aging as an engine of
INNOVATION, BUSINESS DEVELOPMENT, AND EMPLOYMENT GROWTH

By James H. Johnson, Jr., Allan M. Parnell, and Huan Lian

FACILITATING AGE-RELATED ECONOMIC DEVELOPMENT

Older adults will drive U.S. population growth over the next quarter century. Aspiring entrepreneurs and existing business enterprises that recognize the propitious opportunity to drive innovation by creating products and services that promote successful aging and create age-friendly communities can potentially shape U.S. economic and employment growth in the foreseeable future. Policy prescriptions required to facilitate this age-related economic development are discussed.

INTRODUCTION

We are an aging nation. The U.S. population is growing older thanks to below replacement level fertility rates, continued aging of the baby boom cohort, improvements in health behavior (active living and healthy eating), and major advances in medical care for older adults (Ortman, Velikoff, & Hogan, 2014; The Economist, 2010; Exner, 2014; Xu, et.al., 2016; Atkins, 2016-17). Even the definition of what is considered "old" is changing (Vernon, 2017). Stanford University economist John Shoven suggests, ". . . the threshold age for being considered old for men increased from about 55 in the 1920s to 70 today." For women, "old . . . today is about 73, which increased from the late 50s in the 1920s." For both men and women, what was considered "old" in the 1920s is considered "middle aged" today (quoted in Vernon, 2017).

Despite the changing definition of "old," older adults' increased physical activity, and continuing high levels of engagement in the workforce for much longer than in the past, aging is typically viewed as more of a *challenge* than an *opportunity* in our society. To be sure, major challenges exist. Figuring out how to cover the additional costs of social safety net programs for the frail elderly, for example, is unquestionably a major issue (Atkins, Tumlinson, and Dawson, 2016-17; Hoagland, 2016-17). However, we believe aging can be a new engine for innovation, business development, and employment growth in the U.S. More specifically, as we have argued elsewhere (Johnson and Parnell, 2016-17), we are convinced that "opportunities abound in this space to support and facilitate healthy and active aging on the one hand, and to care for the frail elderly on the other" (also see Kohlbacher and Herstett, 2011; BCG, 2011; Federal Reserve Bank of Atlanta, 2015).

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Against this backdrop, this article makes the case for such an age-focused economic development strategy. Toward this end, we begin by setting the demographic context, presenting data on both the current state and projected future of aging in the U.S. Next, we highlight areas in which major opportunities exist to innovate, form new and expand existing businesses, and create jobs aimed at facilitating successful aging and creating age-friendly communities. We conclude by discussing areas in which major policy changes are required to sustain and expand the strategic focus on aging-anchored economic development.

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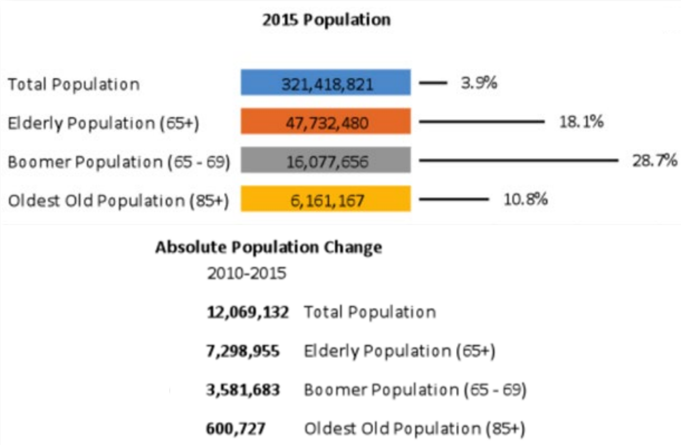
This article builds upon the work done at the Elder Care Economy Innovations Hub launched in the Kenan-Flagler Business School.

FIGURE 1. ABSOLUTE AND PERCENT POPULATION BY AGE, 2010-2015



CURRENT SNAPSHOT AND FUTURE PROJECTIONS OF AGING

In 2015, the U.S. senior population (65+) totaled 47.7 million, growing by more than 7 million between 2010 and 2015. Over these five years, the senior population grew at a rate that was nearly *five* times the rate of growth experienced by the total population (18.1 percent versus 3.9 percent), as Figure 1 illustrates. The first baby boomers turned 65 in 2011, and those between the ages of 65 and 69 grew *seven* times as fast as the total population (28.7 percent versus 3.9 percent). The oldest old (85+ population) grew *three* times as fast as the total population (10.8 percent versus 3.9 percent).

