Aging Populations: Challenges for Public Health Policy in Saudi Arabia

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Abstract:

Aging populations in Saudi Arabia present significant challenges for public health policy, as the nation grapples with a demographic shift characterized by an increasing proportion of elderly individuals. The Saudi population aged 60 and over is expected to rise dramatically, leading to higher prevalence of age-related health issues such as chronic diseases, mobility limitations, and cognitive decline. This demographic change mandates a reassessment of existing healthcare frameworks to address the complex needs of older adults. Policies must focus on enhancing access to healthcare services, expanding geriatric care training for healthcare professionals, and promoting preventive health measures tailored to this age group. Moreover, effective public health policies must also consider the social determinants of health impacting older populations, including access to nutritious food, safe living environments, and opportunities for social engagement. Initiatives aimed at reducing isolation among seniors, improving mental health support, and providing comprehensive long-term care options are essential to ensuring a higher quality of life. Additionally, collaboration between government agencies, healthcare providers, and community organizations will be crucial in designing integrated services that cater to the unique challenges faced by aging populations in Saudi Arabia, ultimately fostering a more age-friendly society.

Keywords: Aging population, public health policy, Saudi Arabia, healthcare services, chronic diseases, geriatric care, preventive health measures, social determinants of health, isolation, mental health support, long-term care, integrated services, age-friendly society.

Introduction:

The phenomenon of an aging population has emerged as a defining demographic trend across the globe, and Saudi Arabia is no exception. Faced with a steady increase in life expectancy combined with declining birth rates, the Kingdom is experiencing a significant shift in its age structure. As the

proportion of elderly individuals in society grows, this alteration presents numerous challenges for public health policy, which must adapt to meet the complex needs of an older population. This research aims to explore the multifaceted issues associated with aging populations in Saudi Arabia, the implications for public health policy, and the strategic responses required to ensure a robust and

effective healthcare infrastructure for all citizens, particularly the elderly [1].

Demographic transitions in Saudi Arabia are marked by unprecedented changes. According to recent data from the Saudi General Authority for Statistics, the population aged 60 years and older is expected to expand significantly over the coming decades, driven by improvements in healthcare, nutrition, and living standards. This paradigm shift raises important questions regarding how the healthcare system will adjust to accommodate a growing number of elderly individuals who often have complex health requirements. Not only do the elderly generally require more medical attention, but they also frequently experience a higher incidence of chronic health conditions such as diabetes, hypertension, cardiovascular diseases. neurodegenerative disorders. Consequently, the aging population in Saudi Arabia necessitates a reevaluation of current health policies, which remain traditionally concentrated on younger demographics [2].

The growing elderly population poses significant economic challenges as well. The increasing demand for healthcare services will inevitably strain existing resources, prompting concerns regarding healthcare costs and the sustainability of the welfare The government's reliance on system. predominantly young workforce to support social programs may face complications as the aging demographic places additional burdens on taxation and public spending. With a projected rise in the dependency ratio - the number of dependents to those of working age - policymakers must reconsider how funding for healthcare and social services can be structured to remain viable and equitable [3].

Moreover, the social dimensions of aging are integral to understanding its challenges in Saudi Arabia. The traditions and cultural norms surrounding family structures historically supported the care of the elderly within familial settings. However, contemporary societal shifts, urbanization, and changing economic conditions have made it increasingly difficult for families to provide this level of care. As a result, the need for institutional care services and community support systems is likely to rise, necessitating planning and resource allocation to ensure that older adults

receive appropriate assistance without losing their dignity, autonomy, or sense of community [4].

In recognition of these interlinked challenges, the Saudi government has initiated a series of reforms aimed at improving health services for the aging population. The Vision 2030 framework emphasizes the importance of enhancing quality of life and promoting health across all age groups, establishing a need for tailored healthcare programs that address the specific requirements of older adults. These initiatives include expanding access to preventive care services, enhancing geriatric training for healthcare professionals, and investing in agefriendly environments. Nevertheless, there remains a crucial need for comprehensive research that delves into the efficacy of such policies in meeting the evolving needs of the aging demographic, identifying gaps in service delivery, and proposing actionable recommendations for improvement [5].

