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Assessing the Underdiagnosis of Frailty-Related Conditions in Aging Populations

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ABSTRACT

Frailty is a major public health concern among adults aged 60 and older, being one of the leading causes for increased hospitalization, reduced independence, and adverse health outcomes. Despite the growing awareness of frailty's impact, early detection remains inconsistent. This study used a survey-based design to examine whether healthcare providers routinely screen older adults for frailty-related conditions and compared reported testing rates to known national prevalence estimates. The survey revealed that although chronic conditions were commonly tested, other key frailty indicators such as sarcopenia, persistent fatigue, decreased walking speed, and chronic inflammation were tested at much lower rates. When compared to national prevalence data, the findings inculcate that many frailty-related conditions are significantly underdiagnosed. These results suggest a critical gap in screening practices, highlighting the need for more proactive testing and intervention strategies to preserve health, independence, and quality of life in aging populations.

Background

Frailty is a critical health concern for individuals 60 years and older, as it increases the risk of falls, hospitalization, and declining overall well-being. Beyond frailty, aging individuals often experience declines in mobility, cognitive function, and sensory abilities, all of which contribute to reduced independence as well as worsened quality of life (Buta et al., 2016). Frailty is associated with conditions such as sarcopenia, weak grip strength, persistent fatigue, unintentional weight loss, decreased walking speed, decreased bone density, chronic illnesses like diabetes and osteoporosis, chronic inflammation, and a weakened immune system; all of which compromise the health of aging individuals. These increases in the presence of the mentioned conditions as well as the declines in overall well being not only shorten lifespans, but

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also place a significant financial burden on healthcare systems, as frailty is linked to higher hospitalization rates, longer recovery times, and increased medical costs. (Chi et al., 2021).

Detecting frailty related conditions early is essential to being able to effectively intervene and prevent damage; however, healthcare providers do not routinely screen patients who are at risk for these conditions. Given the significant impact frailty has on long-term health, it is imperative that individuals are aware of arising risks and are proactive in taking steps to maintain their health. The research aimed to identify potential gaps in medical screening and assess whether older individuals experienced symptoms without receiving a formal diagnosis. This study used a survey-based observational design to examine whether healthcare providers tested individuals aged 60 and older for frailty-related conditions and to compare the screenings found with patient-reported symptoms. Research has shown that frailty can be mitigated through targeted interventions such as multicomponent exercise programs, which includes but is not limited to regular physical activity, targeted strength training, and aerobic exercises; all of which help preserve muscle mass and functional mobility. Even short-term exercise interventions have been shown to enhance muscle strength and gait speed, reducing fall risk and improving overall independence. (de Labra et al., 2015). Additionally, nutritional support, particularly adequate protein intake and supplementation also plays a vital role in slowing down the progression of frailty and its effects. Research indicates that frail individuals often experience substandard protein and caloric intake, which accelerates muscle loss and functional decline. In addition to protein, sufficient intake of vitamin D and omega-3 fatty acids has been linked to improved muscle function and reduced inflammation, both of which are key factors in frailty prevention (Kojima et al., 2018). Conducted studies suggest that combining exercise along with proper nutritional balance yields the most effective results in improving physical outcomes for older adults. A review of frailty interventions found that integrated approaches: such as structured exercise programs paired with dietary counseling: led to a significant improvement in physical performance and a reduced risk of disability. Furthermore, psychosocial factors including social engagement and cognitive stimulation, also play a role in frailty prevention, emphasizing the need for a holistic approach to aging. (Dent et al., 2019).

This study seeks to determine whether doctors are actively screening patients over the age of 60 for frailty-related conditions, and how this aligns with patients' self-reported symptoms. Identifying these potential gaps in medical testing can help improve screening practices, to ensure that older adults receive the necessary care to maintain their health and independence. Furthermore, raising awareness about preventative measures can encourage individuals to take an active role in combating frailty, to ultimately improve their quality of life. Reduce healthcare costs, and potentially extend their lifespan.

