Social isolation and loneliness — America's next public health issues

Aetna® is leveraging big data and artificial intelligence to better address our next pandemic.

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Americans are increasingly diverse, aging and feeling socially isolated.

America's population is about to reach 328 million people. The racial make-up of our population breaks down like this:

- Non-Hispanic whites represent about 60 percent of the population
- Hispanics about 19 percent
- African Americans about 14 percent
- Asian Americans about 7 percent[1]

The population of people of two or more races will be the fastest-growing racial or ethnic group over the next several decades.[2] Likewise, Americans will to continue to age and live longer.[3]

Every day in the U.S., about 10,000 people turn 65.[4] In 2030, all baby boomers will be over 65, and one in five Americans will be 65 years or older.[5] In fact, estimates are that the number of people aged 65 or older will double over the next several decades. That figure will top 88 million by 2050.[6]

As we age, we will continue to see further changes in our health. About 80 percent of older adults suffer from at least one chronic disease, and about 68 percent have at least two conditions. Social isolation and loneliness are America's next public health issues. One-third of adults aged 45 and older feel lonely. It is estimated that at least a quarter of adults older than 65 are socially isolated.[7]

Race, culture and social isolation

We often use social isolation interchangeably with the term loneliness. But they are different.

Social isolation or objective isolation refers to quantifiable social disconnectedness. These terms encompass such factors as the size and structure of social networks, the frequency and duration of social interactions, and the extent of social support received.[8] In contrast, loneliness (or subjective social isolation) is the perception of social isolation due to distress caused by the difference between actual and desired social interaction and relations. Modern lifestyle and technology are associated with an increased risk of social isolation. So are race, ethnicity, socio-economic and cultural factors. What we value in modern society – status, achievement, wealth, and even fame – doesn't guarantee happiness.[9]

Rugged independence characterizes white culture in the U.S. The person is the primary unit. Autonomy is highly valued and rewarded. These factors seem to contribute to the fact that non-Hispanic whites are more likely than other groups to live alone, to be childless, and have less contact with community members.[10]

1   Census, U. (2019). US Population Projections. US Census.

2   Census. (2020). Demographic Turning Points for the United States: Population Projections for 2020 to 2060.

3   Census. (2020). Living Longer: Historical and Projected Life Expectancy in the United States, 1960 to 2060.

4   U.S. Department of Health & Human Services. (2018). Aging.

5   Census. (2020). Demographic Turning Points for the United States: Population Projections for 2020 to 2060.

6   National Institutes of Health. (2016). World's older population grows dramatically.

7   Vivek H Murthy, M. (2020). Together. Harper Collins.

8   Cornwell EY, Waite LJ. Social disconnectedness, perceived isolation, and health among older adults. Journal of Health and Social Behavior. 2009b; 50(1):31–48. [PubMed: 19413133

9   Vivek H Murthy, M. (2020). Together. Harper Collins.

10 Taylor, J. (2019). Race and objective social isolation: Older African Americans, Black Caribbean, and Non-Hispanic Whites. Journal of Gerontology.

Close family ties, multi-generational households and strong community support portray the Hispanic culture. These factors may represent a lower risk of feeling isolated. However, Hispanics aged 40-49 are more likely to be concerned about social isolation than non-Hispanics (37% vs. 16%).[11]

As Hispanic people age, individuals face a high risk of socio-economic distress. Language, traditions, stigma and other factors limit Hispanics from making new friends and social connections. In Hispanic culture, feeling lonely is commonly a sign of weakness. Some people find it embarrassing. So, individuals often fear rejection, hide their emotions, do not seek help, self-isolate and frequently suffer anxiety and depression.[12]

Almost 60 percent of African Americans live in southern states, led by Texas, Georgia and Florida. Compared to other ethnic groups, African Americans reflect lower household income levels. Although research shows that African Americans are less likely to live alone than non-Hispanic whites, other factors lead to social isolation. Older adults experience significant health disparities. These include lower life expectancies, a higher risk of chronic health conditions, and race-related stress that negatively impact their physical and mental health. [13]

