Developing an Actuarial Risk Assessment to Inform the Decisions Made by Adult Protective Service Workers

Prepared for New Hampshire
Bureau of Elderly and Adult Services
Adult Protective Services

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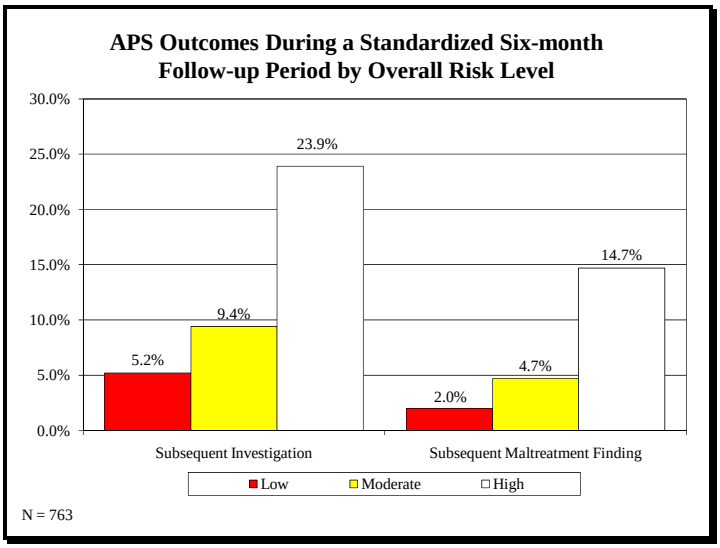
EXECUTIVE SUMMARY

In 2008, the New Hampshire Department of Health and Human Services Bureau of Elderly and Adult Services (BEAS) and the National Council on Crime and Delinquency (NCCD), with funding provided by the National Institute of Justice (NIJ), collaborated to construct an actuarial risk assessment to classify BEAS clients by their likelihood of elder maltreatment and/or self-neglect in the future. Although actuarial risk assessment had not previously been used in adult protective services (APS), a number of child protection and corrections agencies have implemented simple, objective, and reliable actuarial risk assessment instruments to help workers identify high risk clients and prioritize them for service intervention at the close of an investigation. Studies in adult and juvenile corrections and child welfare have demonstrated that active service intervention with high risk clients can reduce criminal recidivism and the recurrence of child maltreatment (Wagner, Hull, & Luttrell, 1995; Eisenberg & Markley, 1987; Baird, Heinz, & Bemus, 1981). The purpose of this research was to examine a large set of individual and referral characteristics, determine their relationship to subsequent elder self-neglect and/or maltreatment, and develop an actuarial risk assessment for BEAS workers to complete at the end of an investigation to inform their case decisions.

The study sample consisted of 763 unique clients investigated for allegations of self-neglect or maltreatment between March 1 and September 30, 2009. Individual and case characteristics observed at the time of the sample investigation included the type of maltreatment alleged and confirmed; demographic data on clients and perpetrators; psychosocial characteristics and health information about the individual and, if one was present, the primary support person and information describing whether services were arranged or refused. Data describing subsequent APS outcomes were observed for each client during a standardized follow-up period of six months after the sample report. Outcome measures included investigated reports of allegations of self-neglect or maltreatment by another person, and confirmed findings of maltreatment during the follow-up period.

The risk assessment developed as a result of this study classified sampled clients such that outcome rates increased with each increase in the risk classification. For example, among sample clients classified as low risk, 5.2% had a subsequent APS investigation for either maltreatment or self-neglect during the follow-up period, compared to 9.4% of moderate risk clients and 23.9% of high risk clients (Figure ES1). A similar pattern was observed for subsequent founded maltreatment or self-neglect. Only 2.0% of low risk clients were victims of a subsequent founded incident, compared to 4.7% of moderate risk and 14.7% of high risk clients. These client risk groups demonstrate significantly different future rates of abuse or neglect. For example, the proportion of high risk clients investigated for self-neglect or maltreatment in the six months following the sample APS investigation was more than four times that of the low risk group.

Figure ES1



The risk assessment also produced valid classifications for clients regardless of the finding for the sample incident, and distinguished low from high risk clients among those under 60 years of age. Clients at greater risk for maltreatment or self-neglect may benefit from effective APS service interventions to protect them from subsequent harm.

BEAS and NCCD pursued development of an actuarial risk assessment with the goal of reducing subsequent maltreatment of elderly and vulnerable adults who have been involved in an incident of self-neglect or maltreatment by another person (i.e., abuse, exploitation, or neglect). The underlying logic of the approach is that the most effective way to reduce adult and elderly maltreatment is to accurately identify high risk clients, prioritize them for intensive agency intervention, and deliver effective services appropriate to their needs. The actuarial risk assessment described in this report provides BEAS workers with a method to more accurately identify high risk clients and therefore more effectively target service interventions in an effort to protect their most vulnerable clients.

I. INTRODUCTION

In 2007, the New Hampshire Department of Health and Human Services Bureau of Elderly and Adult Services (BEAS) contracted with the National Council on Crime and Delinquency (NCCD), a nonprofit social research agency, to examine the feasibility of developing and implementing an actuarial risk assessment to be completed by adult protective services (APS) workers. Although actuarial risk assessment had not previously been used in APS, a number of child protection and corrections agencies have implemented simple, objective, and reliable actuarial risk assessment instruments to help workers identify high risk clients and prioritize them for service intervention at the close of an investigation. Studies in adult and juvenile corrections and child welfare have demonstrated that active service intervention with high risk clients can reduce criminal recidivism and the recurrence of child maltreatment (Wagner, Hull, & Luttrell, 1995; Eisenberg & Markley, 1987; Baird, Heinz, & Bemus, 1981). In order to determine whether an actuarial risk assessment could serve a similar purpose for APS agencies by enhancing their ability to reduce maltreatment of their most vulnerable clients, NCCD conducted a feasibility study that examined elder maltreatment recurrence in a population of BEAS clients and identified a set of potential risk factors through a review of the literature, a survey of state APS agencies, and a search for previously developed assessments that had been tested for reliability and validity.

In 2008, the National Institute of Justice (NIJ) awarded NCCD a grant to develop, in partnership with BEAS, the first actuarial risk assessment for an APS agency. The objective of the grant was to construct an actuarial risk assessment composed of client characteristics related to subsequent elder maltreatment that BEAS workers could complete to estimate the likelihood of elder maltreatment and/or self-neglect in the future. This report describes the methods and findings of the study.

II. BACKGROUND

A. The Need for Actuarial Risk Assessment in APS

Among elders living in the community, approximately 5–10% are reported as victims of maltreatment (Acierno et al., 2010; Collins, 2006). An estimated 1 in 13 cases of elder maltreatment is reported (National Center on Elder Abuse [NCEA], 2006; Jogerst et al., 2003); thus, referrals to APS agencies are unlikely to reflect the full scope of the problem. Individuals referred to APS, compared to those not referred, are typically in poorer health, are more likely to be hospitalized, diagnosed with a new or previously untreated medical condition (Heath, Kobylarz, Brown, & Castaño, 2005), and/or placed in a nursing home (Lachs, Williams, O'Brien, & Pillemer, 2002).

States created APS agencies to provide social and/or legal aid to adults who may need assistance to care for or protect themselves (Otto, 2000). A primary task of these agencies is to respond to allegations of adult maltreatment, including physical abuse, emotional or verbal abuse, sexual abuse, financial exploitation, neglect by another person, and self-neglect. Most agencies serve elders and vulnerable adults under the age of 60. The risk of being reported to an APS agency appears to increase with age (Pavlik, Human, Festa, & Dyer, 2001) and a lack of social support (Acierno et al., 2010).

