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# Elder Mistreatment Experienced by Older Caregiving Adults: Results from a National Community-Based Sample



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**BACKGROUND:** With an aging population, older adults are increasingly serving as caregivers to others, which may increase their risk of adverse interpersonal experiences.

**OBJECTIVE:** To investigate the prevalence and types of elder mistreatment experienced by older caregiving adults.

**DESIGN:** Cross-sectional analysis

**PARTICIPANTS:** National sample of community-dwelling US adults over age 60 in 2015–2016.

**MAIN MEASURES:** Caregiving (assisting another adult with day-to-day activities) was assessed by interviewer-administered questionnaires. Experience of elder mistreatment was assessed by participant-reported questionnaire in three domains: emotional, physical, and financial. Multivariable logistic regression models examined associations between caregiving status and each domain of elder mistreatment, adjusting for age, race, ethnicity, gender, education, marital status, concomitant care-receiving status, overall physical and mental health, and cognitive function. Additional logistic regression models examined associations between being the primary caregiver (rather than a secondary caregiver) and each domain of mistreatment among older caregivers.

**KEY RESULTS:** Of the 1898 participants over age 60 (including 1062 women and 836 men, 83% non-Hispanic white, and 64% married or partnered), 14% reported serving as caregivers for other adults, including 8% who considered themselves to be the primary caregiver. Among these older caregivers, 38% reported experiencing emotional, 32% financial, and 6% physical mistreatment after age 60. In multivariable models, caregiving was associated with experiencing both emotional mistreatment (AOR 1.61, 95% CI 1.15–2.25) and financial mistreatment (AOR 1.72, 95% CI 1.18–2.50). In analyses confined to caregiving older adults, those who served as primary rather than secondary caregivers for other adults had an over two-fold increased odds of emotional mistreatment (AOR 2.17, 95% CI 1.07, 4.41).

**CONCLUSION:** In this national cohort of older community-dwelling adults, caregiving was independently associated with experiencing emotional and financial mistreatment after age 60. Findings suggest that efforts to

prevent or mitigate elder mistreatment should put more emphasis on vulnerable older caregivers.

**KEY WORDS:** Elder mistreatment; Caregivers; Caregiver burden.

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## INTRODUCTION

With the overall aging of the US population, older adults are increasingly serving as informal caregivers for other adults.<sup>1</sup> In 2015, over 18% of adults aged 65 or older were estimated by the U.S. Center for Disease Control and Prevention as assisting another adult with activities of daily living in the past month.<sup>2</sup> Regardless of age, many caregivers report physical, financial, and emotional strain or stress (18–53%),<sup>3</sup> which may have adverse effects on their own health and well-being.

In existing literature on elder mistreatment, caregivers are primarily regarded as perpetrators of elder mistreatment, when strained relationships arise between functionally impaired older adults and the persons on whom they rely for care.<sup>4</sup> However, caregivers may themselves be at increased risk for mistreatment.<sup>5</sup> While older caregivers may be functionally capable of providing assistance to partners, family members, or friends, they may still be physically, emotionally, or financially vulnerable to others. Older caregivers experience higher rates of social isolation and loneliness than non-caregivers,<sup>6,7</sup> which are risk factors for mistreatment. The stress of caregiving may place strain on caregivers' social networks,<sup>8,9</sup> increasing the likelihood that they will experience interpersonal conflict, social strain, or even mistreatment. Additionally, qualitative studies suggest that caregivers may be mistreated by individuals for whom they provide care.<sup>10,11</sup>

Although there is a sizeable literature about the burden of caregiving on the health and well-being of caregivers,<sup>12,13</sup> we know little about caregivers' vulnerability to mistreatment.<sup>10,14</sup> Using a national survey of community-dwelling older adults in the USA, we investigated the prevalence and types of mistreatment reported by older adults who self-identify as caregivers of other adults. We compared older adults who self-identified as caregivers with those who do

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not report caregiving responsibilities. Our overarching goal was to provide insight into the potential contribution of caregiving to the risk of elder mistreatment and to inform strategies for preventing and mitigating these harmful experiences in older caregivers.

