

Addressing an Aging Population through Digital Transformation in the Western Hemisphere

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SEPTEMBER 2021

THE ISSUE

Over the last 50 years, the populations of most countries in Latin America and the Caribbean have been aging steadily. An increase in life expectancy coupled with a decline in birth rates is expected to continue in the coming decades. As the proportion of the elderly population in the region increases, so too will demands for healthcare services and pension collections, as well as the number of people leaving the workforce. An aging population is often the sign of a healthy society, but countries can and should prepare for the upcoming reality of a significant demographic shift by adapting age-friendly digital solutions to help mitigate these effects and better care for the elderly. If countries start preparing now rather than waiting until they are facing an aging bulge in 30 years, they will be able to effectively manage the ensuing shifts in societal and economic demands and avoid many problems.

RECOMMENDATIONS

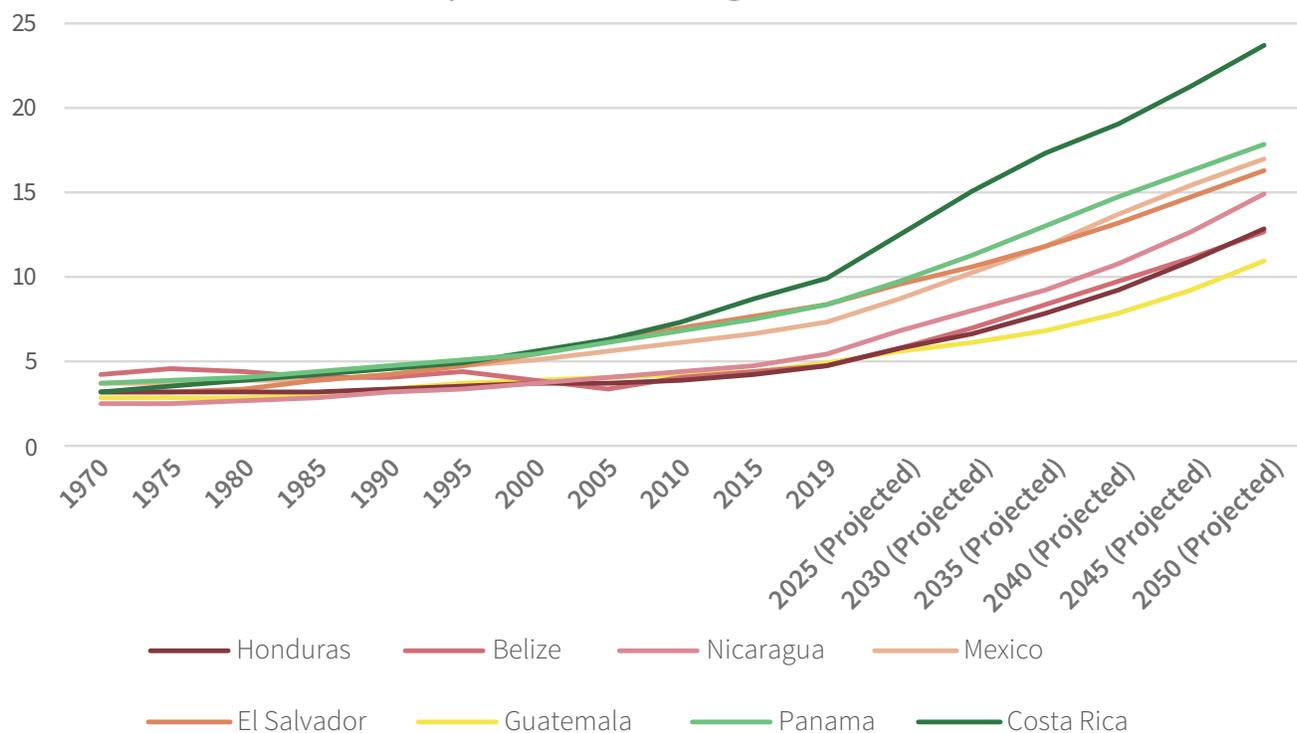
- **Design a strategy to support a healthy aging population.** This includes creating smart cities, expanding accessible public transportation, and facilitating continuing education for older adults.
- **Strengthen the healthcare sector.** Digital initiatives like telemedicine and data-driven healthcare can help healthcare workers better care for patients with chronic illness, which is more common in old age.
- **Support caregivers.** Caregivers in the Western Hemisphere include both professionals and family members. Digital solutions like wearable robotic devices and apps that track symptoms and medical appointments can help caregivers provide better support to older adults.
- **Modernize insurance and pension systems.** Countries should design pension schemes and insurance systems that offer coverage to both formal and informal workers so that all employees can better access government resources and plan for their retirement. Digitization of these systems can educate people on financial planning, increase the trust populations have in their governments, and allow companies greater data-sharing capabilities, among other benefits.
- **Prepare the workforce.** Along with a shrinking working-age population, countries are facing an increasing push toward workforce automation to replace older employees who are leaving. Many sectors, particularly in the formal economy, can benefit from automated procedures rather than relying on human capital, which further reduces the need for in-person jobs. The automation of jobs in the informal sector is nearly impossible, however, meaning that countries will continue to rely on informal workers even as the working-age population decreases. The digitalization of immigration systems can also help facilitate legal migration to fill gaps in the workforce and ensure both faster processing systems and more dependable information.

- **Encourage the silver economy.** An older population will also bring many opportunities for the economies of countries in the region. As the population ages, more people will begin to participate in the “**silver economy.**” Older people are major contributors to the economy: they often have significant spending power, they travel, and they consume services like healthcare more than younger populations. Countries should prepare their workforces now for jobs in industries that older populations will use.
- **Strengthen the community of practice.** Several multilateral organizations have already identified aging as a policy priority and are working with countries in the Western Hemisphere to prepare for an aging population. Countries in the Western Hemisphere can also benefit from the experiences of other countries with aging populations, like Japan, Greece, and Italy, to design and implement aging strategies.

