

National Health Guidelines for Social Connection: What Is the Evidence in Support and What Might the Guidelines Say?

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Abstract

National health guidelines provide policy makers and the public with recommendations for various behavioral factors known to promote health and reduce disease risk, such as diet and physical activity. Given public health concerns about social isolation, loneliness, and other forms of lacking social connection, the evidence supports establishing national health guidelines for “social connection.” The aggregate body of scientific evidence demonstrates social connection protects health and reduces health risks, pointing to clear relevance for public health. Taken together with national trends suggesting greater social disconnection, there is a compelling case for national preventative efforts. This article summarizes evidence on the health relevance of social connections, potential opportunities, and challenges in establishing and implementing guidelines, the process of establishing guidelines, and provides illustrative evidence-based examples of potential recommendations.

Keywords

social connection, social isolation, loneliness, public health, public policy, social determinants of health

Tweet

Social connection benefits health and longevity. Establishing national social connection health guidelines can promote public health and prevent disease.

Key Points

- People’s level of social connectedness significantly influences physical health, well-being, and risk for premature mortality.
- National Social Connection Guidelines need to guide federal policy and programming for health promotion and illness prevention.
- National Social Connection Guidelines should develop via the same processes used to establish other national health guidelines: an expert advisory committee, evidence-based recommendations, and periodic scientific updates.
- National measurement of social connection can inform future editions of the guidelines, identify high-risk populations, and track the progress of federal prevention efforts.

Introduction

In recent years, there has been increasing concern that the nation and many areas of the world are becoming less socially connected. As this can have profound personal

consequences, including reduced psychological well-being, the mounting evidence of the costs to society and public health signals a clear need to take action on a national level (Blazer, 2020; Holt-Lunstad et al., 2017; Klinenberg, 2016). This conclusion comes from strong evidence that social connection is protective, while a lack of social connection (e.g., social isolation, loneliness, and poor quality relationships) carries a risk for long-term physical health and premature mortality (Badcock et al., 2022; Hodgson et al., 2020; National Academies of Sciences & Medicine, 2020). Other nations, including the United Kingdom (UK), Japan, and Australia, have developed national health strategies, and calls to action have recommended that the United States establish its own strategy (SOCIAL Framework — Foundation for Social Connection, 2022; Holt-Lunstad, 2022). National health guidelines for social connection could guide policy, national health initiatives, and priorities for the American public to promote health and prevent chronic disease for all.

Despite these calls to action, no established guidelines set goals for the nation and public to achieve sufficient social connection—raising several questions. How strong is the evidence to justify national guidelines for social connection? What are

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the steps to establishing national guidelines and what challenges exist for establishing social connection guidelines? Addressing these questions illuminates a roadmap to establishing National Social Connection Guidelines.

How Strong Is the Evidence?

Over the past several decades, the scientific evidence has grown exponentially, documenting indicators of social connection (e.g., social networks, social support, and social capital) or lack thereof (e.g., social isolation, loneliness) and their impact on morbidity and mortality outcomes (Morina et al., 2021). This evidence comes from several scientific disciplines using a variety of methodologies, resulting in a complex but robust body of evidence. Converging and compelling evidence widely documents the impact of social connection on physical, mental, and cognitive health outcomes (Holt-Lunstad, 2022; Howick et al., 2019; National Academies of Sciences & Medicine, 2020).

Conversely, poor social connection is associated with worse general health and well-being (Aminzadeh & Dalziel, 2002; Chen & Feeley, 2014; Pinquart & Sorensen, 2000), there are countless studies linking it to objective health outcomes (Hakulinen et al., 2018; Valtorta et al., 2016b). The American Heart Association recently published a statement concluding that objective and perceived social isolation can damage heart and brain health (Cené et al., 2022). According to research syntheses, social isolation and loneliness increase the risk of heart disease and stroke (Hakulinen et al., 2018; Valtorta et al., 2016b). Poor social connection is linked to other health outcomes, including newly and previously diagnosed type 2 diabetes (Brinkhues et al., 2017). Social connectedness also influences the susceptibility to viruses—independent of baseline immunity (virus-specific antibody), demographics, and health practices (Cohen, 2020; Cohen et al., 2003)—and the ability to mount an effective immune response to a vaccine (Gallagher et al., 2022; Madison et al., 2021).

Poor or insufficient social connection increases the risk of premature death. For example, social isolation is significantly linked to “deaths of despair,” such as drug and alcohol-related deaths and suicide (Baldessarini, 2019; Herttua et al., 2011; Steele et al., 2018). The most compelling evidence demonstrates that social connection significantly reduces risk, and social isolation increases the risk for premature all-cause mortality, independent of age, initial health status, and other lifestyle factors (Holt-Lunstad et al., 2015; Holt-Lunstad et al., 2010; Leigh-Hunt et al., 2017). Also, experimental evidence using both animals (Hermes et al., 2009; McClintock et al., 2005; Weil et al., 2008) and clinical populations (Penwell & Larkin, 2010) demonstrates casual associations. Together, multiple meta-analyses and reviews show strong converging evidence—demonstrating the strength, consistency, directionality, biological plausibility, and coherence of the findings—ultimately pointing to social connection as a causal protective

factor (Holt-Lunstad, 2022; Howick et al., 2019; National Academies of Sciences & Medicine, 2020).

Evidence also points to the biological, psychological, and behavioral processes by which social connection influences health outcomes (Kent de Grey et al., 2018; Uchino, 2006; Uchino et al., 2018). For every increase in social connectedness, there is a dose-response reduction in dysregulation of objectively measured biomarkers of physical health (C-reactive protein, systolic and diastolic blood pressure, waist circumference, and body mass index) within each life stage (Yang et al., 2016). In other words, increases in social connectedness have corresponding reductions in risk.