## METHODS

### Participants

We analyzed data from the third round of the National Social Health and Aging Project (NSHAP), a national cohort of older community-dwelling US adults. The original NSHAP sample was assembled through multistage probability sampling of US adults born between 1920 and 1947, with oversampling of Black/African American and Hispanic/Latino adults to ensure robust representation of these populations.<sup>15</sup> Recruitment procedures and sampling strategies for the NSHAP rounds have been described previously. After completion of NSHAP rounds 1 (2005–2006) and 2 (2010–2011), returning NSHAP participants and newly recruited participants were enrolled in round 3 in 2015–2016, which involved in-person interviews during home-based study visits as well as leave-behind self-administered questionnaires assessing demographic and health-related characteristics. Round 3 participants who had participated in previous NSHAP rounds were asked to complete new measures of elder mistreatment relevant to our investigation.<sup>15–17</sup> Additionally, given interview length, elder mistreatment questions were administered only to NSHAP3 participants who had previously contributed to round 1 or 2; newly recruited NSHAP3 participants were not asked these questions to reduce respondent fatigue. For this report, analyses focused on cross-sectional data from returning round 3 participants who answered questions on both caregiving and elder mistreatment.

### Caregiving/Care-Receiving Status

Caregiving (i.e., provision of assistance to another person for day-to-day activities) was assessed by questions in the self-administered questionnaire assessing whether participants were “currently assisting an adult who needs help with day-to-day activities due to age or disability.” Participants who answered yes were asked whether this person was related to them as a spouse, parent, child, grandchild, or other relationship, as well as whether they considered themselves to be the primary caregiver (primary person responsible for assisting with day-to-day activities versus being a secondary caregiver).

Care-receiving (i.e., receipt of assistance from another person for activities of daily living) was also assessed during the in-person interview. Participants were asked if they experienced difficulty with any of 14 activities of daily living (ADLs) or instrumental ADLs (IADLs) (Supplemental Table 1). Those reporting difficulty with ADL/IADLs were asked whether anyone helped them with those activities.

Participants were considered to be providing care if they reported assisting another adult with day-to-day activities and as receiving care if they reported receiving help with at least one ADL/IADL.

### Elder Mistreatment

Participants aged 60 years or older at the time of NSHAP3 were asked during in-person interviews about their experience of common types of elder mistreatment since turning 60, using measures from a previous community-based epidemiologic study of mistreatment of older adults.<sup>18</sup> In accordance with classification of elder mistreatment in that study as well as definitions of mistreatment described by the National Center on Elder Abuse,<sup>18–21</sup> we focused on three domains of elder mistreatment: emotional, financial, and physical.

In contrast to early rounds of NSHAP, NSHAP3 included a more expansive set of questions to assess for forms of emotional, physical, or financial mistreatment occurring after age 60. Emotional mistreatment was defined by a positive response to questions about feeling that nobody wanted you around, feeling uncomfortable in your family, being called names, and being told you gave too much trouble. Physical mistreatment was defined by a positive response to questions about being afraid of anyone in the family or being hurt/harmed. Financial mistreatment was defined by a positive response to questions about having belongings taken without consent or money borrowed without repayment.

For each domain of mistreatment, participants were asked to rate its severity: “How serious of a problem was this for you?” with response options, “not serious,” “somewhat serious,” and “very serious.” Participants who reported any form of mistreatment were asked whether the perpetrator was a person within the participant’s core social network, defined as a key confidante with whom the participant would ordinarily communicate important life events, problems, or concerns.<sup>22</sup> Participants were not asked to identify the person perpetrating the mistreatment. Participants were notified during the consent process that they might be asked questions on elder abuse and that interviewers might be required to report abuse.