This research will engage with a variety of methods, including qualitative interviews, case studies, and quantitative analyses, to better understand the complexities surrounding aging populations in Saudi Arabia. It aims to uncover stakeholder perspectives, particularly those of elderly individuals and healthcare providers, to develop a more nuanced understanding of the challenges faced and the potential pathways for enhancing health policy. By reviewing global best practices while contextualizing them within the Saudi healthcare system, this study aspires to contribute significantly to the ongoing discourse on aging, health policy, and socio-economic sustainability [6].

Demographic Trends:

The aging population trend is a global phenomenon, but its intensity varies by region. According to the United Nations (UN), the global population aged 60 years and older was approximately 1 billion in 2020, representing about 13% of the total population. This figure is projected to reach 2.1 billion by 2050, accounting for 21% of the global population. The most rapid growth is expected in developing countries, where improvements in healthcare and living standards are leading to longer life expectancies [7].

In terms of regional differences, Europe currently has the highest proportion of older adults. As of 2020, approximately 25% of the population in

Europe was aged 60 and older, a figure expected to rise to 35% by 2050. In contrast, Africa has the youngest population globally, with only 7% of its population aged 60 and over. However, even in Africa, the number of older adults is projected to double from 2020 to 2050, highlighting the worldwide nature of this demographic shift [8].

Another critical aspect of aging populations is the disparity in life expectancy between genders. Women tend to live longer than men, leading to a higher number of elderly women compared to men. In many countries, this gender gap results in significant social implications, including increased demand for healthcare services tailored to the needs of older women, who often face unique health challenges and social isolation [9].

The implications of an aging population are profound and multifaceted, affecting various sectors, including healthcare, the economy, and social services [10].

1. Healthcare Systems

One of the most pressing challenges posed by an aging population is the strain on healthcare systems. Older adults typically have higher healthcare needs due to chronic conditions and age-related illnesses. A report from the World Health Organization (WHO) indicates that people aged 60 and older account for a significant proportion of global health spending, which is expected to increase as the population continues to age. This surge in demand for healthcare services necessitates reforms in healthcare delivery models, increased funding, and a focus on preventive care to manage chronic diseases effectively [11].

2. Economic Impact

The economic implications of an aging population are equally significant. As the proportion of older adults increases, the workforce is expected to shrink in many countries, leading to potential labor shortages. This demographic shift can hinder economic growth and productivity. Moreover, with more individuals retiring and fewer people entering the workforce, there will be increased pressure on pension systems and social security programs. Many countries may face challenges in maintaining the sustainability of these systems, leading to potential

reforms that could affect benefits and eligibility [12].

3. Social Services and Infrastructure

Aging populations also require adaptations in social services and infrastructure. Communities must be equipped to support older adults, emphasizing accessibility and inclusivity. This includes the development of age-friendly environments, such as housing that accommodates mobility challenges and transportation systems that are accessible to all. Additionally, social services must address the mental health and social needs of older adults, combating issues like loneliness and isolation, which are prevalent in this demographic [13].

Looking ahead, demographic projections indicate that the aging population trend will continue to intensify, with significant implications for global society. According to the UN, by 2050, the number of people aged 80 years and older is expected to triple, reaching approximately 426 million. This rapid increase will further exacerbate the challenges associated with healthcare, economic sustainability, and social services [14].

1. Regional Variations

Future projections suggest that while developed countries will continue to grapple with high proportions of older adults, developing countries will experience the most significant growth in their elderly populations. For instance, countries like India and Brazil are expected to see substantial increases in their aging populations, necessitating proactive measures to prepare for these changes. Policymakers in these regions must focus on building robust healthcare systems, social safety nets, and economic structures that can support an aging population [15].

2. Technological Innovations

Technological advancements will play a crucial role in addressing the challenges posed by aging populations. Innovations in healthcare, such as telemedicine and remote monitoring, can enhance access to care for older adults, particularly those in rural or underserved areas. Additionally, advancements in assistive technologies can improve the quality of life for elderly individuals, enabling them to maintain independence and engage actively in their communities [16].

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3. Policy Responses

Governments worldwide will need to implement comprehensive policies that address the implications of aging populations. This includes reforming pension systems to ensure sustainability, investing in healthcare infrastructure, and promoting healthy aging initiatives. Furthermore, fostering intergenerational solidarity will be essential, encouraging collaboration between younger and older generations to create inclusive societies [17].

