A Comparison of Welfare Policies and Health of Aging Populations in the U.S. and Denmark.

by

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Abstract

The global aging population is growing rapidly; between 2015-2030 the number of persons 60 and older will increase by 56%, those 80 and older will triple between 2015-2050. The majority of the global aging populations live in developed nations which are established welfare states with historically developed healthcare and pension policies. Developed nations are experiencing similar projections in aging populous and facing the same barriers: Why is aging so different in these countries? Using the political theories found in Gøsta Esping-Andersen's *The Three Worlds of Welfare Capitalism*, this manuscript will compare the outcomes of historic public policies of the U.S. and Denmark.

The objective of this paper is to address the similarities of the U.S. and Denmark as it pertains to aging census, GDP, GDP per capita, tax rates, and medical expenditures on the aging population. A review and comparison of each country's acute healthcare policies and long term care policies will provide the basis for a projection of the impact on their aging population as a result of these policies.

TABLE OF CONTENTS

Introduction

The global aging population is increasing rapidly, with a projected increase of 56 % of persons 60 and older between 2015 and 2030, from 901 million to 1.4 billion. The number of 'oldest old' persons, those aged 80 and older, is growing at a faster rate. It is estimated that by 2050, the number of oldest old will triple from 125 million to 434 million. (United Nations, Department of Economic and Social Affairs, Population Division, 2015). Population aging will lead to a decline in labor forces, lower fertility, and an increased dependency ratio, posing a challenge to governments as their spending on pension, healthcare, and social benefits programs will increase, affecting their macroeconomic stability.

The majority of the global aging population lives in more developed nations, and those nations are established welfare states, having historically developed policies to provide health care services to their aging populous. There are many factors that affect health inequities experienced by the aging population in various welfare state regimes, but central to these inequities are the health care policies that affect people throughout their life course. The most responsible way to address these changes and to prepare for the effects that the aging population will have on nation-states around the world is to focus on policy solutions that will ensure macroeconomic sustainability and address the health care needs of the aging population.

This paper will examine and compare the health outcomes of the aging populations of two developed nations, Denmark and the United States, as a result of their health care policies. This work will examine the applied theories of Gøsta Esping-

Andersen's *The Three Worlds of Welfare Capitalism*, which establishes the creation of three categories of welfare states within the historical development of Western countries. This literature review will address how inequalities in policies came to fruition in two such developed nations with similar gross domestic product per capita, beginning with a historical overview of the healthcare policies in each country from World War II to present day, especially focusing on demographic changes as it pertains to the age of each countries' population. It will review how each respective nation states' acute healthcare policies and long term care policies may be affecting the health of the rapidly aging population. A brief history of those policies, a comparison of current policies, and review each country's gross domestic product (GDP), GDP per capita, tax rates, and medical expenditures for their aging populations will also be provided. Finally, this paper will project the financial impact that the rapidly aging population will have as a result of their existing healthcare and long term care expenditures through review of the aging census in each county and applying those findings to the currents status of each nations' aging population(s).

Welfare State Regimes- the Creation and Categorization of the U.S. and Denmark

The concept of the welfare state originated in Germany in the 1880s as the "Sozialstaat", or "social state." In the social sciences, the concept of welfare varies from that of other fields, which closely associate the term with poor relief or pension systems. For the purpose of this paper, the idea of the welfare state will focus on its sociological definition, which refers to the degree of state intervention in whose intention is to increase and improve on the public's overall welfare (Leibfried & Obinger, 2000).

Published in 1990, Gøsta Esping-Andersen, a Danish sociologist, completed his work *The Three Worlds of Welfare Capitalism*, which offered a new approach in the study of welfare states by providing an encompassing theory of the variations in categories of welfare states that had formed throughout the nineteenth and twentieth centuries (Cnaan, 1992; Esping-Andersen, 1990). Esping-Andersen's work argues against the former studies of welfare-states as being an inaccurate measure as its use of linear scoring was contradictory to the sociological notion that democracy, welfare, or power are relational and structured (Esping-Andersen, 1990). *The Three Worlds of Welfare Capitalism* proposed a less linear approach and the inception of a regime-cluster approach, as the creation of welfare states follows historical and political developments in various societies, as is detailed throughout Esping-Andersen's work (Cnaan, 1992; Esping-Andersen, 1990). Esping-Andersen (1990) presents three types of welfare-regimes that have occurred in clusters throughout the world: liberal regimes, which are characterized by the relative weight of means-tested welfare benefits and the percentage of total public social expenditures. Second is the conservative regime, which is based on traditional family values, the ideal social order, and the encouragement of continuing to provide a platform upon which class structures continue to thrive and in which little to no state assistance is provided to its citizens. Finally, the social democrat regime which promotes equality of the highest standards and opposes the division between state and markets and the de-commodification of welfare services.

Overall, there are three interacting factors that created these regime-clusters according to Esping-Anderson (1990). First is the nature of class mobilization. This is referring to the mobilization of the working class and the ways in which industrialization

affected political demands, class cohesion, and created the platform upon which labor unions and labor-party actions mobilized. Second is the class-political action structures, which focuses on class formation in the earlier phases of a country's industrialization. Finally, the third factor includes the review of the historical legacy of regime institutionalization, looking back at the historical reforms that have contributed heavily to the class preferences and political behaviors which cemented states into one of three aforementioned welfare states. Overall, Esping-Andersen's model is suggestive of path-dependency as shaped by class coalitions and institutional setup as well as the impact of political culture. His key argument is that, in capitalist societies, de-commodification of labor, which means that "a service is rendered as a matter of right, and when a person can maintain a livelihood without reliance on the market" (Esping-Andersen, 1990, p. 22). The welfare regimes created by these levels of de-commodification, or, lack thereof, has produced highly de-commodified countries, such as Denmark, and countries where workers are very dependent on the market, such as the United States (Esping-Andersen, 1990). This de-commodification allows for the creation and implementation of the social welfare policies that affect acute healthcare and long term care policies.