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Methods

Participants

To be eligible for the study, participants were required to meet the following criteria: be 60 years or older, reside in the United States, and be able to complete the survey independently or with assistance. Participants were recruited through two primary methods: online surveys via SurveyMonkey and Google Forms, as well as direct outreach by the researchers. Through both survey methods, a total of 110 individuals participated, providing data on whether they had been tested by healthcare providers for frailty related conditions, and details regarding self-reported symptoms. SurveyMonkey's built-in screening process ensured that participants met the eligibility criteria, while the availability of Google Forms served as an alternative for those who preferred a more familiar platform to complete the survey. Additional responses were personally collected via email invitations sent to eligible members of senior organizations, community groups, and personal contacts. This approach allowed participants from diverse backgrounds to share their experience with frailty and medical screenings, providing a broader perspective on how these conditions are identified and addressed across the country.

Materials

The survey consisted of multiple sections, beginning with demographic information such as age, gender, and general health status. The next section participants were asked to self-report whether they had experienced any symptoms related to these conditions, regardless of whether they had been formally tested by any medical professional. These questions consisted of responses regarding recent weight loss, fatigue, difficulty walking, frequent falls, joint pain, muscle weakness, and immune-related issues. In the following section, focused on frailty-related screening history, which asked participants whether a healthcare provider had ever tested them for specific conditions, including sarcopenia, weak grip strength, persistent fatigue, unintentional weight loss, decreased walking speed, chronic illnesses (ex: diabetes, osteoporosis, etc.), chronic inflammation, a weakened immune system, loss of balance, and decreased bone density. The final section of the survey explored perceptions of frailty awareness by asking participants if they believed frailty was adequately addressed by their healthcare providers and whether they had been given recommendations for preventative measures. A copy of the survey can be viewed here https://forms.gle/kBKoBaNhUK9hPEnf8.

Procedure

The survey was made available in various digital forms such as SurveyMonkey and Google Forms, to ensure accessibility for a wide range of participants. Google Forms was used to provide an alternative platform for participants who preferred a more familiar interface. Both

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platforms allowed for real-time response tracking and automatic calculation of response distributions, enabling the research team to monitor data collection progress efficiently. Using multiple survey platforms helped maximize participant reach and improve response rates while guaranteeing accurate data results. Before full testing was launched, a pilot test was conducted with a small group of older adults to assess the clarity, readability, and relevance of the survey questions. Official data collection occurred over the span of a three-month period, during which surveys were distributed through SurveyMonkey's automated system, direct outreach, and email invitations containing the form to participants and organizations across the country. Participants had the option to complete the survey independently, or with assistance of a caregiver or family member to accommodate any physical or cognitive limitations. Upon completion of the survey, responses were systematically reviewed for completeness, consistency, and potential duplicate entries. Any incomplete or duplicate submissions were identified and excluded to maintain data integrity and reliability.

Results

The results revealed a significant lack of medical testing for frailty related conditions among older adults. While chronic conditions had the highest reported screening rate at 77.27%, many other frailty indicators were rarely tested. For example, 26.36% of participants stated they were tested for sarcopenia. However, population-level estimates indicate that 5%-13% of adults aged 60-70 and up to 50% of those aged 80 and older experience sarcopenia (von Haehling et al., 2010). This suggests that a large portion of those affected may remain undiagnosed. Similarly, only 22.73% were tested for strength loss, despite national data showing that between 2%-8% of adults aged 60-79 and 19%-34% of those over 80 have weak intermediate grip strength (Looker & Wang, 2015). Persistent fatigue was tested in only 12.73% of participants, although studies estimate that 28.6% to 47.50% of older adults suffer from persistent fatigue (Meng et al., 2010), with one study identifying a prevalence of 38.05% (Vestergaard et al., 2009). This again suggests significant underreporting and low testing rates relative to actual burden. In the case of unintentional weight loss, 6.36% of participants reported being tested. Yet research indicates that 8%-27% of older adults experience this condition (Alibhai, 2005), suggesting a considerable gap in clinical evaluation. Testing for decreased walking speed was reported by 9.09% of respondents. In contrast, broader studies show that up to 76% of older adults in tertiary outpatient settings and 44%-47% of community-dwelling seniors may have slow gait speed (<0.8 m/s), with 18%-22% falling below a more stringent threshold of 0.6 m/s (Stover et al., 2023). Decreased bone density had a relatively higher screening rate of 43.64%. Still, its prevalence remains substantial, with estimates indicating 43.9% of individuals aged 65+ (Colon et al., 2018) have reduced bone mass. One study of geriatric patients found a 25% prevalence of sarcopenia in individuals with reduced bone density (Colón et al., 2018). As mentioned earlier, chronic