APS workers face a number of difficult decisions. After investigating the allegations, they determine whether or not allegations are founded (i.e., are true) or unfounded (i.e., are not true), and whether to offer protective services. During an investigation, APS workers must evaluate both the current safety of their clients and the longer-term risk to clients' future well-being. Based on this evaluation, a worker may provide short-term services to ensure an individual's safety or to mitigate the risk of future abuse and neglect. These decisions can be complicated by an individual's refusal to engage in services or medical treatment, as well as the difficulties inherent in assessing whether someone is capable of making such decisions. APS

workers must balance concerns for a client's safety and risk with the client's right to self-determination.

The demand for APS services is likely to increase. The number of reported maltreatment incidents has been steadily rising, and is expected to grow as more states introduce additional mandatory reporters and the U.S. population ages (Bronstein & Admiraal, 2005; Jogerst et al., 2003). Adults age 65 and older currently represent approximately 12.4% of the total population, but that figure will rise to approximately 20% in the year 2030, with an estimated population size of 71.5 million (Administration on Aging, 2007). The National Adult Protective Services Association conducted a national survey of its member agencies in 2004 and respondents indicated a 20% increase in the number of reports received during the most recent one-year period (NCEA, 2006).

Although the demand for APS services is increasing, the capacity of APS agencies to provide services is complicated by a chronic lack of resources (Otto, 2000). As a result, a number of APS agencies in the United States have implemented risk assessment to triage clients, just as child protective services (CPS) and adult and juvenile corrections agencies have. Unlike in CPS or correctional agencies, however, APS risk assessments currently in use are based on clinical consensus rather than actuarial research (Wolf, 2000). While some formal APS risk assessment procedures used by state agencies were tested for reliability and construct validity, very few have been tested for predictive validity (Goodrich, 1997). Without demonstrated predictive validity, it is unknown whether the assessments accurately estimate future adult maltreatment.

By comparison, state CPS agencies, which perform similar investigation and case management tasks to APS, have developed validated actuarial risk assessments that can accurately identify families who have very high and very low probabilities of future maltreatment at the close of a field investigation. Research findings indicate that high risk

families are often four times more likely than low risk families to maltreat children within a one-year follow-up period (Baird & Wagner, 2000). Actuarial risk assessment helps CPS agencies focus service interventions on the families most likely to maltreat their children, which increases agencies' ability to reduce subsequent child maltreatment. Successful development of an actuarial risk assessment for APS can help improve and support the decisions that APS workers in the field make at the close of each investigation (i.e., which clients are at greatest risk of subsequent maltreatment and which cases require service intervention) by providing a simple method for accurately estimating the likelihood of future maltreatment. This information would allow an agency to more effectively allocate limited resources to the individuals most likely to be subsequently maltreated. It can also help workers decide whether to make extra attempts to engage high risk clients who refuse involvement.

Qualitative research suggests that worker decisions to provide services are complicated by a number of factors including resource availability, the difficulty in assessing someone's decisional capacity, and high caseloads (Anthony, Lehning, Austin, & Peck, 2010). For example, one qualitative study of 24 social workers and managers found that a worker's reasons for providing services varied considerably based on perceived resource limitations and/or negative views of residential care (Wilson, 2002). In another qualitative study, workers indicated that high caseloads impeded their ability to engage a client in service delivery (Bergeron, 2002). Lastly, inter-rater reliability studies of worker decisions regarding a client's capacity for decision making indicated that workers varied in their evaluation of the same client (Braun, Gurrera, Karel, Armesto, & Moye, 2009; Kitamura & Kitamura, 2000).

The consistency and accuracy of APS workers' service decisions may be improved by the completion of an actuarial risk assessment that effectively classifies clients by the likelihood of future maltreatment and informs service provision decisions. Evidence from CPS suggests that actuarial risk assessments have greater inter-rater reliability (Baird, Wagner, Healy, & Johnson,

1999) and predictive validity (Baird & Wagner, 2000) than consensus-based assessments. Findings from experimental psychology support the conclusion that actuarial instruments can predict future behavior more accurately than an individual decision maker, even those who have had extensive clinical training (Andrews, Bonta, & Wormith, 2006; Dawes, Faust, & Meehl, 1989; and Meehl, 1954).

B. Description of the Current Research Effort

BEAS initiated development of an actuarial risk assessment for APS workers by conducting a feasibility study in 2008. The feasibility study consisted of two components: (1) analysis of available data to determine whether rates of subsequent maltreatment among adults involved with BEAS were high enough to support a validation study, and (2) a review of current literature and state APS risk assessment practices to inform validation study design and development of a data collection instrument. Examining existing administrative data showed that base outcome rates were sufficient to construct an actuarial risk assessment. The review of the literature and existing screening and risk assessments used by APS workers and other service providers identified potential risk factors not systematically collected by APS workers in the BEAS data system.

BEAS and NCCD staff constructed a data collection instrument composed of risk factors observed by prior studies but not recorded by BEAS workers as part of current practice (Appendix C includes a copy of the instrument). Beginning in October 2008, BEAS workers completed this data collection instrument at the end of an investigation to systematically observe and record information about APS clients that could be referenced in a risk assessment validation study. BEAS managers monitored completion rates to help ensure systematic measurement of risk factors for all adults referred to BEAS for elder maltreatment or self-neglect. Workers completed the data completion instrument for 11 months, until the sample size was sufficient to

enable construction of a risk assessment through a validation study. This report describes the methods and findings of the validation study.

III. RESEARCH METHODOLOGY

The purpose of this research was to examine a large set of possible risk factors, determine their relationship to subsequent elder self-neglect and/or maltreatment, and develop an actuarial risk assessment for BEAS workers to complete at the end of an investigation to inform their case decisions.

A. Sample Description

This research was conducted by sampling 763 unique clients investigated for allegations of self-neglect or maltreatment with a data collection instrument completed between March 1 and September 30, 2009.[1] If a client had more than one investigation during the sample period, the first investigation was selected for the sample.

This study referenced information available from OPTIONS, New Hampshire's data management system, and the data collection instrument. Information from OPTIONS included the type(s) of maltreatment alleged and confirmed, demographics about clients and perpetrators, and information describing whether services were arranged or refused. Data describing subsequent APS outcomes were observed for each client during a standardized follow-up period of six months after their sample report. Outcome measures included investigated reports of

[1] A review of relevant literature indicated that the terminology used to describe elder neglect or abuse differs by agency and audience. New Hampshire BEAS uses the term "maltreatment" to describe neglect, physical, sexual, or emotional abuse perpetrated by another person, and thus is the term used in this report.

Although workers completed data collection instruments for 233 clients between October 2008 and February 2009, completion rates for these months were lower than 70%. These observations were excluded from the study to ensure that the sample was representative of the population of clients investigated and served by BEAS. Completion rates for the sample period (March through September 2009) were above 90%. If a worker completed more than one data collection instrument per investigation, the first one was selected.

allegations of self-neglect or maltreatment by another person, and confirmed findings of maltreatment during the follow-up period.

1. Sampled Client Characteristics

Just over 25% of sample clients were under the age of 60 when the sample investigation was conducted (Table 1). An additional 21% were between 60 and 69, 21% were between 70 and 79, 25% were between 80 and 89, and approximately 6% of clients were over 90 years of age. Nearly two thirds (63.8%) of clients were female and 35% were male. Only 4.6% of the 763 sampled clients were identified as developmentally disabled. Over 40% of clients were living alone in their own homes at the time of the sample incident and 37% were living in their own home with someone else (e.g., spouse, relatives, friends).