While Esping-Andersen's work provided an innovative approach to comparative welfare state research, there have been, and will continue to be, a number of criticisms to this work. As noted by Klein, Offe, and Schwarz (as sited in Emmenegger et. al) these criticisms addressed the lack of specification as to a more detailed vision of what de-commodification looks like for every country (Emmenegger, Kvist, Marx, & Petersen, 2015). Throughout his work, Esping-Andersen postulates that each welfare state formed from various historic backgrounds and tendencies, which disregards the role of culture

and religion, the seemingly isolated histories which formed each country, their political ideologies, as well as having a gender-blind ideology of welfare states (Emmenegger et al., 2015). Esping-Andersen nodded to these criticisms, and left his work as an open invitation for further research that continues to be conducted. For these reasons, this paper will not address these criticisms, as they encompass a breadth and depth in academia that cannot be addressed in so short a study.

The U.S. and Denmark Welfare State Regimes

While both the United States and Denmark are classified as being 'developed economies' based on the 2017 projection of United Nations' World Economic Situation and Prospects (WESP) (United Nations Department of Economic and Social Affairs [UN/DESA], 2017) , these two nations are examples of two different welfare state regimes. Both the United States and Denmark are classified as high-income countries per capita gross national income (GNI) according to WESP (UN/DESA, 2017). In sharing these qualities, it raises the question of how their welfare state classifications differ: what propels welfare state development in these two countries that can lead to such different outcomes in their expenditures on healthcare and long term care?

Esping-Andersen (1990) argues that social policy growth is central to welfare state creation, pointing specifically to industrialization, urbanization, and population change whilst recognizing that redistribution is only able to occur within certain levels of economic development. Based on Esping-Andersen's characteristic categories for welfare states, the United States is considered a liberal regime, having a strong concentration on means-tested poor relief and the maintenance of capitalist class systems, as opposed to moving towards full de-commodification. The United States' welfare provisions are

available in mixed services and their benefits are flat. Denmark is categorized as being a social democrat, or 'socialist' regime state for its continued focus on de-commodification and continued universalism that grants access to benefits and services based on citizenship as opposed to means. Denmark's welfare provision is available through public services and is based on a redistributive model. Understanding the differences in welfare state regime types lays the groundwork for addressing overall inequalities and disparities that accumulate throughout the aging process. The sources of health, typically demonstrated as resources, are key determinants to health, and the availability of many of those resources are affected by the type of welfare state with which a country's policies align (Bergqvist, Yngwe, & Lundberg, 2013; Chung & Muntaner, 2007). The social determinants of health are shaped by welfare policies both directly and indirectly, whether through welfare services that directly affects citizens, or, indirectly through policies that affect public pensions (Högberg, Strandh, Baranowska-Rataj, & Sevä, 2017). The formation of these welfare policies that shape the health inequities that exist in these countries, especially those policies that have the greatest affect on our aging population's health: acute healthcare policies and long term care policies.

Upon examination of the structures of the policies that form healthcare, long term, and retirement policies in the United States and Denmark, it is empirically clear that countries have a tendency to cluster into the three types described by Andersen. However, it is equally important to recognize that none of these states fits complicitly and cleanly within these welfare state regime categories (Esping-Andersen, 1992). The U.S.'s Medicaid system is redistributive and their Medicare system is nearly obligatory, and far from actuarial. Denmark, as other Scandinavian countries, is a combination of welfare

and work, as having a truly and fully de-commodified welfare system means that social problems must be minimal and revenue must be maximized: the welfare state is dependent upon full employment with the least amount of individuals being reliant on social transfers (Esping-Andersen, 1992). Despite these variances, the essential criteria used in defining these states has more to do with addressing the quality of relationships between market, state, and family, social stratification, and social rights (Esping-Andersen, 1992).

Health Care Policies

Every country differs in their approach to welfare provisions for their citizens. It is a general expectation that every country create policies that establish a set of principles to guide systems, and policies that pertain to health and pension systems are indicative of population health indicators and inequities. Monetary sources are not the only resources important for health in older age; welfare systems are equally, if not more, important to addressing inequities (Chung & Muntaner, 2007; Esping-Andersen, 1990). Andersen's work in describing the characteristics of the differing welfare state regimes explains that variables within the welfare state have been added to measure of incomes inequality to explain how economic inequality affects the populations' health status (Chung & Muntaner, 2007). Within welfare state regimes, economic inequality is closely related to the provision of acute healthcare and long term care for all citizens.

Acute Healthcare and Long Term Care Policies in the U.S

The U.S.'s healthcare policies are heavily commodified, which means that they have a market approach to their healthcare system. This approach creates a competitive environment for both private healthcare providers and insurers (Stone & Benson, 2012;

Wacker & Roberts, 2011). The U.S. healthcare system is more complex comparative to its Danish counterpart, and is viewed in stark contrast to the health systems of other developed nations. Additionally, they spend far more on their health care than any other developed country spends on their health care systems. The U.S. system is not centrally controlled, is financed publicly and privately, and features a large variety of payment, insurance and delivery mechanisms that are tied to the economic market. According to CMS, private financing through employers accounts for approximately 57% of all healthcare expenditures, and government financing covers the remaining 43%. The U.S.'s large, private, infrastructure, which includes hospitals and physicians' clinics, are independent of the government and play a central role to healthcare delivery within the U.S. Technology plays an equally important role in the U.S. health care structure, and is central to explaining the increased demand for expensive technological care within the U.S., as patients assume the more technological advancements in treatment equates to improved care. Most of its uses results in negative health outcomes and exorbitant costs to the overall health care industry (Shi & Singh, 2017). These technologies, even with positive outcomes, are inaccessible to many individuals, which is another theme central to the U.S. healthcare system.