### Demographic and Clinical Characteristics

Participants provided information about demographic characteristics, including age, race/ethnicity, educational attainment, gender, marital status, and care-receiving status (Table 1). Participants were asked to rate their overall physical and mental health on standard scales ranging from “poor” to “excellent.” An 18-item adaptation of the Montreal Cognitive Assessment (MoCA-SA),<sup>23</sup> designed for administration by non-medical personnel within the context of a large, time-limited national survey, was administered to assess cognitive function. While score thresholds for this version of the MoCA have not been validated, scores of 22 or higher have been suggested to indicate normal cognitive function.<sup>24</sup>

Table 1. Demographic and Clinical Characteristics of Participants in the Analytic Sample, by Caregiving Status

	Total analytic sample		Caregivers		Non-caregivers		P
	N = 1898	%	N = 288	%	N = 1610	%	
<b>Age in years</b>							
60–69	389	21.2%	68	25.9%	321	20.5%	0.22
70–79	953	53.2%	144	51.3%	809	53.6%	
80–89	498	23.0%	71	21.3%	427	23.3%	
90–99	58	2.5%	5	1.48%	53	2.7%	
<b>Gender</b>							
Female	1062	56.6%	166	58.7%	896	56.3%	0.49
Male	836	43.4%	122	41.3%	714	43.7%	
<b>Race/ethnicity</b>							
Non-Hispanic White	1429	83.5%	211	82.6%	1218	83.7%	0.64
African American/Black	232	7.8%	38	9.8%	194	7.5%	0.13
Hispanic White	191	6.4%	37	7.6%	154	6.2%	0.44
Other	38	2.2%	0	0%	38	2.6%	N/A
<b>Education level</b>							
Less than high school	277	12.0%	46	13.5%	231	11.7%	0.23
High school or equivalent	438	23.3%	66	21.7%	372	23.5%	
Some college	631	33.9%	108	39.5%	523	33.0%	
Bachelor's or more	552	30.9%	68	25.3%	484	31.8%	
<b>Marital status</b>							
Married or living with a partner	1287	64.4%	233	78.2%	1054	62.2%	<.0001
Separated or divorced	167	10.9%	23	10.9%	144	11.0%	
Widowed	414	22.8%	29	10.0%	385	24.9%	
Never married	30	1.8%	3	1.0%	27	2.0%	
<b>Care-receiving status</b>							
Receiving care for at least one activity of daily living (ADL)	704	35.4%	95	32.4%	609	35.8%	0.61
Receiving care for at least one instrumental activity of daily living (IADL), but no ADLs	470	17.6%	80	24.4%	390	22.4%	
Not receiving care for any ADLs or IADLs	724	36.0%	113	43.2%	611	41.8%	
<b>Self-reported physical health</b>							
Poor	92	4.1%	14	4.4%	78	4.1%	0.78
Fair	323	16.4%	44	13.8%	279	16.8%	
Good	630	32.0%	100	33.8%	530	31.7%	
Very good	644	35.6%	99	34.5%	545	35.8%	
Excellent	205	11.9%	30	13.5%	175	11.6%	
<b>Self-reported mental health</b>							
Poor	9	0.4%	1	0.4%	8	0.4%	0.95
Fair	131	6.2%	23	6.5%	108	6.1%	
Good	396	21.4%	59	21.7%	337	21.4%	
Very good	770	40.1%	120	41.8%	650	40.0%	
Excellent	522	31.9%	72	29.5%	450	32.3%	
<b>Cognitive function</b>							
MoCA-SA score > 22 (possible normal cognition)	1192	68.3%	182	67.0%	1010	68.5%	0.92
MoCA-SA score 18–22 (possible mild cognitive impairment)	434	20.9%	65	21.7%	369	20.7%	
MoCA-SA score < 18 (possible moderate-to-severe cognitive impairment)	272	10.8%	41	11.3%	231	10.8%	

<sup>a</sup>Missing data for 8 participants

<sup>b</sup>A p-value could not be calculated for this row given there were no caregivers who selected "Other" for race/ethnicity.

<sup>c</sup>Missing data for 4 participants.