Health Challenges Faced by the Elderly:

Aging is a natural biological process characterized by a gradual decline in physiological functions and an increased vulnerability to various diseases. The World Health Organization (WHO) defines older adults as individuals aged 60 and above, a demographic that is growing rapidly due to advancements in healthcare, nutrition, and overall living conditions. By 2050, it is projected that there will be around 2 billion people aged 60 years and older, representing 22% of the global population. This demographic shift poses significant challenges, particularly concerning health care systems that must adapt to the increased demand for services catering to chronic diseases and disabilities that commonly manifest in older age [18].

Chronic diseases are defined as conditions that persist for a year or longer and require ongoing medical attention or limit daily activities. Among older adults, common chronic diseases include heart disease, diabetes, arthritis, chronic respiratory diseases, and Alzheimer's disease. Each of these conditions presents unique challenges and necessitates comprehensive management strategies [19].

Heart Disease: Cardiovascular diseases (CVD) remain the leading cause of death among older adults. Factors such as hypertension, high cholesterol, and diabetes contribute to the development of heart disease. The elderly are particularly vulnerable due to age-related changes that affect heart function, such as stiffening blood vessels and decreased cardiac output. Management often requires lifestyle modifications, medications, and regular monitoring, complicating care for those with co-morbidities [20].

Diabetes: The prevalence of type 2 diabetes increases with age, driven by factors such as obesity and a sedentary lifestyle. Diabetes can lead to severe complications, including neuropathy, kidney failure, and cardiovascular disease. Effective management requires constant monitoring of blood glucose levels, dietary changes, and adherence to medication regimes, which may be challenging for some older adults due to cognitive decline or limited mobility [21].

Arthritis: Conditions like osteoarthritis and rheumatoid arthritis are among the most common sources of chronic pain in older adults. These diseases significantly impair mobility and can lead to a vicious cycle of decreased activity, increased pain, and further decline in physical health. The management of arthritis often involves physical therapy, pain management, and sometimes surgical interventions, underscoring the need for multidisciplinary care approaches [22].

Chronic Respiratory Diseases: Chronic obstructive pulmonary disease (COPD) and other respiratory ailments are prevalent in older populations, often exacerbated by a history of smoking and environmental pollutants. These conditions lead to reduced exercise tolerance and exacerbate comorbidities like heart disease. Management typically includes medication, pulmonary rehabilitation, and lifestyle modifications to minimize exposure to irritants [23].

Alzheimer's Disease and Dementia: Neurodegenerative disorders such as Alzheimer's disease present unique challenges, characterized by progressive cognitive decline that affects memory, thinking, and daily functioning. Caring for those with dementia necessitates comprehensive support systems that include medical treatment, social support, and caregiving strategies, highlighting a critical area of focus as the population ages [24].

In addition to chronic diseases, many older adults also experience disabilities, which may stem from both chronic conditions and age-related physical decline. Disabilities can affect mobility, vision, hearing, and cognitive function, leading to increased dependency on caregivers and health services, which can amplify the challenges of managing chronic illness [25].

Mobility Limitations: Conditions such as arthritis and cardiovascular disease can severely limit an older person's mobility, contributing to social isolation, increased fall risk, and a decline in overall health. The fear of falling can lead to reduced physical activity, perpetuating a cycle of frailty [26].

Sensory Impairments: Vision and hearing loss are prevalent in older populations, affecting communication and driving abilities, thereby increasing the risk of isolation and depression. Sensory impairments can complicate the management of other chronic diseases by making it difficult for individuals to access information and health services, adhere to medication schedules, and engage in self-care [27].

Cognitive Impairments: Beyond Alzheimer's disease, older adults may experience varying degrees of cognitive decline, impacting their ability to manage their own health care. Cognitive impairments can lead to misunderstanding medical advice, forgetting medications, or neglecting necessary lifestyle changes, thereby exacerbating their chronic conditions [28].

The interrelatedness of chronic diseases, disabilities, and the aging process places enormous demands on healthcare systems. The growing number of older adults requires better coordination of care, increased availability of geriatric services, and a robust support system that encompasses medical, emotional, and social needs. Furthermore, healthcare providers must adopt a patient-centered approach, respecting the preferences and unique circumstances of older individuals while promoting their independence and quality of life [29].