Over the next quarter century, senior population growth is projected to continue to outpace total population growth (Horvath, 2013). Between 2015 and 2040, according to the Census Bureau's National Population Projections, the American total population is projected to increase by 18 percent – from 321 million to 380 million. During this period, the 65+ population is expected to increase much more rapidly – from 47.8 million to 82.3 million, an increase of 72 percent. And because life expectancy at birth is projected to continue to increase significantly for both genders and all race/ethnic groups (see Table 1), the 85+ population – the oldest old – is forecast to grow even faster than the 65+ population (132 percent versus 72 percent) over the next quarter century. By 2040, the 85+ population is projected to reach 14.6 million, up from 6.3 million in 2015. Outpacing both groups, the 100+ population is projected to increase by 168 percent between 2015 and 2040. According to Census Bureau projections, there will be an estimated 193,000 centenarians living in the U.S. by 2040, up from 72,000 in 2015 (Figure 2).

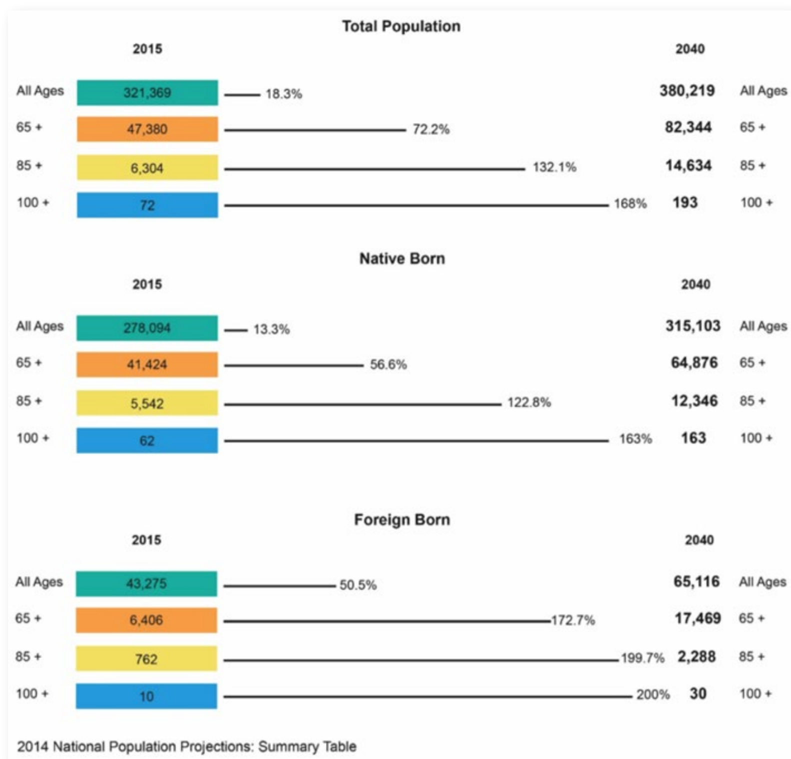
In 2015, over three quarters of America's senior population were non-Hispanic Whites (78 percent or 37 million). Blacks (9 percent or 4.3 million) and Hispanics (8 percent or 3.8 million) each accounted for less than 10 percent of the 65+ population (American Community Survey, 2017). Due to the increasing role immigrants are playing in the U.S. today (Johnson, 2013; Johnson & Kasarda, 2011), the senior population will become far more diverse over the next quarter century. In all three

TABLE 1. PROJECTED CHANGES IN LIFE EXPECTANCY AT BIRTH BY GENDER & RACE, 2015 AND 2040

Gender	2015	2040
Both Sexes	79.4	83.0
White	80.0	83.5
Black	76.1	80.5
American Indian/Alaskan Native	77.5	81.7
Asian	79.9	83.6
Native Hawaiian/Pacific Islander	80.1	83.5
2 or more races	79.8	83.0
Hispanic	81.9	83.5
Males	77.1	81.2
White	77.7	81.7
Black	72.9	78.0
American Indian/Alaskan Native	74.7	79.6
Asian	77.5	81.7
Native Hawaiian/Pacific Islander	77.7	81.6
2 or more races	77.2	81.4
Hispanic	79.6	81.7
Female	81.7	84.8
White	82.2	85.2
Black	78.9	82.8
American Indian/Alaskan Native	80.3	83.8
Asian	82.0	85.2
Native Hawaiian/Pacific Islander	82.5	85.4
2 or more races	82.2	85.1
Hispanic	84.1	85.2

Source: U.S. Census, National Population Projections.