The short- and long-term health effects of social connection and dose-response effects of health biomarkers point to the need and capability for modification efforts to reduce risk. Just as regular physical activity, when engaged regularly over months and years, has long-term health benefits—social connection over time results in long-term health benefits. The magnitude of the beneficial effect on premature mortality may be larger for social activity relative to physical activity (Holt-Lunstad, 2022; Holt-Lunstad et al., 2017), and social isolation increases the risk of all-cause and cardiovascular disease (CVD) death across all physical activity and sedentary levels (Manera et al., 2022). All this begs the question—why are people not taking social connection just as seriously for our health as we take physical activity? With rising trends of social isolation and loneliness (Cigna, 2022; Ernst et al., 2022), the public health consequences may correspondingly increase, without action to reverse this trend.

Why Consider Establishing National Guidelines?

The COVID-19 pandemic was a global health crisis that simultaneously isolated nearly the entire global population to some extent, with the potential secondary long-term health ramifications yet unknown. Policy and decision makers need guidance in recovery efforts. However, to be clear, a robust body of evidence and recommendations for national guidelines predate the pandemic (Holt-Lunstad et al., 2017; National Academies of Sciences & Medicine, 2020). While the pandemic has raised awareness and urgency, social connection’s relevance to public health predated the pandemic and will continue, given that social connection is a fundamental human need that, if left unmet, leads to poorer health, well-being, and earlier death.

National and international organizations, including the World Health Organization (WHO), have called for prioritizing social connection within public health policy (Badcock et al., 2022; National Academies of Sciences & Medicine, 2020, 2021; WHO, 2021). Federal health policy and initiatives often rely on national health guidelines; thus, national

social health guidelines need to catalyze these policy efforts. National health guidelines help guide local, state, and national health promotion and disease prevention initiatives; they also inform various organizations and industries that develop and market products and services to influence sociality (adapted from <https://health.gov/dietaryguidelines/purpose.asp>). Indeed, guidelines are ultimately developed for policy makers, health care providers, educators, and federal officials, to guide public programs.

Published recommendations have further called for increased awareness and education on the health implications of social connection, isolation, and loneliness (Badcock et al., 2022; National Academies of Sciences & Medicine, 2020; WHO, 2021). Establishing *National Social Connection Guidelines* also is a way to accomplish this goal. National guidelines inform more formalized education efforts, such as health literacy, medical training, and K–12 public school health education. Within medical settings, communication between health care providers and patients is essential to improve health, and national guidelines provide the basis for health literacy tools and resources used to communicate recommendations (Santana et al., 2021). Given recommendations of routine health screening for social connectedness (Matthews et al., 2016; National Academies of Sciences & Medicine, 2020), such guidelines also create benchmarks that make it easier to classify patients as at-risk and to inform recommendations. Outside the clinic, national health guidelines assist health organizations in better tracking the progress of local and national initiatives such as Healthy People 2030. Further, these guidelines steer resources and tools that provide practical, accessible, and engaging information for individuals to make healthier choices.

Recommendations to address social connection within public health further call for efforts across sectors, using an in-all-policy approach (Holt-Lunstad, 2020; Holt-Lunstad, 2022). Social distancing policies that recommended or required limiting social contact during the pandemic had cascading effects on society, highlighting the social relevance of nearly every sector of society, including health, employment, education, transportation, and entertainment. National guidelines provide a mechanism to reach across sectors. The Office of the Assistant Secretary for Health and other Health and Human Services (HHS) agencies works closely with national partners and organizations that span sectors to advance national guideline implementation efforts (<https://health.gov/our-work>). Further, national guidelines inform various organizations and industries that develop and market products and services to influence sociality that, ultimately, influence public health efforts.

In sum, without national guidelines, the repeatedly recommended policy, education, and implementation efforts would lack consistent direction. The evidence supporting

the health relevance is strong but diverse; thus, guidance is needed.

How to Establish National Guidelines?

Developing national guidelines could potentially follow a similar process as the Dietary Guidelines. Thus, developing *National Social Connection Guidelines* could consist of the following stages (Snetselaar et al., 2021): First, identify the topics and supporting scientific questions to be examined. Second, the U.S. Department of HHS would appoint a Social Connection Guidelines Advisory Committee to review the current scientific evidence. The third step would be to develop the inaugural (and subsequent) edition(s) of the *National Social Connection Guidelines*. The final step would be implementing the *National Social Connection Guidelines* through Federal programs. Because national guidelines need to provide up-to-date information, HHS would need to work with relevant agencies and experts to periodically (e.g., every 5 years) update and release the guidelines. Each edition of the guidelines then reflects the current body of scientific evidence.

Challenges to Establishing National Guidelines

The evidence documenting the health relevance of social connection has existed for decades and calls for national guidelines are not new. So, why did it take a global health crisis of the pandemic to shake people out of a slumber, raising awareness of this underappreciated but vital component of health and well-being? Several barriers may have delayed action.

One major barrier is that for far too long social connection, or lack thereof, has been viewed as a personal issue and not a health issue. For example, a large survey, conducted prior to the COVID-19 pandemic, found that the public underestimates how much social factors impact health or do not recognize the relevance to health at all (Haslam et al., 2018).