In the U.S., health care services are limited to those who have health insurance through an employer, are covered under government sponsored health programs (Medicare and Medicaid, the PPACA), purchase insurance out of their own private funds, can pay for services privately, or, can obtain services through a safety net of providers. While health insurance is a primary means to obtaining health care, this does not equate equal access to care. Generally, experts agree that inadequacy and disparity, whether

socio-economic or geographic, affect access to basic and routing primary care in the U.S., which leads to a lag behind other developed nations (Shi & Singh, 2017).

Overall, the amount of players involved in the U.S. health care system keeps the system stagnate in its approaches to providing equal access to health care in the U.S. While the federal government does still play an integral role in health care delivery, its role pertains more to consumers and providers of Medicare and Medicaid-related services. Multiple players, such as big business, labor, physicians, administrators of health institutions, insurance companies, large employers, special interest groups, and politically powerful lobbyists are all significant players in health care. Each of their interests are rooted in economic outcomes (commodification), and with many of their interests being at odds, it is those receiving services that are the most. While the past decade has seen a drive towards continuous, coordinated healthcare services in an attempt to improve on health care systems, the same barriers to access and equity remain. As of 2018, the U.S. government is only directly responsible for determining public sector expenditures and reimbursement rates for services provided to Medicare and Medicaid patients, and, provides the standards of participation through healthcare policy and regulation for Medicare and Medicaid consumers. The certification standards are meant to set a minimum quality requirement in most sectors of the health care industry (Shi & Singh, 2017). But for the majority, who depend on independent, privately funded care, nothing is guaranteed.

Health Care for the Aging and Aged- Medicare and Medicaid

The two main health care programs that provide coverage to the aging and aged populations in the U.S. are Medicare and Medicaid. Both provide acute care, long term

care, and palliative care coverage (Stone & Benson, 2012; Wacker & Roberts, 2011). Medicare can be broken down into four different sub-groups: Medicare Part A ('hospital'), Medicare Part B ('medical'), Medicare Part C ('Medicare Advantage'/private insurance), and Medicare Part D (prescription). Since 1965, both Medicare A and B are financed via mandatory social security contributions, and legislation in 1997 and 2003 created Medicare Part C and Part D. Part C allowed recipients to choose a private health plan from which to receive their Medicare benefits. Medicare Part D is voluntary, and allows access to federally approve drug benefit plans on the private market. Overall, Medicare payment policies shifted its focus from produce savings to expanding access to private plans (Stone & Benson, 2012; Wacker & Roberts, 2011). It is the primary responsibility of Medicare to provide acute, post-acute, primary, and chronic care coverage to the aging population, but additional supports through other public programs, namely Medicaid, are playing larger roles in providing such coverage (Stone & Benson, 2012).

In 1965, the Medicaid program was enacted as federal-state, means-tested social assistance program for low-income families and individuals; it primarily funded through general taxation. This program encompasses long-term care, health insurance, and supplemental coverage for low- benefit Medicare beneficiaries whom receive services that are not covered by Medicare and premiums, deductibles, or, cost-sharing (Stone & Benson, 2012; Wacker & Roberts, 2011). Each state develops eligibility standards (eg: type, amount, scope of benefits), but are required to provide certain services, this was especially the case after 1981 legislation created Medicaid waiver programs, allowing for various Home and Community Based Services (HCBS) (Stone & Benson, 2012; Wacker

& Roberts, 2011). By 2009, 6.3 million Medicare enrollees with low incomes and/or modest assets were considered 'dual eligibles', as they were enrolled in both Medicare and Medicaid (Stone & Benson, 2012).). While Medicaid is designed for low-income families and individuals, 10% of persons enrolled were older adults, accounting for 25% of Medicaid spending, representative of mostly long-term-care spending needs (Stone & Benson, 2012; Roberto & Wacker, 132). Overall, long-term care in the U.S. is a patchwork of funding from federal, state, local, and private funds, but rough estimates from national survey data indicates that Americans spent $119 billion on LTC services for the elderly in 2009 (Stone & Benson, 2012). With so many aging individuals becoming more dependent on Medicaid, it is important to have an understanding of pension-health benefits offered in the U.S., and to examine why those benefits are often unattainable for retirees.

U.S. Retirement Health Benefits

According to a report by the U.S. Bureau of Labor Statistics, as of March 2017, 70 % of civilian workers had access to retirement benefits, 54 % participated in benefits earnings, and 77 % took advantage of these benefits (United States Bureau of Labor Statistics [BLS], 2017). Approximately 66% of employees in the private industry had access to the retirement benefits, 50 % participated in benefits earnings, and 75 % took advantage of these benefits. Comparatively, those state and local government employees had significantly higher access to and participation in retirement benefits. At the state level, 96 % of employees had access to retirement benefits, 83 % participated in benefits earnings, and 87% took advantage of those benefits. Within the local government, 90 %

of employees had access to retirement benefits, 79 % participated in benefits earnings, and 87 % took advantage of those benefits (BLS, 2017).