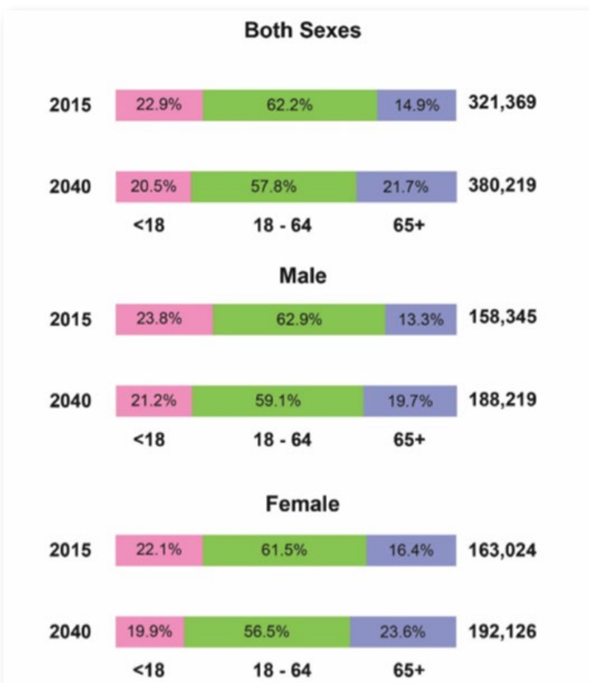
FIGURE 2. U.S. POPULATION PROJECTIONS BY AGE AND NATIVITY, 2015 AND 2040 (IN THOUSANDS)



senior age groups – 65+, 85+, and 100+ – the foreign-born population will increase more rapidly than the native-born population. While native-born seniors in these three age groups are projected to increase by 57 percent, 123 percent, and 163 percent, respectively, the corresponding numbers for foreign-born seniors in these age groups are 173 percent, 200 percent, and 200 percent, respectively. By 2040, there will be an estimated 64.9 million native-born and 17.5 million foreign-born seniors living in the U.S. (Figure 2).

In part as a function of these projected changes in the absolute size and composition of the senior population, the elderly share of the total population is projected to increase from 14.9 percent in 2015 to 21.7 percent in 2040. This shift will be evident among men and women. Elderly men are projected to comprise 19.7 percent of all men in 2040, up from 13.3 percent in 2015. The elderly share of the female population is projected to increase from 16.4 percent to 23.6 percent of the total between 2015 and 2040 (Figure 3). Paralleling these increases in the elderly share of the total, male, and female populations, there will be corresponding declines in the under 18 and 18-64 shares of the U.S. population – a potential problem given that the demand for caregivers for the elderly will increase along with the projected growth of the senior population (Redfoot, Feinberg, & Hauser, 2013).

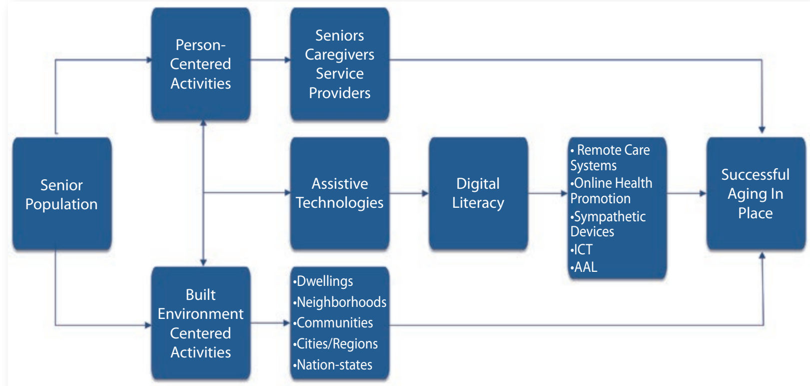
FIGURE 3. PERCENT DISTRIBUTION OF U.S. POPULATION BY GENDER AND AGE IN 2015 AND 2040



OPPORTUNITIES FOR INNOVATION, BUSINESS DEVELOPMENT & EMPLOYMENT GROWTH

Our framework for leveraging both the opportunities and challenges that accompany an aging population is depicted in Figure 4. The central proposition is that everything in both the person-centered (i.e., residential)

FIGURE 4. AGING IN PLACE FRAMEWORK



and the built-environment (i.e., all public, private, and commercial spaces) must change to accommodate an aging population (Johnson & Parnell, 2013). New ideas and innovations, including assistive technologies and the digital literacy training required to use them, are needed to support seniors as they strive to cope with their age-related difficulties while maintaining residence in their homes and communities. In addition, new models of care are required to address the needs of the oldest old (85+ population), the segment of seniors that is growing most rapidly (Easterbrook, 2014; Christensen & Willingham, 2014; Chalabi, 2013).