AGING IN THE WESTERN HEMISPHERE

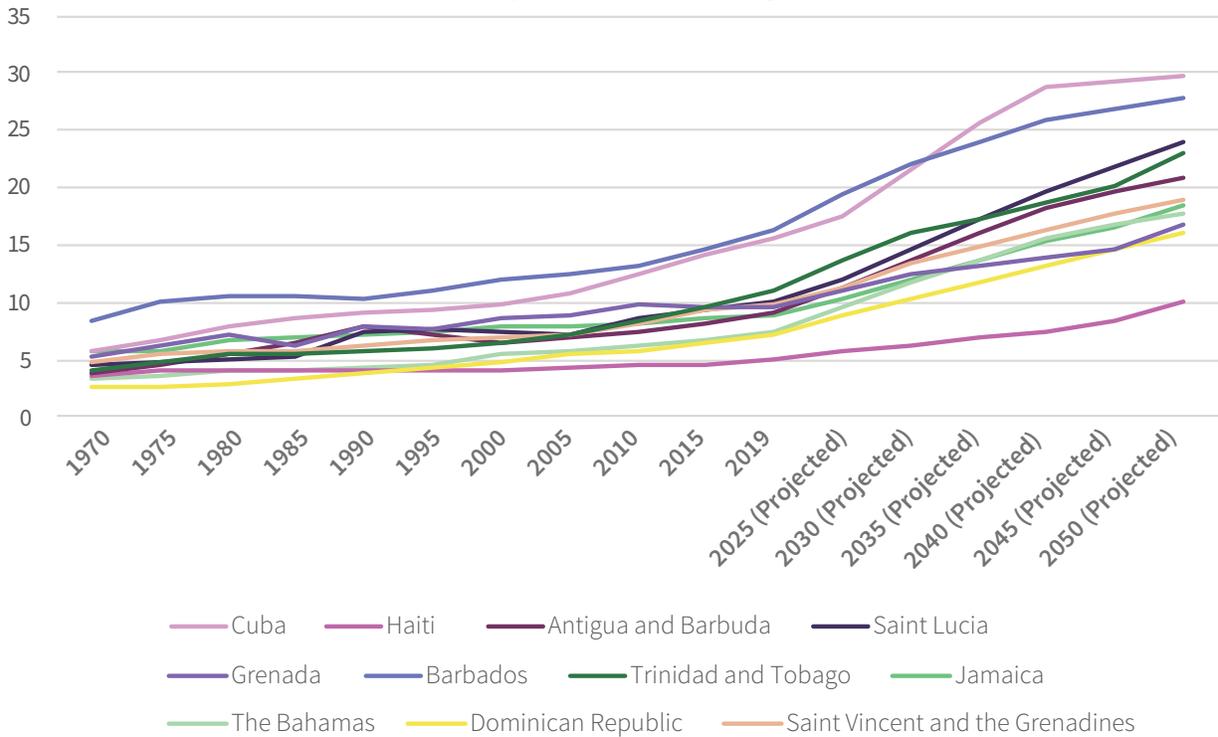
As of 2019, approximately **9 percent** of the Western Hemisphere’s population was over the age of 65, up from 6.8 percent just 10 years ago. This figure is expected to increase to more than 19 percent by the year 2050 and reach **30 percent** by the end of the century. Some countries in the region are aging much more quickly than others. For example, Cuba is projected to have an elderly population close to Japan’s current levels (around 28 percent) in the next 20 years, while Haiti, the youngest country in the hemisphere, will only have 10 percent of its population over 65 in 2050. Average life expectancy in the region has been steadily increasing over the past several decades, from about 60 years of age in 1970 to over 75 in 2019. The World Bank **projects** that life expectancy will surpass 80 years of age in the region by 2050.

Percent of Population over Age 65: North America



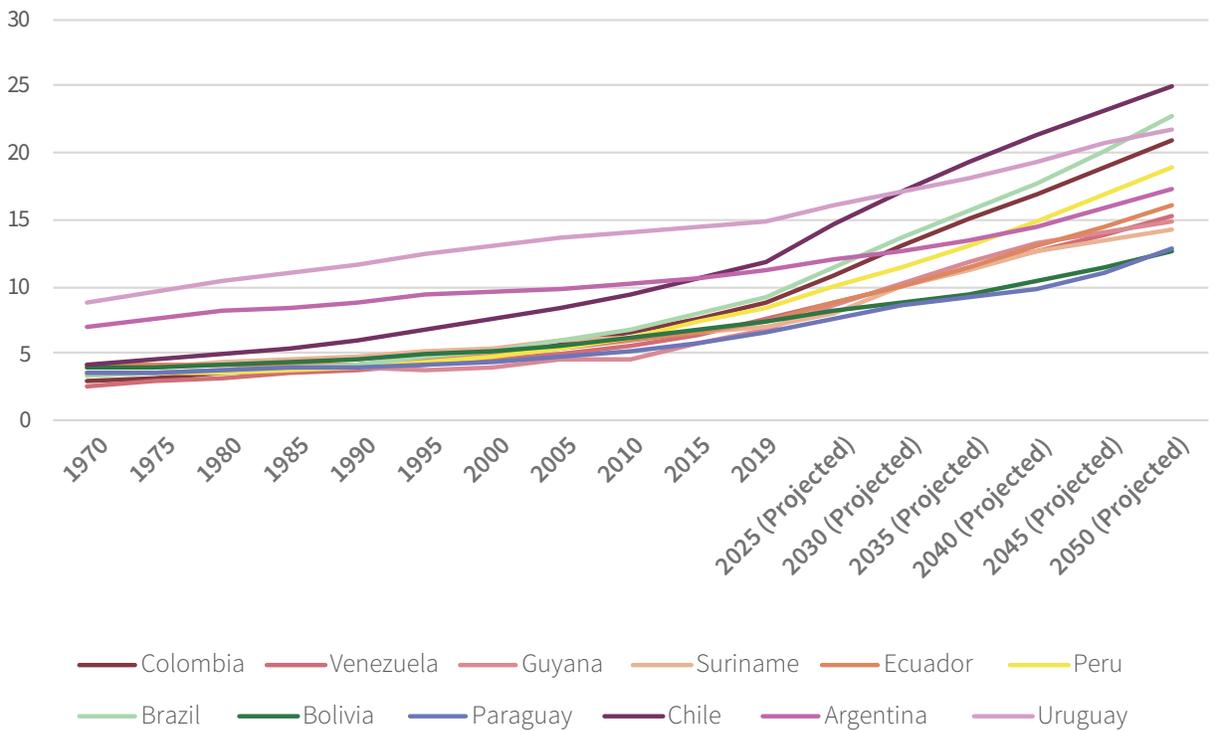
Source: World Bank, “Population ages 65 and above (% of total population,” database, <https://data.worldbank.org/indicator/SP.POP.65UP.TO.ZS?view=chart%20and%20https://databank.worldbank.org/source/population-estimates-and-projections>.

