Cait Sidrane
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Senior Thesis Rough Draft

Elder Abuse: Where the Laws Went Wrong

Introduction:

For years your parents raised you. They gave you food to eat, a warm place to sleep at night, and bandaged you up after you fell off of your bike. After years of making sure that you always had someone that you could count on, the day finally came when it was your turn to return the favor. Unfortunately for 500,000 to 2 million older Americans every year, they are repaid by some type of abuse or exploitation (Black 2008). Though there is no set definition for what constitutes as elder abuse, the term is generally characterized as "abandonment," "mental anguish," "exploitation," "neglect," "self-neglect," and "sexual abuse" (Daly et al. 2001). Each of the fifty states as well as the District of Columbia has their own unique description of this type of abuse. The four main types of abuse that senior citizens face are physical, mental, and sexual abuse as well as financial exploitation.

Physical abuse is the most difficult form of abuse to properly diagnose. Most health-care workers go through extensive training to detect signs of child abuse, although there has been very little effort made to properly distinguish elder abuse from injuries sustained due to accidents (Dyer and Rowe 1999). Bruises on the chest may be due to doctors pressing on the sternum. Bruising around the abdomen is frequently due to subcutaneous heparin. As people age, changes in bone density, skin elasticity, and blood circulation may cause bruises and fractures similar to those that would be caused by abuse (Dyer and Rowe.) This makes it especially hard on healthcare workers who must properly diagnose signs of abuse. Unfortunately, signs of neglect or abuse must be better detected as the problem of violence

against elders is only going to rise as the percentage of elders in society increases (Collins 2006). To help combat the problem, a detailed guide outlining specific types of physical abuse has been created to better enable healthcare workers to identity distinctions between accidental injuries and abuse. Divided into four categories, unexplained bruises and welts, unexplained burns, unexplained fractures, and unexplained lacerations, the guide instructs workers to look for thing such as cigarette-size burn holes and "pepper pot bruising" from poking with fingers (Dyer and Rowe). Some doctors have recognized other conditions, which may be warning signs of physical abuse in older persons. These include inanition, impecuniousness, injuries, isolation, dehydration, deconditioning, and insomnia (Marshall et al. 2000). Some conditions that are common among children being abused have also begun to be identified as signs of physical abuse in elders. Conditions that doctors now look for are burns, fractures, ecchymoses, forced penetration of orifices, phobias, hygienic neglect, frequent premature or delinquent refill requests known as polypharmacy, a sudden incident of noncompliance from a formerly dependent patient, and social isolation or withdrawal (Marshall et al.).

Mental abuse is difficult to report, because it does not leave a physical trail of bruises or financial records. The most common types of mental abuse include verbal assault and psychological neglect (Mullin et al. 2006). One survey concluded that verbal abuse was the most common type of abuse. Fifty-two percent of caregivers admitted to practicing some form of abuse with verbal abuse having a prevalence of 51%, while physical abuse was 20% (Cooney et al. 2006).

Sexual abuse among elders is one of the hardest problems to combat, because health care workers do not know exactly how they should proceed once it has been suspected

(Teitelman 2006). This stems from the lack of education and training, creating feelings of insecurity. These insecurities often bar professionals from asking important questions that would lead to proper care (Teitelman). Luckily, it is the least frequent type of elder abuse, occurring in only 1% of all reported cases of abuse (Marshall et al.). Additional problems facing older Americans suffering from sexual abuse are that their recollections of what happened to them are often questioned, facing stereotypes that they suffer memory loss or mental illness. This is especially a problem if the accused is a person in a position of power or a prominent member of the community (Teitelman).

One study conducted in Massachusetts categorized the problem of sexual abuse into two categories, marital sexual abuse and incestuous abuse (Ramsey-Klawsnik 2003). Seeking to develop a comprehensive understanding of the problem, researchers studied three different types of marital cases: those that contained a history of domestic violence, long-term marriages in which sexual abuse recently began, and sexual abuse within new marriages. The study sought to provide a better understanding for why victims do not come forward and to compile a list of perpetrator characteristics in hopes of providing greater protection for victims (Ramsey-Klawsnik).

Financial exploitation is one of the biggest problems affecting older Americans. It has been reported that it comprises 20% of all abuse facing elders (Kemp and Mosqueda 2005). Financial exploitation of senior citizens includes but is not limited to theft, including burglary and robbery; fraud, such as homeowner, lottery, and telemarketing scams; the intentional misuse of assets by a caregiver or relative; or the purposeful misuse of assets, such as negligently depleting assets to become Medicaid eligible (Black). Those living in a community setting may be subjected to even higher rates of exploitation. One small study

stated that 96% of community-dwellers had been victims of illegal and malicious business deals (Dyer and Rowe). Another study reported that it is one of the top three forms of abuse inflicted on senior citizens (Kemp and Mosqueda). Financial exploitation is so devastating, because it is about more than just taking money. It is about taking away personal freedoms and even years off of that person's life. Taking money from senior citizens, causing their nest egg to dry up, often forces them to change residencies, makes them unable to afford adequate healthcare and medication, and causes them a great deal of unnecessary stress (Kemp and Mosqueda). One study conducted in two Central New Jersey counties determined that the presence of dementia is positively correlated with incidences of monetary abuse (Heath et al. 2005).