Because the U.S. is far from attaining the same type of de-commodification as Denmark, its labor markets and health insurance are closely linked, as workers often depend on employers to provide health insurance to current and retired workers (Marton & Woodbury, 2007). Within the U.S., there has been continued debate about the state of retiree health benefits (RHB). Employer-provided RHBs have been on the decline, people are retiring earlier than they are eligible for Medicare, and as the general population is living longer, retirees' health costs are skyrocketing (Marton & Woodbury, 2007). With a smaller number of the aging population staying in the workforce through and past the age of 65, compounded by the fact that the U.S.'s labor markets and health insurance are so tightly linked, it is no wonder that retiree health coverage has changed drastically over time.

Data collected from the Insurance Component of the Medical Expenditure Panel Survey (MEPS-C), a survey of employers conducted within the U.S. Department of Health and human Services (HHS), shows that, between 1997-2003, the number of private employees offered RHBs declined by 7% (Marton & Woodbury, 2007). According to data collected by BLS, employees in the private industry are responsible for 21% of their health coverage for a single person, and 33% for family coverage (BLS, 2017). While the public sector felt the same effect, local government RHBs jumped to 88% in 2007, up from 70% in 1997 (Marton & Woodbury, 2007). Reports from 2017 show those individuals working for state and local government split premiums, with a 14% responsibility for single coverage and 29% for family coverage (BLS, 2017). The

same data from BLS showed that the amount of medical premiums being paid by civilian workers is 21% for single coverage, and 32% for family coverage (BLS,2017). The reason for decline of RHBs and the decreased coverage provided by RHBs has been explained largely by the 1990s issuance of Financial Accounting Statement No. 106 (FAS 106), in which the FAS board requires employers to treat promised RHBs as financial liabilities. Due to these liabilities being included in employers' financial statements, many employers decided to reduce or eliminate those promised benefits (Marton & Woodbury, 2007).

All of these compounded issues are further complicated by the fact that the delivery system serving the elderly is mostly shaped by public funding (Medicare and Medicaid) and the competence of a health care workforce, which is often understaffed and underpaid. Because there is a lack of comprehensive approach to providing health services to the aging population, especially as it pertains to the growing aging population, the system fails in meeting its two goals: quality of care and quantity of life (Stone & Benson, 2012). A quality system would require a more stable funding source, as well as better organization of systems to address the health care of America's aging population, as this will become an even greater public health challenge with its rapidly aging population.

Acute Health Care and Long Term Care Policies in Denmark

Denmark's acute health care and long term care systems are lumped in with what is typically referred to as the "Nordic", or, "Scandinavian" model. Central to this model is the concept of de-commodification, which lies in concepts of universalism and public participation in economic and social life (Esping-Andersen, 1990). Denmark is

experiencing a similar baby boom, though their set up as a social-democratic welfare state has allowed for them to absorb the seeming financial burden of having such an increase in aging population (Bingley et al., 2007). The Danish acute health care and long term care systems consist of both public-sector and private programs.

Cradle to Grave Acute Health Care in Denmark

The Danish health system is described as being a part of the 'Nordic' health care model, as the Nordic region of northern Europe includes Norway, Finland, Sweden, Iceland, and Denmark with their associated territories. While international perspectives of this group of countries almost conclusively consider them to be mostly the same, each of their respective health care systems have undergone a process of gradual change in the early 1990s, which is reflective of each of their economic shifts and their cultural and political environments (Magnussen, Vrangbaek, Saltman, & Martinussen, 2009). Central to the Danish model are universal social rights, which fit neatly within their welfare state model.

The core values of the Nordic health system are equity and participation. Equity refers to all citizens having equal access and equal opportunities to healthcare, unrelated to social status, gender, ethnicity, geographical location, socioeconomic status, and so on. The overall goal is to maximize the total output of health, not necessarily to match equal access for equal need, as is most often interpreted from outside perspectives. The second goal relates to participation, as lack of participation in the system will lead to policies being passed that are not effectively meeting the needs of the health systems' participants; whether consumer or provider. The other part of participation fall under the funding of the system, and the Danish model raises its funds through general taxes, social

(public) insurance, private insurance, or consumer payment, which means the system is a mix-fund model of public and private cost-sharing mechanisms for which consumers pay a small amount out of pocket (Magnussen et al., 2009). These two common goals have led to the creation of a very specific structure and institutional makeup of the Danish health care system.

The Danish health care system operates across three political and administrative levels: the state (national), the regions (regional), and municipalities (local) (The Ministry of Health [MOH], 2017). At the national level, the Ministry of Health (MOH) is primarily responsible for all regulatory and supervisory functions that pertain to health and elderly care. The MOH establishes the general framework for the provision of health and elderly care, which includes legislation that affects the provision and organization of care services, patients' rights, hospitals and pharmacies, health care professionals, vaccinations, medication, maternity care, and child health care. The legislation covers the duties and responsibilities of the regions and municipalities as it pertains to health. Within Denmark, there are five regions that are governed by regional councils, composed of 41 members that are elected every four years. Those five regions are responsible for the oversight of hospitals, including psychiatric care, emergency care, specialists, and general practitioners (GP) in private practice. These regions are able to organize health services based on their citizens' needs, and these services can be adjusted within the financial and regulatory frame to ensure capacity, and can even refer patients to treatment abroad depending on their needs and approval from the Danish Health Authority. Within those regions are 98 municipalities, which are local administrative bodies governed by municipal councils whose members are elected every four years. The greatest oversight

for primary health care services and elderly care are determined by these municipal councils, including most child health care and elderly care services: disease prevention and health promotion, outpatient rehabilitation, home nursing, home care services, nursing homes, school health services, child dental treatment, child nursing, and drug and alcohol abuse treatment (MOH, 2017). The municipality is responsible for co-financing regional rehabilitation and training services as well. Because there are so many players involved in the distribution of health care, despite being mostly funded by general taxes, there are other schemes that help support the health care system.