Percent of Population over Age 65: Caribbean



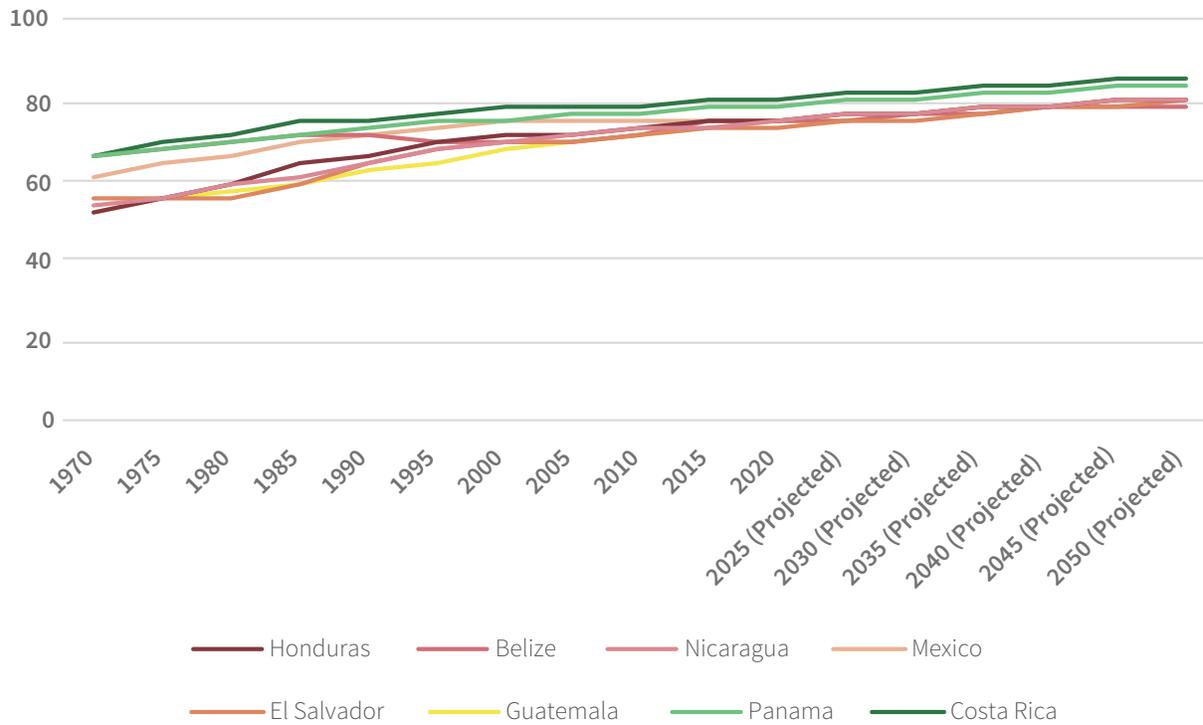
Source: World Bank, "Population ages 65 and above."

Percent of Population over Age 65: South America



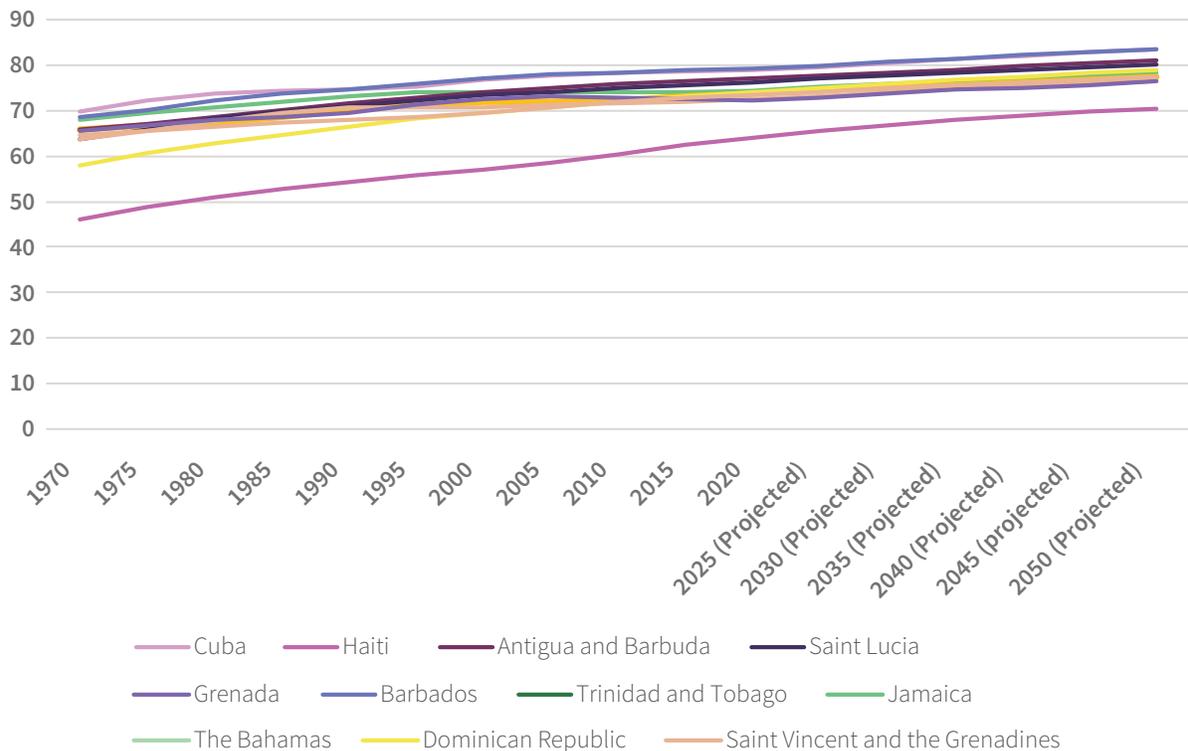
Source: World Bank, "Population ages 65 and above."