Social connection may also seem too complex or messy to provide precise guidelines. For this purpose, the term social connection acts as an umbrella to capture a multifactorial construct that includes key components (structure, function, quality) represented in the scientific literature (Holt-Lunstad et al., 2017; National Academies of Sciences & Medicine, 2020). The structural component taps into the need to have other people, groups, or roles in a person's life, and regular contact with others (Berkman et al., 2000). The functional component of social connection taps into the extent that others fulfill various goals and needs (e.g., emotional, tangible, informational, and belonging) (Cohen & McKay, 2020). Finally, the quality component of social connection taps into whether these relationships and the functions they serve are high quality. Each element has indicators linked to objective health outcomes, including significant health risks when any element is low (Holt-Lunstad, 2022). While these

components of social connection may overlap to some degree, they are not highly correlated, pointing to the need for each element of social connection in understanding risk and protection. Of course, complexity is not unique to social connection and is common among other health guidelines. Dietary recommendations are also quite complex and, as a result, created the “my plate” strategy as an accessible means of demonstrating that multiple components are needed for a healthy diet. Similarly, clear and accessible messages must convey the multiple components needed for healthy social connection.

Another challenge to establishing national guidelines stems from the complexity associated with measurement. Nationally representative data, consistently collected over time, needs to inform the guidelines and track the progress and success of implementation efforts (e.g., policy and practice). Several large-scale nationally representative studies exist, including the Health and Retirement Study (HRS), National Longitudinal Study of Adolescent to Adult Health, National Survey of Midlife Development in the United States (MIDUS), National Social Life, Health, and Aging Project (NSHAP), National Health and Nutrition Examination Survey (NHANES), and the Behavioral Risk Factor Surveillance System (BRFSS). These national surveys include some measurement that either directly focuses on or is a proxy for some aspect of social connection. However, the measurement within these national surveys often only captures one indicator of social connection, leaving an incomplete picture. Not a single comprehensive measurement tool captures all three elements of social connection (Valtorta et al., 2016a), and including multiple measures is not feasible. Thus, many have called for developing a standardized national measurement tool (Badcock et al., 2022; WHO, 2021).

Another major challenge may be identifying a government agency to lead this effort. While the dietary guidelines are the most well-established of the national health guidelines, to establish these, there was a partnership between HHS and the FDA; however, there is no comparably relevant agency to champion social connection. Not a single agency is as clearly identifiable because social connection is directly or indirectly related to multiple agencies, given its widespread influences on the health, safety, and prosperity of society (National Academies of Sciences & Medicine, 2021). Nonetheless, this broad applicability across government sectors should strengthen the rationale and justification to act, not detract from it.

Immediate and Long-Term Strategy

Based on the robust evidence demonstrating potential harm to society of failing to act, initiating the process of potential recommendations should not be delayed. This process can be a multiphase approach with immediate strategies based on

the existing evidence, and longer-term strategies can directly address barriers.

Initiating the steps outlined above, HHS can first identify the scope of topics and questions—to determine how targeted or comprehensive the scope of potential guidelines for social connection should be. For example, while evidence supports the health relevance across the structural, functional, and quality elements of social connection, some indicators have stronger evidence and effect sizes on health biomarkers and the risk for premature mortality than others (Holt-Lunstad et al., 2017; Yang et al., 2016). Further, some aspects of social connection may be more modifiable than others.

This initial process identifies the needed expertise on the advisory committee and ensures the scientific review address federal policy and program needs and assists in managing resources. Thus, when a Social Connection Guidelines Advisory Committee is assembled, it can begin the process of reviewing the supporting scientific evidence. Given that reviews of this evidence already exist within multiple published reports, systematic reviews, and meta-analyses on the topic, this process may be potentially accelerated.

Extracting themes within the diverse evidence, such as identifying structure, function, and quality as key elements of social connection supported by the scientific literature, can be the catalyst for the first iteration of the guidelines. Within each theme, multiple indicators can shape recommendations. For example, within the structural component of social connection, countless studies demonstrate that the size and diversity of one’s social network, social roles, group participation, frequency of social contact, and living alone all are robust predictors of health and mortality risk (Shor & Roelfs, 2015; Zhao et al., 2022). Similar to physical activity guidelines, national social guidelines could highlight the importance of frequency and duration of social contact and engagement. Identifying existing measures of the various indicators of social connection within national surveys and published findings from these national datasets can provide the basis for the initial evidence-based recommendations.

The longer-term strategy for national health guidelines will need to include periodic evaluation and iteration based on the available evidence. To make evidence-based iteration decisions, it will be imperative to have the ability to draw upon national health data. The more comprehensive the coverage of social connection elements within these datasets, the more precise these recommendations may be. Efforts are underway to include additional social connection measures within the electronic health record and national health surveys (e.g., NHANES, BRFSS), but these data need funding to be maintained over time to fine-tune recommendations. Trends over time are not possible without data collection over time. For example, the American Time Use Survey has data over two decades, quantifying the number of minutes per day that individuals spend interacting with others, pointing to concerning trends of increasing social

isolation and decreasing social engagement (Kannan & Veazie, 2022). However, social data need to be paired with objective health data to conclude what threshold needs to be achieved for health resilience. New and existing measurement tools also need to be periodically evaluated to determine whether they adequately and appropriately capture the multifactorial components of social connection across ages and have adequate representation across a wide range of demographics. These iterations can better ensure that recommendations inclusively promote health for all Americans.

A Roadmap for National Social Connection Guidelines

Using the U.S. Dietary guidelines as a model, (1) the U.S. *Social Connection Guidelines* should similarly represent the totality of the evidence examined, (2) address the needs of federal programs, (3) reduce unintended consequences, (4) follow best practices for developing guidelines, and (5) use plain language. Although guidelines are written for professionals and policy makers, they should be translated into actionable messages for individuals, families, and communities to implement in their own decision making.