Elder abuse does not discriminate. Of the estimated 500,000 to 5 million older persons that are abused each year (Black), every race and ethnicity, class, and gender are represented. As more baby boomers age, these numbers are only going to rise as indicated by the 20% increase in reported incidents since 2000 (Black). Nearly 2/3's of victims are female and the majority of abuse falls on those who are at least 80 years of age (Black). One reason other than their physical vulnerabilities that make elders a prime target for abuse is that persons aged 65 years and older control 70% of the nation's wealth (Black).

Studies have been conducted to determine which factors place senior citizens at a greater risk of being abused. One study conducted by two professors at SUNY Buffalo analyzed data from a county adult protective services unit. The study, which compared self-neglecting elders and those who were being abused and/or neglected by others, sought to determine what are the definitive risk factors that make put some elders at a greater risk of being harmed. The factors analyzed include elders' gender, age, living arrangement, acute or

chronic health conditions, mental health status, cognitive deficits, size of social support, and alcohol abuse (Choi and Nater 2000).

Additional studies seeking to determine factors contributing to elder abuse were conducted. One such study used a risk-and-vulnerability model to evaluate elder and caregiver variables independently (Fulmer et al. 2005). The caregivers were described in terms of risk or abusing while the elders were described in terms of risk of being abused. Using samples obtained in emergency departments in New York and Tampa between 2001 and 2003, elders and their caregivers were interview separately after the elders were discharged. The results of the study were that in regards to caregivers, their functional status, childhood trauma, and personality were statistically significant. The elders' cognitive status, functional status, depression, social support, childhood trauma, and personality were significant (Fulmer et al.).

Perhaps the most startling phenomenon surrounded elder abuse, is that perpetrators are more likely to be family members than outside caregivers (Holban and Kearny 2000). This may be due to the fact that 89.3% of elder abuse occurs in a home environment (Black). The likelihood of abuse by a family becomes especially true if there is a history of violence in the family. Elders are more likely to be abused if they themselves had been abusive toward their children who are now taking care of them (Holman and Kearny).

Researchers determined that those suffering from chronic progressive physical illnesses were most likely to be abused. These include dementias and Parkinson’s disease (Dyer and Rowe). Despite all of the stigmas surrounded institutions, it has been found that elders are more likely to be abused in a residential setting than in a nursing home (Marshall et al.). Elders are also more likely to be assaulted by someone that they know. Probable

perpetrators can range from spouses, children, siblings, other relatives, or paid care-givers (Marshall et al.).

One study sought to determine whether there is a higher prevalence of abuse from family members during long-term care at home or from workers provided by agency-based care models. In general, it is in the best interest of clients to receive agency-based home care, because workers receive intensive, professional training and can properly monitor them. Improvements in this industry have given the elderly a greater sense of freedom and autonomy (Mathias and Benjamin 2003). However, this type of care was no more or less likely to lead to elder abuse. Analyzing the data confirmed that type of care had no specific impact on whether or not a patient was going to get abused. Instead, family ties, social supports, language compatibility, race or ethnicity and provider turnover were greater determinants of the presence and extent of abuse (Mathias and Benjamin). Paid caregivers can become a horrifying option when they possess a psychological condition, psychopathology, in which they possess a need to control other human beings (Marshall et al.).

Detecting incidents of abuse in elders is a complex situation that requires skilled professionals. The most comprehensive physical exams begin with a detailed question and answer session regarding a patient's history (Marshal et al.). Unfortunately, it was not until recently that any sort of efficient, standardized test was developed in screening for elder abuse. This lack led to the development of the Hwalek-Sengstock Elder Abuse Screening Test that sought probable indicators and the actual signs and symptoms of elder abuse (Neale 1990). Although the test was not created to be the final determinant of whether or not an

elderly person is getting abused, it has been monumental in identifying those who are at a higher risk of being abused (Neale).

Another approach has looked at ways to improve help to the abused by first response personnel, fire fighters and police (Nusbaum et al. 2006). First response workers may be the only points of outside contact for those elders who are isolated, because of their interaction with others in the community. This makes it critical that they be given proper training. At this time there is no structured approach for identifying elders who are at a higher risk of abuse. First response workers have been effective in detecting some elders who face abuse or pose a risk to themselves; however more consistent measures are needed if elders are going to be given the type of help that they need (Nusbaum et al.).

Older women that are being abused face additional barriers from getting help. Because there has been limited quantitative or qualitative evidence conducted on this issue, little has been done to help these women get over the barriers (Beaulaurier et al. 2005). Despite the fact that much of elder physical abuse stems from domestic violence that has just escalated, there has been little research on women over the age of who have been victims of domestic violence. One qualitative study placed 134 middle-aged and elderly women into twenty-one focus groups (Beaulaurier et al.). Researchers determined that there were 6 distinct factors that described how these women responded to the abuse that they had faced. These factors were self-blame, feelings of powerlessness and hopelessness, a need to maintain family unity, and the need to keep such abuse secret from others (Beaulaurier). Unfortunately, these feelings possessed by the participants display internal barriers that keep victims from seeking the help that they need.