Generally, health and social services are financed by general taxes and supported by additional government block grants, equalization schemes, and reimbursements. Roughly 84 % of all health care expenditures are publicly financed (2015), while the remainder are financed through co-payments. All Danish residents have access to the public health care system in which the majority of services are provided at no cost (MOH, 2017). While the majority depend on the public system, there is an additional voluntary private health insurance (VPHI) scheme offered, typically through employment contract. This insurance is seen as being complementary to public sector coverage, as it covers all or part of the residual costs that are otherwise considered 'out of pocket' and not reimbursed. In Denmark, this covers co-payments for pharmaceuticals, adult dental services, glasses and contact lenses, and physiotherapy (Alecandersen et al., 2016). Additionally, national legislation ensures diagnoses and treatments are provided within certain time limits so that patients of free choice of hospitals (MOH, 2017). Within certain limits set by the government, citizens can also choose any private hospitals and hospitals outside of the country in the case that a region cannot ensure treatment initiated

within 30 days, or, if the treatment required is not offered at the regional hospital. The government provides options between two insurance groups (named Group 1 and Group 2 respectively); the only difference being that Group 1 is limited to their in-network GPs and must receive a referral for any specialist in a private practice, though that excludes certain specialists such as ophthalmologists, otologists, and dentists. Group 2 can choose any GP and medical specialists without referral, though they may incur co-payments (MOH, 2017). These systems allow Danish citizens, generally, to live longer lives in a healthier state, and as they age, benefits only continue to be provided at the same standards. This is where VPHIs come into play- as the insurance policies will typically cover those costs accumulated by those insured in Group 2 (Alecandersen et al., 2016). While VPHIs provide faster access to specialist diagnosis and treatment services available in the public system, their coverage of the expenses accrued from examinations and treatments applies to private hospitals, preventative services from physiotherapists and chiropractors, and general health examinations. Nearly 40% of the policies are less comprehensive and only provide coverage for treatments related to acute health episodes and their follow-ups (Alecandersen et al., 2016). Generally, Danes are still committed to using the public health system.

Social services are provided in all 98 municipalities, and those municipalities are responsible for governance, provision, delivery, and financing of elderly care. While the structure for this care is set up within a national framework, each municipality gets to decipher what delivery systems work best in providing care to their aging population. For this reason, each municipality has established a Senior Citizens council, elected every four years and voted on by only citizens 60 and older. Home care services are meant to

target elderly who can continue to live at home if they require assistance with IADLs or ADLs, possible home therapies, and the services are free of charge. Along with being free of charge, all services offered are based on assessment; food services can be provided and, if not fully covered, a cap on co-payment is set to ensure the cost cannot exceed production costs. All citizens are entitled to nursing home benefits, free of charge, with a guarantee of no longer than two months wait to be admission. The municipality must evaluate the citizens' situation as it pertains to physical and mental functionality and need for extensive care. Finally, in an attempt to address preventative care measures and equal access, preventative care and home visit by GPs and other practitioners must be offered to vulnerable and socially exposed individuals between the ages of 65 and 79 whenever needed, and to all elderly persons over 80 on an annual basis (MOH, 2017).

The Aging Census and Employment of the U.S. and Denmark

The entire world is experiencing a dramatic increase in aging population. This increase, coupled with various other issues, such as declining birth rates, inadequate pension schemes, and the increasing health problems faced by the aging population strains various other aspects of aging. Every country's challenge in dealing with the aging population affects the country from a macro perspective (the economy) to a micro perspective (models of family support). While people are living longer, they are not necessarily aging healthfully, which can have negative political, social, and economic impacts. While this paper has sought to address the differences between the U.S. and Denmark, it is important to understand how, given their respective sizes, their aging populations will affect the country as a whole. As both the U.S. and Denmark experienced a 'baby boom' after World War II, it is best to examine that population that

is beginning to turn 65 or older. Generally, this 'boom' in the age structure has had massive implications for each of these countries. Globally, the number of older persons is growing faster than any other age cohort. Overall, the number of older persons is growing at a faster rate than any other age cohort, though it is advancing in more developed, progressed, high-income countries than other, less developed, nations (UN, 2015). Both the U.S. and Denmark are developed nations and are experiencing markedly similar trends in increased life expectancy, though the health of their aging population differ slightly.

Aging in the U.S.

The U.S. population is aging dramatically. As of 2014, there were 46.2 million persons age 65 and older in the U.S., representing 14.5% of the overall population. It is estimated that, by 2060, there will be 98 million older persons (Federal Interagency Forum on Aging-Related Statistics, 2016). Projections from the U.S. Census Bureau show the population of those 85 and older to grow more than double between 2014-2060; from six million to 20 million respectively (Federal Interagency Forum on Aging-Related Statistics, 2016). While individuals are living longer, the U.S.'s economy and infrastructure is not necessarily ready to handle the so-called "silver tsunami", and living longer is not indicative of living longer and maintaining positive health status.