Healthcare System Capacity:

According to the United Nations, the number of people aged 60 years or older is projected to reach 2.1 billion by 2050, nearly doubling from 1 billion in 2020. This demographic shift is particularly pronounced in developed countries, where aging populations are accompanied by a higher prevalence of chronic diseases, including cardiovascular conditions, diabetes, and dementia. These conditions require ongoing medical attention, specialized care, and support services, placing unprecedented pressure on healthcare systems that are often ill-equipped to respond effectively [30].

The implications of an aging population extend beyond mere numbers; they encompass a range of social, economic, and health-related challenges. Older adults typically have more complex health needs, necessitating a multidisciplinary approach to care that includes not only medical treatment but also social support, rehabilitation, and palliative care. The existing healthcare infrastructure must adapt to these changing dynamics to ensure that older adults receive comprehensive, coordinated, and patient-centered care [31].

The current healthcare infrastructure in many countries is characterized by a mix of strengths and weaknesses. On the positive side, advancements in medical technology, pharmaceuticals, and healthcare delivery models have improved the quality of care available to older adults. Telemedicine, for instance, has emerged as a valuable tool, enabling remote consultations and monitoring, which can enhance access to care for those with mobility challenges [32].

However, significant weaknesses persist. Many healthcare systems are fragmented, leading to disjointed care that can exacerbate health issues for older adults. For example, older patients often navigate multiple specialists, which can result in medication errors, conflicting treatment plans, and inadequate communication among providers. Moreover, the workforce is often insufficiently trained to address the unique needs of older adults, leading to gaps in geriatric care and a lack of understanding of age-related health issues [33].

Financial barriers also pose a significant challenge. In many regions, the cost of healthcare can be prohibitively high for older adults, particularly those on fixed incomes. This can lead to delays in seeking care, non-adherence to treatment plans, and ultimately poorer health outcomes. Additionally, the burden of caregiving often falls on family members, who may lack the necessary training and resources to provide adequate support [34].

To evaluate the capacity of healthcare systems to meet the needs of an aging population, several key indicators must be considered:

Workforce Availability: The adequacy of the healthcare workforce is crucial. A shortage of geriatricians and trained healthcare professionals can hinder the delivery of specialized care to older adults. Strategies to address workforce shortages include expanding training programs, incentivizing careers in geriatrics, and promoting interdisciplinary collaboration among healthcare providers [35].

Infrastructure and Facilities: The availability of agefriendly healthcare facilities is essential. Many older adults require accessible environments that accommodate mobility challenges, such as ramps and elevators. Furthermore, long-term care facilities and nursing homes must be adequately equipped to provide high-quality care, including specialized services for those with dementia or other cognitive impairments [36].

Integrated Care Models: The capacity for integrated care models that emphasize continuity and coordination is vital. Healthcare systems must implement strategies that facilitate communication and collaboration among various providers to ensure that older adults receive holistic care that addresses both medical and social needs [37].

Technology Utilization: The effective use of technology can enhance capacity by improving access to care and streamlining communication. Electronic health records (EHRs), telehealth services, and remote monitoring technologies can facilitate better management of chronic conditions and enhance patient engagement [38].

Policy Framework: A supportive policy environment is essential for addressing the challenges posed by an aging population. Policymakers must prioritize funding for geriatric care, support research into age-related health issues, and promote public health initiatives aimed at preventing chronic diseases among older adults [39].

To enhance the capacity of healthcare systems to meet the needs of an aging population, several strategies can be employed:

Investing in Geriatric Training: Expanding educational programs focused on geriatrics can prepare healthcare professionals to address the unique challenges posed by an aging population. This includes not only physicians but also nurses, social workers, and allied health professionals [40].

Promoting Community-Based Care: Shifting the focus from institutional care to community-based services can improve access and reduce costs. Programs that support aging in place, such as home

health services and adult day care, can help older adults maintain their independence while receiving necessary support [41].

Enhancing Care Coordination: Implementing care coordination models that involve case managers or care navigators can help older adults navigate the healthcare system more effectively. This approach ensures that patients receive timely interventions and follow-up care, reducing the risk of hospital readmissions [42].

Leveraging Technology: Embracing technology can improve healthcare delivery for older adults. Telehealth services can provide timely access to care, while remote monitoring devices can help track health metrics and alert providers to potential issues before they escalate [43].