An article published in the *Journal of Gerontological Social Work* looked at factors surrounding caregivers that made them more likely to abuse those in their care. Researchers have argued that laws have been shaped by caregivers and may need to be revised to protect those being harmed. The article suggests that laws must also be revised to take into account the suspected correlation between domestic violence and elder abuse (Bergeron 2001). In order for any new laws to be effective, multidisciplinary teams must be created to accurately distinguish abuse from injuries obtained through the natural aging process. Elder abuse is more likely to occur in places where caregivers have a higher stress level or elders have a higher dependence on the caregivers (Jayawardena and Liao 2006). Incidents of abuse will continue to go unreported if those who can report this crime are the ones who are committing it.

In combating elder abuse, there have been inadequacies in creating effective legislation that would protect senior citizens. Once elder abuse had begun to be reported in the 1970's, the criminal justice system tried to punish those neglecting elders (Quinn and Heisler 2001). Congress held a hearing in 1985 to determine the extent of abuse and what should be done about it. Witnesses from one of three panels testified. Those in the first panel had themselves been victims of elder abuse. The second panel, created to target financial exploitation, included a former financial advisor who admitted to embezzling money from her elderly clients (Congress 1985). Also included was an attorney who dealt with the financial exploitation of the elderly. A third panel sought to address specific issues from regions with larger elder populations- Florida, Ohio, Alabama, California, and Arizona (Congress).

Due to gross underreporting and spotty enforcement, Congress set out in 2001 to enact laws that would better protect older Americans. A Summit Conference held by the National

Center on Elder Abuse drafted provisions for the Elder Justice Act, which would be introduced in the Senate in 2003 (Quinn and Heisler). Unfortunately, this attempt to pass any legislation was ineffective. Senators Orrin G. Hatch (R-UT) and Blanche L. Lincoln (D-AR) introduced the bill without sufficient backing. Senator Hatch wrote, “"Few pressing social issues have been as systematically ignored as elder abuse. In fact, 25 years of congressional hearings on the devastating effects of elder abuse have found this problem to be a 'disgrace' and a 'burgeoning national scandal.' Yet, to date, no federal legislation has been enacted to address elder abuse in a comprehensive manner" (Elder Justice Act).

In 2007, the bill was once again introduced. This act sought to amend the Social Security Act by adding title XXII. This Elder Justice Act would establish an Office of Elder Justice within the Department of Health and Human Services, coordinate federal, state, local and private agencies on this issue of elder abuse, and create an Advisory Board on Elder Abuse, Neglect, and Exploitation (Elder Justice Act). Addressing the issue of inconsistent and underreporting, the Act would have provided uniform collection, maintenance, and dissemination of national data relating to elder abuse, neglect, and exploitation (Elder Justice Act).

One victory for combating elder abuse was the establishment of the Elder Abuse Forensic Center (EAFC). Instituted in 2003, it is the first of its kind in the United States (Wiglesworth et al. 2003). Recruiting people from all disciplines including Adult Protective Services social workers, law enforcement, the district attorney's office, and a medical response team, the center seeks to provide higher efficiency and effectiveness in addressing the issue of elder abuse (Wiglesworth et al.). The EAFC is currently run by the University of California at Irvine’s School of Medicine. The center provides victims resources to report

abuse, as well as advice for victims to proceed legally (Center of Excellence in Elder Abuse and Neglect 2008).

Researchers conducted a study to assess the efficiency and effectiveness of the EAFC thus far. The study included a combination of quantitative and qualitative methods, one of which was a statistical analysis based on surveys of EAFC collaborators and illustrative case studies developed from case files and guided interviews (Wiglesworth et al.). Results of this study determined that there exists efficient and effective case management because of the collaboration of the various agencies making up the EAFC. Additional studies are being conducted to determine the Center's strengths and weaknesses (Wiglesworth et al.). If more data can be gathered to show the efficiency and cost-effectiveness of centers like this one, it may be enough of an incentive for Congress to pass that legislation it should have years ago.

Data Section:

See the attached appendix.

Theory Section:

Elder abuse is a serious problem, and it is only going to get worse. As a higher percentage of the population settles into life as senior citizens the costs of fighting and treating abuse are going to skyrocket. In order to protect the quality of life of older Americans and reduce the costs of treating them, comprehensive models need to be created to establish which factors contribute to the prevalence of elder abuse. Solving this epidemic requires determining what makes a caregiver more likely to abuse, and what makes an elderly person more likely to be abused. There are two sets of factors that will be used to determine the likelihood that elder abuse will be reported. The first looks at factors regarding the elderly person while the second looks at factors affecting the caregiver.