In 2015, labor force participation rate for men age 55-61 was 75% comparative to 90% in 1973. The participation rate for men in the labor force aged 62-64 declined from 76% in 1963 to 45% in 1995. By the end of 2015, the participation rate for men age 62-64 increased to 56%. The cohort of aging women in the workforce is very different, which has a lot to do with generational differences; many women in their 60s and 70s

now did not work outside the home or were in and out of the labor force. Among women 55 and over, the labor force participation rate has increased markedly over the last forty years with the greatest increase occurring between those aged 55-61, rising from 44% in 1963 to 66% in 2010. Between 1963-2015, labor force participation rates for women ages 62-64 increased from 29% to 45%, and there was also an increase from 17% to 28% among women age 65-69 (Federal Interagency Forum on Aging-Related Statistics, 2016). While the workforce has increased in age, it is not indicative of disability in aging. Though, as the U.S. is based on a 'pay-go' system for social security, with benefits being paid out reliant upon the younger workforce, it is important to note that the U.S. labor force participation rate in 2016 for individuals aged 15-25 was 55.2%, and 81.3% for those aged 25-54 (Organisation for Economic Co-operation and Development [OECD], 2017). The U.S.'s population age 55 and over accounts for roughly 28% of the population with 84% dependent on social security as their main source of income. While 60% of the U.S. population are individuals legally able to work and not nearing standard retirement age (19-54), nearly 20% are unemployed as of the first quarter of 2018 (Bureau of Labor Statistics [BLS], 2018). Additionally, of the population that are retirement age, 62% are either fully retired, unemployed, disabled, or working 'per diem' (Hipple, 2015). This data has sparked much debate about the future of Social Security in the U.S., as people are living longer, and are less healthy.

Americans are living longer than ever before, with life expectancies at both ages 65 and 85 having increased. As of 2015, those that are 65 can expect to live another 19.3 years, and those women that are 85 can expect to leave another 7 years, and men 85 and older another 5.9 years. Overall, death rates amongst the population age 65 and older has

declined, though some chronic health conditions have increased with life expectancy. Americans are living longer than ever before, with life expectancies at both ages 65 and 85 having increased. As of 2015, those that are 65 can expect to live another 19.3 years, and those women that are 85 can expect to leave another 7 years, and men 85 and older another 5.9 years. The leading causes of death amongst the aging population demarcate the leading chronic health conditions: heart disease, hypertension, stroke, cancer, asthma and other respiratory diseases Americans are living longer than ever before, with life expectancies at both ages 65 and 85 having increased. As of 2015, those that are 65 can expect to live another 19.3 years, and those women that are 85 can expect to leave another 7 years, and men 85 and older another 5.9 years. While living longer and retiring younger compared to previous decades, the aging population's health has also led to an increase in living out the rest of their lives with disabilities. In 2014, 22% of those aged 65 and older reported having disabilities denoted by limitations in vision, hearing, mobility, communication, cognition, and self-care. This has had an equally negative effect on aging adults' ability to perform activities of daily living (ADLs) such as cleaning, cooking, bathing, and other activities which affect their ability to live independently. Approximately 34% of the population age 65-74 reported difficulty with performing ADLs, comparative to 48% of those 75-84, and 75% of those 85 and older (Federal Interagency Forum on Aging-Related Statistics, 2016).

Aging in Denmark

Similarly to the U.S., Denmark has been experiencing markedly similar trends in increased life expectancy. As of 2017, Danes aged 60 and older accounted for 1,435,028 people- the equivalent of 25% of the overall population. Danish women aged 65 can

expect to live another 21 years, and Danish men aged 65 can expect to live another 17.9 years (*Life Expectancy,* Statistics Denmark, 2017). Of those years, both men and women can expect 11 more years of 'healthy' living (*Life Expectancy,* Statistics Denmark, 2017). The population of those 60 and older is expected to increase from 1,435,028 to 1,819,059, and will account for 28% of the overall population by 2060 (*Population and Population Projections,* Statistics Denmark, 2017). Overall, by 2015, 1 in 4 Danes passed age 60, where that number was only 1 in 5 fifteen years earlier (*Population and Population Projections,* Statistics Denmark, 2017). Comparative to the U.S., this age group is more active in the work force.

Labor force participation in 2017 in Denmark for the entire population, age 55-64, is 69.1%, compared to the U.S.'s 62.7%. The earliest data about workforce participation in Denmark is from 1999, shows that 54.5% of those individuals aged 55-64 were actively engaged in the work-force. In 2016, the same age group accounted for 70.6% of labor force participation in Denmark, comparative to the U.S.'s 64.1%, and those aged 65 and older only accounted for 8.4% of Danish labor participation (Organisation for Economic Co-operation and Development [OECD], 2017). While the Danish population is comparatively older than the U.S.'s, their ability to stay in the work force longer, indicative of lower disability, is one of the reasons that the pension scheme is able to sustain. Additionally, it is indicative of low disability rates amongst the aging population.