Table 1 Characteristics of Sampled Clients			
Client Characteristics		**N**	**%**
		763	**100.0%**
Age Range	18–59	203	26.6%
	60–69	160	21.0%
	70–79	161	21.1%
	80–89	193	25.3%
	90–99	39	5.1%
	Above 100	3	0.4%
	Unknown	4	0.5%
Gender	Female	487	63.8%
	Male	268	35.1%
	Unknown	8	1.0%
Is Client Developmentally Disabled?	Not developmentally disabled	696	91.2%
	Developmentally disabled	35	4.6%
	Unknown	32	4.2%
Living Arrangement	Alone in own home	326	42.7%
	Own home with spouse/partner	139	18.2%
	Own home with relatives	128	16.8%
	In relative's home	90	11.8%
	Public housing	18	2.4%
	In friend's home	18	2.4%
	Own home with friends	16	2.1%
	Homeless	9	1.2%
	Other	19	2.5%

The majority (67.8%) of the sampled clients were referred to BEAS for self-neglect (Table 2). Approximately one third (33.8%) were referred for some type of maltreatment by another person; 12.1% were referred for emotional abuse, 9.6% for neglect by another person, 9.0% for financial exploitation, 8.1% for physical abuse, and 1.3% for sexual abuse. Only 12 (1.6%) individuals were referred for both self-neglect and maltreatment by another person at the time of the sampled investigation. Among the 763 clients, 42.5% had self-neglect allegations confirmed and 9.8% of clients were confirmed for maltreatment by another person. Of the 763

sample investigations, 23% were opened for services or a previously opened case was kept open for ongoing services, and 14.2% of sample clients were offered, but refused, services.

Table 2

Characteristics of Sample Investigations

Sample Investigation Characteristics		N	%
		763	**100.0%**
Allegations*	Self-neglect	517	67.8%
	Emotional abuse	92	12.1%
	Neglect by another person	73	9.6%
	Exploitation	69	9.0%
	Physical abuse	62	8.1%
	Sexual abuse	10	1.3%
Allegation Type*	Maltreatment by another person	258	33.8%
	Self-neglect	517	67.8%
Findings by Allegation	Emotional abuse	25	3.3%
	Exploitation	21	2.8%
	Neglect by another person	20	2.6%
	Physical abuse	18	2.4%
	Sexual abuse	1	0.1%
	Self-neglect	324	42.5%
Findings by Allegation Type	Maltreatment by another person	75	9.8%
	Self-neglect	324	42.5%
Case Opening Decision	Open new case	139	18.2%
	Continue existing case	36	4.7%
	Case close	480	62.9%
	Client refused services	108	14.2%

*Note that more than one allegation can be made for one investigation. Therefore, the sum of percentages may exceed 100%.

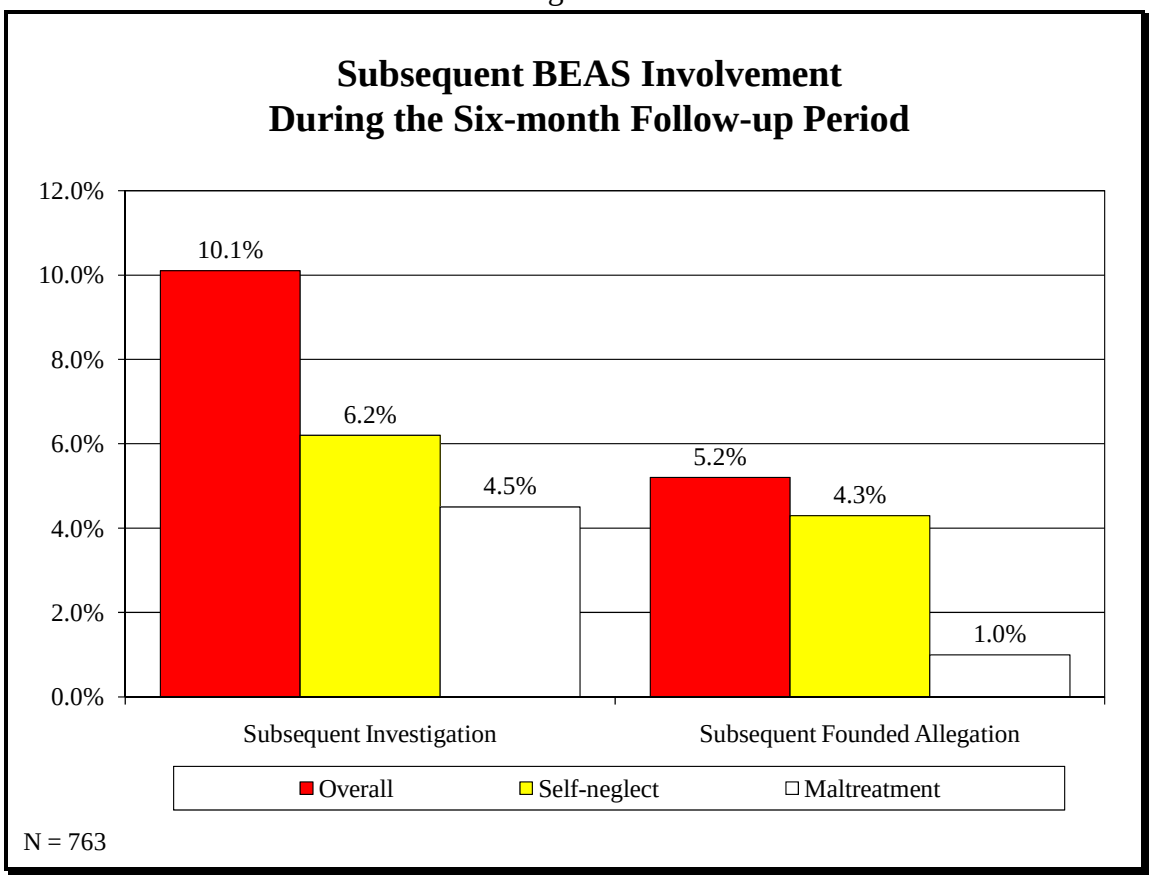
2. Subsequent APS Involvement of Sampled Clients

As mentioned previously, subsequent BEAS investigations, founded and unfounded, were observed for each client during a standardized six-month period following the sampled

investigation. This standardized follow-up period ensured that each client in the sample had the same opportunity for subsequent involvement with BEAS.