Life Expectancy 1970–2050: North America



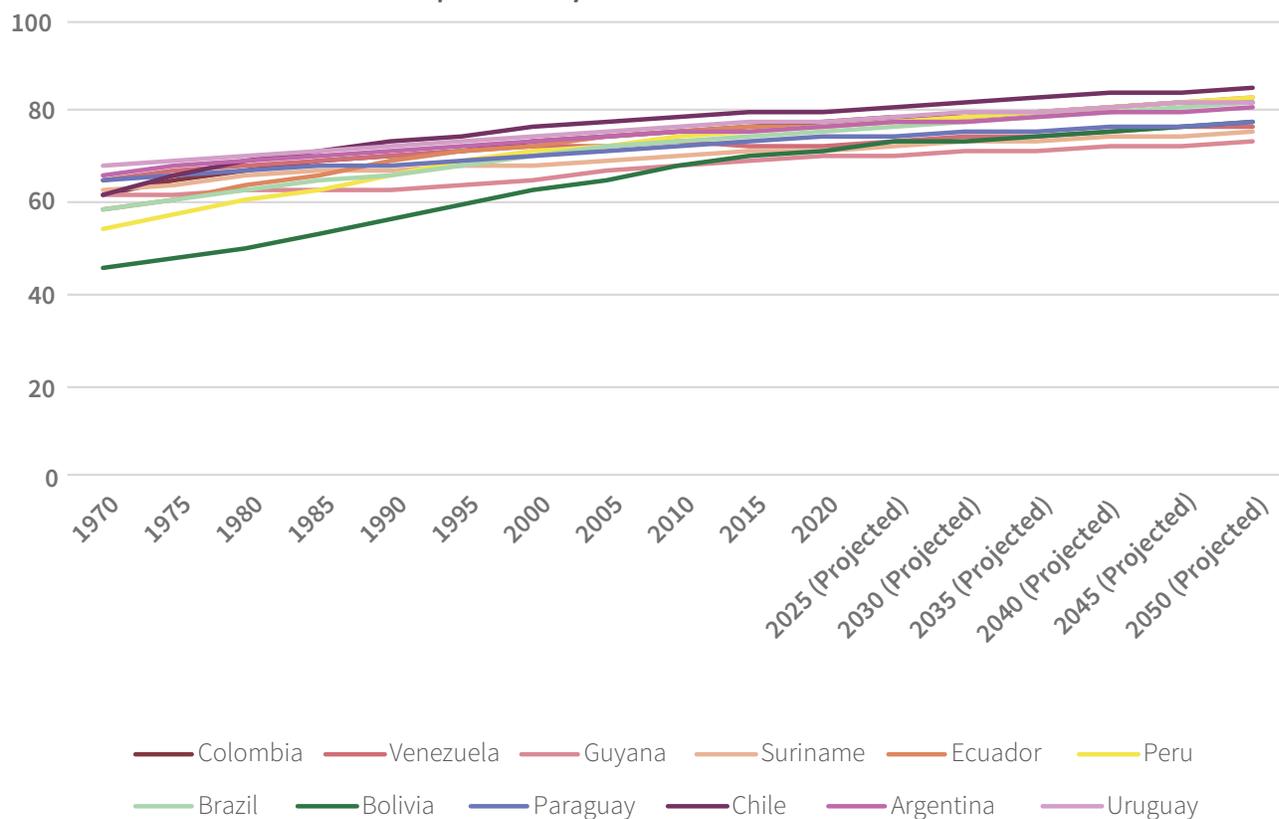
Source: World Bank, "Life expectancy at birth, total (years)," database, <https://data.worldbank.org/indicator/SP.DYN.LE00.IN>; World Bank, "Population estimates and projections," database, <https://databank.worldbank.org/source/population-estimates-and-projections>.

Life Expectancy 1970–2050: Caribbean



Source: World Bank, "Life expectancy at birth."