One of the biggest barriers to combating elder abuse is the gross incident of underreporting. This makes any data on the subject estimates at best. Another reality of elder abuse is that the majority of those being abused are women (Penhale 2003). This fact is usually ignored, despite the fact that it has been hypothesized that there is a correlation between domestic violence and elder abuse (Penhale). Intuitively, this correlation seems feasible, as women are the majority of those who experience domestic violence as well as those who experience the majority of elder abuse (Black). One way to test this hypothesis is to examine the rates of domestic violence rates across the states. Because states have not published domestic violence rates for their respective states, domestic homicides, hereby referred to as *DH*, will be used as a determinant. To give a more comprehensive perspective on how violence coincides with elder abuse, the overall murder rate (*Murder*) will also be tested. The correlation between rates of *DH* and elder abuse should be positive, as many victims of domestic violence continue to be abused into their old age. There should also be a positive correlation between *Murder* and elder abuse.

Another angle used to determine the likelihood of domestic violence is the economic and political status held by women. It is certainly reasonable to suspect that women who have a higher level of control over their own bodies, usually measured by a state's reproductive rights (*Repro*) will be more likely to report incidents of elder abuse. Repro is a composite variable, which includes such parameters as abortion rights and the need for parental consent. This seems likely as plausible for the economic status (*Econ*) of the women being abused. This factor was derived by measuring the relative ratio of female to male earnings as well as women's full-time year-round earnings, percent of women in labor force, percent in managerial positions. These two factors are unique because they could be either positively or

negatively correlated with the likelihood of reporting abuse. The positive correlation is derived the probability that states with higher reproductive rights, mainly regarding abortion as well as women who earn a higher income would be suspected of reporting abuse more than those who do not. The negative correlation is a possibility because these factors should reduce the risk of abuse from taking place. A two-tailed test would be necessary to properly assess these factors.

The other group of factors is those that look at the caregiver's propensity for abuse as well as the caregiver's potential inability to protect the elderly. One factor that may be a determinant of a caregiver's propensity to abuse is substance abuse (*Sub*). State by state estimates of illicit drug use were calculated by the US Department of Health and Human Services, through the use of small area estimation. State-level data from National Surveys on Drug Use and Health was combined with local-area county level data from each state (US HHS 2003). Sub should have a negative sign, as caregivers under the influence of illicit drugs are considered less likely to report abuse.

One variable considered to lead to the perpetration of elder abuse is the presence of chronic health problems in the caregiver. Because of the work done by the Institute for Women's Policy Research, there are state-by-state directories of women's health and wellbeing (*Health*). Comprising this factor are women's mortality from heart disease, lung cancer, breast cancer, and suicide, and the prevalence of diabetes, Chlamydia, AIDS, poor mental health, and limited activities of daily living. Those women who grew up in an abusive environment are more likely to suffer poor mental health as well as have a higher suicide rate. The challenges of caring for a defenseless older person may lead these women to become abusive.

Another factor worth pursuing is the salary of the caregiver (*Sal*). In places where there is a higher wage for this type of work, caregivers may be less likely to be abusive, because they are better compensated for their time. The relationship between *Sal* and the prevalence of elder abuse should be negative.

Clinical studies have shown the stress from becoming unemployed (*U*) (data from US BLS 2007) can cause mental problems with trauma survivors. The effects of this phenomenon will be tested to see if it has any influence on other variables.

Elder Abuse can be defined as the likelihood of elder abuse taking place. The anticipated effect of these variables on *Elder Abuse* can be summarized by the following equations.

1) *Elder Abuse* = f(*Repro, Econ, Health, Sal, Murder, DH, U, Sub, Alcohol*).

It is hypothesized that

$f_1, f_2 \gtrless 0,$

$f_3, f_4 < 0,$

$f_5, f_6, f_7, f_8, f_9 > 0.$

Data Sources:

The data for this study was collected from a variety of sources. Unfortunately, data for each variable was not available for every state. Elder abuse data was available for 42 states. Because there was information for an overwhelming majority of the country, this should not pose any significant problems. The data on the reproductive rights of women, which looked mainly at abortion rights, was obtained through the IWPR. The rates of alcohol and substance abuse were obtained using a national survey conducted by the US Department of Health and Human Services, Office of Applied Studies.

Data on caregivers' salaries in each state was obtained through the use of Indeed.com, an employment website managed by The New York Times Company, Allen & Company and Union Square Ventures (Indeed 2008). Unfortunately, there were no records for caregivers' salaries in 2000, the year used for the rest of the variables; the salaries given on this site were for 2008. To overcome this gap between these two years, these observations were converted into 2000 dollars. This was done by taking the value of the salary in 2008 and dividing by the conversion factor, the CPI for 2000. Unfortunately, there were no specific CPI's for each state, which would reduce errors caused by regional differences. The US Bureau of Labor Statistics provided information on the unemployment rate. Domestic homicide rates were reported by the Silent Witness National Initiative. This site derives its data from the FBI.