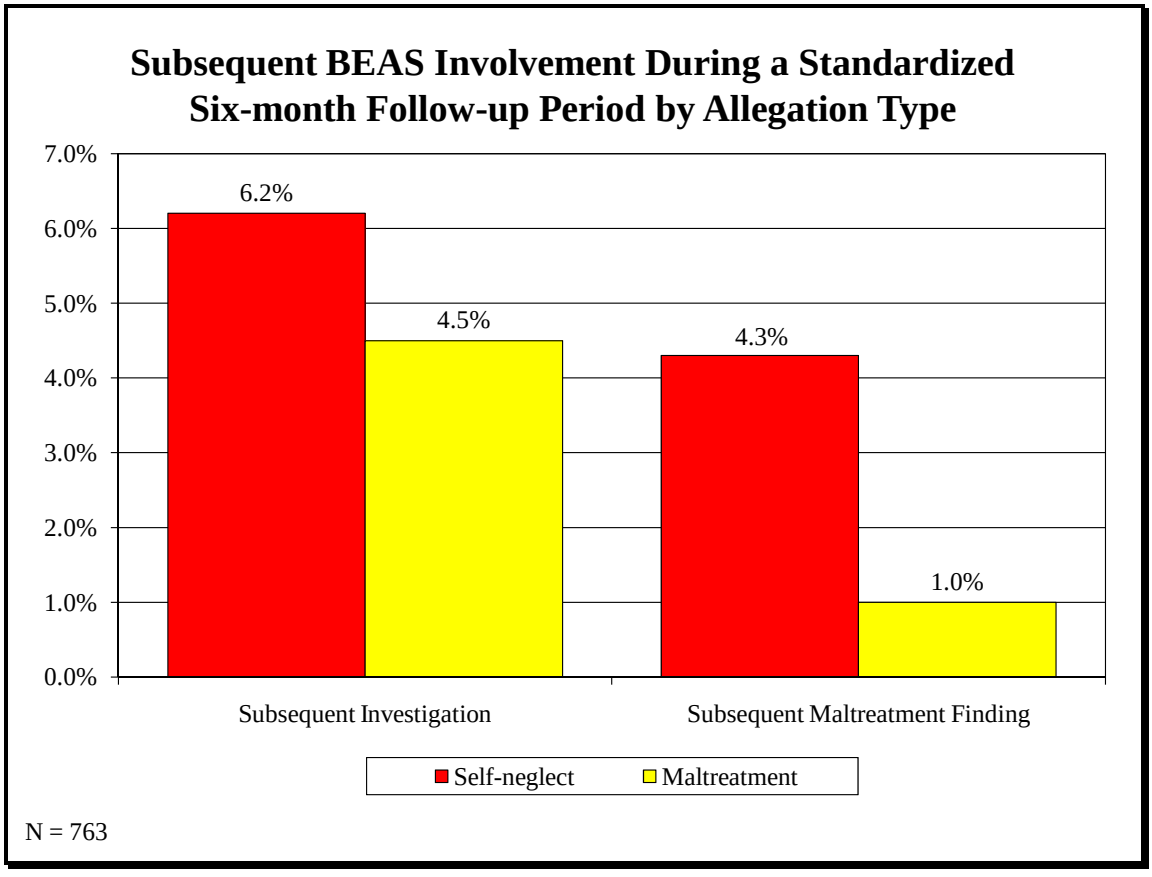
Of the 763 sampled clients, 10.1% were re-investigated during the follow-up period and 5.2% had allegations founded during an investigation (Figure 1). Subsequent self-neglect was more prevalent; 6.2% of the 763 clients were investigated for self-neglect during the six months following the sampled incident, while 4.5% were subsequently investigated for maltreatment by another person (Figure 1). Only four clients were referred for both self-neglect and maltreatment by another person during the follow-up period (not shown). Among the 763 clients, 4.3% had self-neglect allegations founded and 1.0% had maltreatment allegations founded during the six months following the sample incident. One person had self-neglect and maltreatment founded during the follow-up period (not shown).

Figure 1



Clients referred for self-neglect at the time of the sample investigation were more likely to be re-investigated for self-neglect than for maltreatment by another person. Among the 517 adults initially investigated for self-neglect, 8.7% were subsequently investigated for self-neglect and 1.9% were subsequently investigated for other types of maltreatment (Figure 2). Similarly, clients initially referred for maltreatment were more likely to be re-investigated for maltreatment than for self-neglect. Among the 258 adults initially investigated for maltreatment by another person, 9.7% were subsequently investigated for maltreatment by another, while only 0.8% were investigated for self-neglect during the six-month follow-up period.

Figure 2



B. Methods for Constructing the Actuarial Risk Assessment

The purpose of actuarial risk assessment is to classify individuals by the likelihood of a specific outcome based on observed group characteristics. A variety of statistical methods could be applied, but less precise methods of statistical evaluation (including bivariate analyses followed by least squares regression) consistently produce the best classification results (Gottfredson & Gottfredson, 1979; Simon, 1971). For example, the Burgess (1928) method assigns a total score to an individual based on the risk factors he/she exhibits. The factors are selected based on their bivariate relation to the outcomes of interest (such as Pearson's correlation for continuous outcomes like number of allegations, or point biserial correlation for dichotomous outcomes like one or more investigations). The method used by Gottfredson and Gottfredson (1979) selects risk factors based on their significance in regression analyses of outcomes. Multiple regression is used for continuous outcomes like number of allegations, while logistic regression is used for dichotomous outcomes like one or more investigations. Both methods for constructing a risk assessment consistently produce the best classification results, even when validated on a different sample (Benda, 1987; Gottfredson & Snyder, 2005; Silver & Chow-Martin, 2002; Silver, Smith, & Banks, 2000; Wilbanks, 1985).

These bivariate and multivariate statistical techniques were employed in this study to develop an actuarial risk assessment to classify individuals investigated by BEAS by likelihood of subsequent self-neglect or maltreatment. Client risk factors and other case characteristics were observed by APS workers at a sample investigation and recorded in a web-based database or in Options, the BEAS administrative data system. The relationship of these variables to subsequent APS involvement *after* the sample investigation was analyzed to construct an actuarial risk assessment.

The proportion of clients re-investigated during the follow-up period was much higher than the proportion of clients with subsequent founded self-neglect or maltreatment. Accurate

risk assessment classification is much more difficult when the base rate of the outcome being estimated is very low (Goodie & Fantino, 1999; Schönemann & Thompson, 1996). Therefore, the primary outcomes referenced during risk assessment construction were re-investigation rates. This report reviews risk assessment classification findings by subsequent founded self-neglect and subsequent founded maltreatment, but these findings should be interpreted with caution given the low base rates.

Bivariate associations suggested that the characteristics related to subsequent self-neglect often differed from the characteristics related to subsequent maltreatment by another person. Consequently, two risk assessment indices were constructed, one to estimate the likelihood of subsequent self-neglect and one to estimate the likelihood of maltreatment by another person.

The first step in constructing the risk assessment was to select characteristics with a significant bivariate relation to outcomes (subsequent investigation, founded or unfounded, for self-neglect or maltreatment) for further multivariate analyses (Wagner, 1992). The criteria referenced for significance was Pearson's chi square with *p* value of .05. These risk factors were constructed as categorical variables such that each value had significantly different proportions of clients who experienced outcomes. For example, the number of prior APS investigations was defined as none, one, or two or more. Item weights were based on a characteristic's relation to the outcomes relative to the mean (i.e., -1 when presence reduces the likelihood and 1 when it increases the likelihood).

Regression analyses were used to identify which characteristics had the strongest relationship to outcomes and which were redundant to other characteristics. Then, cross-tabulations and correlations were repeated to ensure that the values for a given risk factor were defined to maximize the relationship to outcomes. Cut points were identified to define risk classifications based on percentage changes observed from one risk score to the next. Lastly,

results were examined for key subgroups, such as clients with founded versus unfounded sampled allegations, to ensure that the risk assessment performed well for all clients.

The resulting risk assessment is composed of two separate indices, a 9-item index that estimates the likelihood of subsequent self-neglect and a 10-item index that estimates the likelihood of future abuse and neglect by another person (a copy of the assessment appears in Appendix A). At the close of an investigation, the assigned APS worker will complete both indices, reaching one score that indicates risk of self-neglect and one score that indicates risk of maltreatment by another person. Defined cut points translate these scores into risk classifications (low, moderate, and high). The final risk classification level assigned to the client at the close of the investigation is the higher of the two risk classifications reached by the maltreatment and self-neglect risk indices.

The next section reviews the items composing the two risk assessment indices and results of the risk classifications. Findings for the self-neglect index are reviewed first, followed by findings for the maltreatment index and for the overall risk level. Lastly, client risk groups are profiled based on risk factors to illustrate how clients differed.

IV. FINDINGS

An effective and valid risk assessment has progressively higher outcome rates that correspond to each increase in risk classification level across multiple outcomes. Ideally, the rates between consecutive risk levels maximize the separation between the high and low risk groups, as well as between consecutive risk groups. In other words, each increase in risk level should correspond to an increase in subsequent BEAS involvement that, across outcomes, is significantly greater.

This section reviews items and findings for both the self-neglect index and the maltreatment index. An overall risk level was computed, which is the higher of the two risk

levels obtained from the indices. Findings for the overall risk classification are reviewed for the total sample, by the finding resulting from the sampled investigation and by the age of the client. The section concludes with a profile of clients by overall risk classification.