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conditions had the highest testing rate (77.27%). National data confirms that 85% of Americans over 65 have at least one chronic disease, and 60% live with two or more (Fong, 2019), validating the high level of screening in this area of frailty. In contrast, chronic inflammation — a key biological driver of aging and frailty — was only tested in 31.82% of participants. Estimates indicate that it affects 30%-50% of older adults (Weyand & Goronzy, 2016), underlining the lack of clinical attention to subtle physiological markers of frailty. Weakened immune system was only tested in 18.18% of participants, despite the immune system playing a critical role in frailty, particularly in response to chronic disease and inflammation. In a study using the 2021 NHIS, an estimated 6.6% of U.S. adults had immunosuppression (Martinson & Lapham, 2024). Finally, 23.64% of participants reported receiving a test for loss of balance. Existing literature shows that 15.80% of individuals aged 60-69 and 26.9% of those aged 70 and older are affected by balance disorders (Wang et al., 2024). Some reports suggest that prevalence may exceed 35% in those over 70, depending on the population and diagnostic criteria used (MyEMSHealth, 2024), suggesting another overlooked dimension of frailty. Overall, the data show that many participants who reported frailty-related symptoms were never tested by a healthcare provider for these conditions. These data are summarized in Table 1 below.

These patterns suggest that healthcare providers often rely on patient-reported symptoms and existing diagnoses before initiating frailty related conditions. Overall, the data show that many participants who should have been screened for frailty-related conditions were never tested by a healthcare provider. These patterns suggest that healthcare providers often rely on existing diagnoses before initiating testing for frailty conditions. Given the national prevalence rates compared to the low testing rates, the findings highlight the importance of more proactive screening measures, rather than waiting for patients to present with symptoms or preexisting conditions. Additionally, the data indicated that even when individuals were tested, they did not always receive follow-up advice or intervention strategies. This reveals a potential gap not only in screening but also in preventative care and treatment guidance for frailty-related conditions. Despite increased awareness of frailty's impact on health outcomes, it appears that many frailty markers remain underdiagnosed and undertreated in clinical settings.

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Table 1: A comparison of the number of survey participants reported being tested for a frailty-related condition and the estimated percentage of the population who suffer from the condition.

Condition	% Tested (Self-reported)	% Actual Prevalence (Population Norms)
Sarcopenia	26.36%	5%-13% (60-70) 50% (80+)
Weak Grip Strength	22.73%	2%-8% weak - intermediate strength (60-79) 19%-34% weak- intermediate strength (80+)
Persistent Fatigue	12.73%	28.6%-47.5% (Meng) 38.05% (Vestergaard)
Unintentional Weight Loss	6.36%	8%-27%
Decreased Walking Speed	9.09%	44%-47% (<0.8m per second cut-point.) 18%-22% (<0.6m per second cut-point)
Decreased Bone Density	43.64%	43.9% A study of 198 geriatric patients found 25% had sarcopenia.