Results:

While running regressions on the data, certain measures were taken to avoid problems that may have arisen. The square root of elder abuse on the explanatory variables was taken as an effort to avoid problems that could be caused by heterogeneous error terms. Econometric tests showed that there was no evidence of the presence of heteroskedasticity.

Early regressions tested all of the independent variables included in equation 1. It was undetermined beforehand whether *Repro* and *Econ* would have a positive or negative correlation with *elder abuse* not only do to problems with underreporting, but for other concerns stated in the theory section. *Repro* had a negative relationship with *elder abuse*, confirming that there are fewer reports of elder abuse in states where women are given more control over their bodies.

Surprisingly, regressions on *Econ* showed a very significant negative effect on the rate of reporting elder abuse. One explanation could be that women who are more financially

stable are more likely to be abused, most likely because their economic status has made them targets for financial exploitation. Because this form of abuse is most prevalent, a higher degree of financial security makes someone more likely to be exploited. However, this is unlikely. The more plausible explanation is that women from higher economic backgrounds are more likely to report abuse. It is doubtful that financial freedom leads to higher incidents of abuse. Instead this freedom empowers these victims to report the abuse in the hopes their perpetrator will be convicted.

The third regressor that was included in equation 1 is a measurement of the health of women by state, as women comprise the majority of caregivers. Tests confirmed a significant negative relationship with elder abuse. In states where women have higher reported health conditions, there are less reports of elder abuse. Improving the overall health of women would not only ease the strain on healthcare facilities and resources but may also reduce incidents of violence.

Another factor that was tested was the salary of each caregiver, based on estimates from each state's capital city. In most regressions, *Sal* was one of the most significant variables in the model. The strong negative sign indicates that states that have higher caregiver salaries are those that reported lower rates of elder abuse.

In order to determine a link between violent crimes and elder abuse, both the murder rate of each state and the domestic homicide rate were included. *Murder* was found to have a significant positive relationship with elder abuse, showing that states with a higher prevalence of murder were more likely to have more reported cases of elder abuse. Surprisingly, domestic homicide was not shown as significant. This may be because those who are perpetrators of domestic homicide have not committed acts of violence against anyone besides the loved one

they have killed. Also, because literature confirms a relationship between domestic violence and elder abuse, victims of domestic homicide may be killed before they have a chance to become victims or elder abuse.

In order to address problems associated with collinearity, there were additional explanatory variables that were tested to establish their relationship to elder abuse. One variable that was used was the unemployment rate. This variable by itself was not significant, though it did have an impact on the other variables. When it was omitted from the equation, the significance of all of the other variables dropped, as did the value of the F statistic. This can be explained because though being unemployed was not itself a significant factor influencing elder abuse, the threat of becoming unemployed may have caused a great deal of stress for caregivers, that in combination with other factors, led them to abuse.

Like the unemployment rate, the prevalence of substance abuse did not have a significant impact on the likelihood of elder abuse. However, it had important influence over the other factors being tested. Omitting *Sub* led to a drop in significance of the other variables. It was surprising that *Sub* did not have a higher significance level by itself though as alcohol has shown to be present with other forms of abuse. Another interesting finding is when *Alcohol* was included in the data set. Like *Sub*, it also was not significant. However, omitting this variable led to an increase in the F statistic as well as the significance level of *Sub*, suggesting that elder abuse is not more likely when alcohol is used in conjunction with illicit substances. When tested without *Sub, Alcohol* was not significant, nor did it have an impact on the other variables. The relative weakness of both of these variables suggests that elder abuse may be more systematic than other forms of abuse, as it does not seem to take place under the influence of alcohol or drugs.

Conclusion:

Elder abuse is a much larger epidemic than people realize. Not only is it a form of abuse that everyone has the potential to suffer, it is a matter of public health. Taxpayer dollars are spent treating people that should not have been injured in the first place.

Hopefully, there will be more reports like this one, exploring possible causal regressors. If potential risk factors can be identified, healthcare professionals can be better able to diagnose elder abuse, as well as identify likely abusers. The strongest regressor in the study was the earning power of women (*Econ*). Surprisingly, the more active women were in the economy, the more likely they were to be abused. Intuitively, this does not make sense as access to finances is supposed to give an individual freedom. These financial resources may make elderly people a target for financial exploitation. When caregivers are better compensated for their time, they are less likely to abuse. *Sal* was the second strongest regressor in the study. One simple solution for combating elder abuse could be to raise the salary of caregivers.

Another variable that can be an important factor in combating elder abuse is the measure of women's health in the state. Because the majority of caregivers are women, *Health* can be used to measure caregiver health. This is an indication that caregivers are less likely to be abusive if they are in better health.

The social status of women can be a measure of how likely elder abuse is of taking place. *Repro* measured the relative social strength of women, based mainly on abortion rights. This can become a powerful argument for giving women control of their bodies as it may lead to a decline in abuse later on in life.