Generally, strategies that can increase levels across social connection elements should be helpful given the evidence of a dose-response influence on health (Yang et al., 2016). However, broad (often vague) suggestions do little to inform where individuals fall along the continuum of social connection or where they can improve. Thus, establishing more specific benchmarks is needed to determine whether and to what extent individuals, communities, and the nation are at risk and to set appropriate goals.

Similar to U.S. Dietary Guidelines that make quantitative recommendations on food choices, not nutrition, *National Social Connection Guidelines* may potentially limit recommendations to quantifiable social behavioral choices. Thus, focusing on quantifiable social behaviors would increase access to the functions and quality of social connections to fulfill social needs identified in the scientific evidence—just as dietary behaviors help individuals meet nutritional needs for health promotion and disease prevention. Establishing benchmarks for national guidelines may initially focus on the current evidence to support minimum quantifiable levels for consideration, potentially further identifying which are optimal versus simply sufficient.

Consider Quantity or Size

National guidelines often provide numerical goals for what the public may need to achieve socially for health promotion and disease prevention, like the recommendation for 8 hr of sleep or the “five a day” goal for fruit and vegetable consumption. Taking a similar numerical approach to social connection, at the very minimum, humans need at least one person. This is based on ample scientific evidence of the

dangers of social isolation (Holt-Lunstad & Steptoe, 2021; Steptoe et al., 2013). However, this recommendation may only be sufficient to stave off the most severe types of isolation and its corresponding consequences.

Smaller social networks may leave an individual more vulnerable to the consequences of unmet social needs. However, recommendations on the size of one’s social network may not be as simple, given that much of the evidence demonstrates a continuum of risk to protection. Nonetheless, some research has tried to identify thresholds. For example, the UK has adopted the recommendation of “connect four” based on the research done by Robin Dunbar in 2007 that examined the cell phone records of 35 million people (Mac Carron et al., 2016). The average size of an individual’s inner core of social relationships was identified by analyzing the frequency of reciprocal calls between family and friends (screening out work and casual calls).

One of the most widely used assessment tools in social epidemiological studies is the Berkman-Syme Social Network Index, which asks individuals to rate the size of their social network (marital/partnership status, number of contacts with family and friends, membership in groups), with the response option of 6–9 often used as a threshold (Brissette et al., 2000). Evidence from nationally representative data, including ADD Health, NHANES, MIDUS, and HRS, indicates that 4–6 may be a threshold for the size of one’s social network corresponding to health biomarkers (Yang et al., 2016). For example, evidence from HRS demonstrates that having four to five social ties reduced the risks of abdominal obesity by 61%, hypertension by 41%, and overall metabolic dysregulation by 46%, adjusting for age, sex, race, body mass index, as well as other social, behavioral, and illness factors (Yang et al., 2013). In ADD Health, having fewer than six close friends was linked to inflammation, metabolic, and cardiovascular dysregulation (Yang et al., 2016). Similarly, a multinational study found that those who knew at least six of their neighbors were significantly less likely to report loneliness, and the effect was stronger among those who reported knowing more neighbors (Lim et al., 2021).

Based on this evidence, a potential *National Social Connection Guideline* could aim for 4–6 people within one’s social network, with six or more being ideal.

Consider Frequency

Similar to physical activity national guidelines, recommendations on the frequency of social activity (e.g., social contact, interaction, and engagement) may be useful to consider. Again, drawing upon the evidence that objectively being alone and isolated is associated with risk, some interaction with others is necessary; however, more specificity is needed. Specifying the minimal frequency of needed social interaction has important implications for policy (e.g., housing, visitation) in medical, residential, educational,

employment, and incarceration settings that may otherwise require periods of isolation or may prevent individuals from naturally socializing. For example, publicly funded K–12 educational institutions must ensure adequate nutrition and physical activity, and such guidelines would similarly ensure adequate opportunity for social interaction.

Large national studies such as MIDUS, when examining the frequency of social interaction, have classified those with social contact daily (once a day or more) compared to all others. While some form of human interaction may be needed daily, other studies examining contact with specific types of relationships, such as the frequency of socializing with family, neighbors, and social groups, suggest that interaction frequency with any one specific relationship or person may not necessarily need to be as frequent (Yang et al., 2016).

Based on this evidence, *National Social Connection Guidelines* could recommend that individuals aim for daily social interaction.

Consider Source

Recommendations should address whether certain types of relationships or social roles are more important than others. Are close intimate relationships more important than casual relationships or even interacting with strangers? Evidence consistently demonstrates that having an intimate partner is associated with health benefits (Wang et al., 2020); however, this may be less easily modifiable. Further, recommending that individuals enter or stay in a marriage or intimate partnership may not always result in health benefits, given the evidence on the health-relevance of poor-quality relationships (Robles et al., 2014). Nonetheless, recommendations could be made for additional steps individuals can take to reduce their overall risk.

In a meta-analysis linking social contact frequency with mortality, those having low social contact had a 13% increased risk for mortality compared to those with higher contact frequency; but this was stronger for various types of social contact than contact only with family (Shor & Roelfs, 2015). This is consistent evidence that having

diverse relationships and roles is associated with better health outcomes. Those with more diverse social networks have a lower risk for mortality, better cognitive and physical function (Ali et al., 2018), and fewer respiratory illnesses (Cohen et al., 2003). Varying degrees of intimacy or closeness may also be beneficial, with evidence that both strong and weak ties may benefit health (Fingerman, 2009). Different types of relationships can potentially fulfill different types of needs and goals, leading to such benefits. A common threshold for the minimum number of contact types is between one and three, with incremental benefits associated with increases in social network diversity (Cohen, 2004). Thus, similar to nutrition guidelines that recommend a variety of fruits and vegetables to achieve various nutrient needs, a similar recommendation would be to aim for regular interaction with various relationships and social roles to achieve various social needs.