Life Expectancy 1970–2050: South America

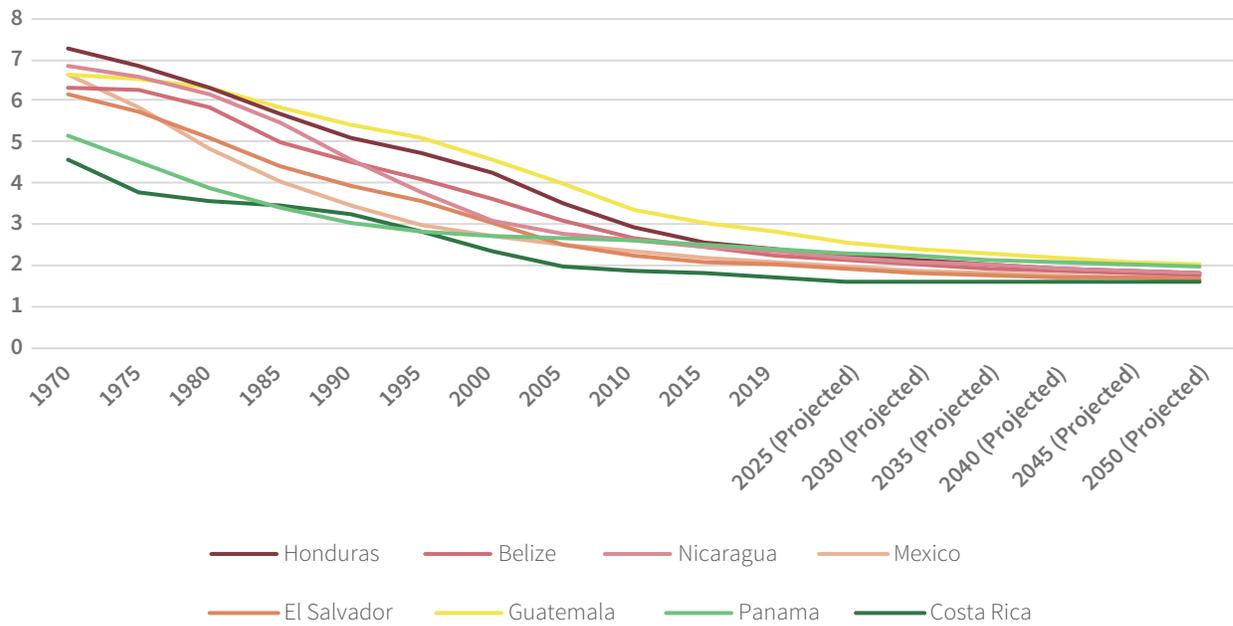


Source: World Bank, "Life expectancy at birth."

Simultaneously, fertility rates in the region are going down. In 2015, the overall fertility rate in Latin America and the Caribbean fell under the standard replacement level of 2.1 births per woman for the first time. The fertility rate has continued to fall; the regional birth rate was 2.0 in 2019, and over the next 30 years, it is projected that **fertility will continue to decline, averaging 1.7 births per woman by 2050**. In addition to declining fertility rates, **negative net migration** in the region—especially of young people—has also contributed to an overall older population. The Pan American Health Organization (PAHO) **projects that** the number of adults over age 65 in the region will outnumber the number of children under 15 by 2050.

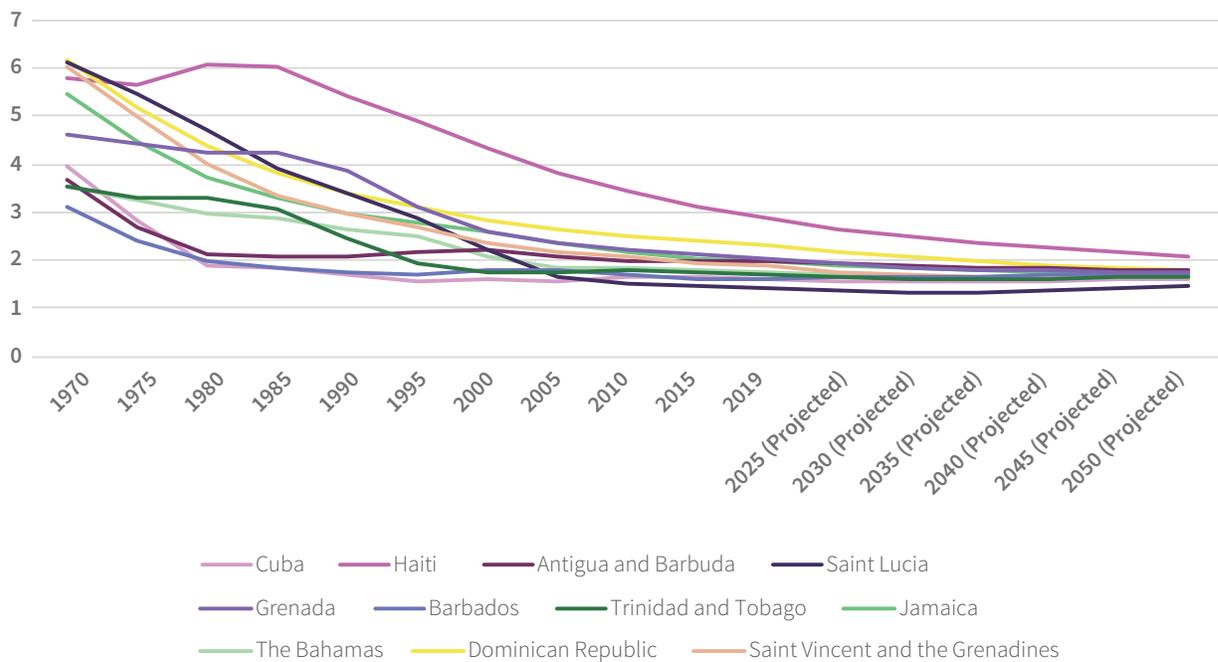
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Fertility Rate 1970–2050: North America