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Chronic conditions	77.27%	85% (65) have at least one chronic health condition 60% have at least two chronic conditions
Chronic inflammation	31.82%	30-50%
Weakened Immune System	18.18%	6.6%
Loss of Balance	23.64%	15.80% (60-69) 26.90% (70+)

Discussion

The findings from this study highlight a critical disconnect between frailty condition prevalence and medical screening in older adults. In many cases, the number of individuals who are tested for frailty-related conditions is significantly lower than the actual prevalence rates seen in national data. The problem may be worse than what is shown in the survey since it is unclear whether the people being tested for conditions are the same as those who have them. For example, it may not be visibly obvious which patients should be tested for grip strength or bone density. Patients themselves may not even recognize that they have problems worth reporting in these areas. As a result, testing may be done in patients who neither reported or have these conditions, while patients who do suffer from those conditions go untested. Conditions that go unassessed and therefore, undetected, may delay diagnosis to the point that the conditions worsen over time. In some cases, like loss of balance and low bone density, this could result in patients falling, breaking bones and never fully recovering.

In addition, the number of people being tested by healthcare providers for frailty-related conditions is remarkably low across the board. Despite widespread reports of common symptoms such as persistent fatigue, unintentional weight loss, or difficulty walking, testing rates remain far below what they should be. This discrepancy between individuals who likely have symptoms and those who are actually being screened points to a significant flaw in how frailty is being addressed in clinical settings.

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This oversight represents a widespread and growing issue in aging healthcare. Nationally, frailty and its related conditions affect a substantial percentage of the older population and are linked to higher hospitalization rates, longer recovery periods, increased risk of disability, and earlier mortality (Chi et al., 2021). The failure to screen for these conditions not only endangers individual health but also burdens the healthcare system through preventable medical costs and resource strain.

The significance of these findings lies in the missed opportunity for early intervention. Frailty is not an irreversible condition; when identified early, it can be managed or even slowed through proven strategies such as multicomponent exercise programs, nutritional support, and lifestyle modifications (Yang et al., 2024). However, if neither patients nor providers are recognizing the signs, these interventions are unlikely to be implemented in time to make a meaningful impact.

Ultimately, this study demonstrates that improved education - for both patients and healthcare providers - is crucial. Older adults must be made aware of what symptoms are worth reporting, and providers must take a more proactive role in screening at-risk populations. As the aging population continues to grow, addressing these gaps in frailty detection and management is essential for improving health outcomes and reducing national healthcare burdens.

References

Alibhai, S. M. H. (2005). An approach to the management of unintentional weight loss in elderly people. *Canadian Medical Association Journal*, *172*(6), 773–780. https://doi.org/10.1503/cmaj.1031527

Buta, B. J., Walston, J. D., Godino, J. G., Park, M., Kalyani, R. R., Xue, Q.-L., Bandeen-Roche, K., & Varadhan, R. (2016). Frailty assessment instruments: Systematic characterization of the uses and contexts of highly-cited instruments. *Ageing Research Reviews*, *26*, 53–61. https://doi.org/10.1016/j.arr.2015.12.003

Chi, J., Chen, F., Zhang, J., Niu, X., Tao, H., Ruan, H., Wang, Y., & Hu, J. (2021). Impacts of frailty on health care costs among community-dwelling older adults: A meta-analysis of cohort studies. *Archives of Gerontology and Geriatrics*, *94*, 104344. https://doi.org/10.1016/j.archger.2021.104344

Chronic. (2024, August 31). *MyEMSHealth*. MyEMSHealth. https://www.myemshealth.com/blog/chronic-inflammation

Colón, C. J. P., Molina-Vicenty, I. L., Frontera-Rodríguez, M., García-Ferré, A., Rivera, B. P., Cintrón-Vélez, G., & Frontera-Rodríguez, S. (2018). Muscle and Bone Mass Loss in the Elderly

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Volume:10, Issue:07 "July 2025"

Population: Advances in diagnosis and treatment. *Journal of Biomedicine*, *3*(3), 40–49. https://doi.org/10.7150/jbm.23390

de Labra, C., Guimaraes-Pinheiro, C., Maseda, A., Lorenzo, T., & Millán-Calenti, J. C. (2015). Effects of Physical Exercise Interventions in Frail Older adults: a Systematic Review of Randomized Controlled Trials. *BMC Geriatrics*, *15*(1). https://doi.org/10.1186/s12877-015-0155-4