Mental health conditions are associated with social isolation and loneliness. Anxiety and today's depression are at peak levels. More than 40 million adults aged 18 and older have anxiety disorders each year. More than 16 million are diagnosed as suffering from major depressive disorder each year in America.[14]

Social Determinates of Health (SDoH)

SDoH factors in the environment in which people are born, live, learn, work, play, worship, and age. These factors affect a range of health, functioning, and quality-of-life outcomes and risks. We can help improve and sustain health over time with policies to positively influence social and economic conditions that support individual behavioral changes.[15]

Health economists estimate that about 88 percent of healthcare resources are currently allocated to diagnosis and disease treatment needs. Less than 20 percent goes toward areasthat can improve disease prevention and quality of life. Five key SDOH areas have been identified: [16]

1. Education
2. Economic stability
3. Social and community areas
4. Health prevention and health care
5. Neighborhood and built environment

Public health policy affecting social connections should be considered across all governmental sectors. These include health, transportation, education, housing, employment, food and nutrition and environment.[17]

Social conection is human nature

People are social beings. Neuroscience studies show our brains are wired to connect with people, express emotions, share thoughts and adopt appropriate social behaviors.

Individuals exposed to social isolation and loneliness show essential anatomical and physiological brain changes, comparable to those associated with physical pain and chronic inflammation.

11 Anderson, G. O. (2018). Social Isolation: Myths vs realities among Adults Age 40 and older. AARP Research.
    U.S. Department of Health & Human Services. (2018). Aging.

12 Cabassa, L., Lester, R., Zayas L. (2007). "It's Like Being in a Labyrinth:" Hispanic Immigrants' Perceptions of Depression and Attitudes Toward Treatments. NIH.

13 APA, O. o. (2018). African American Older Adults and Race Related Stress - How aging and healthcare providers can help. American Psychology Association.

14 ADAA. (2019). Anxiety and depression facts & statistics. Anxiety and depression association of America.

15 DPHP. (2020). Social determinants of Health. Healthy People Gov.

16 DPHP. (2020). Social determinants of Health. Healthy People Gov.

17 Holt-Lunstad, J. (2020). Social Isolation and Health. Health Affairs.

Social isolation increases a person's risk of premature death from all causes. This risk is comparable to the impact of smoking, obesity and physical inactivity. From a health care resource-use perspective, the cost of managing a chronic disease is at least 30 percent higher when comparing socially isolated patients vs. socially connected.[18]

Mass media and digital media can help better understand people and community needs.

Mass media, including digital media, is a strong force in American culture. It reflects and creates our reality. Communities and individuals are getting bombarded with messages from multiple sources each day. These messages reflect moods, attitudes, and a sense of what is and what is not important in their lives.[19]

By 2020, about 80 percent of Internet users have searched for a health topic online or posted any information about their health conditions. Browsing for disease-related information is one of the most common activities online today.

Cultural factors — including language, stigma and traditions — influence the risk of social isolation or loneliness. Each community may face similar challenges. But the way people feel, express their emotions and beliefs, and adapt may differ. Analyzing digital content can help identify similarities and differences among communities. In turn, this may allow organizations to better develop and implement support programs.

CulturIntel™ study

CulturIntel™ is a company dedicated to data science and understanding the role culture plays in our societies. We use an advanced methodology to mine and structure data for insights and intelligence. Big data and an artificial intelligence suite of tools scrape and listen to open-sourced online conversations wherever they are occurring.

We examine who is talking, where users are talking, and what they are talking about. We then aggregate and remove any details that can identify a person. Then we apply advanced search techniques using web spiders, crawlers and site scraping. CulturIntel extracts topical data, then tags that data with the origin and user. This creates a large unstructured "big dataset."

Aetna commissioned CulturIntel to look at the similarities and differences among individuals from different generations, races and ethnicities, socio-economic levels, and rural and urban settings when they talk about social isolation. The study findings are helping Aetna to understand how to best support the population facing isolation.