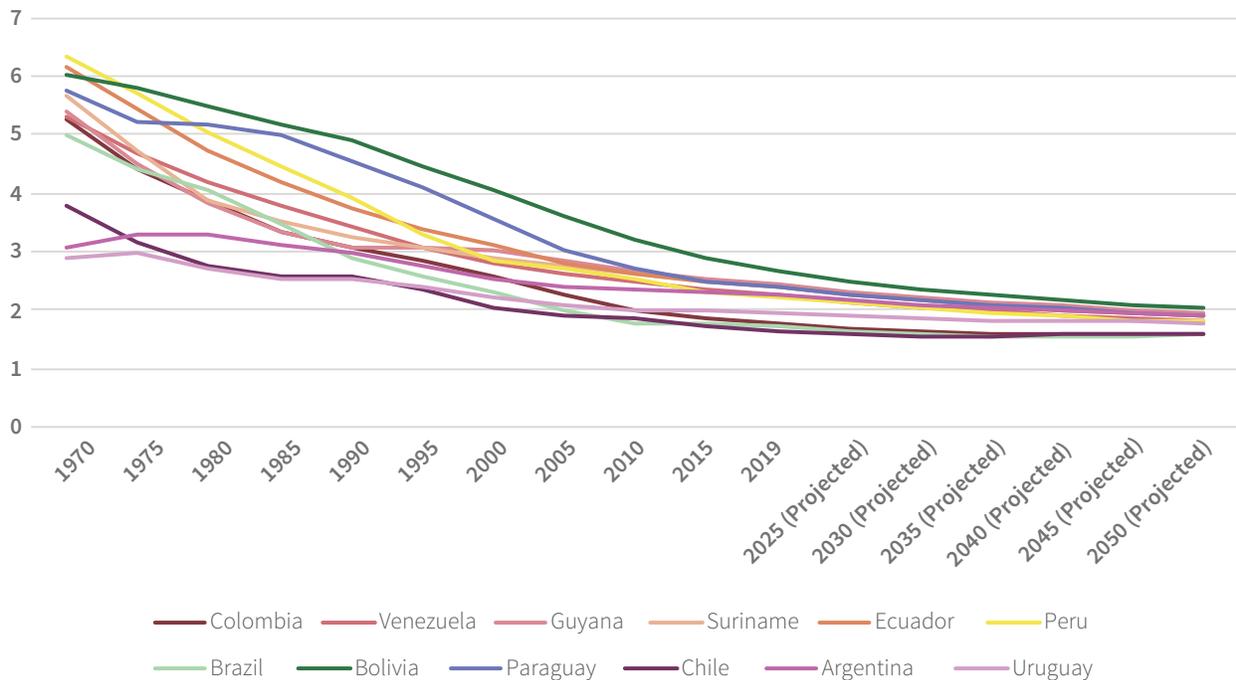
Source: World Bank, "Population estimates and projections," database, <https://databank.worldbank.org/source/population-estimates-and-projections>.

Fertility Rate 1970–2050: Caribbean



Source: World Bank, "Population estimates and projections."

Fertility Rate 1970–2050: South America



Source: World Bank, "Population estimates and projections."

Although the region's overall age is trending upward over the next 30 years, about half of the countries in the region are already experiencing this demographic shift. As of 2019, 15 countries already have a fertility rate below replacement levels, and five more are projected to fall below replacement levels during the next decade.

An increase in longevity is inherently a positive indicator for society, and even when combined with a falling birthrate, it is not a negative situation if countries are adequately prepared. However, many governments in the region have neglected to prepare for this inevitable reality. Addressing upcoming demographic shifts early on will mitigate many potential future problems that societies may face if they are not ready.

WHAT TO PREPARE FOR

A larger elderly population will bring with it rising healthcare needs, such as medicine, long-term care, resources like the internet, and adaptive technologies. Public spending for healthcare services in the Latin American and Caribbean region accounts for **4.1 percent** of GDP—lower than in other aging regions like **Europe** and **Africa**, and significantly lower than Japan, which has

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the world's oldest population and spends **11 percent of its GDP on healthcare**. With the imminence of an aging society, this number will need to increase. As countries age, the region's older population will also require increased care for chronic illnesses, including specialized doctors and treatments, along with long-term care from either family members or professionals.

Countries will also need to prepare to provide a high quality of life for those over 65. Older adults who age in place and can be socially active in their community have a **higher quality of life**. While older adults with a higher

socioeconomic status can more easily access resources, **over 16 percent of those over 65 in Latin America live in poverty, and over 30 percent are classified as “vulnerable.”** Accordingly, countries will need to implement infrastructure and initiatives that enhance life for senior citizens. This includes increasing livability and accessibility in both urban and rural contexts, providing safe and convenient transportation, and prioritizing social and civic engagement.

There will also be a greater demand for government support for the older population, particularly regarding insurance coverage and pension payouts. As the dependent population (individuals over 65 and minors under 15) grows larger and the working-age population (individuals between the ages of 15 and 64) shrinks in the coming decades, there will be an imbalance between pension payouts and those who contribute to those funds. Latin American and Caribbean countries spend about **4.3 percent** of their GDP on pensions, and if governments do not sufficiently budget for an expected rise in cost, they will encounter significant fiscal difficulties. Additionally, if governments do not have the resources to support the elderly, an even greater portion of the population could fall into **poverty** or become vulnerable to it. Modernizing and reforming pension systems in the region will require digital transformation, which could also help older adults better plan for retirement and interact with their retirement savings.

The demographic shift produced by aging will also impact the workforce. As older employees leave the workplace, they take with them institutional knowledge and best practices that the younger generation may not yet know. Aging societies also tend to experience smaller workforces, making it difficult for companies and organizations to fill the gaps left behind as older employees retire. As of 2020, the percentage of the population between the ages of 15 and 64 **has reached its peak since 1970** and is projected to begin trending downward by 2025. As the workforce shrinks, there is a unique **opportunity** for older and younger generations to work together to find innovative solutions to fill the gaps in personnel through technology and employee training, among other solutions.

Many countries in the region have already begun to focus on aging policy. For example, the United Nations has declared 2021–2030 the “**decade of healthy aging**” and the Pan American Health Organization works with countries in the region to design and implement aging strategies.

EFFECTS OF COVID-19

The Covid-19 pandemic exacerbated and revealed care deficiencies in many countries around the world, especially for at-risk populations like the elderly. Aside from the significant risks of developing severe or even **fatal symptoms** from the Covid-19 virus, older adults also experienced a drop in economic stability and a rise in physical and financial abuse during the pandemic.

The Covid-19 pandemic has hit South America **worse** than any other continent, with 21 percent of cases and 32 percent of deaths worldwide coming from the region. Brazil and Peru were particularly hard-hit, having the **second-highest** number of Covid-19-related deaths in the world and the highest per capita death rate in the world, respectively. Argentina and Colombia are also struggling to contain the spread of the virus, with over **5.1 million** and **4.8 million** people having been infected as of August 2021, respectively. Many in the region have encountered considerable difficulties in receiving Covid-19 tests and vaccines, largely due to the technological barriers for older persons in accessing these resources. Older adults in already vulnerable populations—such as refugees—face additional barriers to resources; older refugees have highlighted limited access to healthcare services, with **6 percent** of those who contracted Covid-19 receiving inadequate care. Additionally, poorer health outcomes and higher mortality among older adults are proven to be **associated** with feelings of greater perceived loneliness, lower life purpose, higher memory concerns, and greater discrimination, all characteristics heightened by the pandemic. Each of these aspects has continued to contribute to the decline in mental health of the older population.