Unfortunately, The Boston Consulting Group (BCG, 2011, p. 28) estimates that "fewer than 50 percent of companies are taking global aging into account in their strategic planning." Reflecting on this fact, BCG (2011, p. 28) asserts "far too few companies are taking sufficient steps to prepare for the impact of [this] demographic change" and argues further that "only those organizations that proactively prepare for the demographic shifts to come will be able to meet the challenges and capture the opportunities" (BCG, 2011, p. 3). Building on this view, we focus here on four specific areas or domains that BIG opportunities exist to innovate, build and expand businesses, and create jobs in our aging society.

The Innovation Challenge
Big Opportunity #1

Opportunities exist to adapt existing products and services as well as develop a portfolio of new products and services that address the needs of the elderly. A host of venture competitions and pools of venture capital have been created specifically to support the design, development, beta testing, and launch of innovations that help seniors age successfully in their homes and the broader community. However, to maximize success and impact in this space, three problems/obstacles must be overcome.[1]

First, a strategy adjustment is in order. As Kohbacher and Herstatt have noted (2011, p.xxi), "…the focus of most silver market strategies are the "rich and young at heart" elderly, while the "poor and weak-of-limb" elderly are often neglected." Moreover, most of the efforts in this space have focused on technological innovations and have ignored the kinds of creative services that will allow older adults to live independently for as long as

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possible. Dedicated business plan competitions and creative financing models – social purpose venture funds and philanthrocapitalism investment pools – are needed to support the design, development, testing and dissemination of innovative products *and* services for the poor elderly – a group that will likely grow in the future, particularly as a result of the looming wealth crisis among nonwhite older adults (Gassoumis, Lincoln, & Bega, 2011; Guzman & Vulimiri, 2015; Rhee, 2013; Brooks, 2017; Sykes, 2016; Vinik, 2015) .

Second, better innovation management is needed because, even with the disproportionate focus on technological solutions, far too many products have been developed that do not align with the needs and desires of older adults, especially those who are poor.[2] As Kohlbacher and Herstatt (2011, p. x) note, "classical methods in product development and design have often failed to develop attractive and helpful solutions that meet the wishes of this age group." A basic failure to recognize that older adults are not a homogenous group is a large part of the problem. As Kohlbacher and Herstatt (2011, p. viii) note, "…chronological age by itself is not a sufficient segmentation criterion." Innovation must be anchored in sound research on older adults' diverse demographics, living arrangements, cultural orientations, and consumer perceptions, attitudes, and behaviors (Johnson and Lian, 2018).

Third, given this innovation management problem, a new approach to the design and development of products and services is needed. As Melkas (2011) and Fukuda (2011) have argued, this new approach should be data driven. Older adults should be directly involved as active participants or simulations of the difficulties they encounter performing activities of daily living and instrumental activities of daily living should be incorporated in the innovation process. The view is that this approach, which has been defined elsewhere as gerontechnology (Fukuda, 2011), will lead to the design and development of innovations that are more likely to be embraced or adopted by older adults.

Two critical constructs should drive this approach to successful aging-focused innovations: empathy and autonomy. In the words of Kohlbacher and Herstatt (2011, p. viii), we must "… carefully assess the needs of older consumers and *empathize* with them, to ensure adequate and early integration of representatives of this market (customers and users) into product and service development" (emphasis added) – a process called empathic design. As Miller (2017, p. 5) notes, "[t]echnical skills without empathy have resulted in products that have bombed in the market, because a vital step to building a product is the ability to imagine how someone else might think and feel."[3] Products and services also should be designed to maximize *autonomy*, that is, to help older adults maintain or regain independence for as long as humanly possible.[4]

Given the foregoing innovation issues and challenges, a unique opportunity exists to better and more strategically leverage the interests, concerns, and desires of a group of older adults who not only aspire but also are taking proactive steps to become encore entrepreneurs (Ortmans, 2015; Peterson, 2014; Stangler, 2014). Many of these individuals have retired from successful careers. Thus, their primary goal in pursuing an encore career as an entrepreneur is not just to make money; rather, they are keen on leveraging what has been popularly referred to as their double ESP (Peterson, 2014) – experience, expertise, seasoned judgement, and proven performance – to address pressing societal issues like poverty, racial inequality, illiteracy, and food insecurity (Freedman, 2016-17).