Consider Context

Early research centered on whether social connections were primarily beneficial in the context of stress (e.g., social buffering hypothesis) or broader contexts (stressful and non-stressful contexts; e.g., the main or direct effects hypothesis). Reviews of this evidence support both hypotheses with more functional measures of relationships linked to stress contexts and structural measures linked to broader contexts. Thus, social connection is needed both in stressful and non-stressful times.

Another contextual distinction in the scientific literature is social interaction inside and outside the home. Evidence appears to support the need for social interaction in both contexts. For example, there is evidence that social interaction outside the home only partially compensates for the lack of social companionship within the home (i.e., living alone) (Schafer et al., 2021). There is also research pointing to the importance of interactions outside the home, including time spent in nature and social connection within the workplace (Goldy & Piff, 2020). Thus, social connection should occur both inside and outside the home.

Illustrative examples: National Social Connection Guidelines

	At-risk	Adequate	Ideal
Size	<4 people	4–6 people	>6 people
Frequency	<daily	Daily or almost daily	More than once per day
Source	No variation or diversity in social network	2–3 types of relationships or roles	>3; Diversity of types of relationships, roles, and closeness.
Context	Little or no in-person contact	Contact mostly in person	Mix of types of contact inside and outside the home
Quality	Limit low-quality social interactions (e.g., conflict) Limit tech-mediated social interactions		

More recently, the focus of research has tried to examine the distinction between in-person versus remote means of social interactions. As remote and tech-mediated means of interacting have been steadily increasing over recent years and becoming normative during the COVID-19 pandemic, the need to understand potential equivalencies has increased. This evidence is complex and mixed in the quality and outcome of the findings (Bayer et al., 2020). Nonetheless, currently, some remote means may not be helpful and, in some cases, may be detrimental. However, it is challenging for the scientific evidence to keep up with rapid technological changes and the myriad of factors that may have meaningful moderating effects (Bayer et al., 2020). Thus, like U.S. Dietary Guidelines that recommend fortified foods or dietary supplements only when it is not possible to meet nutritional needs, based on current evidence, in-person connection should be favored over tech-mediated social interaction unless social needs cannot be adequately met.

Adaptation Needed

National health guidelines are often generalized recommendations that should be inclusive of all Americans. Recommendations should emphasize encouraging healthy social behaviors at every stage of life, from birth through older adulthood. These recommendations should further emphasize that they can be achieved in various ways; thus, specific strategies may be tailored to be age-appropriate and account for personal preferences, cultural norms and practices, and abilities. Finally, because national guidelines are inherently prevention-oriented, these should not be viewed as treatment. Severe cases of social disconnection, such as abuse, neglect, exploitation, and chronic loneliness, require additional intervention and the involvement of professionals.

Conclusion

Social connection is complex and multifaceted but consistently and independently linked to objective health outcomes, indicating the clear need to address this issue in public health policy and prevention efforts. While the evidence suggests no simple, one-size-fits-all recommendation, this is true of nearly all risk and protective factors for health. We should not let the complexity of a health issue cause us to fail to act. Trends of decreasing social connection that began before the pandemic will not be remedied by simply returning to normal. The existing evidence signals the importance of National Social Connection Guidelines for achieving broader national health goals. The potential recommendations outlined are just catalysts for establishing official recommendations based on scientific consensus to foster the well-being and success of the U.S. population and the diverse people within the nation.

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References

- Ali, T., Nilsson, C. J., Weuve, J., Rajan, K. B., & De Leon, C. F. M. (2018). Effects of social network diversity on mortality, cognition and physical function in the elderly: A longitudinal analysis of the Chicago health and aging project (CHAP). *Journal of Epidemiology and Community Health*, 72(11), 990–996. <https://doi.org/10.1136/jech-2017-210236>
- Aminzadeh, F., & Dalziel, W. B. (2002). Older adults in the emergency department: A systematic review of patterns of use, adverse outcomes, and effectiveness of interventions. *Annals of Emergency Medicine*, 39(3), 238–247. <https://doi.org/10.1067/mem.2002.121523>
- Badcock, J. C., Holt-Lunstad, J., Bombaci, P., Garcia, E., & Lim, M. H. (2022). *Position statement: addressing social isolation and loneliness and the power of human connection*. <https://www.gilc.global/general-6>
- Baldessarini, R. J. (2019). Epidemiology of suicide: Recent developments. *Epidemiology and Psychiatric Sciences*, 29, 1–3. <https://doi.org/10.1017/S2045796019000672>
- Bayer, J. B., Triêu, P., & Ellison, N. B. (2020). Social media elements, ecologies, and effects. *Annual Review of Psychology*, 71(1), 471–497. <https://doi.org/10.1146/annurev-psych-010419-050944>
- Berkman, L. F., Glass, T., Brissette, I., & Seeman, T. E. (2000). From social integration to health: Durkheim in the new millennium. *Social Science & Medicine*, 51(6), 843–857. [https://doi.org/10.1016/S0277-9536\(00\)00065-4](https://doi.org/10.1016/S0277-9536(00)00065-4) (XVth International Conference on the Social Sciences & Medicine: Societies and Health in Transition)
- Blazer, D. (2020). Social isolation and loneliness in older adults—a mental health/public health challenge. *JAMA Psychiatry*, 77(10), 990–991. <https://doi.org/10.1001/jamapsychiatry.2020.1054>
- Brinkhues, S., Dukers-Muijters, N. H. T. M., Hoebe, C. J. P. A., Van Der Kallen, C. J. H., Dagnelie, P. C., Koster, A., Henry, R. M. A., Sep, S. J. S., Schaper, N. C., Stehouwer, C. D. A., Bosma, H., Savelkoul, P. H. M., & Schram, M. T. (2017). Socially isolated individuals are more prone to have newly diagnosed and prevalent type 2 diabetes mellitus - the Maastricht study. *BMC Public Health*, 17(1), Article 955. <https://doi.org/10.1186/s12889-017-4948-6>
- Brissette, I., Cohen, S., & Seeman, T. E. (2000). Measuring social integration and social networks.
- Cené, C. W., Beckie, T. M., Sims, M., Suglia, S. F., Aggarwal, B., Moise, N., Jiménez, M. C., Gaye, B., & McCullough, L. D. (2022). Effects of objective and perceived social isolation on cardiovascular and brain health: A scientific statement from the American heart association. *Journal of the American Heart Association*, 11(16), e026493. <https://doi.org/10.1161/JAHA.122.026493>