Advocating for Policy Change: Engaging policymakers to prioritize the needs of older adults is crucial. This includes advocating for increased funding for geriatric services, research into aging-related health issues, and the development of public health campaigns focused on healthy aging [44].

Best Practices and Innovations:

One of the foremost areas for adaptation is education. Countries such as Finland and Singapore have implemented educational reforms that have distinctly improved academic performance and student engagement. The Finnish education system is renowned for its minimal homework, no standardized testing, and highly trained educators who enjoy professional autonomy. This framework fosters creativity and critical thinking, vital competencies in today's economy [45].

Saudi Arabia could benefit from similar reforms by allowing educators more flexibility in curricula and teaching methodologies. A pilot program could be initiated in select regions to explore these educational models. Workshops and training for teachers could be organized, focusing progressive pedagogical approaches, interdisciplinary learning, and experiential education, which together could help cultivate a more dynamic and innovative educational landscape [46].

Healthcare is another critical area where international best practices could prove advantageous for Saudi Arabia's public health

system. The United Kingdom's National Health Service (NHS) operates on the principle of universal access to healthcare, premised on the idea that health is a right, not a privilege. Adopting key components of this model, such as universal healthcare coverage, preventive care strategies, and an emphasis on community health programs, could enhance public health outcomes in Saudi Arabia [47].

For example, implementing community health programs similar to Australia's health promotion initiatives could be highly effective. These programs emphasize preventive care and engage communities directly. Saudi Arabia could develop outreach initiatives tailored for local communities, promoting healthier lifestyles while aiming to reduce rates of lifestyle-related diseases prevalent in the region [1].

As Saudi Arabia seeks to diversify its economy away from oil dependency, the country can take inspiration from Germany's Energiewende (Energy Transition) policy. This program has successfully focused on transforming nationwide energy systems through a rapid increase in renewable energy sources, notably solar and wind power. The Saudi climate, abundant in sunlight, presents an opportunity to invest heavily in solar energy [5].

The Kingdom has already taken steps in this direction with the Sakaka PV IPP Project and the National Renewable Energy Program. However, amplifying these efforts by creating robust incentives for solar energy deployment—such as subsidies, tax incentives, or facilitating private enterprise participation— would significantly accelerate the transition towards a sustainable energy future. Additionally, forging international partnerships with countries that have a proven track record in renewable technology can drive innovation while building local expertise and capacity [2].

Creating a vibrant entrepreneurial ecosystem is crucial for economic diversification. The startup culture in places like Silicon Valley in the USA, or the thriving entrepreneurial landscape in Tel Aviv, Israel, offer models that can be adapted to Saudi Arabia. Key elements of successful entrepreneurial ecosystems include access to funding, mentorship opportunities, and community support networks [11].

Saudi Arabia already recognizes the importance of fostering entrepreneurship as part of its Vision 2030.

However, it could enhance these efforts by establishing incubators and accelerators that not only provide funding but also practical guidance and networking opportunities for startups. Collaborations with global firms and universities could be undertaken to create innovation hubs, providing platforms where young entrepreneurs engage with experienced mentors and industry leaders [25].

Another significant area for adaptation is in social inclusion and community development initiatives. Programs like Brazil's Bolsa Família have successfully targeted poverty reduction through conditional cash transfers, incentivizing families to meet educational and health benchmarks. Such initiatives can be adapted to promote educational attendance, healthcare access, and employment opportunities in marginalized communities within Saudi Arabia [23].

Implementing a similar program could provide direct financial support to low-income families while simultaneously encouraging them to engage in educational and social health commitments, ultimately fostering a more inclusive environment and reducing disparity gaps in the short and long term [14].

Recommendations for Future Policy Development:

1. Comprehensive Health Care Access

One of the most significant barriers facing the elderly is access to healthcare. As individuals age, they often experience a greater prevalence of chronic conditions, requiring regular medical attention. Policies must aim to create an inclusive healthcare system that provides affordable, comprehensive care tailored to the elderly. This includes enhancing insurance coverage options, such as Medicare in the United States, to cover preventive screenings, mental health services, and long-term care. Additionally, telehealth services should be expanded to improve access, particularly for those in rural or underserved areas. By fostering a healthcare system that values preventive care, intervention, and holistic treatment, policymakers can contribute to better health outcomes for the aging population [31].