One factor that produced disappointing results was the fact that the unemployment rate had no significant impact on elder abuse. Intuitively, those employed as caregivers are not unemployed so they would not face the pressures of job loss. This is very surprising however, when considering that most abuse is perpetrated by family members of the victim. The reality of losing a job can evoke such feelings of stress that can cause an individual to act out violently. To determine whether or not this factor does have any significant impact, further research needs to be conducted, perhaps looking at unemployment compensation.

By taking a comprehensive approach to this epidemic, other identifying factors not associated with elder abuse could be identified. When looking at the abuse rates of alcohol and other illicit substances as well as the murder and domestic homicide rates, evidence shows that there are peripheral forces influencing elder abuse. In areas with high murder rates, there are more reported incidents of abuse. This is true when using the domestic homicide rate in conjunction with murder. *Alcohol* did not seem to have an impact on the propensity to abuse nor did the use of illicit substances have much significance.

One thing that is certain is that there is still much to be learned about elder abuse. Further research can be used to identify additional factors that increase the likelihood of abuse. Until this issue is given the attention it deserves, millions of people will be continue to face years of undeserving abuse.

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Regression with robust standard errors                Number of obs =      42
                                                      F(  9,    32) =    8.68
                                                      Prob > F      =  0.0000
                                                      R-squared     =  0.5682
                                                      Root MSE      =  .45774

------------------------------------------------------------------------------
             |               Robust
rootabuser~e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         sal |  -.0001268   .0000311    -4.07   0.000    -.0001902   -.0000633
       urate |  -.0813757   .0798016    -1.02   0.316    -.2439263    .0811749
healthwbiwpr |  -.5762779   .2286684    -2.52   0.017     -1.04206   -.1104956
reprodrigh~r |  -.1273596   .0560333    -2.27   0.030    -.2414957   -.0132236
empearning~r |   2.282582    .385276     5.92   0.000     1.497801    3.067364
    mrdrrate |   .1151124   .0364729     3.16   0.003     .0408194    .1894053
       dhrate |   .0036335   .0033243     1.09   0.283    -.0031378    .0104049
         sub |   .1338046   .0697732     1.92   0.064    -.0083187     .275928
     alcohol |  -.0112633   .0096148    -1.17   0.250    -.0308481    .0083214
       _cons |  -4.609432   1.275441    -3.61   0.001     -7.20742   -2.011444
------------------------------------------------------------------------------

. reg  rootabuserate  sal healthwbiwpr reprodrightsiwpr empearningsiwpr mrdrrate
>  dhrate sub alcohol, robust

Regression with robust standard errors                Number of obs =      42
                                                      F(  8,    33) =    7.45
                                                      Prob > F      =  0.0000
                                                      R-squared     =  0.5568
                                                      Root MSE      =  .45664

------------------------------------------------------------------------------
             |               Robust
rootabuser~e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         sal |  -.0001175   .0000292    -4.02   0.000     -.000177    -.000058
healthwbiwpr |  -.5551473   .2317253    -2.40   0.022    -1.026596   -.0836987
reprodrigh~r |  -.1450421   .0525093    -2.76   0.009     -.251873   -.0382112
empearning~r |   2.310686   .4347304     5.32   0.000     1.426221    3.195152
    mrdrrate |   .1005817   .0326892     3.08   0.004      .034075    .1670884
       dhrate |   .0032519    .003321     0.98   0.335    -.0035047    .0100085
         sub |   .1140981   .0628141     1.82   0.078    -.0136981    .2418943
     alcohol |  -.0125136   .0098192    -1.27   0.211    -.0324911    .0074638
       _cons |  -4.931003   1.385976    -3.56   0.001    -7.750794   -2.111213
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. reg  rootabuserate sal urate healthwbiwpr reprodrightsiwpr empearningsiwpr mrd
> rrate sub alcohol, robust

Regression with robust standard errors                Number of obs =      42
                                                      F(  8,    33) =    7.92
                                                      Prob > F      =  0.0000
                                                      R-squared     =  0.5503
                                                      Root MSE      =  .45996

------------------------------------------------------------------------------
             |               Robust
rootabuser~e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         sal |  -.0001234     .00003    -4.12   0.000    -.0001844   -.0000624
       urate |  -.0679688   .0828358    -0.82   0.418    -.2364996    .1005619
healthwbiwpr |  -.6256991   .2359284    -2.65   0.012    -1.105699   -.1456991
reprodrigh~r |  -.1311524   .0570447    -2.30   0.028    -.2472108   -.0150941
empearning~r |   2.394549   .4250716     5.63   0.000     1.529735    3.259364
    mrdrrate |   .1215633   .0347621     3.50   0.001     .0508393    .1922873
         sub |   .1197104   .0651402     1.84   0.075    -.0128183    .2522392
     alcohol |  -.0114269   .0092291    -1.24   0.224    -.0302037      .00735
       _cons |  -4.883599   1.415012    -3.45   0.002    -7.762462   -2.004736
------------------------------------------------------------------------------

. reg  rootabuserate sal urate healthwbiwpr reprodrightsiwpr empearningsiwpr mrd
> rrate sub alcohol, robust