<sup>d</sup>Missing data for 70 participants

<sup>e</sup>Cognitive function was assessed using the 18-item Montreal Cognitive Assessment-Survey Adaptation version created for NSHAP

## Statistical Analysis

Descriptive statistics were used to examine the distribution of demographic and clinical characteristics in the analytic sample stratified by caregiving status (Table 1). Chi-square tests were used to calculate differences in the distribution of these characteristics between caregivers and non-caregivers. Additional chi-square tests were used to assess for differences in the unadjusted prevalence of different types of elder mistreatment in older adults (Table 2) by caregiving status. We examined the prevalence of (a) emotional mistreatment, (b) physical mistreatment, (c) financial mistreatment, and (d) any of the above types of mistreatment, stratified by caregiving status. To

provide insight into the distribution of mistreatment across gender groups, we examined the prevalence of each mistreatment type separately among women and among men, stratified by caregiving and care-receiving status (Fig. 1).

We subsequently developed multivariable logistic regression models to examine the strength and direction of associations between caregiving and each major mistreatment outcome. All models were adjusted for age, race/ethnicity,<sup>25–30</sup> gender, marital status, and education, as demographic factors noted previously to be associated with either caregiving or mistreatment, which might be confounders of associations between caregiving and elder mistreatment. Care-receiving status was included as a

Table 2. Prevalence of Any, Emotional, Physical, and Financial Mistreatment Over Age 60, by Caregiving Status

Mistreatment type	Total analytic sample N = 1898	Caregivers N = 288	Non-caregivers N = 1610	P
<b>Any mistreatment</b>	42.4%	51.6%	40.8%	0.002
Considered to be a serious problem by the participant	25.4%	35.6%	23.7%	
Two or more overlapping domains of mistreatment	13.7%	21.8%	12.3%	
<b>Any emotional mistreatment</b>	30.2%	38.4%	28.9%	0.003
Felt uncomfortable with anyone in your family	21.0%	26.9%	20.1%	
Told you gave them too much trouble	4.8%	8.3%	4.2%	
Called names, put you down, or made you feel badly	12.1%	17.8%	11.1%	
Felt nobody wanted you around	7.7%	10.9%	7.2%	
Considered to be a serious problem by the participant	18.5%	25.1%	17.5%	
Perpetrated by a close contact	9.4%	11.5%	9.0%	
<b>Any financial mistreatment</b>	23.7%	31.5%	22.5%	0.003
Taken things that belong to you	9.2%	15.7%	8.1%	
Borrowed your money without paying you back	19.2%	24.6%	18.3%	
Considered to be a serious problem for participant	11.2%	18.0%	10.0%	
Perpetrated by a close contact	6.1%	7.5%	5.8%	
<b>Any physical mistreatment</b>	3.9%	6.2%	3.5%	0.065
Anyone close who tried to hurt or harm you	2.1%	4.4%	1.7%	
Afraid of anyone in the family	2.4%	3.7%	2.2%	
Considered to be a serious problem by the participant	3.3%	5.5%	2.9%	
Perpetrated by a close contact	0.7%	0.3%	0.8%	

<sup>a</sup>Percentages incorporate recommended sampling weights for the National Social Life Health and Aging Project cohort. Ns are unweighted

co-variate, since overlapping care-receipt may affect participants' susceptibility to mistreatment. We developed adjusted models that additionally controlled for overall self-reported physical health, overall self-reported mental health, and cognitive function assessed by MoCA-SA score. These models were designed to assess whether associations were strengthened after adjustment for physical, mental, and cognitive function as potential confounders of relationships between caregiving and mistreatment. Due to initial hypotheses that gender might modify the relationship between caregiving and elder mistreatment, we assessed for interaction of main associations with gender; since all interaction tests were non-significant ( $p$  from 0.14 to 0.99 for all), subsequent multivariable models were not stratified by gender.

We developed separate multivariable logistic regression models that were exclusively confined to older participants who were caregivers, designed to assess whether being the primary caregiver rather than a secondary caregiver was a potential marker of risk for mistreatment. These models were adjusted for age, race, ethnicity, gender, education, marital status, overall physical and mental health, and cognitive function assessed by MoCA-SA score.

All analyses were conducted using SAS (version 9.4) (SAS Institute, Inc., Cary, NC) and made use of nationally representative sample weights distributed with the dataset accounting for non-response and over-sampling by age and race.