Continuing to encourage encore entrepreneurs to focus on aging issues, as is done currently through a program jointly sponsored by the U.S. Small Business Administration and AARP (Brooks, 2014; PR Newswire, 2016), is likely to pay big dividends. Research shows encore entrepreneurs not only start businesses at a higher rate but their newly launched enterprises also have a higher five-year survival rate than entrepreneurial ventures launched by any other demographic group, including the twenty-somethings (Peterson, 2014).

Boomer Purchasing Power
Big Opportunity #2

Innovative devices, products, and services are sorely needed to help older adults age in place – in their homes and communities, but most seniors are not obsessing over arthritis, incontinence, or dementia. Rather, many are working past age 65, a significant number are launch-

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ing encore careers, and a substantial share have both the active/healthy lifestyles and the purchasing power that makes them a formidable consumer market opportunity (Bulik, 2010). The boomer segment of the older adult population – individuals born between 1946 and 1964 – reportedly constitutes, for example, a $15 trillion market globally and a $3 trillion market here in the U.S. (Boyle, 2013).

To tap this consumer market successfully, advertisers and marketers need a makeover (Nyren, 2011; Melkas, 2011). As the BCG points out, "To serve the growing 55-and-over segment properly, companies need to build a deep understanding of this heterogeneous age group, adapting their product portfolios and sales approaches to meet the segment's evolving needs" (BCG, 2011, p. 24). Further, as BCG (2011, p. 25) continues by adding, "Companies wishing to find ways to serve the rapidly growing silver segment should undertake comprehensive, qualitative consumer research in order to identify the forces that motivate these consumers, formulate ways to meet their evolving needs, and set a goal to fully capture the opportunity that demographic shifts present."

To succeed with older consumers, Kohlbacher and Herstatt (2011, xv) assert – correctly in our view – that the advertising industry must diversify its employee base by hiring older adults as "copywriters, graphic artists, producers, video directors, and creative directors." Noting the downside of not doing so, they go on to state that "[i]f companies plan on implementing a marketing strategy that includes baby boomers as a primary, secondary, or tertiary market, and turn it over to only people in their 20s and 30s, they will forfeit the natural sensibilities required to generate vital campaigns." They conclude that "if the right people are not in the right jobs, what happens is what happens in all arenas of business – failure and mediocrity" (Kohlbaher and Herstatt, 2011, xv; also see Nyren, 2011).

In addition, advertisers and marketers should be well trained in how to develop meaningful and respectful relations with older adults (Nyren, 2011). This will go a long way toward ensuring that older adults are portrayed in positive, non-stereotypical ways in marketing and advertising – and not just in real estate and insurance/financial services ads. Such training, properly executed, also will help advertisers and marketers understand the aging consumer paradox: Older adults do not like to be singled-out and reminded that they are old, so, in the words of Boyle (2013), "the company that does a great job of making products for seniors takes great pains not to make products of seniors."

To develop meaningful relations with older adults, advertisers and marketers must not only understand the basic demographics of aging but also the diverse living arrangements of older adults (Bulik, 2010; Fry and Passel, 2014; Cohn and Passel, 2016; Lofquist, 2012; Carns, 2016). Most U.S. older adults live independently as single individuals or older couples (Johnson and Appold, 2017). This is particularly the case for white older adult households. However, *nonwhite* older adults are far more likely than *white* older adults to live in multigenerational households (Gamboa, 2016; Abrams, 2013; Bitter, 2016; Barnett, et al, 2016; Johnson and Lian, 2018).

This demographic reality creates huge opportunities for, among others, architects, designers, homebuilders, and aging in place specialists (Bitter, 2016; Timberlake & Coleman, 2016). Research shows that multigenerational households are more likely than one-generation households to remodel (March, 2017). Moreover, the demand for new construction that will accommodate more than one generation of family members will likely rise as the foreign born older adult population continues to grow, and as the demand for more flexible space for different stages of life among all older adult multigenerational households continues to grow in the future (Abrams, 2013).

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Older adult households that contain multiple generations also create opportunities for food companies to "market healthy-style meals that appeal across the ages," for financial marketers to create products that "help [multigenerational] families manage budgets and shared expenses," and for ad agencies to develop advertisements that both reflect and appeal to multigenerational households (Bulik, 2010; also see Atchley, 2013).

Finally, to leverage this consumer market fully, businesses must design, label, and package products and services in a manner that is age friendly. Given the challenges of aging, including diminished hearing, vision impairments, and other chronic disabilities, packaging and labeling must be easy to read, easy to understand, easy to carry, easy to enjoy, and safe to use. Major progress in this domain will probably require a major review of the Product Labeling and Packaging Act which has not been amended since it was enacted in 1968.