Regression with robust standard errors                Number of obs =      42
                                                      F(  8,    33) =    7.92
                                                      Prob > F      =  0.0000
                                                      R-squared     =  0.5503
                                                      Root MSE      =  .45996

------------------------------------------------------------------------------
             |               Robust
rootabuser~e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         sal |  -.0001234     .00003    -4.12   0.000    -.0001844   -.0000624
       urate |  -.0679688   .0828358    -0.82   0.418    -.2364996    .1005619
healthwbiwpr |  -.6256991   .2359284    -2.65   0.012    -1.105699   -.1456991
reprodrigh~r |  -.1311524   .0570447    -2.30   0.028    -.2472108   -.0150941
empearning~r |   2.394549   .4250716     5.63   0.000     1.529735    3.259364
    mrdrrate |   .1215633   .0347621     3.50   0.001     .0508393    .1922873
         sub |   .1197104   .0651402     1.84   0.075    -.0128183    .2522392
     alcohol |  -.0114269   .0092291    -1.24   0.224    -.0302037      .00735
       _cons |  -4.883599   1.415012    -3.45   0.002    -7.762462   -2.004736
```

. reg rootabuserate sal urate healthwbiwpr reprodrightsiwpr empearningsiwpr mrd
> rrate dhrate dhrate sub, robust

Regression with robust standard errors Number of obs = 42
F(8, 33) = 9.31
Prob > F = 0.0000
R-squared = 0.5528
Root MSE = .45872

rootabuser~e	Robust Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
sal	-.0001243	.0000307	-4.05	0.000	-.0001867	-.0000618
urate	-.0936161	.0821861	-1.14	0.263	-.260825	.0735929
healthwbiwpr	-.6399005	.2364238	-2.71	0.011	-1.120908	-.1588927
reprodrigh~r	-.1205116	.0556926	-2.16	0.038	-.2338191	-.0072041
empearning~r	2.232541	.3934977	5.67	0.000	1.431964	3.033118
mrdrrate	.1119671	.0347578	3.22	0.003	.0412518	.1826824
dhrate	.0036791	.0031882	1.15	0.257	-.0028074	.0101656
sub	.1163067	.0669315	1.74	0.092	-.0198665	.2524799
_cons	-4.695677	1.33252	-3.52	0.001	-7.40671	-1.984644

. reg rootabuserate sal urate healthwbiwpr reprodrightsiwpr empearningsiwpr dhrat
> e sub alcohol, robust

Regression with robust standard errors Number of obs = 42
F(8, 33) = 4.93
Prob > F = 0.0005
R-squared = 0.4614
Root MSE = .50341

rootabuser~e	Robust Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
sal	-.0000862	.000039	-2.21	0.034	-.0001655	-6.94e-06
urate	.0151235	.0878692	0.17	0.864	-.1636478	.1938948
healthwbiwpr	-.8004381	.2759753	-2.90	0.007	-1.361914	-.2389621
reprodrigh~r	-.1570174	.053219	-2.95	0.006	-.2652922	-.0487425
empearning~r	2.16652	.45471	4.76	0.000	1.241406	3.091635
dhrate	.004853	.0031698	1.53	0.135	-.001596	.0113021
sub	.1033402	.068516	1.51	0.141	-.0360567	.2427372

alcohol -.0091297 .0110195 -0.83 0.413 -.031549 .0132896
_cons -4.003785 1.364617 -2.93 0.006 -6.780119 -1.227452

. reg rootabuserate sal healthwbiwpr reprodrightsiwpr empearningsiwpr mrdrrate
> dhrate sub alcohol, robust

Regression with robust standard errors Number of obs = 42
F(8, 33) = 7.45
Prob > F = 0.0000
R-squared = 0.5568
Root MSE = .45664

Robust
rootabuser~e Coef. Std. Err. t P>t [95% Conf. Interval]

sal -.0001175 .0000292 -4.02 0.000 -.000177 -.000058
healthwbiwpr -.5551473 .2317253 -2.40 0.022 -1.026596 -.0836987
reprodrigh~r -.1450421 .0525093 -2.76 0.009 -.251873 -.0382112
empearning~r 2.310686 .4347304 5.32 0.000 1.426221 3.195152
mrdrrate .1005817 .0326892 3.08 0.004 .034075 .1670884
dhrate .0032519 .003321 0.98 0.335 -.0035047 .0100085
sub .1140981 .0628141 1.82 0.078 -.0136981 .2418943
alcohol -.0125136 .0098192 -1.27 0.211 -.0324911 .0074638
_cons -4.931003 1.385976 -3.56 0.001 -7.750794 -2.111213

Regression with robust standard errors Number of obs = 42
F(5, 36) = 7.93
Prob > F = 0.0000
R-squared = 0.5006
Root MSE = .46407

| Robust
rootabuser~e | Coef. Std. Err. t P>|t| [95% Conf. Interval]
---+---
sal | -.000095 .0000243 -3.91 0.000 -.0001442 -.0000458
healthwbiwpr | -.6654826 .2404588 -2.77 0.009 -1.153156 -.1778094
reprodrigh~r | -.1339345 .0540339 -2.48 0.018 -.2435203 -.0243487
empearning~r | 2.218057 .4674397 4.75 0.000 1.270045 3.166068
mrdrrate | .1009732 .0291769 3.46 0.001 .0417996 .1601468
_cons | -4.367542 1.496618 -2.92 0.006 -7.402824 -1.332259