Lessons from more than 18 million digital conversations related to social isolation

Data extraction tools gathered digital data over 12 months (January 2019 – January 2020). We found about 16 million discussions about social connection. Another 2 million related to isolation.
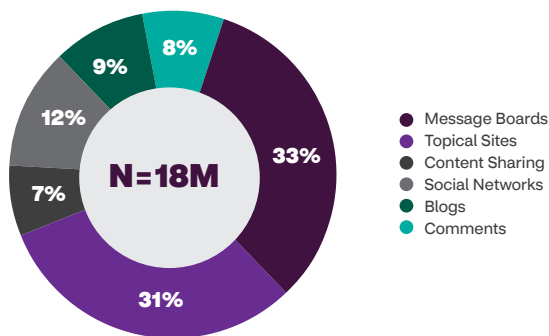
When available, the data algorithms identified and aggregated information about:
- The estimated age group or generation
- Race and ethnicity
- Geographic location (rural vs. urban)
- Socio-economic levels

These details are based on people's self-identifying either in the conversations or on their public profile.

We analyze the data to understand where the conversations are taking place in the digital space. Message boards (33%) and topical sites (31%) are the most common information sources.

Figure 1: Channel profile depicting where the conversations about social connection and isolation take place

Legend:
- Message Boards
- Topical Sites
- Content Sharing
- Social Networks
- Blogs
- Comments

N=18M — 33%, 31%, 7%, 12%, 9%, 8%

18 CDC. (2020). Loneliness and Social Isolation linked to serious health conditions. National Academies of Science, Engineering, and Medicine.

19 Acerbi. (2016). A Cultural Evolution approach to Digital Media. Frontiers in Human Neuroscience.

Social isolation and sentiment analysis

Sentiment analysis refers to using tools to extract, interpret, and classify information according to affective states and subjective information. It is widely used to understand the customer and patient satisfaction and needs, among other applications.

Total digital conversations	Generaration	Socio-economic	Geographic location	Race/ Ethnicity
18 Million	Baby Boomers: 211K	Overall: 8.3M	Urban: 584K	Hispanics: 280K
	Gen X: 268K	Confortable: 447K	Rural: 289K	African Americans: 280K
	Millennials: 321K	Struggling: 530K		

Sentiment analysis of all conversations on social isolation shows a largely negative attitude. This is true for all groups studied.

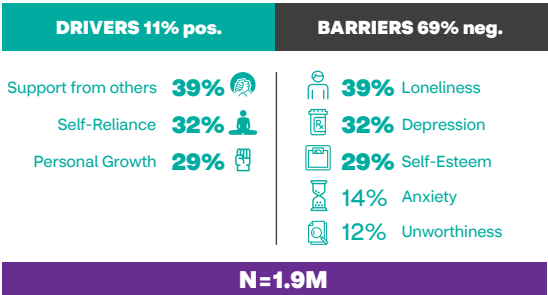Social isolation - Understanding motivation drivers and barriers
When looking at the digital conversations, three drivers of positive sentiment emerged:

- The silver lining people find in the support they get from others when feeling isolated (39%)
- The chance to become self-reliant (32%)
- The opportunity for personal growth (29%)

    Looking at the negative conversations, the top factors negatively associated with social isolation were:
- The burden of loneliness (#1, 37%)
- Depression as a consequence of social isolation (#2, 22%)
- The impact on self-esteem (#3, 18%)
- Anxiety or comments associated with feeling unworthy

Figure 3: Drivers and barriers towards social isolation among the overall population

DRIVERS 11% pos.	BARRIERS 69% neg.
Support from others 39%	39% Loneliness
Self-Reliance 32%	32% Depression
Personal Growth 29%	29% Self-Esteem
	14% Anxiety
	12% Unworthiness
N=1.9M	

What do Americans coping with social isolation need?

Data from more than 18 million conversations on social isolation suggest that people are mainly in need of at least one of four major support dimensions:

1. Emotional
2. Social
3. Informational
4. Perceptual

Most conversations on emotional topics reflect individuals' needs to express their emotions or psychological states. Similarly, the individuals seeking social support show a significant number of people with a need to feel that they "belong" to a group.

A number of individuals reflected their efforts to find help to address their social isolation. Sadly, many talked about the painful toll social isolation has on self-esteem. This impact is often accompanied by anxiety and has a high risk of depression.