In 2015, labor force participation rate for men age 55-64 was 72.7% comparative to 67.2% in 1983, which is the earliest data available (OECD, 2017). The participation rate for men in the labor force aged 60-64 has also continued to increase, from 50.4% in 1983 to 58.3% in 2015 with projected growth in coming years (OECD, 2017). Denmark

was one of the first countries to work towards policy to address the employment gender gap, with labor force participation amongst women aged 60-64 in 2015 being 43.3%- nearly double the 28% in 1983 (OECD, 2017). Among women 55-64 labor force participation has increased nearly 50%, from 41.7% in 1983 to 62.5% in 2015 (OECD, 2017). Overall, the Danish unemployment rate is 6.3% overall, and 20% of those unemployed are full time students, while 40% are unable to work or find work and are on public assistance (Statistics Denmark, 2017). The leading causes of death amongst the aging population are related to digestive infections, respiratory infections, 'other' circulatory diseases, heart disease, diseases of the nervous/sensory system, mental disorders and cancer (Statistics Denmark, 2017). Cancer, cardiovascular disease, diabetes and respiratory diseases together account for an estimated 70% of all deaths in the aging population in Denmark (World Health Organization [WHO], 2012). Unfortunately, statistics are not available that review the health of the aging population in Denmark as it pertains to living with disabilities or long term effects of chronic health conditions. However, Denmark is facing a rising epidemic of non-communicable diseases which has been linked to a loss of roughly 5,000 years of well-being per population of 100,000 in 2004 (WHO, 2012). Though, it should be noted that high amounts of alcohol consumption, high smoking rates, and obesity are all risk factors which affect between 20-48% of adult Danes, which can lead to chronic health conditions (WHO, 2012).

Once Danes reach age 65, it is expected that 60% of women will live another 12 years free of disability, and men another 11 years free of disability (Organisation for Economic Cooperation and Development [OECD], 2017). According to the OECD, 62.5% of Danish women age 45-64 report being in good/very good health, while 59.8%

of women 65 and older report being in good/very good health. Of men 45-64, 67.1% report being in good/very good health, while 59.6% over age 65 report being in good/very good health (OECD, 2017). A report on disabilities Eurostat conducted in 2011 indicated that, in Denmark, 25.6% of women and 33.2% of men of working age (15-64) suffer long-standing health problems and/or basic activity difficulties which would require special assistance in order to work. Of those working age (1-64) individuals that are unemployed, 50% are due to long-standing health problems and/or difficult with basic activities (Eurostat, 2015). A separate Eurostat report on income and living conditions in the European Union (EU) shows that 24% of the Danish population with severe limitations is age 65 and older, and that, while females outlive males, they suffer from impairments which affect daily living due to longstanding illness (NEUJOBS, 2014). Of those living in private households who are over 50, 8%of men and 10% of women need assistance with at least 1 ADL (NEUJOBS, 2014). Fewer required assistance with IADLs, with 5% of men and 11% of women over 50 requiring assistance (NEUJOBS, 2014). An estimated 180,000 people aged 50 and over reported impairments in at least 1 ADL; roughly 129,000 were over age 65 (NEUJOBS, 2014). What is special to the case of Denmark is that the number of people with severe limitations only increases marginally with age, with the largest increase in impairment occurring in the age group of individuals between 55-64 (NEUJOBS, 2014). The U.S. and Denmark share the same problem: the aging populations are living with the long-term effects of one or more diseases which results in complex health care needs. This places a huge demand on the health care industry and its infrastructure, as creating a large financial burden that must be shouldered by the younger generations.

GDP, GDP Per Capita, Taxes, and Medical Expenditures

As discussed in previous sections, the U.S. and Denmark are in two different categories of welfare state regimes. The U.S. continues to be a highly commodified state in which citizens' welfare is strongly tied to the economy, whereas Denmark is highly de-commodified, with the government taking on the role of ensuring the welfare of the citizens. This leaves the question of how such states can provide the funding for their existing health care, long term care, and pension programs. While this was briefly touched upon with the discussion of the aforementioned being more privatized in the U.S., and socially funded in Denmark, it is important to ensure a greater understanding of how these funding schemes effect their citizens, especially their aging population, as in either the private scheme or the public scheme, they are shouldering the funding for such welfare states.

U.S. Gross Domestic Product (GDP), GDP (Per Capita) and Taxed Medical Expenditures

The U.S. boasts one of the largest economies in the developed world, but that does not ensure the welfare of their citizens as they continue to be tied to economic markets. In 2018, the U.S.'s gross domestic product (GDP) was an estimated $18.04 trillion, with national health care expenditures accounting for 17.8% of the overall GDP-roughly $3 trillion (Centers for Disease Control and Prevention [CDC], 2017). National health expenditures for nursing care at facilities and continued retirement communities accounted for 4.9% of the 3 trillion, National health expenditures on prescription drugs accounted for 10% and hospital care 32% (CDC, 2017). The GDP per capita in 2015 was

$56, 207 and per capita national health care expenditures equated to $9,990, roughly 10% of GDP per capita (CDC, 2017). In fiscal year 2014, 8.2% of persons reported delaying or not receiving medical care due to cost, while 5.6% reported not filling prescriptions due to cost. In 2014, there were 53.8 million persons enrolled in Medicare, with expenditures of approximately $613.3 billion, with Medicare Part D expenses for prescription drug coverage costing $78.1 billion (Centers for Disease Control and Prevention [CDC], 2015). Most recent data shows that, for fiscal year 2012, 10% of Medicaid enrollees were over the age of 65 and were responsible for $158 billion of overall Medicaid costs through provisions of Long Term Services and Supports (LTSS) expenditures (Centers for Medicare and Medicaid Services [CMS], 2015).

Data collected from CMS indicates that the U.S. government's overall share of health spending was 64.3% in 2013, with a projected increase to 67.1% by 2024. The Office of Management Budget (OMB) estimates that health-related tax subsidies totaled $1.877 trillion in fiscal year 2013, the equivalent of $5,960 per capita. Tax funded expenditures' share of overall health spending was 64% of total health expenditures in 2013, with Medicare being the largest category of tax-funded expenditures equal to 20.1% of overall expenditures that same year. Additionally, tax subsidies to private health spending totaled $294.9 billion in 2013, and are expected to remain at roughly 10% through 2014, with federal income and payroll taxes accounting for more than 80% of those expenditures and state and local income tax accounting for the rest (Himmelstein & Woolhandler, 2016). This has a largely negative impact on the U.S.'s aging population, especially as they prepare to retire, fully retire, and many continue to live

with life long disabilities and illnesses, as it is an additional cost to both the government, the taxpayers, and those individuals that need the health care.