## RESULTS

### Participant Demographic and Clinical Characteristics

Of 3710 NSHAP round 3 participants, 1091 were not eligible for these analyses because they were under age 60. Of the

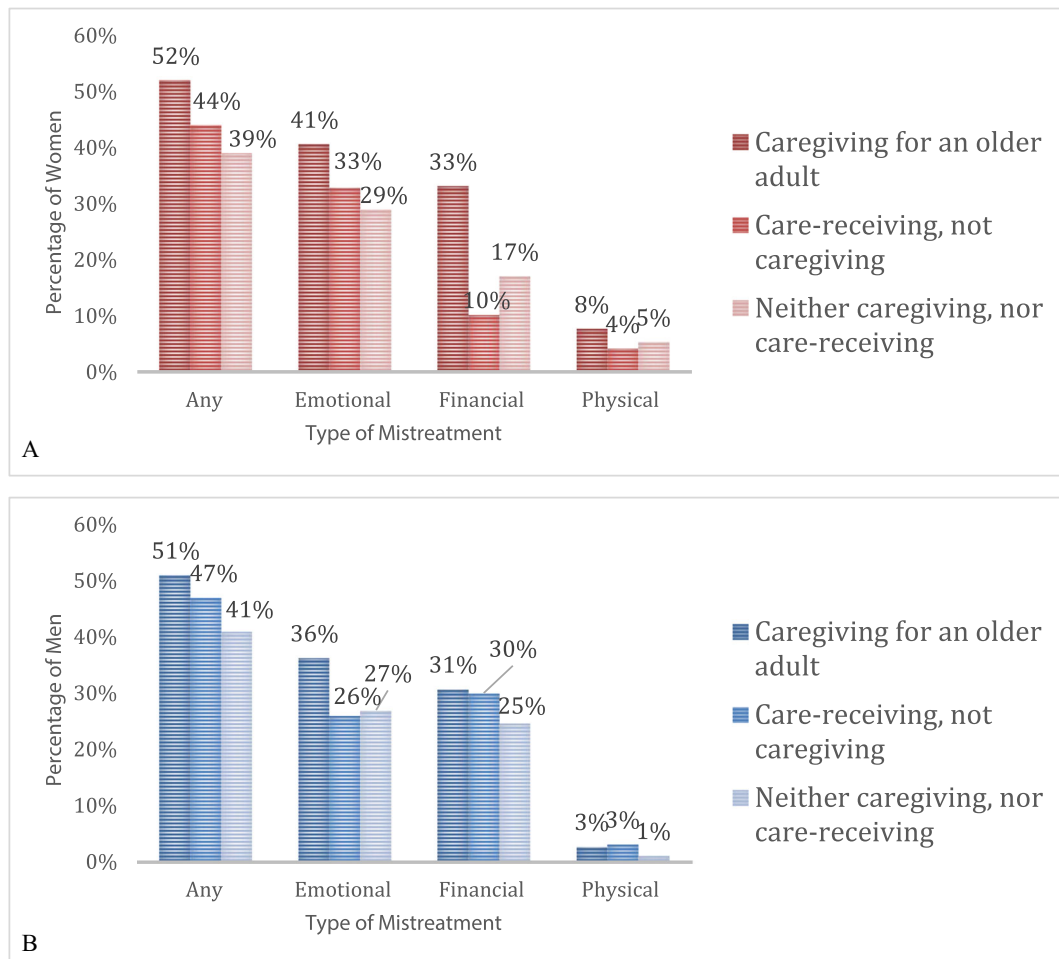
remaining 2619, all completed at least one question about caregiving or care-receiving, and 1898 were invited to complete (and all successfully completed) questions about mistreatment.

Our resulting analytic sample included 1898 participants, including 1062 women and 836 men. Fifty-two percent were between the ages of 70 and 79, and 83% self-identified as non-Hispanic white (Table 1). Fourteen percent of participants reported being a caregiver for another adult. Among older adult caregivers, approximately 61% reported being the primary caregiver, and 47% reported providing care for a spouse (Supplemental Table 2).

