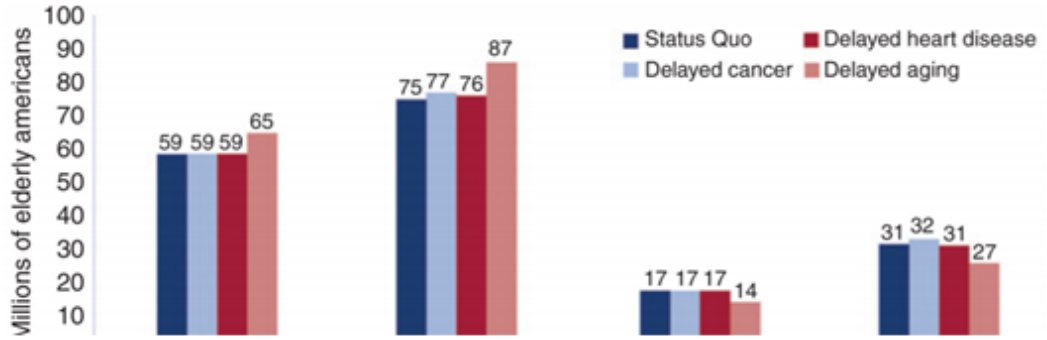



**Figure 5 Actual and Projected Net Medicare Spending, 2010-2029**

Nondisabled and Disabled Elderly Americans Under Various Medical Innovation Scenarios, compared to the Status Quo, 2030 and 2060.




Source: Future Elderly Model (FEM), University of Southern California Leonard D. Schaeffer Center for Health Policy and Economics; and Exhibit 1 of Goldman, Dana P., et al., "Substantial Health and Economic Returns from Delayed Aging May Warrant a New Focus for Medical Research," Health Affairs, Vol. 32, No. 10 (October 2013).
Notes: The figure shows the number of elderly Americans (65 or older) projected to be either nondisabled or disabled according to the different medical innovation scenarios. Disabled is defined as having one or more limitations in instrumental activities of daily living, having one or more limitations in activities of daily living, living in a nursing home, or a combination of the three. The delayed-aging scenario resulted in a substantially higher percentage and number of nondisabled people than the delayed heart disease or delayed cancer scenarios.

**Figure 6 Nondisabled and Disabled Elderly Americans Under Various Medical Innovation Scenarios, compared to the Status Quo, 2030 and 2060**

## 7.0 Medicare Recommendations

Policymakers have been analyzing the baby boomer crisis and its predicted impact on Medicare for years. Projections have shown that preparation and intervention are needed relatively soon to curb the effects of their enrollment in Medicare. Otherwise, Medicare will begin to fail beneficiaries as the Medicare Hospital Insurance (HI) assets will be depleted in 2026 as spending surpasses income (Cubanski et al, 2019). Numerous solutions have been proposed to create a long-lasting resolution, but none have been implemented thus far.

A solution proposed is raising the age of enrollment from 65 years of age to 67 over a gradual period. There are several benefits to raising the enrollment age. One benefit being a reduction in the number of enrollees and therefore a decrease in spending. Aligning the enrollment age with the retirement age for full Social Security benefits takes some financial pressure off Medicare as people are living longer and relying on Medicare longer. Older individuals will be encouraged to work longer to maintain employer sponsored health insurance and save funds for retirement. Additionally, this will contribute more payroll taxes to support Medicare (Kaiser Family Foundation, 2013). According to the Congressional Budget Office (CBO), the budget effects of "raising the Medicare eligibility age gradually to 67, by two months per year beginning in 2014, would reduce net federal spending by $113 billion over 10 years (2012-2021)" (Kaiser Family Foundation, 2013). While this solution was not implemented in 2014, it is still widely discussed in the industry.

Downsides to the solution are mainly concerned with the gap it would create. Older individuals age 65 and 66 who were relying on Medicare coverage will no longer be eligible.

Medicaid will need to reform to accept these individuals that cannot afford health insurance premiums thereby increasing Medicaid expenditures. Furthermore, individuals will be able to purchase coverage through exchanges and federal subsidies the Patient Protection and Affordable Care Act established. This will raise the age in exchanges and create more risk, thus increasing the cost of coverage (Kaiser Family Foundation, 2013). Policymakers are worried about the negative ramifications of this solution.