Demand for Senior Care Workers
Big Opportunity #3

An additional 1.2 million senior care workers will be needed by 2025 to accommodate the growth in the older adult population (Nelson, 2016; Liepelt, 2015; Espinoza, 2017). Given that many senior care workers are foreign born, meeting this demand will likely be a major challenge owing, at least in part, to the federal government's unwillingness to create a path to citizenship for otherwise law-abiding undocumented immigrants in the U.S. The current proposal to reduce by one-half the flow of *legal* immigrants into the U.S., if enacted into law, will likely further exacerbate the senior care labor recruitment challenge. Individuals who could potentially fill senior care jobs would not be a priority under the proposed point scheme for entry that would favor well-educated, highly skilled workers (The Editorial Board, 2017).

Notwithstanding, and in part as a function of these challenges, there are enormous opportunities for existing and new HR staffing agencies that are willing to develop recruitment and retention business models to address this need for both in home care providers and institutional care providers. Firms that are able to overcome the challenges that senior care workers face will profit from older adult population growth.

Those challenges include cultural barriers (most older adults are white and most of the workers are non-white and often foreign born with linguistic challenges), family issues (many in-home care and institutional-care providers are female single parents with young children), and transportation constraints (many rely on public transportation which creates scheduling and response time challenges). In addition, to meet forecasted labor demand, firms serving older adults will have to revise workplace policies and procedures to accommodate aging workers as well as their co-workers – both native- and foreign-born – who have elder care responsibilities of their own. The latter group includes more than 10 million millennials.

Fixing Spaces and Places
Big Opportunity #4

To accommodate an aging population, major modifications are required in all types of real estate, including commercial (office, industrial, retail, and special purpose), residential (single family, multi-family, duplexes, condominiums, townhomes, vacation homes), and public sector (government, transportation, and education facilities), and all classes of real estate (A, B, and C) (Gonyea & Hudson, 2015; Guzman & Harrell, 2015; Hudson, 2015; Lawler, 2015; Phillipson, 2015; Eisenberg, 2015). The required modifications to be age friendly extend beyond what is required to comply with the Americans with Disability Act.

Considering the kinds of age-related challenges older adults face, "we must redesign existing [facilities], plus design new ones that substantially reduce the likelihood of costly and possibly life-threatening slips and falls, as well as frequent trips to hospital emergency rooms, extended hospital stays, and long term placements in institutionalized care settings" (Johnson and Parnell, 2016-17, p. 13; also see Bergland, Jarnlo, and Laake, 2003; Ambrose & Hausdorff, 2013). As we have argued

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In addition to age-friendly facilities and institutions, substantial opportunities exist to create mixed income, multigenerational communities that can serve as an antidote to much of the gentrification that is currently pricing older adults out of many urban communities (Lawler, 2015; Liepett, 2017).

elsewhere, it is almost certainly cheaper to invest in age-friendly modifications than it is to pay for falls-related litigation and/or to cover the cost of hospitalizations, rehabilitation services, and long-term services and supports (The Centers for Disease Control and Prevention, 2015; Johnson and Appold, 2017; Stone, 2016-17; Genworth Financial, 2017).

Huge business-to-business (B2B) opportunities also exist to help existing business enterprises in all sectors of the U.S. economy to prepare internally for this demographic shift. In 2014, 24.2 percent of the 65-74 year old population and 6 percent of the 75+ population were still working (Johnson and Parnell, 2016-17). Constraints on immigration will likely tighten the labor supply and force employers to rely even more so on older workers in the future than they do today. Moreover, the retirement crisis that many older adults face will force them to either remain in or return to the workforce out of necessity (Guzman and Vulimiri, 2015). Firms will have to adapt their workplaces to accommodate these older workers and develop new products and services to address, among other issues, their personal age-related challenges and diverse living arrangements, which oftentimes include extended family responsibilities and obligations (Johnson and Appold, 2017; Johnson and Lian, 2018).

In addition to age-friendly facilities and institutions, substantial opportunities exist to create mixed income, multigenerational communities that can serve as an antidote to much of the gentrification that is currently pricing older adults out of many urban communities (Lawler, 2015; Liepett, 2017). Given that those most in need of aging in place assistance are predominantly older women who live alone, often in older houses that are beyond rehabilitation, viable business plans are urgently needed to build clusters of affordable, age-friendly houses, including tiny home villages (Johnson and Huan, 2018). Infill sites in cities are ideal for such developments. The houses should be constructed around a community center that is designed to promote daily interaction and thereby combat the isolation, loneliness, and abuse problems that affect older adults who live alone today (Mosqueda, Hirst, and Sabatino, 2016-17). Such communities, properly designed, can help older adults age in the "right" place (Golant, 2016; Adamson, 2016).