### Distribution of Mistreatment by Caregiving and Care-Receiving Status

Among caregivers, 38% reported experiencing emotional, 32% financial, and 6% physical mistreatment (Table 2). Among participants who did not provide care, 29% reported experiencing emotional, 23% financial, and 4% physical mistreatment ( $p < .05$  for emotional and financial but not physical mistreatment). Thirty-six percent of caregivers reported experiencing at least "somewhat serious" emotional mistreatment, while 24% of participants who did not provide care reported experiencing at least "somewhat serious" emotional mistreatment.

In analyses further stratified by gender and care-receiving status, emotional mistreatment was reported by 41% of caregiving women, 33% of women who were care-recipients, and 29% of women who neither received nor provided care ( $p = 0.03$ ) (Fig. 1A). Approximately one third of caregiving women, 10% of women who were care-recipients, and 17% of women who neither received nor provided care reported financial mistreatment ( $p = 0.002$ ). The estimated prevalence of physical mistreatment was 8% among caregiving women, 4% among women who were care-recipients, and 5% among



**Fig. 1** Prevalence of mistreatment among women and men, by caregiving and care-receiving status. **A** Mistreatment by caregiving and care-receiving status in women.  $p = .031$  for emotional mistreatment.  $p = .0021$  for financial mistreatment.  $p > .05$  for physical mistreatment. **B** Mistreatment by caregiving and care-receiving status in men.  $p > .05$  for emotional, financial, and physical mistreatment.

women who neither provided nor received care ( $p=0.216$ ). Among men, emotional mistreatment was reported by 36% of caregiving men, 26% of men who were care-recipients, and 27% of men who neither received nor provided care ( $p=0.111$ ) (Fig. 1B). Financial mistreatment was reported by 31% of caregiving men, 30% of men who were care-recipients, and 25% of men who neither received nor provided care ( $p=0.358$ ). Less than 3% of men reported physical mistreatment, regardless of caregiving or care-receiving status ( $p=0.287$ ).

### Adjusted Odds of Elder Mistreatment Associated with Caregiving

In multivariable logistic regression models adjusting for demographic and clinical factors, participants who were caregivers had a 59% increased odds of reporting some form of mistreatment (AOR 1.59 95% CI 1.17–2.15) (Table 3, model 3). This was primarily driven by a 61% increased odds of reporting emotional mistreatment (AOR 1.61, 95% CI 1.15–2.25), and 72% increased odds of reporting financial mistreatment (AOR 1.72, 95% CI 1.18–2.50) after age 60.

No significant associations between caregiving and physical mistreatment were detected. Additionally, in multivariable logistic regression models confined to older caregiver adults (Table 4), primary (versus more limited) caregiver status was associated with an increased odds of emotional mistreatment (AOR 2.17, 95% CI 1.07, 4.41). No significant associations between primary caregiver status and other forms of mistreatment (financial or physical) were detected.

### DISCUSSION

Our findings from a national cohort of community-dwelling older adults reveal high rates of mistreatment among older adults who serve as caregivers for others, with more than half of older caregivers reporting some form of mistreatment after age 60. Compared to older adults who were not caregivers, older caregivers had an over 60% increased odds of experiencing emotional mistreatment and over 70% increased odds of financial mistreatment, independent of demographic, clinical, and cognitive factors. Among older caregivers, those who considered themselves to be primary caregivers for another

**Table 3. Adjusted Odds of Emotional, Financial, Physical, or Any Mistreatment Associated with Caregiving Versus Non-caregiving in Older Adults**