- Chen, Y., & Feeley, T. H. (2014). Social support, social strain, loneliness, and well-being among older adults: An analysis of the health and retirement study*. *Journal of Social and Personal Relationships, 31*(2), 141–161. <https://doi.org/10.1177/0265407513488728>
- Cigna (2022). *The Loneliness Epidemic Persists: A Post-Pandemic Look at the State of Loneliness among U.S. Adults*. <https://newsroom.cigna.com/loneliness-epidemic-persists-post-pandemic-look>
- Cohen, S. (2004). Social relationships and health. *American Psychologist, 59*(8), 676. <https://doi.org/10.1037/0003-066X.59.8.676>
- Cohen, S. (2021). Psychosocial vulnerabilities to upper respiratory infectious illness: Implications for susceptibility to Coronavirus disease 2019 (COVID-19). *Perspectives on Psychological Science, 16*(1), 161–174. <https://doi.org/10.1177/1745691620942516>
- Cohen, S., Doyle, W. J., Turner, R., Alper, C. M., & Skoner, D. P. (2003). Sociability and susceptibility to the common cold. *Psychological Science, 14*(5), 389–395. <https://doi.org/10.1111/1467-9280.01452>
- Cohen, S., & McKay, G. (2020). Social support, stress and the buffering hypothesis: A theoretical analysis. In *Handbook of psychology and health (volume IV)* (pp. 253–267). Routledge.
- Ernst, M., Niederer, D., Werner, A. M., Czaja, S. J., Mikton, C., Ong, A. D., Rosen, T., Brähler, E., & Beutel, M. E. (2022). Loneliness before and during the COVID-19 pandemic: A systematic review with meta-analysis. *American Psychologist, 77*(5), 660–677. <https://doi.org/10.1037/amp0001005>
- Fingerman, K. (2009). Consequential strangers and peripheral ties: The importance of unimportant relationships. *Journal of Family Theory & Review, 1*(2), 69–86. <https://doi.org/10.1111/j.1756-2589.2009.00010.x>
- Gallagher, S., Howard, S., Muldoon, O. T., & Whittaker, A. C. (2022). Social cohesion and loneliness are associated with the antibody response to COVID-19 vaccination. *Brain, Behavior, and Immunity, 103*, 179–185. <https://doi.org/10.1016/j.bbi.2022.04.017>
- Goldy, S. P., & Piff, P. K. (2020). Toward a social ecology of prosociality: Why, when, and where nature enhances social connection. *Current Opinion in Psychology, 32*, 27–31. <https://doi.org/10.1016/j.copsyc.2019.06.016>
- Hakulinen, C., Pulkki-Raback, L., Virtanen, M., Jokela, M., Kivimäki, M., & Elovainio, M. (2018). Social isolation and loneliness as risk factors for myocardial infarction, stroke and mortality: UK Biobank cohort study of 479 054 men and women. *Heart (British Cardiac Society), 104*(18), 1536–1542. <https://doi.org/10.1136/heartjnl-2017-312663>
- Haslam, S. A., McMahon, C., Cruwys, T., Haslam, C., Jetten, J., & Steffens, N. K. (2018). Social cure, what social cure? The propensity to underestimate the importance of social factors for health. *Social Science & Medicine, 198*, 14–21. <https://doi.org/10.1016/j.socscimed.2017.12.020>
- Hermes, G. L., Delgado, B., Tretiakova, M., Cavigelli, S. A., Krausz, T., Conzen, S. D., & McClintock, M. K. (2009). Social isolation dysregulates endocrine and behavioral stress while increasing malignant burden of spontaneous mammary tumors. *Proceedings of the National Academy of Sciences, 106*(52), 22393–22398. <https://doi.org/10.1073/pnas.0910753106>
- Herttua, K., Martikainen, P., Vahtera, J., & Kivimäki, M. (2011). Living alone and alcohol-related mortality: A population-based cohort study from Finland. *Plos Medicine, 8*(9), e1001094. <https://doi.org/10.1371/journal.pmed.1001094>
- Hodgson, S., Watts, I., Fraser, S., Roderick, P., & Dambha-Miller, H. (2020). Loneliness, social isolation, cardiovascular disease and mortality: A synthesis of the literature and conceptual framework. *Journal of the Royal Society of Medicine, 113*(5), 185–192. <https://doi.org/10.1177/0141076820918236>
- Holt-Lunstad, J. (2020). Social isolation and health [health policy brief]. *Health Affairs, https://doi.org/10.1377/hpb20200622.253235*
- Holt-Lunstad, J. (2022). Social connection as a public health issue: The evidence and a systemic framework for prioritizing the “Social” in social determinants of health. *Annual Review of Public Health, 43*(1), 193–213. <https://doi.org/10.1146/annurev-publhealth-052020-110732>
- Holt-Lunstad, J., Robles, T. F., & Sbarra, D. A. (2017). Advancing social connection as a public health priority in the United States. *American Psychologist, 72*(6), 517–530. <https://doi.org/10.1037/amp0000103>
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science, 10*(2), 227–237. <https://doi.org/10.1177/1745691614568352>
- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine, 7*(7), e1000316. <https://doi.org/10.1371/journal.pmed.1000316>
- Holt-Lunstad, J., & Steptoe, A. (2021). Social isolation: An underappreciated determinant of physical health. *Current Opinion in Psychology, 43*, 232–237. <https://doi.org/10.1016/j.copsyc.2021.07.012>
- Howick, J., Kelly, P., & Kelly, M. (2019). Establishing a causal link between social relationships and health using the Bradford Hill guidelines. *SSM - Population Health, 8*, 100402. <https://doi.org/10.1016/j.ssmph.2019.100402>
- Kannan, V. D., & Veazie, P. J. (2022). US trends in social isolation, social engagement, and companionship - nationally and by age, sex, race/ethnicity, family income, and work hours, 2003-2020. *SSM - Population Health, 21*, 101331. <https://doi.org/10.1016/j.ssmph.2022.101331>
- Kent de Grey, R. G., Uchino, B. N., Trettervik, R., Cronan, S., & Hogan, J. N. (2018). Social support and sleep: A meta-analysis. *Health Psychology, 37*(8), 787.
- Klinenberg, E. (2016). Social isolation, loneliness, and living alone: Identifying the risks for public health. *American Journal of Public Health, 106*(5), 786. <https://doi.org/10.2105/AJPH.2016.303166>
- Leigh-Hunt, N., Baguley, D., Bash, K., Turner, V., Turnbull, S., Valtorta, N., & Caan, W. (2017). An overview of systematic reviews on the public health consequences of social isolation and loneliness. *Public Health, 152*, 157–171. <https://doi.org/10.1016/j.puhe.2017.07.035>
- Lim, M., Holt-Lunstad, J., & Qualter, P. (2021). *Take the #KINDChallenge. Knowing at Least 6 Neighbors Can Reduce*