By 2014, 10% of those aged 65 and older were living in poverty, with older women (12 %) more likely to live in poverty than older men (7 %) (Federal Interagency Forum on Aging-Related Statistics, 2016). Those aged 75 and older were even more likely to live in poverty, as 2014 showed poverty rates of 12 % (Federal Interagency Forum on Aging-Related Statistics, 2016). Roughly 23 % of the older population makes up the low-income group, however, they have also made up the largest proportion of the high income category (35 %). With such a high portion of the GDP being spent on health care, this is where the question is consistently brought up as to the plausibility of a universal, single payer system: if two thirds of health care expenditures are projected to fall on the government, which is more than many of those expenditures in countries which offer universal health care, a universal system may be the next natural step to consider.

Danish Gross Domestic Product (Per Capita) and Taxed Medical Expenditures

While Denmark is a significantly smaller country that the U.S., its similar GDP per capita makes for a groundwork for comparing its taxed medical expenditures to the U.S. The Danish GDP in 2015 was 301.3 billion, with a GDP per capita of $53,014 (Organisation for Economic Co-operation and Development [OECD], 2015). According to SKAT, the Danish tax authority, the Danish tax system is progressive, as all citizens use the public sector in some way, thus, all citizens pay for it (SKAT, 2017). The higher an individuals income, the more they pay into the tax system. Tax funds are used to cover expenses for hospitals, medical care, education, police force, public transport,

infrastructure maintenance, (etc). It also finances social assistance benefits as well as social pensions. As there is no 'base rate' in a progressive tax system, but it is estimated that top earners paid roughly 60% in income tax in fiscal year 2015. The tax system is built in such a way that it is broken down into brackets so that citizens know to where the monies are allocated, and a set amount is set with a top bracket (ceiling) and low bracket (floor); health care contributions accounted for roughly 4% of income exceeding allowance (SKAT, 2017). In 2015, that would equate to roughly $2,120.56 in medical expenditures for Danish citizens making the GDP per capita, which is far less than the $9,990 per capita in the U.S. system.

While health care contributions account for roughly 4% of taxes, approximately 84% t of health care expenditure is publicly financed. The remaining 16% are financed primarily through patient co-payments. Overall, public expenditure on health care accounts for 30 % of total public expenditures (EUR 20.7 billion). In 2014, the Danish health care expenditure amounted to 10.6 per cent of GDP, which is more than the OECD average of 9%, yet public expenditures on elderly care amounted to 2.8% GDP, which includes figures for expenditures on services for disabled people and other citizens in need of social assistance (MOH, 2017). As addressed in previous sections, there is rarely an out of pocket cost for the majority of medical treatment in Denmark, as there are also publicly funded programs to ensure no payment is necessary once individuals require care in a nursing home, or, care to remain home.

Conclusion

Both the U.S. and Denmark are part of two very different welfare-state regimes, and the policies pertaining to their country's acute health care and long term care have

been formed by those welfare-state types. While both are strong, economically developed, nations, their welfare systems differ greatly. The U.S., a liberal welfare state, continues to have a commodified system that is driven by the market and the concept that each person should be able to provide for themselves and that their welfare should not be dependent upon any other person or entity. The Danish social-welfare state continues to be highly de-commodified. This model focuses on ensuring equity and participation in all facets of its health, long term care, and pension systems, each of which is funded and administered by the government at various levels, with citizens paying for the programs through their taxes.

The U.S.'s acute health care and long term care systems are majority privatized, with some government benefits available. Citizens are responsible for acute health care coverage through the age 65, though, if eligible, they may enroll in Medicaid, a means-tested government health insurance program. However, there is no guarantee of these programs' withstanding the coming 'silver tsunami, as individuals live longer, with more chronic health conditions, and are expected to pay out of pocket for much of their care. The U.S. has minimal welfare benefits for those that are unable to work, or, do not have enough money to pay for their health care. This continues to push the financial burden onto the government and the taxpayers without many solutions being brought forward. While overall taxation rates are lower in the U.S., comparing their GDP per capita to out of pocket health care expenditures helps to bring to light the issues the U.S.'s aging population is facing, and the issues that will continue to affect the population without changes being made.

The Danish acute health care and long term care systems are all paid for through a progressive tax system, with private options available as a form of supplement. Benefits eligibility is based on citizenship, not on work credits, though the amount of the pensions are also progressive, based on citizens' income. While the Danish system is also partially based on a pay-go system, it is further supported by income taxes, which are required to be paid by all citizens. This will help to ensure the stability of Danish acute health care and long term care benefits for their aging population. Despite overall taxes being higher in Denmark, the amount of out of pocket costs to GDP, coupled with guaranteed cradle to grave health care, the outlook for Denmark's aging population seems to be better than those of the U.S.

While overall taxation is much greater in Denmark than the U.S., it is important to notate that their similar GDPs and GDP per capita, comparative to out of pocket health care spending per capita, lays the groundwork for the argument that there is something to be learned from the Danish system. Differences in economy cannot be overlooked. Asthe U.S. moves towards improving upon the existing acute health care and long term care systems in order to deal with their large aging population, it is important to consider the long-applied systems of other countries whose systems continue to be financially viable, and, whose citizens do not have to worry about choosing between their health and their welfare.

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