A. Risk Assessment Classification Findings for Self-neglect

The self-neglect index comprises risk factors that had a significant bivariate relationship to one or more subsequent investigations of self-neglect or subsequent founded self-neglect during the standardized six-month follow-up period. The index is composed of nine client characteristics:

- Number of prior investigations (none, one, two or more);
- Alleged victim previously received APS services (no, yes);
- Alleged victim previously refused APS services (no, yes);
- Self-neglect alleged in the current investigation (no, yes);
- Alleged victim currently refuses APS services (no, yes);
- Community-based service providers will not provide services to client (no, yes);
- Age of alleged victim (under 80, 80 or older);
- Number of inpatient hospital stays in past year (none, one to two, three or more);
- Alleged victim has current or historic drug or alcohol problem (not applicable, drug or alcohol, both drug and alcohol).

During the standardized six-month follow-up period, 6.2% of sampled clients were involved in an investigation for alleged self-neglect on at least one occasion (see Table 3). Among clients classified as low risk, 2.0% were subsequently investigated for a self-neglect allegation. Of clients at moderate risk for self-neglect, 7.6% had a subsequent investigation for

self-neglect. In comparison, 22.2% of high risk clients were investigated for alleged self-neglect during the follow-up period.

The self-neglect risk index also classified clients well when the outcome was subsequent founded self-neglect. Clients classified as being at low risk of future self-neglect had a founded self-neglect rate of 1.1%. In comparison, 5.5% of clients classified as moderate risk and 15.9% of clients classified as high risk were founded for self-neglect during the follow-up period. Across both outcomes, the self-neglect risk index classified clients so that each increase in risk level corresponded to a significant increase in the proportion experiencing each outcome measure of self-neglect.

Table 3

Current Risk of Self-neglect Classification by Self-neglect Outcomes

Self-neglect Risk Level	Sample Distribution		Outcome Rates During the Follow-up Period	
	N	%	Subsequent Self-neglect Investigation	Subsequent Self-neglect Finding
Low	357	46.8%	2.0%	1.1%
Moderate	343	45.0%	7.6%	5.5%
High	63	8.3%	22.2%	15.9%
Total Sample	**763**	**100.0%**	**6.2%**	**4.3%**

B. Risk Assessment Classification Findings for Maltreatment by Another Person

Risk factors on the maltreatment index had a significant bivariate relationship to one or more subsequent investigations of maltreatment by another person or subsequent founded maltreatment during the standardized six-month follow-up period. The index is composed of nine client characteristics and three characteristics of the primary support person (PSP):

- Number of prior investigations (none, one or more, one or more and emergency services were called);
- Prior founded emotional, physical, or sexual abuse (no, yes);

- Alleged victim previously received APS services (no, yes);
- Current investigation is for maltreatment by another person (no, yes);
- Current investigation was founded for maltreatment by another person (no, yes);
- Alleged victim has perpetrated maltreatment on another as an adult (no, yes);
- Alleged victim has problematic adult relationships (not applicable, problematic relationship with adult, domestic violence);
- Number of inpatient hospital stays in the past year (none, one or more);
- Others have access to alleged victim's finances (no, yes);
- PSP has unrealistic expectations of alleged victim (no, yes);
- PSP has perpetrated maltreatment on another person (no, yes); and
- PSP lacks skills required for caregiving (no, yes).

The maltreatment risk index classified clients such that an increase in risk level corresponded to a significant increase in the proportion with maltreatment by another alleged during the follow-up period (z test, $p<.05$; see Table 4). For example, among the 763 clients classified as being at low risk for subsequent maltreatment, 2.2% were subsequently investigated for alleged maltreatment by another person during the follow-up period. In comparison, 5.2% of clients classified as moderate risk and 21.4% of clients classified as high risk for maltreatment were investigated for alleged maltreatment by another person during the follow-up period.

Only 1.0% of clients had a founded allegation of maltreatment by another person during the standardized six-month follow-up period. As mentioned previously, it is difficult to assess the index's classification abilities relative to this outcome given such a low rate of occurrence. Despite the low base rate, clients classified as high risk by the maltreatment index had a much higher rate of founded maltreatment (12.5%) than did clients classified as moderate or low risk of subsequent maltreatment (0.0% and 0.2%, respectively).

Table 4 Current Risk of Abuse Classification by Maltreatment Outcomes				
Abuse Risk Level	**Sample Distribution**		**Outcome Rates During the Follow-up Period**	
	N	**%**	**Subsequent Maltreatment Investigation**	**Subsequent Founded Maltreatment**
Low	495	64.9%	2.2%	0.2%
Moderate	212	27.8%	5.2%	0.0%
High	56	7.3%	21.4%	12.5%
Total Sample	**763**	**100.0%**	**4.5%**	**1.0%**

C. Risk Assessment Classification Findings for Any Maltreatment

As mentioned previously, the overall risk classification is the higher of the risk levels assigned by the self-neglect and maltreatment indices. The overall classification establishes a risk level that estimates the likelihood of subsequent maltreatment of any kind (i.e., either self-neglect or maltreatment by another person). Agencies typically use the overall risk classification to inform the level of service intervention.

1. Overall Risk Classification Findings for the Total Sample

When classified by overall risk level, 32.5% of BEAS clients were assessed as low risk (see Table 5). Approximately half (53.2%) were classified as moderate risk and 14.3% were classified as high risk.

Clients classified by the overall risk level had significantly different proportions of being re-investigated (z test, $p < .05$; see Table 5 and Figure 3). During the six months following the sampled investigation, 10.1% of sampled clients had one or more additional investigations for alleged maltreatment or self-neglect. Among clients classified as low risk, 5.2% were re-investigated during the follow-up period. In comparison, 9.4% of moderate risk and 23.9% of high risk clients were re-investigated for self-neglect or maltreatment during the follow-up period.

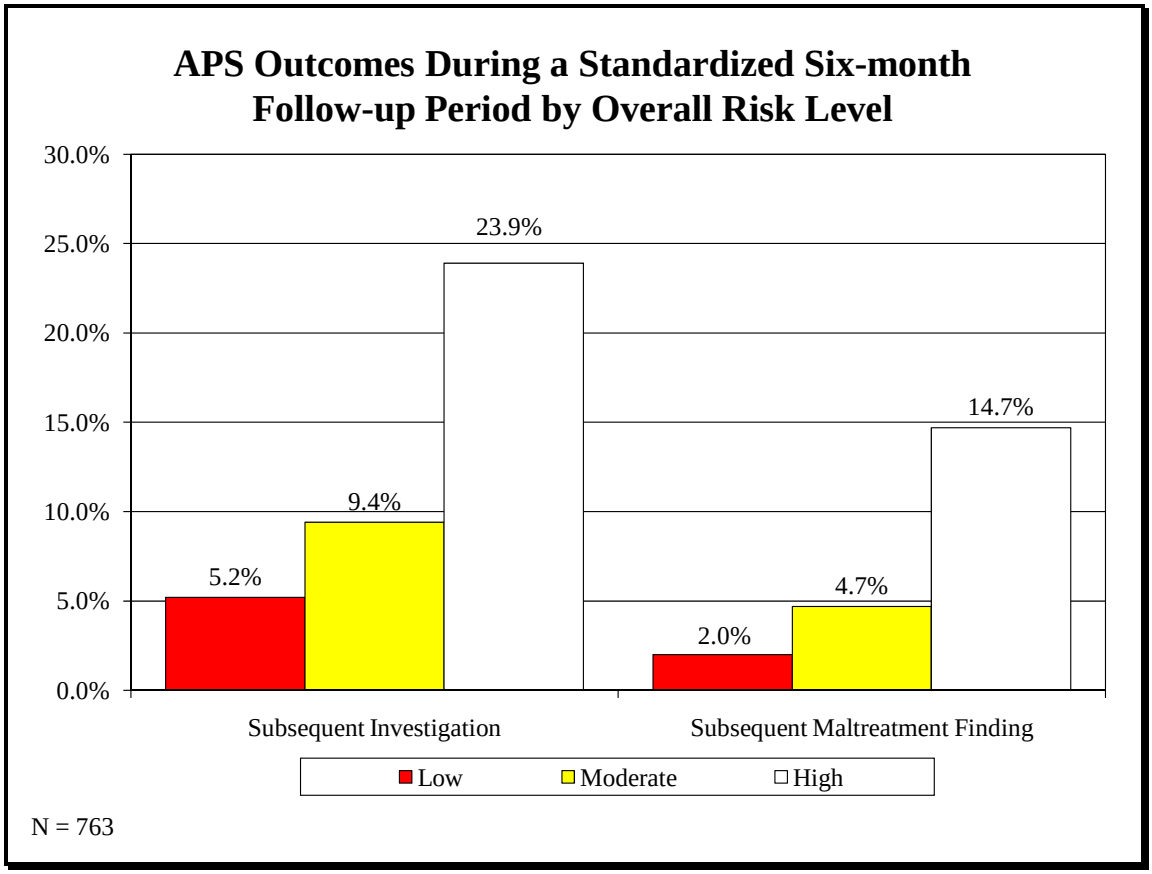
The risk assessment also classified clients well by the likelihood of a subsequent finding of self-neglect or maltreatment. Of the 763 sample clients, 5.2% had a founded allegation of self-neglect or maltreatment during the follow-up period. Among clients classified as low risk, 2.0% had a finding during the follow-up period, compared to 4.7% of moderate risk and 14.7% of high risk clients. Each increase in risk level corresponded to a significant increase in the proportion of clients with founded self-neglect and/or maltreatment during the standardized follow-up period (z test, $p < .05$).