	<b>Emotional mistreatment</b>	<b>Financial mistreatment</b>	<b>Physical mistreatment</b>	<b>Any mistreatment</b>
	<b>AOR (95% CI)</b>	<b>AOR (95% CI)</b>	<b>AOR (95% CI)</b>	<b>AOR (95% CI)</b>
Caregiving vs. non-caregiving (model 1, unadjusted)	<b>1.54 (1.15, 2.06)</b>	<b>1.62 (1.16, 2.26)</b>	1.85 (0.93, 3.67)	<b>1.52 (1.14, 2.04)</b>
Caregiving vs. non-caregiving model 2, demographic-adjusted)	<b>1.57 (1.13, 2.17)</b>	<b>1.65 (1.15, 2.35)</b>	1.62 (0.75, 3.50)	<b>1.52 (1.12, 2.06)</b>
Caregiving vs. non-caregiving (model 3, maximally adjusted)	<b>1.61 (1.15, 2.25)</b>	<b>1.72 (1.18, 2.50)</b>	1.95 (0.90, 4.22)	<b>1.59 (1.17, 2.15)</b>

Model 1: unadjusted

Model 2: adjusted for demographic characteristics (age, gender, race/ethnicity, educational attainment, marital status), as well as care-receiving status

Model 3: adjusted for demographic characteristics (age, gender, race/ethnicity, educational attainment, marital status), health-related functioning (self-reported physical health, self-reported mental health, cognitive function by MOCA-SA score), as well as care-receiving status.

<sup>a</sup>Adjusted odds ratios and 95% confidence intervals were derived from logistic regression, adjusted for the co-variables in each model.

adult had an over two-fold higher odds of emotional mistreatment, compared to secondary caregivers. These findings suggest that caregiving may be an important and under-recognized marker of risk for elder mistreatment, and that clinician and public health efforts to prevent and mitigate elder mistreatment should give more attention to the sizable population of older community-dwelling adults who shoulder the burden of assisting family, friends, or dependents.

Our research contributes to established frameworks for understanding caregivers' experience of adversity, including experiencing restrictions in personal and social life, physical and emotional distress, and financial burdens.<sup>31</sup> Significant responsibilities of caregiving may place greater strain on older caregivers' relationships with other friends, relatives, or community members, thus increasing their vulnerability to emotional mistreatment from others in their social network. For example, in a prior NSHAP study, older adults transitioning into caregiving roles were found to have smaller social networks over time<sup>1</sup> and social isolation has previously been suggested as a potential risk factor for elder mistreatment.<sup>7,32</sup> This may translate into both greater social strain and decreased social support, so that older adults shouldering the caregiving burden may not only be more susceptible to mistreatment but may also have fewer social contacts that could intervene when mistreatment occurs. In particular, being a primary caregiver

may require more time-intensive, difficult, and burdensome caregiving and may further predispose these older adult caregivers to social strain and mistreatment. Additionally, informal caregiving can represent a significant form of unpaid labor, and older adults serving as informal caregivers may give up the opportunity to participate in other forms of paid work, losing access to income and employment benefits. This in turn may expose them to greater financial instability or dependence, increasing their risk of financial mistreatment.

Another explanation for our findings is that older adults who serve as caregivers may experience more verbal or emotional abuse from the very individuals for whom they provide care. In a previous study of adult caregivers of individuals with dementia based in the UK, nearly half of caregivers reported both psychological and physical abuse from their care-recipients, although caregivers were not limited to those above 60. Other research also based in the UK has noted that current definitions of "elder abuse" may not capture the complexity of mistreatment experienced by some older women caregivers, for whom power imbalances may be associated with poor treatment from the recipients of their care.<sup>33</sup>

Our results should also be considered in light of growing evidence and recommendations in the geriatrics community to avoid conceptualizing caregiving and care-receiving roles as being rigid and unidirectional (flowing from caregiver-to-care

**Table 4. Adjusted Odds of Emotional, Financial, Physical, and Any Mistreatment Associated with Primary Caregiver Status, Among Older Caregivers**

	<b>Emotional mistreatment</b>	<b>Financial mistreatment</b>	<b>Physical mistreatment</b>	<b>Any mistreatment</b>
	<b>AOR (95% CI)</b>	<b>AOR (95% CI)</b>	<b>AOR (95% CI)</b>	<b>AOR (95% CI)</b>
Primary vs. non-primary caregiver del 1, unadjusted)	1.81 (0.95, 3.42)	1.06 (0.57, 1.99)	0.53 (0.16, 1.78)	1.41 (0.74, 2.69)
Primary vs. non-primary caregiver model 2, demographic adjusted)	<b>2.07 (1.07, 4.00)</b>	1.05 (0.55, 1.98)	0.60 (0.10, 3.60)	1.75 (0.91, 3.38)
Primary vs non-primary caregiver l 3, maximally adjusted)	<b>2.17 (1.07, 4.41)</b>	1.02 (0.55, 1.87)	0.64 (0.11, 3.57)	1.71 (0.87, 3.39)