```
. reg  rootabuserate sal healthwbiwpr reprodrightsiwpr empearningsiwpr mrdrrate
> sub, robust

Regression with robust standard errors                Number of obs =      42
                                                      F(  6,    35) =    7.62
                                                      Prob > F      =  0.0000
                                                      R-squared     =  0.5230
                                                      Root MSE      =  .45998

------------------------------------------------------------------------------
             |               Robust
rootabuser~e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         sal |  -.0001115   .0000288    -3.88   0.000    -.0001699   -.0000531
healthwbiwpr |  -.6712135   .2415035    -2.78   0.009    -1.161492   -.1809353
reprodrigh~r |  -.1411222   .0520287    -2.71   0.010     -.246746   -.0354984
empearning~r |   2.356435   .4660921     5.06   0.000     1.410218    3.302653
   mrdrrate |   .1025992   .0297615     3.45   0.001     .0421802    .1630182
         sub |    .081211   .0568092     1.43   0.162    -.0341178    .1965399
       _cons |  -5.283248   1.577193    -3.35   0.002    -8.485121   -2.081376
------------------------------------------------------------------------------

. reg sal urate healthwbiwpr reprodrightsiwpr empearningsiwpr mrdrrate sub, robust

Regression with robust standard errors                Number of obs =      42
                                                      F(  6,    35) =    5.85
                                                      Prob > F      =  0.0003
                                                      R-squared     =  0.4513
                                                      Root MSE      =  2036.8

------------------------------------------------------------------------------
             |               Robust
         sal |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       urate |  -613.0623   357.8038    -1.71   0.095    -1339.443     113.318
healthwbiwpr |  -1810.695   1137.468    -1.59   0.120    -4119.877    498.4869
reprodrigh~r |  -94.27103   294.2386    -0.32   0.751    -691.6072    503.0651
empearning~r |   4849.474   1804.425     2.69   0.011     1186.296    8512.652
   mrdrrate |   415.3532   215.8323     1.92   0.062    -22.80968    853.5161
         sub |   716.8292   276.2436     2.59   0.014     156.0249    1277.634
       _cons |  -4085.885   7673.417    -0.53   0.598    -19663.75    11491.98
------------------------------------------------------------------------------

. reg  rootabuserate sal healthwbiwpr reprodrightsiwpr empearningsiwpr mrdrrate dh
> rate sub, robust
```

```
Regression with robust standard errors                Number of obs =      42
                                                      F(  7,    34) =    8.22
                                                      Prob > F      =  0.0000
                                                      R-squared     =  0.5375
                                                      Root MSE      =  .45959

------------------------------------------------------------------------------
             |               Robust
rootabuser~e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         sal |  -.0001131   .0000281    -4.03   0.000    -.0001702    -.000056
healthwbiwpr |  -.6234415   .2398224    -2.60   0.014    -1.110819   -.1360637
reprodrigh~r |  -.1403099   .0522952    -2.68   0.011    -.2465865   -.0340333
empearning~r |   2.258922   .4471916     5.05   0.000     1.35012    3.167725
    mrdrrate |   .0945584   .0305952     3.09   0.004     .0323814    .1567353
      dhrate |   .0032385   .0032055     1.01   0.319    -.0032759     .009753
         sub |   .0909784   .0593644     1.53   0.135    -.0296645    .2116214
       _cons |  -5.083101   1.507507    -3.37   0.002    -8.146725   -2.019478
------------------------------------------------------------------------------

. reg  rootabuserate sal healthwbiwpr reprodrightsiwpr empearningsiwpr mrdrrate su
> b alcohol, robust

Regression with robust standard errors                Number of obs =      42
                                                      F(  7,    34) =    6.91
                                                      Prob > F      =  0.0000
                                                      R-squared     =  0.5423
                                                      Root MSE      =  .45719

------------------------------------------------------------------------------
             |               Robust
rootabuser~e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         sal |  -.0001159   .0000297    -3.90   0.000    -.0001762   -.0000555
healthwbiwpr |  -.6033271   .2368466    -2.55   0.016    -1.084657    -.121997
reprodrigh~r |  -.1458431   .0517794    -2.82   0.008    -.2510716   -.0406147
empearning~r |   2.408441   .4572559     5.27   0.000     1.479185    3.337697
    mrdrrate |    .108637    .031714     3.43   0.002     .0441863    .1730876
         sub |    .104219   .0596131     1.75   0.089    -.0169295    .2253675
     alcohol |   -.012475   .0094055    -1.33   0.194    -.0315893    .0066394
       _cons |  -5.132445   1.463884    -3.51   0.001    -8.107415   -2.157475
------------------------------------------------------------------------------

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