2. Emphasis on Mental Health

Mental health is as crucial as physical health, yet it often remains overlooked in aged care policies. Elderly individuals may face isolation, depression, and cognitive decline due to various factors, including loss of loved ones or chronic health issues. Future policies should integrate mental health services into primary care to reduce stigma and improve accessibility. This could involve training healthcare providers to recognize and address mental health issues in elderly patients effectively. Additionally, community engagement initiatives, such as social support programs and activities promoting socialization, can alleviate feelings of loneliness and isolation, fostering a more supportive environment for older adults [32].

3. Age-Friendly Urban Design

The built environment significantly impacts the health and well-being of elderly individuals. Age-friendly urban design involves creating spaces that accommodate the needs of older adults, promoting mobility, safety, and accessibility. Future policies should enforce standards that mandate sidewalks, benches, and pedestrian crossings that consider the physical limitations of the elderly. Public transportation should also be re-evaluated and adapted to meet the needs of older riders, offering discounts and ensuring transit vehicles are accessible. Designing age-friendly communities can help facilitate independence and mobility, allowing older adults to participate actively in societal activities [41].

4. Promotion of Healthy Lifestyles

Encouraging healthy behaviors among the elderly is essential for improving public health outcomes. Future policies should promote initiatives targeting nutrition, physical activity, and preventive care. For example, subsidizing fresh produce through community gardens or farmers' markets can enhance access to healthy food options. Similarly, local governments can organize fitness programs tailored to seniors, incorporating low-impact exercises that are enjoyable and beneficial. Educational campaigns focused on the importance of preventive health screenings and vaccinations in older adults can further contribute to disease prevention. By promoting healthy lifestyles, policies

significantly reduce healthcare costs and improve the overall well-being of the elderly population [9].

5. Expansion of Caregiver Support Programs

Informal caregivers play a pivotal role in supporting the daily activities of elderly individuals. However, these caregivers often face immense emotional and physical pressures, which can lead to burnout. Policymakers should prioritize the development of caregiver support programs that provide training, respite care, and emotional support resources. Financial assistance for caregivers may also be necessary, especially for those who forgo employment to provide care. By recognizing and supporting the vital role of caregivers, public health policies can ensure a robust support system for the elderly [19].

6. Continuous Stakeholder Engagement

Effective public health policy development requires ongoing engagement with stakeholders, including elderly individuals, caregivers, health professionals, and community-based organizations. Policymakers should establish platforms for dialogue, fostering inclusive discussions that center the voices of the elderly. This engagement can help identify specific needs and preferences, ensuring policies are patient-centric and responsive to the real-world challenges faced by older adults. Regular assessments and feedback loops can also facilitate necessary adjustments to policies, helping to ensure they remain relevant and effective [28].

7. Intersectoral Collaboration

Public health issues affecting the elderly often intersect with various sectors, including housing, transportation, finance, and social services. Future policy development should take an intersectoral approach, encouraging collaboration among different government departments and community organizations. Coordinated efforts can lead to more comprehensive solutions that address multifaceted nature of the challenges encountered by older adults. For instance, housing policies targeting affordable and accessible living options can directly influence healthcare access and social participation, leading to improved health outcomes [45].

Conclusion:

In conclusion, the aging population in Saudi Arabia poses substantial challenges that necessitate urgent attention and strategic planning within public health policy. As the demographic landscape shifts, it is crucial for the Saudi healthcare system to adapt by enhancing service delivery, increasing geriatric workforce capabilities, and prioritizing preventive health measures tailored to the unique needs of older adults. Addressing the health challenges faced by the elderly, including the management of chronic diseases and the promotion of mental well-being, is vital for improving their quality of life and ensuring they remain integral members of society.

Additionally, acknowledging and addressing social determinants of health will play a critical role in fostering an inclusive environment for older individuals. Collaborative efforts between government entities, healthcare providers, and community organizations are essential to develop integrated and comprehensive services that support the aging population. By investing in innovative solutions and learning from global best practices, Saudi Arabia can create a robust public health framework that not only meets the immediate needs of its elderly citizens but also lays the groundwork for a sustainable future where all age groups are valued and supported.

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