How Boomers relate to isolation

A sentiment analysis of Boomer conversations shows an interesting mix. While a negative tone predominates among all generations, data suggests Boomers tend to be the least negative about social isolation. This may suggest higher resilience levels.

Multiple studies show race and ethnicity play a significant role in social vulnerability and quality of health. This is especially relevant among the elderly. Data from more than 24K digital posts from Hispanic boomers focus more on exteriorizing their emotions or expressing how they feel.

In contrast, more than 32K digital conversations from African American Boomers suggest they are likely to communicate more about how social isolation impacts their lives. They often use a more descriptive expression of the impact on their daily activities.

These subtle differences are critical when conceiving programs for the community. It's important that communication strategies fully align with the individual's emotions, thoughts and behaviors. Such an alignment can lead to higher program adoption.

The role of financial security in coping with social isolation

Analysis of about 1.9 million digital conversations segmented by socioeconomic levels shows us the emotional toll of social isolation among the affluent and those struggling financially.

Financially struggling individuals seem to reflect a more negative perception of the situation.

Analysis of more than 289,000 digital conversations of those financially struggling suggests they come online to find support. They express their emotions at almost the same level of importance. They tend to follow a narrative of "I am suffering. I need support."

Information from about 189,000 individuals, who say they are living financially comfortably, express the impact of social isolation on specific areas of their lives. They tend to say, "because of social isolation, now my life is like this."

The impact of where people live

Geographic location plays a significant role in the individual's quality of life. It affects one's access to exercise, food security, access to high-quality health care and social support levels. Individuals living in urban areas frequently suffer from a fast, impersonal modern life. And those in rural areas often report high levels of emotional distress, anxiety, depression and other conditions related to social isolation.

Analysis shows that while a negative sentiment is clear in both urban and rural groups, the emotional toll is higher in non-metropolitan areas. In fact, posts with a negative tone were found in about 65 percent urban vs. 77 percent rural posts. Also, positive posts were less frequent among individuals in rural areas (12 percent urban vs. 3 percent rural).

When looking for specific barriers and drivers that may explain the emotional tone of the conversations, the distress of loneliness and lack of social relationships is common in both groups. Loneliness was associated with about 43 percent of urban vs. 31 percent of rural posts.

Consistent with other studies, living in high-density modern cities does imply a lower risk of feeling socially isolated and lonely. When looking for specific emotions, depression and anxiety predominated. There were similar patterns among the urban and rural groups.

Digital posts from individuals coping with social isolation living in cities suggest that direct support that enables the individual to connect to social groups, family, friends, and the community can be more effective. (Direct support refers to specific tools, services or assistance.)

Interestingly, in rural environments, programs that leverage the individual's strong motivation by self-reliance may be more appropriate and engaging. (Self-reliance refers to the tendency to use one's own powers and resources rather than those of others.)

These findings seem consistent with real-life situations. Individuals and communities need to best use the available economic, technological and human resources. Any program and intervention should consider the real community conditions. They must clearly add value by building on the existing infrastructure and resources or enhance efficiency via new technology or value-driven interventions.

COVID-19 pandemic impact on boomers

The COVID-19 pandemic has further exposed America's health care and social vulnerabilities. We can more clearly see the need to address social determinants of health to close disparity gaps. Sadly, the public health crisis exposed the high risk that vulnerable populations face. This is often due to important medical co-morbid conditions, lower than expected access to high-quality care, and a poor social support network.

Effective private, public and interdisciplinary collaboration are necessary. Together, it is can lead to better community support and lower disparity.

Key takeaways

Public health experts consider social isolation and loneliness as America's next pandemic. There could be a growing threat of significant direct and indirect impact on vulnerable individuals.

Study findings of more than 18 million spontaneous digital conversations show that the experience of social isolation is common across diverse segments. But is lived differently.

While conversations about social isolation were largely negative across segments, Boomers were the least negative about the topic. But they revealed they are not the only generation suffering social isolation and that they too need help with this issue.

Hispanic Boomers express a need to open up about their emotions and to seek help from non-family members and away from community circles. They express fear of judgement by their loved ones.