Finally, opportunities also exist to redesign/modify the physical infrastructure of our communities. Among other characteristics, age-friendly communities provide easy access to transport systems, offer pedestrian crosswalks with extended walk times, have street signage that is large and readable, and feature older adult or multigenerational playgrounds and fitness parks. Major shifts in state and federal policies and regulations in a range of domains, including transportation and economic development for cities, counties, and states, are required to generate the investment dollars required to create age-friendly public infrastructure (Lawler, 2015). In addition to the immediate business development and job creation potential, the financial and social returns on such investments are likely to be substantial. Age-friendly communities, properly branded and marketed, can become major retiree destinations and centers of older adult and multigenerational household tourist activity. Such activities are not only major drivers of business development and employment growth; they also will boost the local tax base of these communities.

RECOMMENDATIONS FOR STRATEGIC ACTIONS

Population aging will affect all sectors of the American economy and all types of businesses. For both existing businesses and aspiring entrepreneurs who are willing to gather the requisite business intelligence on the older adult market, unlimited opportunities exist to develop products and services as well as transform the built environment to accommodate our rapidly growing older adult population. In a word, aging can be a major source of both economic and social value creation in America.

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To facilitate innovation, business development, and employment growth in the so-called longevity economy, the following strategic actions are required.

First, the U.S. Congress must implement comprehensive immigration reform legislation, and vigorously enforce the recent U.S. Department of Labor ruling stipulating that homecare workers benefit from the same labor protections as other employees (The Editorial Board, 2017). These are strategic imperatives because, as Nelson (2016) notes, immigrants will be needed to fill the demand for the estimated 1.2 million additional homecare and institutional care workers that will be required by 2025 to accommodate growth in the senior population (also see Espinoza, 2017).

Second, current discussions about rebuilding our nation's crumbling infrastructure must be broadened to reflect the realities of population longevity (Lawler, 2015). The policy discussion must extend beyond how to modernize our system of roads, railroads, subways, airports, and air traffic control systems; bridges, dams, and levees; inland waterways and marine seaports; water and waste water, solid waste, and hazardous waste treatment systems; electric power grids; and schools, public parks, and outdoor recreation areas. Policy prescriptions and funding proposals should reflect the planning guidelines and checklists for creating age-friendly communities developed by the World Health Organization (WHO, 2007) and AARP (2017).

Third, the federal government should create an aging in place social innovation fund which would invest in social purpose business ventures that demonstrate the greatest potential or capacity for helping the most vulnerable older adults age in their homes and in their communities, perhaps through the Centers for Medicare & Medicaid Services (CMS) Innovation Center (Johnson and Lian, 2018). In 2015, AARP, in collaboration with J.P. Morgan Chase as asset manager, launched a $40 million "innovation fund" to invest in technological innovations focused on improving the lives of people 50-plus (Chew, 2015).

By obligating or dedicating a specified amount of its fund to this type of initiative, AARP could play a major role in mobilizing the requisite bipartisan Congressional support required to enact federal legislation. In addition, once such legislation is enacted and funds are appropriated to create such a fund, the federal government should in turn use its investments to leverage additional philanthropic and corporate dollars, including existing angel investment and social venture pools, to grow the fund. Given the magnitude of the problem (see JCHS, 2014; Johnson and Lian, 2018), dollars from all of these sources will be required to ensure that aging in place is an option for as many of our most vulnerable older adults as possible.

Fourth, following New York City's lead, the federal government should create a guide for age friendly building upgrades in the multi-family rental market (NYC Department for Aging, 2016). This is important because older adults who are renters, including many for whom housing constitutes a cost-burden, do not control their local living environment and property owners or landlords are unlikely to make age friendly modifications without government incentives or mandates/directives. In addition to specific recommendations that building owners should follow to make their properties more age friendly, the guide also should include information about existing federal financial incentives, including the Disabled Access Tax Credit and the Business Expense Tax Deduction, which cover at least some of the cost of making age friendly modifications to rental properties. The guide also should provide links to state level incentives.

Fifth, property and casualty insurance companies and their building owner clients should be encouraged to forge mutually-beneficial strategic alliances to facilitate aging in place for older adult tenants. A case can be made, as noted previously, that it is cheaper for property and casualty insurance companies to invest in modifications through their charitable foundations than to pay for costly litigation and medical expenses after an accidental slip or fall has occurred. This type of philanthrocapitalism on the part of property and casualty insurers would constitute a win-win-win for all parties involved (Bishop, 2008).