Table 5

Overall Risk Classification by Subsequent Elder Maltreatment Outcomes

Overall Risk Level	Sample Distribution		Outcome Rates During the Follow-up Period	
	N	%	Investigation	Founded Allegation
Low	248	32.5%	5.2%	2.0%
Moderate	406	53.2%	9.4%	4.7%
High	109	14.3%	23.9%	14.7%
Total Sample	**763**	**100.0%**	**10.1%**	**5.2%**

Figure 3



2. Overall Risk Classification Findings by the Sample Investigation Finding

A greater proportion of clients with a sampled founded investigation were classified as high risk than were clients with unfounded allegations (see Table 6). Among clients with founded allegations at the time of the sample investigation, 23.2% were classified as low risk, 58.9% as moderate risk, and 17.9% as high risk. Among clients with unfounded allegations at the time of sampling, 42.6% were classified as low risk, 47.0% as moderate risk, and 10.4% as high risk.

Despite these differences in distribution, the risk assessment performed similarly when classifying clients by the likelihood of subsequent investigation. Among clients with a founded sample investigation, 6.5% of low risk clients were re-investigated for either self-neglect or maltreatment, compared to 9.4% of moderate risk and 18.3% of high risk clients. Among clients

with unfounded sample investigations, 4.5% of low risk clients, 9.3% of moderate risk clients, and 34.2% of high risk clients were re-investigated during the standardized six-month follow-up period.

Findings were similar when the outcome was subsequent confirmation of findings during the follow-up period. Only 3.3% of clients with founded allegations classified as low risk had a subsequent confirmation, compared to 4.3% of moderate risk and 9.9% of high risk clients with founded sample allegations. Among clients with unfounded sample allegations, 1.3% of low risk, 5.2% of moderate risk, and 23.7% of high risk clients had subsequent allegations confirmed during the follow-up period. Regardless of the finding for the sampled investigation, the risk assessment classified clients such that an increase in risk level corresponded to an increase in the proportion of clients with a subsequent founded investigation.

Table 6

Overall Risk Classification by Subsequent Outcomes

Overall Risk Level	Sample Distribution		Outcomes During the Follow-up Period	
	N	%	Subsequent Investigation	Subsequent Founded Investigation
Total Sample	**763**	**100.0%**	**10.1%**	**5.2%**
Founded Investigation				
Low	92	23.2%	6.5%	3.3%
Moderate	234	58.9%	9.4%	4.3%
High	71	17.9%	18.3%	9.9%
Total Founded	**397**	**100%**	**10.3%**	**5.0%**
Unfounded Investigation				
Low	156	42.6%	4.5%	1.3%
Moderate	172	47.0%	9.3%	5.2%
High	38	10.4%	34.2%	23.7%
Total Unfounded	**366**	**100%**	**9.8%**	**5.5%**

3. Risk Classification Findings by Age of the Client

BEAS serves elders (people 60 years of age or older) and vulnerable adults under the age of 60. Risk assessment classification findings were examined separately for these two groups to ensure that the risk assessment performed well when classifying either group.

Most (662) of the sample were adults age 60 years or older, and 101 were vulnerable adults under the age of 60. The risk level distribution was similar regardless of client age. Among clients 60 or older, 33.4% were classified as low risk, 52.0% as moderate risk, and 14.7% as high risk (see Table 7). Among the 101 clients under the age of 60, 26.7% were classified as low risk, 61.4% as moderate risk, and 11.9% as high risk.

Outcome rates by risk classification were also similar regardless of client age. Of clients 60 or older classified as low risk, 5.9% were re-investigated for self-neglect or maltreatment by another person during the standardized six-month follow-up period. In comparison, 8.7% of moderate and 24.7% of high risk clients 60 or older had another investigation during the follow-up period. Among clients under 60 years of age, none of the low risk clients were re-investigated, compared to 12.9% of moderate and 16.7% of high risk clients.

Risk classification results were also similar when the outcome was subsequent founded investigation. Regardless of client age, an increase in the risk classification corresponded to an increase in the proportion of clients who were subsequently investigated and founded for self-neglect and/or maltreatment.

Table 7 Risk Classification by Maltreatment Outcomes by Age Group				
Overall Risk Level	**Sample Distribution**		**Outcome Rates During the Follow-up Period**	
	N	**%**	**Investigation**	**Confirmed Finding**
60 or Older				
Low	221	33.4%	5.9%	2.3%
Moderate	344	52.0%	8.7%	4.9%
High	97	14.7%	24.7%	15.5%
Total Sample	**662**	**100.0%**	**10.1%**	**5.6%**
Under 60				
Low	27	26.7%	0.0%	0.0%
Moderate	62	61.4%	12.9%	3.2%
High	12	11.9%	16.7%	8.3%
Total Sample	**101**	**100.0%**	**9.9%**	**3.0%**

D. Client Profiles by Overall Risk Classification

Examining the prevalence of the factors that compose the risk assessment illustrates the differences between clients based on their final risk classification. For example, 74.3% of clients classified as high risk had at least one prior APS investigation, compared to 29.3% of moderate risk clients and 6.0% of low risk clients (Table 8). Approximately one third of high risk clients had received APS services in the past (38.5%) and 28.4% had refused APS or another type of services in the past (28.4%). In comparison, only 7.6% of moderate risk clients and no low risk clients had received APS services in the past. Only 6.7% of moderate risk clients and two low risk clients had refused APS or other services in the past.

Although a similar proportion of clients were referred to APS for self-neglect at the time of the sample incident, high risk clients had the highest rate of refusing services at the end of the sample investigation. A much greater proportion of high risk clients had prior hospital stays, as well as drug or alcohol abuse noted by a worker. Just over one fourth (26.6%) of high risk clients

had alcohol abuse indicated by a worker, compared to 14.5% of moderate risk and 5.2% of low risk clients.