On the other hand, African American Boomers adopted a more pragmatic approach. They share social isolation's impact on their day-to-day lives. And they look for ways and strategies to cope daily.

Both people struggling financially and those living comfortably had negative attitudes on social isolation. But they expressed different needs. Those struggling were looking for resources, advice and support online. In contrast, people living comfortably came online to describe how social isolation impacts their lives. They are looking for fulfilling ways to bridge the gap in their lives.

Similarly, rural dwellers and urban residents shared negative sentiments toward social isolation. They refer to the emotional toll from the lack of social connection. Urbanites express the need to connect with their communities. People in rural areas were looking for advice and resources to build self-reliance.

These insights suggest that one-size does not fit all. There is a need and opportunity for both public and private sectors to further develop and implement personalized, relevant programs. They can offer interventions that support individuals' primary needs. These programs need to tackle emotional, social, informational, self-esteem and perceptual needs.

These efforts should focus on creating opportunities for people to connect with professionals. There is a need to:
- Share their emotions
- Adopt activities (like exercise) that can reduce anxiety
- Gain knowledge from peers who have successfully navigated social isolation
- Engage with and contribute to their communities

How AETNA is helping

We have developed multiple support programs. Each allows customization for better engagement and support to people and communities.

Among the latest available programs are:

Aetna Medicare Social Isolation index

The Social Isolation Index and Resources For Living® (RFL) outreach program are components of our Medicare social connectedness strategy. This is a population health approach to improving the holistic well-being of our members.

Launched in November 2019, the program focuses on:
1. Identification
2. Intervention

First, the objective is to identify Medicare members who have both an elevated risk for social isolation and an elevated clinical risk. (We use a proprietary Social Isolation Index to find these individuals.)

Aetna Medicare Social Isolation index

Then, our Resources for Living team reaches out to these high-risk members to get them the support they need. They work with members on the phone to learn about their unique needs and connect them with resources in the community. These may include meal or grocery services, medicine delivery, transportation, financial assistance or help with technology. The consultants can also help them cope with the emotional impacts of the pandemic.

To learn more:
https://www.AetnaMedicare.com/en/live-well/resources-for-living.html

Companionship benefit with Papa Inc.

In 2021, we'll work with Papa Inc. to expand our companionship benefit. We will address social isolation in select plans in six states. These include Florida, Illinois, Michigan, Pennsylvania, Nevada and California.

To fight feelings of loneliness and help our members with chronic conditions, Papa connects local college-age individuals to older adults. These "Papa pals":

- Provide companionship
- Do light house chores
- Offer technology lessons

They use the telephone or secure video to deliver remote companionship. Eligible members may schedule up to 10 hours per month.

To learn more:
https://CVSHealth.com/news-and-insights/press-releases/aetnas-2020-medicare-plans-connect-members-with-more-personalized

Connecting patients to care in the community This effort builds on our existing commitments to employee volunteer programs. It bolsters our partnerships with local and national community group to help improve health care at the local level.

To learn more:
https://www.CVSHealth.com/social-responsibility/our-giving/community-and-colleague-support

Serving as a front door to health care

With more than 10,000 locations nationwide, CVS Health® is a front door to health care for more than four million patients each day. At CVS Pharmacy® and MinuteClinic®, trusted health care professionals answer questions and provide information to help patients manage their care.

Furthermore, by coupling the community footprint of CVS Health with Aetna health data, we can engage patients on a more personal level. We'll be there more often to provide patients with the support they need.

To learn more:
https://www.CVSHealth.com/news-and-insights/press-releases/cvs-health-announces-100-million-community-commitment-following

Meals on Wheels

Access to healthy foods is critical for those who are aging. In this video, you'll meet Ramon and Dora. Through their Aetna Medicare Advantage plan, they benefited from food delivery services directly within their community — helping them to stay connected, live a healthy lifestyle, and manage needs associated with Ramon's chronic conditions

To learn more:
https://www.AetnaMedicare.com/en/understanding-medicare/meal-delivery-meals-on-wheels.html

Partnerships

We're always looking for innovative and better ways to support communities. We have a team dedicated to exploring partnerships.

To learn more:
https://www.Aetna.com/partners.html

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