Older adult tenants would benefit from a renovated, age friendly living environment. Building owners would benefit from the increased value of their properties and reduced exposure to the risks associated with accidental slips and falls as well as other environmental hazards that exist in older buildings. In addition, property and casualty insurers would benefit from the tax break or deduction associated with their charitable investments in aging in place, the economic value-add in the insurance market place for engaging in socially responsible business practices, while simultaneously maintaining a sound and profitable business relationship with insured building owners. Further, local aging in place contractors and their employees as well as local economies would benefit from the renovation business that such an initiative would generate.

Sixth, the federal government also should expand funding and streamline the application process for the USDA Section 504 Home Repair program that provides "grants to [rural] elderly very-low-income homeowners to remove health and safety hazards" (Collings & Feinberg, 2014). In expanding the program, the government should stipulate that renovations must be completed by certified aging in place contractors and according to the universal design guidelines recommended by the National Association of Homebuilders (HUD, 2013a; Cook, 2016). In addition, an urban equivalent of this program should be developed. It should be designed to address the needs of elderly homeowners burdened by excessive housing costs, including those involved in multigenerational living arrangements (Timberlake and Coleman, 2016). To scale this program, the government should leverage the capabilities and expertise of Habitat for Humanity, National Church Residences, and other nonprofits, including mega-churches, that are already engaged in efforts to provide safe housing for older adults (National Church Residences, 2017; Habitat for Humanity, 2017; Mullaney, 2016).

Finally, since a significant number of the most vulnerable older adult households rely on Medicaid for long term supports and services, senior advocates must make every effort to block proposed cuts and lobby forcefully for increased federal funding for the program (The Editorial Board, 2017; Levey, 2017). States that have not done so should embrace Medicaid expansion (Atkins, 2016; Atkins, Tumlinson, & Dawson, 2016), with a specific eye toward leveraging Medicaid Home and Community Based-Waivers Programs to complete home modifications that will facilitate aging in place for some of our most vulnerable older adults (HUD, 2013b; Johnson and Lian, 2018). Since Medicaid covers long-term care for many seniors, extension of aging in place will reduce these costs (Johnson and Parnell, 2016; Marek, et.al., 2012; HUD, 2013b).

In addition, for multigenerational older adult households, states and local communities should leverage these Medicaid waiver programs to create a funding pool to be invested in compulsory education for the in-home relatives of older adults to be trained as non-medical caregivers and paid for their caregiving roles (Blumenfeld, 2014). This is likely to be a much cheaper option than institutionalized care (see Genworth Financial, 2017), and it would acknowledge in a tangible way the value that unpaid caregivers contribute to society today (Burnette, 2017; Poo and Whitlatch, 2016; Stone, 2016).

WHAT CAN ECONOMIC DEVELOPERS DO?

What can economic developers do to facilitate successful aging as an engine of innovation, business development, and job creation? Their overarching goal must be to rebrand local communities as age friendly places to live and do business. To achieve this goal, they must:

1. Devise economic development strategies that align with the age-friendly community development principles established by the World Health Organization and AARP.
2. Leverage existing and mobilize new economic development assets and incentives to rebuild existing and create new age-friendly public and private infrastructure.
3. Review existing regulatory policies, procedures, and practices to identify barriers to age friendly community economic development and make necessary adjustments.
4. Establish multi-channel communications/media strategies to increase awareness of age-friendly economic development, policies, procedures, and practices, as well as networking and business opportunities in this space.
5. Create dedicated innovation spaces (i.e., incubators and accelerators) for encore entrepreneurs.
6. Formulate workforce development goals and strategies that align with the labor demands that will define the longevity economy.

ENDNOTES

[1] Venture competitions include the Stanford Center on Longevity Design Challenge, the National Academy Grand Challenge in Healthy Longevity, Silicon Valley Boomer Venture Summit, the Palo Alto Longevity Prize, Aging 2.0 Global Network of Innovators, IAGG Tech Day 2017, and What Next Boomer Summit.

[2] For ongoing reviews and evaluations of technological innovations in aging, see the Aging in Place Technology Watch at https://www.ageinplacetech.com/.

[3] Commenting further on this problem, Miller (2017, p. 5) quotes a noted historian who studies the cultural history of the software industry. He said, "The failure rate in software development is enormous, but it almost never means the code doesn't work…It doesn't solve the problem that actually exists, or it imagines a user completely different from actual users."

[4] The MIT AgeLab (http://agelab.mit.edu/) embraces these two constructs in its approach to developing age-friendly innovations.

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