Table 8

Prevalence of Self-neglect Index Risk Factors by Risk Classification

Item	Overall Risk Classification					
	Low		Moderate		High	
	N	%	N	%	N	%
Total Sample	**248**	**100.0%**	**406**	**100.0%**	**109**	**100.0%**
Prior investigations						
None	233	94.0%	287	70.7%	28	25.7%
One or two	15	6.0%	108	26.6%	54	49.5%
Three or more	0	0.0%	11	2.7%	27	24.8%
Previously received ongoing services						
No	248	100.0%	375	92.4%	67	61.5%
Yes	0	0.0%	31	7.6%	42	38.5%
Previously refused services						
No	246	99.2%	379	93.3%	78	71.6%
Yes	2	0.8%	27	6.7%	31	28.4%
Current allegation for self-neglect						
No	82	33.1%	120	29.6%	44	40.4%
Yes	166	66.9%	286	70.4%	65	59.6%
Currently refuses services						
No	241	97.2%	212	52.2%	45	41.3%
Yes	7	2.8%	194	47.8%	64	58.7%
Service provider will not accept victim						
No	246	99.2%	390	96.1%	95	87.2%
Yes	2	0.8%	16	3.9%	14	12.8%
Age of alleged victim at time of current report						
Under 80	182	73.4%	268	66.0%	78	71.6%
80 or older	66	26.6%	138	34.0%	31	28.4%
Number of inpatient hospital stays in past 12 months						
None	212	85.5%	253	62.3%	46	42.2%
One or two	36	14.5%	130	32.0%	46	42.2%
Three or more	0	0.0%	23	5.7%	17	15.6%

Table 8 Prevalence of Self-neglect Index Risk Factors by Risk Classification						
Item	**Overall Risk Classification**					
	Low		**Moderate**		**High**	
	N	**%**	**N**	**%**	**N**	**%**
Alleged victim has current or historic alcohol problem						
No	235	94.8%	347	85.5%	80	73.4%
Yes	13	5.2%	59	14.5%	29	26.6%
Alleged victim has current or historic drug problem						
No	242	97.6%	387	95.3%	95	87.2%
Yes	6	2.4%	19	4.7%	14	12.8%

During past investigations, a BEAS worker called emergency services for 20.2% of high risk clients, compared to only 5.4% of moderate risk and no low risk clients (Table 9). Regardless of risk classification, between 30% and 40% of clients were referred for maltreatment in the sample investigation, but a greater proportion of high risk clients had these allegations confirmed. Over half (54.1%) of clients classified as high risk had problematic adult relationships, compared to 36.2% of moderate risk and 12.9% of low risk clients.

The prevalence of workers' concerns about access to finances and the primary support person (PSP) also grew with each increase in the risk classification. Workers indicated that others had access to finances for 45.0% of high risk clients, 39.7% of moderate risk clients, and 28.6% of low risk clients. Workers perceived the PSP's expectations of the alleged victim as unrealistic for 26.6% of high risk clients, compared to only 4.7% of moderate risk and 1.2% of low risk clients. Similarly, workers noted that only 0.8% of low risk clients had a PSP who lacked caregiving skills, compared to 3.7% of moderate risk and 33.9% of high risk clients.

Table 9

Prevalence of Maltreatment Index Risk Factors by Risk Classification

Item	Overall Risk Classification					
	Low		Moderate		High	
	N	%	N	%	N	%
Total Sample	**248**	**100.0%**	**406**	**100.0%**	**109**	**100.0%**
Prior investigations						
None	233	94.0%	287	70.7%	28	25.7%
One or more	15	6.0%	97	23.9%	59	54.1%
Yes, emergency services notified	0	0.0%	22	5.4%	22	20.2%
Prior finding of abuse						
No	248	100.0%	402	99.0%	99	90.8%
Yes	0	0.0%	4	1.0%	10	9.2%
Previously received ongoing services						
No	248	100.0%	375	92.4%	67	61.5%
Yes	0	0.0%	31	7.6%	42	38.5%
Current investigation is for maltreatment by another person						
No	161	64.9%	281	69.2%	63	57.8%
Yes	87	35.1%	125	30.8%	46	42.2%
Current finding for maltreatment by another person						
No	244	98.4%	362	89.2%	82	75.2%
Yes	4	1.6%	44	10.8%	27	24.8%
Alleged victim perpetrated maltreatment on another (child or adult) as an adult						
No	248	100.0%	392	96.6%	96	88.1%
Yes	0	0.0%	14	3.4%	13	11.9%
Alleged victim has had inpatient hospital stays in the past 12 months						
No	212	85.5%	253	62.3%	46	42.2%
Yes	36	14.5%	153	37.7%	63	57.8%
Alleged victim has problematic adult relationships						
No	216	87.1%	259	63.8%	50	45.9%
Yes	32	12.9%	147	36.2%	59	54.1%
Alleged victim involved in domestic violence, past or current						
No	239	96.4%	354	87.2%	90	82.6%
Yes	9	3.6%	52	12.8%	19	17.4%
Other person(s) has access to the alleged victim's finances						
No	177	71.4%	245	60.3%	60	55.0%
Yes	71	28.6%	161	39.7%	49	45.0%

Table 9 Prevalence of Maltreatment Index Risk Factors by Risk Classification						
Item	**Overall Risk Classification**					
	Low		**Moderate**		**High**	
	N	**%**	**N**	**%**	**N**	**%**
PSP perpetrated maltreatment on another						
No	248	100.0%	405	99.8%	100	91.7%
Yes	0	0.0%	1	0.2%	9	8.3%
PSP has unrealistic expectations of alleged victim						
No	245	98.8%	387	95.3%	80	73.4%
Yes	3	1.2%	19	4.7%	29	26.6%
PSP lacks caregiving skills						
No	246	99.2%	391	96.3%	72	66.1%
Yes	2	0.8%	15	3.7%	37	33.9%

V. SUMMARY

A. Summary of Findings

A valid actuarial risk assessment must demonstrate significantly higher APS investigation or confirmation rates as the risk classifications transition from low to high. The risk assessment developed as a result of this study performed in the expected manner. For example, among sample clients classified as low risk, 5.2% had a subsequent APS investigation for either maltreatment or self-neglect during the follow-up period, compared to 9.4% of moderate risk clients and 23.9% of high risk clients. A similar pattern was observed for subsequent founded maltreatment or self-neglect. Only 2.0% of low risk clients were victims of a subsequent founded incident, compared to 4.7% of moderate risk and 14.7% of high risk clients. These client risk groups demonstrate significantly different future rates of abuse or neglect. For example, the proportion of high risk clients investigated for self-neglect or maltreatment in the six months following the sample APS investigation was more than four times that of the low risk group.

Clients at greater risk for maltreatment or self-neglect may benefit from effective APS service interventions to protect them from subsequent harm.

The risk assessment also produced valid classifications for clients regardless of the finding for the sample incident. Among clients with a founded sample investigation, those classified as high risk were more than twice as likely to be re-investigated compared to clients classified as low risk. Among clients with an unfounded sample investigation, high risk clients were re-investigated at seven times the rate of low risk clients. The risk assessment also distinguished low from high risk clients among those under 60 years of age.

B. Practice Implications and Policy Decisions

BEAS and NCCD pursued development of an actuarial risk assessment with the goal of reducing subsequent maltreatment of elderly and vulnerable adults who have been involved in an incident of self-neglect or maltreatment by another person (i.e., abuse, exploitation, or neglect). The underlying logic of the approach is that the most effective way to reduce adult and elderly maltreatment is to accurately identify high risk clients, prioritize them for intensive agency intervention, and deliver effective services appropriate to their needs. The actuarial risk assessment described in this report provides BEAS workers with a method to more accurately identify high risk clients and therefore more effectively target service interventions in an effort to protect their most vulnerable clients.