In addition to health-related vulnerabilities, older adults are also financially vulnerable because of the Covid-19 pandemic. In general, in economic downturns, older adults typically experience a **decrease in total net worth** and take on greater debts. This is largely because they do not have as much time as the younger generation to recover from the economic losses from the pandemic, particularly in the face of plummeting investments or retirement savings. In Latin America and the Caribbean, a significant amount of people aged 60 and over were already **experiencing poverty**, a situation likely to have worsened as the pandemic continued to force significant economic slowdown.

According to the United Nations, accounts of violence, abuse, and discrimination against the elderly population have **risen significantly** during the pandemic. Over the past year and a half, older persons have experienced a **lack**

of adequate services ranging from healthcare to social and legal services, creating additional vulnerabilities and increasing their dependency on others. Elder abuse is often **committed** by spouses or adult children—the two groups that the elderly were most likely to be living with during the pandemic. Additionally, social isolation and a lack of social support, both increasingly prevalent elements of the pandemic, have proven to be significant factors for elder abuse. Increased financial instability also makes older adults more **vulnerable to financial scams** and other forms of abuse.

DIGITAL TRANSFORMATION

As populations continue to age, digital transformation will play a critical role as countries prepare for the demographic shift.

One shining example in planning for an older population and implementing digital solutions is that of Japan. Japan has implemented many **initiatives** to address the demographic changes brought about by an aging society; it has developed strategies aimed at women and the elderly to maintain engagement in the workforce, improved welfare services such as long-term care facilities, and promoted immigration to encourage the addition of new workers into the labor market. Japan has also introduced the **Gold Plan** to improve healthcare services for the elderly, reduce the burden of care for families, and advance insurance policies. Digital transformation is at the **core of the Japanese strategy** for preparing healthcare systems for an aging population: Japan promotes anonymous data collection to improve healthcare outcomes, has developed virtual reality devices to help healthcare workers better understand dementia, and invests in cutting-edge health technologies like artificial intelligence (AI), convertible beds, and new drugs and treatments.

SUPPORTING HEALTHY AND DIGNIFIED AGING POPULATIONS

A major goal for countries with aging populations is to ensure healthy and dignified lives for older adults. Digital solutions are a cornerstone of many initiatives aimed at enhancing digital technology and infrastructure, and they

can play a significant role in supporting healthy aging by creating **smart cities** that encourage older populations to be active and participate in wider societal opportunities outside of retirement communities or nursing homes. Cities can incorporate a “digital city layer” that can expand accessibility for older populations by providing information on walkability, the locations of public facilities like restrooms, and public transportation routes. Apps can also provide day-to-day support to older populations by facilitating services like safe rides to appointments and deliveries of food and medication. Of course, this solution is much harder to implement in rural settings, where public transportation might be sparse or nonexistent. However, certain solutions can still support older adults in these settings, especially rideshare or delivery apps.

Through digital infrastructure, older adults can also more easily access continued education or hobbies, which contribute to a healthier and happier life. The Covid-19 pandemic accelerated e-learning in much of the world, and many countries have been able to quickly implement online learning. Many Latin American and Caribbean countries already provide e-learning opportunities for tertiary education or continued education designed for adults. For example, Mexico City implemented the **Universidad de Tercera Edad** in 2009, which provides low-cost courses and degrees for older adults, and the University of Panama runs an **extension program** for older adults that includes both job training and wellness courses.

HEALTHCARE

There are many areas for improvement in healthcare systems, infrastructure, and technology. Data-sharing in the medical field is incredibly important; digital solutions that help technology move from simply facilitating data collection to facilitating data-driven health are critical to improved care. This adjustment would allow for greater communication among healthcare professionals, who in turn can address health-related issues more personally and holistically. Data-driven healthcare solutions are especially useful for monitoring and treating chronic illnesses, which are more likely to develop as people age. Telemedicine visits—increasingly favored during the Covid-19 pandemic—are meant to make healthcare appointments and professionals more easily accessible. However, telemedicine as it currently exists is **often inaccessible to populations** with limited internet access (especially rural populations), people with a cognitive impairment like dementia, and people with medical conditions like poor eyesight or hearing. If telemedicine systems are made

more accessible through better training for users, better interfaces, and accommodations for hearing, vision, and cognitive impairments, they can make a significant impact on healthcare access for older adults in many countries.

Advanced technology to help detect, treat, and even prevent chronic conditions would improve the quality of life for many older adults. For example, the introduction of **wearable robotic devices** has helped provide care and companionship for older adults, not only creating more comfortable environments for patients but also alleviating overburdened hospitals and making care more accessible. **Digital apps** can track symptoms, medications, and medical appointments outside of a traditional healthcare system. These solutions also provide support to caregivers, who can more easily monitor and track their older family members' healthcare needs.

As the world continues to shift to a digital society, designers of digital solutions should work with actual users—medical personnel, caregivers, and patients—to develop applications that make medical care easier. For example, apps that aid with appointment scheduling or help track symptoms and medication would help patients not have to rely on long-term memory (especially useful for patients with dementia) and would allow doctors to access a patient's medical history more easily.

INSURANCE AND PENSION SYSTEMS

A critical aspect of modernizing insurance and pension systems in Latin America and the Caribbean stems from the divide between formal and informal economies. The region faces **significant challenges** because of low coverage in its formal pension systems. More than **50 percent** of the population in the region participates in the informal economy, including many older workers. Employees in the informal sector often do not have access to worker support and protection resources, reducing access to financial and healthcare services for the growing elderly population and leaving them more at risk for poverty. In low-income countries, for example, fewer workers tend to collect pensions, even though they are most often the workers who need it the most.