Dent, E., Morley, J. E., Cruz-Jentoft, A. J., Woodhouse, L., Rodríguez-Mañas, L., Fried, L. P., Woo, J., Aprahamian, I., Sanford, A., Lundy, J., Landi, F., Beilby, J., Martin, F. C., Bauer, J. M., Ferrucci, L., Merchant, R. A., Dong, B., Arai, H., Hoogendijk, E. O., & Won, C. W. (2019). Physical Frailty: ICFSR International Clinical Practice Guidelines for Identification and Management. *The Journal of Nutrition, Health & Aging*, *23*(9), 771–787. https://doi.org/10.1007/s12603-019-1273-z

Europe PMC. (2016). *Europe PMC*. Europepmc.org. https://europepmc.org/article/PMC/2981161

Fong, J. H. (2019). Disability incidence and functional decline among older adults with major chronic diseases. *BMC Geriatrics*, *19*(1). https://doi.org/10.1186/s12877-019-1348-z

Kojima, G., Iliffe, S., & Walters, K. (2017). Frailty index as a predictor of mortality: a systematic review and meta-analysis. *Age and Ageing*, *47*(2), 193–200. https://doi.org/10.1093/ageing/afx162

Looker, A. C., & Wang, C.-Y. (2019, June 7). *Products - Data Briefs - Number 179 - January 2015*. Cdc.gov. https://www.cdc.gov/nchs/products/databriefs/db179.htm?utm

Martinson, M. L., & Lapham, J. (2024). Prevalence of Immunosuppression Among US Adults. *JAMA*, *331*(10), 880. https://doi.org/10.1001/jama.2023.28019

Meng, H., Hale, L., & Friedberg, F. (2010). Prevalence and Predictors of Fatigue in Middle-aged and Older Adults: Evidence from the Health and Retirement Study. *Journal of the American Geriatrics Society*, *58*(10), 2033–2034. https://doi.org/10.1111/j.1532-5415.2010.03088.x

Stover, E., Andrew, S., Batesole, J., Berntson, M., Carling, C., FitzSimmons, S., Hoang, T., Nauer, J., & McGrath, R. (2023). Prevalence and Trends of Slow Gait Speed in the United States. *Geriatrics*, *8*(5), 95. https://doi.org/10.3390/geriatrics8050095

Vestergaard, S., Nayfield, S. G., Patel, K. V., Eldadah, B., Cesari, M., Ferrucci, L., Ceresini, G., & Guralnik, J. M. (2009). Fatigue in a Representative Population of Older Persons and Its

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Volume:10, Issue:07 "July 2025"

Association With Functional Impairment, Functional Limitation, and Disability. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, *64A*(1), 76–82. https://doi.org/10.1093/gerona/gln017

von Haehling, S., Morley, J. E., & Anker, S. D. (2010). An overview of sarcopenia: facts and numbers on prevalence and clinical impact. *Journal of Cachexia, Sarcopenia and Muscle*, *1*(2), 129–133. https://doi.org/10.1007/s13539-010-0014-2

Wang, J., Li, Y., Yang, G.-Y., & Jin, K. (2024). Age-Related Dysfunction in Balance: A Comprehensive Review of Causes, Consequences, and Interventions. *Aging and Disease*, *16*(2). https://doi.org/10.14336/ad.2024.0124-1

Weyand, C. M., & Goronzy, J. J. (2016). Aging of the Immune System. Mechanisms and Therapeutic Targets. *Annals of the American Thoracic Society*, *13*(5), S422–S428. https://doi.org/10.1513/annalsats.201602-095aw

Yang, X., Li, S., Xu, L., Liu, H., Li, Y., Song, X., Bao, J., Liao, S., Xi, Y., & Guo, G. (2024). Effects of multicomponent exercise on frailty status and physical function in frail older adults: A meta-analysis and systematic review. *Experimental Gerontology*, *197*, 112604. https://doi.org/10.1016/j.exger.2024.112604