Another proposed solution is increasing revenue for Medicare because spending reductions might not be enough to sustain the program with the baby boomer demographic significantly increasing the number of enrollees. One mechanism for doing this is increasing the Medicare payroll tax (Kaiser Family Foundation, 2013). Currently, employers and employees are each paying 1.45% for a total of 2.9% and there is no wage base limit for the Medicare payroll tax. An additional Medicare tax of 0.9% is applied to individuals who make over $200,00 in a single calendar year (Internal Revenue Service, 2021). A second method is to tax products such as alcohol, tobacco, and sugary drinks. This not only discourages the use of these unhealthy products but also generates more revenue for Medicare. Generating revenue is crucial if the program is to sustain itself in the coming years. However, increases in taxes should be thoroughly investigated before doing so as they can disproportionately affect low-income individuals (Kaiser Family Foundation, 2013).

There are many other proposed solutions that exist and have been considered by policymakers and the Centers for Medicare and Medicaid. Overall, the goal is to reduce spending by decreasing waste and overuse and generate revenue to continue caring for the disabled and older adult population. The Federal Government cannot continue to support Medicare's large expenditures as a part of the federal budget. If major changes are not made then Medicare

beneficiaries could see a decrease in their coverage, an increase in premiums and out-of-pocket expenses, and other consequences as a result.

## 8.0 Conclusion

With 74 million baby boomers aging into Medicare by 2030 the nation's healthcare system is under pressure to provide quality care to the largest generational demographic in the nation. This generation suffers from disabilities and multiple chronic conditions increasing the demand for high acuity care at a time when inpatient settings are shifting. Economically it will be challenging to financially support the care of this population through Medicare.

Hospital capacity is decreasing in the healthcare market as the transition continues to outpatient care and alternative methods of care delivery. The personnel shortage and Certificate of Need requirement are among the factors affecting adequate capacity. More emphasis on primary care, public health and community programs, and advances in technology will help to alleviate demand for services in the future.

Advancements in health information, technological devices, and social technology will support the health and wellness efforts of baby boomers. The healthcare industry is relying on this technology to alleviate demand, encourage healthy living, and support independence. Technology will need to be designed and promoted in ways that consider seniors readiness to adopt technology and the barriers they perceive. Further research needs to be conducted to support these efforts.

Promoting independence and healthy living is a broad goal for the complex solution of aging. Encouraging the use of health information to make informed decisions about health behaviors and treatment options along with increased programming, including religious programs, to promote healthy aging is integral to reducing disability and chronic illness as well as demand for services. While hard to achieve, it is clear from the Future Elderly Model (FEM) that the

delayed aging approach is a more sustainable way to help older adults stay healthy longer (Guadette et al., 2015).

The personnel shortage is affecting the situation through limiting hospital capacity and decreasing quality care. Both nurses and physicians are in a shortage; this should be dealt with by way of retention and recruitment. With the expectation of high demand due to older health consumers, the supply of personnel must increase. If the personnel shortage does not improve, capacity and quality will decrease along with good outcomes for older health consumers.

Medicare will be severely impacted by the increase in population size by 2030. Clearly, the predictions show the financial impact it will have on the program's future. The industry needs to find ways to decrease demand and save costs. The United States should follow the lead of other countries which successfully serve their older adult population while spending less. Additionally, legislation will need to address the issue of the sustainability of Medicare. There will need to be radical shifts in the delivery of care to best meet the needs of the baby boomer population and future generations to come.

Most of the research discussed previously was conducted and published before the Covid-19 pandemic. The pandemic has certainly changed the healthcare environment in this country by pinpointing areas of weakness and encouraging collaborations between healthcare entities instead of competition. It has also emphasized the personnel shortage, disparities among different populations, and how unhealthy behaviors can increase an individual's risk of severe illness. Yet, the pandemic has served as an opportunity for technology growth and the self-care mentality. Strategic thinking about the subtopics mentioned earlier will most likely be altered in some way because of Covid-19. For example, personnel have been affected through Coronavirus infection, increased workloads, and burnout. It will take years to fully evaluate the short-term and long term-

effects the Covid-19 pandemic has had on the healthcare system as well as older individuals. The pandemic will influence the solutions to the upcoming crisis of 2030.

Overall, healthcare leaders, community leaders, payors, public health officials, and policymakers will need to face the grueling challenge of supporting baby boomers aging and enrollment in Medicare. Hopefully, a national multidimensional approach will address hospital capacity, advances in technology, independence and healthy living, the ongoing personnel shortage, and the impact on Medicare when creating an innovative solution plan. It will be interesting to observe what the approach will consist of and how well it works to encourage healthy living, provide quality care, and reduce costs.

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