- Loneliness. Connect Through Acts of Kindness and Combat Loneliness in Your Neighborhood*. Retrieved January 11, 2023, from <https://go.nextdoor.com/kind-challenge-us>
- Mac Carron, P., Kaski, K., & Dunbar, R. (2016). Calling Dunbar's numbers. *Social Networks*, *47*, 151–155. <https://doi.org/10.1016/j.socnet.2016.06.003>
- Madison, A. A., Shrout, M. R., Renna, M. E., & Kiecolt-Glaser, J. K. (2021). Psychological and behavioral predictors of vaccine efficacy: Considerations for COVID-19. *Perspectives on Psychological Science*, *16*(2), 191–203. <https://doi.org/10.1177/1745691621989243>
- Manera, K. E., Stamatakis, E., Huang, B.-H., Owen, K., Phongsavan, P., & Smith, B. J. (2022). Joint associations of social health and movement behaviours with mortality and cardiovascular disease: An analysis of 497,544 UK biobank participants. *International Journal of Behavioral Nutrition and Physical Activity*, *19*(1), 137. <https://doi.org/10.1186/s12966-022-01372-3>
- Matthews, K. A., Adler, N. E., Forrest, C. B., & Stead, W. W. (2016). Collecting psychosocial “vital signs” in electronic health records: Why now? What are they? What's new for psychology? *American Psychologist*, *71*(6), 497–504. <https://doi.org/10.1037/a0040317>
- McClintock, M. K., Conzen, S. D., Gehlert, S., Masi, C., & Olopade, F. (2005). Mammary cancer and social interactions: Identifying multiple environments that regulate gene expression throughout the life span. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *60*(Special_Issue_1), 32–41. https://doi.org/10.1093/geronb/60.Special_Issue_1.32
- Morina, N., Kip, A., Hoppen, T. H., Priebe, S., & Meyer, T. (2021). Potential impact of physical distancing on physical and mental health: A rapid narrative umbrella review of meta-analyses on the link between social connection and health. *BMJ Open*, *11*(3), e042335. <https://doi.org/10.1136/bmjopen-2020-042335>
- National Academies of Sciences, Engineering, and Medicine (2020). *Social Isolation and Loneliness in Older Adults: Opportunities for the Health Care System*. The National Academies Press. <https://doi.org/10.17226/25663>
- National Academies of Sciences, Engineering, and Medicine (2021). *Enhancing Community Resilience through Social Capital and Connectedness: Stronger Together!*. The National Academies Press. <https://doi.org/10.17226/26123>
- Penwell, L. M., & Larkin, K. T. (2010). Social support and risk for cardiovascular disease and cancer: A qualitative review examining the role of inflammatory processes. *Health Psychology Review*, *4*(1), 42–55. <https://doi.org/10.1080/17437190903427546>
- Pinquart, M., & Sorensen, S. (2000). Influences of socioeconomic status, social network, and competence on subjective well-being in later life: A meta-analysis. *Psychology and Aging*, *15*(2), 187–224. <https://doi.org/10.1037/0882-7974.15.2.187>
- Robles, T. F., Slatcler, R. B., Trombello, J. M., & McGinn, M. M. (2014). Marital quality and health: A meta-analytic review. *Psychological Bulletin*, *140*(1), 140. <https://doi.org/10.1037/a0031859>
- Santana, S., Brach, C., Harris, L., Ochiai, E., Blakey, C., Bevington, F., Kleinman, D., & Pronk, N. (2021). updating health literacy for healthy people 2030: Defining its importance for a new decade in public health. *Journal of Public Health Management and Practice*, *27*(Supplement 6), S258–S264. <https://doi.org/10.1097/PHH.0000000000001324>
- Schafer, M. H., Sun, H., & Lee, J. A. (2021). Compensatory connections? Living alone, loneliness, and the buffering role of social connection among older American and European adults. *The Journals of Gerontology: Series B*, *77*(8), 1550–1560. <https://doi.org/10.1093/geronb/gbab217>
- Shor, E., & Roelfs, D. J. (2015). Social contact frequency and all-cause mortality: A meta-analysis and meta-regression. *Social Science & Medicine*, *128*, 76–86. <https://doi.org/10.1016/j.socscimed.2015.01.010>
- Snetselaar, L. G., de Jesus, J. M., DeSilva, D. M., & Stoodly, E. E. (2021). Dietary guidelines for Americans, 2020–2025: Understanding the scientific process, guidelines, and key recommendations. *Nutrition Today*, *56*(6), 287–295. <https://doi.org/10.1097/NT.0000000000000512>
- SOCIAL Framework — Foundation for Social Connection (2022, April). *Foundation for Social Connection*. Retrieved January 11, 2023, from <https://static1.squarespace.com/static/5f88a8ff36438d732d1c962c/t/626ac141b4c1367b5b126203/1651163477697/SOCIAL+Framework+--+Health+Sector+updated.pdf>
- Steele, I. H., Thrower, N., Noroian, P., & Saleh, F. M. (2018). Understanding suicide across the lifespan: A United States perspective of suicide risk factors, assessment & management. *Journal of Forensic Sciences*, *63*(1), 162–171. <https://doi.org/10.1111/1556-4029.13519>
- Steptoe, A., Shankar, A., Demakakos, P., & Wardle, J. (2013). Social isolation, loneliness, and all-cause mortality in older men and women. *Proceedings of the National Academy of Sciences*, *110*(15), 5797–5801. <https://doi.org/10.1073/pnas.1219686110>
- Uchino, B. N. (2006). Social support and health: A review of physiological processes potentially underlying links to disease outcomes. *Journal of Behavioral Medicine*, *29*(4), 377–387. <https://doi.org/10.1007/s10865-006-9056-5>
- Uchino, B. N., Bowen, K., Kent de Grey, R., Mikel, J., & Fisher, E. B. (2018). Social support and physical health: Models, mechanisms, and opportunities. In E. B. Fisher, L. D. Cameron, A. J. Christensen, U. Ehler, Y. Guo, B. Oldenburg, & F. J. Snoek (Eds.), *Principles and concepts of behavioral medicine: A global handbook* (pp. 341–372). Springer New York. https://doi.org/10.1007/978-0-387-93826-4_12
- Valtorta, N. K., Kanaan, M., Gilbody, S., & Hanratty, B. (2016a). Loneliness, social isolation and social relationships: What are we measuring? A novel framework for classifying and comparing tools. *BMJ Open*, *6*(4), e010799. <https://doi.org/10.1136/bmjopen-2015-010799>
- Valtorta, N. K., Kanaan, M., Gilbody, S., Ronzi, S., & Hanratty, B. (2016b). Loneliness and social isolation as risk factors for coronary heart disease and stroke: Systematic review and meta-analysis of longitudinal observational studies. *Heart (British Cardiac Society)*, *102*(13), 1009–1016. <https://doi.org/10.1136/heartjnl-2015-308790>
- Wang, Y., Jiao, Y., Nie, J., O'Neil, A., Huang, W., Zhang, L., Han, J., Liu, H., Zhu, Y., Yu, C., & Woodward, M. (2020). Sex differences in the association between marital status and the risk of cardiovascular, cancer, and all-cause mortality: A systematic review and meta-analysis of 7,881,040 individuals. *Global Health Research and Policy*, *5*(1), 4. <https://doi.org/10.1186/s41256-020-00133-8>