Designing pension schemes and insurance systems that offer coverage to both formal and informal workers would increase accessibility to government resources for all employees and help employees plan for their retirement. The digitization of these systems can **offer** older adults greater knowledge regarding financial planning, increase their trust in government, and allow

companies greater data-sharing capabilities, among other benefits.

THE WORKFORCE

Along with a shrinking working-age population, countries are facing an increasing push toward workforce automation to replace older employees who are leaving the workforce. Many sectors, particularly in the formal economy, can benefit from automated procedures rather than rely on human capital, which further reduces the need for in-person jobs. However, increased automation can lead to increased unemployment levels, furthering economic instability and expanding vulnerability to poverty. Additionally, though robotics are able to replace certain workplace functions, they sometimes provide **imperfect solutions** that do not match the level of human productivity or are not able to do certain jobs. Furthermore, the automation of jobs in the informal sector is nearly impossible, meaning that countries will continue to rely on informal workers even as the working-age population decreases. As donors design and develop digital solutions, they must keep in mind the vast difference between formal and informal economies and their workers.

It is worth noting that, despite its challenges, an older population will also bring many opportunities for economies in the region. As the population ages, more people will begin to participate in the "**silver economy**": older people are major contributors to the economy, as they often have significant spending power, travel, and consume services like healthcare more than younger populations. Countries should prepare their workforces now for jobs in industries that older populations use.

For sectors that cannot be automated, the digitalization of information systems can help inform policies and facilitate procedures. For example, the digitalization of immigration

Creating user-friendly solutions for older adults is essential when designing digital solutions—especially in the medical space—to ensure that the target population can use the technological solutions designed for them.

systems can help facilitate legal migration to fill gaps in the workforce and ensure both faster processing systems and more dependable information. There is a unique opportunity for older and younger employees to identify gaps in workplace policies and devise digital solutions together to help improve efficiency even as the workforce shrinks.

The Covid-19 pandemic has demonstrated that a significant proportion of the population can do their jobs remotely; providing digital infrastructure to allow people to work outside of an office is imperative for the future of work. Furthermore, even as the population ages, many people over the age of 65 will continue to work, and remote work can help those with mobility issues or those in more rural settings continue to participate in the workforce.

CONSIDERATIONS

While digital solutions can enhance life for many older adults, one significant barrier to these solutions is access. **More and more people** in the region use the internet: over 65 percent of people used the internet in 2018, compared to about 35 percent in 2010. However, there are **significant gaps in internet access** around the region: while 71 percent of urban residents have connectivity options, only 37 percent of rural residents do. Even in countries with higher rates of internet access like Chile, Costa Rica, and Uruguay, only about **half of the rural population has internet in their homes**. Around 244 million people in Latin America and the Caribbean **do not have internet access at all**. Providing consistent, inexpensive, and accessible broadband internet in both rural and urban settings is the cornerstone of digital transformation efforts in the region. Technologies like **satellite internet** could help close the accessibility gap throughout the region.

Another major challenge in digital transformation is ensuring that target populations are able to use digital solutions. Currently, older populations have a **more difficult time** accessing technologically-based resources, which creates a large barrier to digital health. For example, digital solutions like applications or small devices will not work if the target population does not know how to use them. Creating user-friendly solutions for older adults is essential when designing digital solutions—especially in the medical space—to ensure that the target population can use the technological solutions designed for them. It is important, however, for digital solution designers to remember that digital literacy is often varied, even within older populations. For example, populations closer to 65 will have different levels of digital comfort than

those closer to 80, and not all users over 65 will have the same degree of cognitive function. Furthermore, older populations now will have different levels of digital literacy than older adults in 30 years, many of whom will have grown up using the internet. It is also important for designers to ensure that digital technologies also change and adapt quite quickly. Thorough training programs will be crucial to ensure their efficiency and accessibility.

THE ROLE OF THE INTERNATIONAL COMMUNITY

Partners in the region—like the development agencies of the United States, Japan, and Europe, multilateral institutions like the Inter-American Development Bank (IDB) and the Pan America Health Organization (PAHO), and the private sector—will all play a role in developing and implementing digital solutions to support shifting demographics in the Western Hemisphere.

Countries that have extensive experience with aged populations, like Japan, can provide lessons and training for countries in the region that are in the earlier stages of a demographic shift.

- With the support of multilaterals like the IDB and PAHO, regional governments should design aging strategies for the coming decades. Countries like Argentina, Bolivia, Chile, Costa Rica, Cuba, Ecuador, El Salvador, Peru, and Uruguay have already begun working with the IDB and/or PAHO to implement policies geared toward preparing their systems and workforce for an aging population.
- Development partners like the United States and Japan can assist countries in mobilizing funds to expand internet access to a larger proportion of the population, especially in rural areas.
- Development partners can implement training initiatives for new users of the internet or other digital solutions to increase digital literacy across the region.
- Development partners can work with regional governments and the private sector to support the design, testing, and rollout of digital solutions like smart cities, information sharing, apps, digital medical records, e-learning, and remote work programs.
- Development partners can support the development of social insurance systems like healthcare and pensions. Countries that have designed social systems with older populations, like Japan, can provide valuable information to countries in the region.

Countries that have extensive experience with aged populations, like Japan, can provide lessons and training for countries in the region that are in the earlier stages of a demographic shift.

Digital transformations to prepare countries for an older population will also enhance life for other populations. For example, everyone can benefit from “smart cities,” expanded e-learning opportunities, more accessible healthcare, and more transparent pension systems. As populations age, there will be more jobs for young people in industries like healthcare, tourism, and personal services. Countries should view investment in these digital solutions not just as beneficial to the older population, but as an investment whose benefits will last for many generations. ■

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*The authors are grateful to **Henry Shuldiner**, intern with the CSIS Americas Program, for his support and research for this project.*

This brief is made possible through the generous support of the Japan International Cooperation Agency (JICA).

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