Model 1: unadjusted

Model 2: adjusted for demographic characteristics (age, gender, race/ethnicity, educational attainment, marital status), as well as care-receiving status

Model 3: adjusted for demographic characteristics (age, gender, race/ethnicity, educational attainment, marital status), health-related functioning (self-reported physical health, self-reported mental health, cognitive function by MOCA-SA score), as well as care-receiving status.

<sup>a</sup>Adjusted odds ratios and 95% confidence intervals were derived from logistic regression, adjusted for the co-variables in each model

recipient), which may have the unintentional effect of underestimating potential adverse consequences of caregiving. Instead, our findings suggest the importance of reconceptualizing the caregiver/care-receiver relationship as complex and dynamic,<sup>34,35</sup> with both members of the dyad having needs and making contributions, but also being vulnerable to harm. Our work supports the need to investigate these relationships, and the risks of potential mistreatment within them, in more nuanced ways.

Additionally, our research demonstrates that a small proportion of older adults are living with simultaneous, multifaceted roles — that is, the roles of caregiver and care-recipients were not mutually exclusive. Older adults may serve as caregivers to spouses or family members out of necessity or obligation despite having their own health or functional challenges. These individuals may be susceptible to mistreatment in both their roles as caregivers and their roles as care-recipients (Supplemental Figure 1). In future studies, it may be valuable to examine the experiences of mistreatment among the small proportion of community-dwelling older adults who report simultaneously providing care to others and receiving assistance for their own ADLs/IADLs.

While this research benefits from a national sample of older adults, structured measures of caregiving activity, and adjustment for a wide array of sociodemographic and clinical factors, it also has limitations. Participants who reported serving as caregivers were not asked to distinguish between informal or formal (professional) caregiving work or describe the hours per day or week or total number of years spent caregiving. Although there were no systematic exclusion criteria, participants were excluded if they were judged by trained interviewers to be unable to complete the interview, unable to consent, or unable to participate based on proxy report, because of major physical or cognitive limitations. Given that dementia and other forms of cognitive impairment are associated with increased risk of experiencing elder abuse, our study may underestimate the prevalence of mistreatment in the general older community-dwelling population. However, 31% of participants in our analyses still had a MoCA-SA score below 22, and 10% scored below 18, suggesting that there was still a range of cognitive function in this sample. With respect to elder mistreatment, participants who reported experiencing mistreatment did not provide detailed information about the perpetrator except to indicate whether the perpetrator was a member of their close social network. Mistreatment measures did not assess the timing of mistreatment beyond confirming that it took place after age 60 or determine whether it arose before or after the respondent began providing or receiving care, preventing us from establishing causal relationships. Finally, the overall reported prevalence of physical elder mistreatment was low in this sample, which limited our statistical power to detect associations with this type of mistreatment.

In conclusion, our results from a national sample of community-dwelling older adults indicate that caregiving is a marker of risk for elder mistreatment. Findings suggest that

clinicians should make greater efforts to screen for elder mistreatment among older adult patients who are caregivers. Rethinking the current risk assessment framework for mistreatment among older adults must involve attention to the vulnerabilities of those who provide care in addition to those who receive care.

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**Author Contribution** ANO and AH conceived of the research question and hypothesis. ANO conducted the literature review. ANO, NL, VY, AK, and AH designed the study and analyzed and interpreted data. NL conducted statistical analyses. ANO wrote the initial draft and NL, VY, AK, SB, and AH contributed to revision of the manuscript. All authors have read and approved the final version of the manuscript before submission.

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#### Declarations:

**Conflict of interest:** The authors declare that they do not have a conflict of interest.

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