- Weil, Z., Norman, G., Barker, J., Su, A., Nelson, R., & Devries, A. (2008). Social isolation potentiates cell death and inflammatory responses after global ischemia. *Molecular Psychiatry*, *13*(10), 913–915. <https://doi.org/10.1038/mp.2008.70>
- WHO (2021). *Social isolation and loneliness among older people: advocacy brief*. (Licence: CC BY-NC-SA 3.0 IGO.). <https://www.who.int/publications/i/item/9789240030749>
- Yang, Y. C., Boen, C., Gerken, K., Li, T., Schorpp, K., & Harris, K. M. (2016). Social relationships and physiological determinants of longevity across the human life span. *Proceedings of the National Academy of Sciences*, *113*(3), 578–583. <https://doi.org/10.1073/pnas.1511085112>
- Yang, Y. C., Li, T., & Ji, Y. (2013). Impact of social integration on metabolic functions: Evidence from a nationally representative longitudinal study of US older adults. *BMC Public Health*, *13*(1), 1210. <https://doi.org/10.1186/1471-2458-13-1210>
- Zhao, Y., Guyatt, G., Gao, Y., Hao, Q., Abdullah, R., Basmaji, J., & Foroutan, F. (2022). Living alone and all-cause mortality in community-dwelling adults: A systematic review and meta-analysis. *eClinicalMedicine*, *54*, 101677. <https://doi.org/10.1016/j.eclinm.2022.101677>