The risk assessment will help workers estimate, at the close of an APS investigation, the relative likelihood that a client will self-neglect or be maltreated by someone else in the future. This information will inform workers' decisions to open cases for ongoing services and determine worker/client contact frequency (e.g., Table 10). Workers will be expected to see clients classified as high risk three times per month, moderate risk clients twice per month, and clients classified as low risk only once per month.

Table 10

Case Opening and Monthly Contact Standards for Clients by Overall Risk Level

Risk Level	Decisions	Exceptions	Monthly Contact Standards (If a Case Is Opened or an Active Case Is Being Continued)[2]
Low	Case not opened Includes: All founded and unfounded investigations, except as noted under "exceptions"	Open low risk if: • Founded or unfounded—continue active case • Supervisor approves APS worker's recommendation to open case • Safety threats (imminent danger factors) identified at the beginning of the investigation remain unresolved at the end of the investigation	If a case is opened or an active case is being continued: **One** face-to-face contact with the client
Moderate	Case opened Includes: • Founded or unfounded—continue active case • Founded—open as APS case • Founded or unfounded—open as adult in-home • Safety threats (imminent danger factors) identified at the beginning of the investigation remain unresolved at the end of the investigation	Case not opened for moderate or high risk if: • Founded—refused services • Founded—problem resolved (referral to community services) • Unfounded—referral made (when the alleged victim is over income)	**Two** face-to-face contacts with the client AND **One** collateral contact[3]
High			**Three** face-to-face contacts with the client. AND **Two** collateral contacts

Though the actuarial risk assessment resulting from this study accurately classified clients into groups with distinct rates of subsequent APS involvement, it is important to note that a caseworker can observe case circumstances that an actuarial instrument could not examine. Many characteristics of human subjects simply cannot be quantified empirically, and actuarial models cannot easily account for rare events. The role of actuarial assessment in case

[2] The contact standard applies for the first six months of the protective or non-protective services case. After six months, the APS worker and his/her supervisor should consult and agree on a new contact standard based on client circumstances and the strengths and needs assessment.

[3] A collateral contact is defined as phone or in-person contact with someone other than the client who has information relevant to the client's status and/or progress toward safety or case plan activities/objectives. This may include but is not limited to the PSP, service providers involved with the client, and other key people who are involved with the client or who are part of the agency's safety or case plan (e.g., a next-door neighbor who has agreed to stop in once a day to check on the client, etc.).

management is not to act as a substitute for the judgment or skill of social workers. The goal of integrating an actuarial assessment tool into current case assessment procedures is to more accurately assess families and prioritize services (Shlonsky & Wagner, 2005). This practice may prove more valuable than clinical judgment or consensus-based tools because the actuarial assessment model helps practitioners focus their initial assessment on the relatively small set of case characteristics that have a demonstrated strong statistical relationship to future maltreatment. After having made this objective assessment, they may exercise discretionary judgment more effectively in each case.

Because a risk assessment cannot address all aspects of an individual case, BEAS established two types of overrides. Workers should increase a client's risk classification to high if any of the following policy overrides apply:

- The PSP is no longer available and the alleged victim cannot manage without a support person;
- The alleged victim has lost access to critical services (excluding loss of PSP);
- Alleged victim has become homeless; or
- There has been a significant decline in alleged victim's physical or mental health status.

Workers or supervisors can also, based on their professional judgment and observation of the alleged victim, apply a discretionary override that increases or decreases the scored risk classification by one level. Whether workers exercise a discretionary override or not, their decisions will be informed by a scored risk classification that is objectively determined and has a strong empirical relationship to the incidence of future maltreatment.

BEAS managers plan to monitor implementation to help ensure accurate risk assessment completion and identify offices that may require additional implementation support. In addition, BEAS and NCCD are conducting a process evaluation to test instrument reliability and assess

how individual workers use risk assessment findings in their daily practice. Finally, a prospective validation study of the risk assessment will be conducted with a larger client sample and a longer standardized follow-up period (12 months). These activities will help ensure the risk assessment's validity and reliability, and will identify the agency policies and procedures needed to ensure effective risk assessment practice by APS workers.

The ultimate goal of this approach is to reduce the likelihood of future elder abuse and neglect. BEAS and NCCD hope to evaluate the effectiveness of providing intensive case management services to high risk individuals by examining the program's impact on subsequent elder maltreatment.

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Appendix A

Risk Assessment Form and Item Analysis

NEW HAMPSHIRE BUREAU OF ELDERLY AND ADULT SERVICES
SDM® RISK ASSESSMENT

Alleged Victim Name: _____ (last, first)
Intake ID: _____
Individual ID: _____

Risk Assessment Date: _____/_____/_____
Intake Date: _____/_____/_____
PSP Name: _____ (last, first)
☐ **Not applicable—no PSP**

SELF-NEGLECT **Score**

SN1. Prior APS investigations of any type (*check only one*)
a. None 0
b. One 1
c. Two or more ..... 2 _____

SN2. Alleged victim previously involved in open APS protection or non-protection (adult in-home) case
a. No 0
b. Yes (check all that apply) ..... 1 _____
☐ Non-protection (adult in-home) services
☐ Adult protection services

SN3. Alleged victim previously refused services
a. No 0
b. Yes (check all that apply) ..... 1 _____
☐ Non-protection (adult in-home) services
☐ Adult protection services
☐ Referrals to community-based services

SN4. Current investigation is for self-neglect
a. No 0
b. Yes ..... 1 _____

SN5. Alleged victim currently refuses services
a. No 0
b. Yes (check all that apply) ..... 2 _____
☐ Non-protection (adult in-home) services
☐ Adult protection services
☐ Referrals to community-based services

SN6. Service provider cannot or will not accept alleged victim for services
a. No 0
b. Yes (check all that apply) ..... 1 _____
☐ Lack of resources
☐ Prior negative experience with alleged victim
☐ Lack of organizational capacity
☐ Other reason: _____

SN7. Age of alleged victim at time of current report
a. Under 80 0
b. 80 or older ..... 1 _____

SN8. Number of inpatient hospital stays in past 12 months
a. None 0
b. One or two 1
c. Three or more ..... 2 _____

SN9. Alleged victim has current or historic alcohol/drug problem (*check applicable items and add for score*)
a. __ Not applicable 0
b. __ Alcohol (current or historic) 1
☐ During last 12 months
☐ Prior to the last 12 months
If prior to the last 12, how many years since last known problem? _____
c. __ Drug (current or historic) ..... 1 _____
☐ During last 12 months
☐ Prior to the last 12 months
If prior to the last 12, how many years since last known problem? _____

TOTAL SELF-NEGLECT RISK SCORE _____

MALTREATMENT **Score**

MT1. Prior APS investigations of any type (*check only one*)
a. None 0
b. One or more 1
c. One or more, emergency services notified ..... 2 _____

MT2. Prior abuse finding (emotional, physical, or sexual abuse)
a. None 0
b. One or more ..... 2 _____

MT3. Alleged victim previously involved in open APS protection or non-protection (adult in-home) case
a. No 0
b. Yes (check all that apply) ..... 1 _____
☐ Non-protection (adult in-home) services
☐ Adult protection services

MT4. Current investigation is for maltreatment by another person
a. No 0
b. Yes ..... 1 _____

MT5. Current finding for maltreatment by another person
a. No 0
b. Yes ..... 1 _____

MT6. Alleged victim perpetrated maltreatment on another (child or adult) as an adult
a. No 0
b. Yes (check all that apply) ..... 1 _____
☐ Child maltreatment
☐ Adult maltreatment
☐ Domestic violence

MT7. Alleged victim adult relationships (*check applicable and add for score*)
a. __ Not applicable 0
b. __ Victim has problematic adult relationships other than domestic violence 1
c. __ Victim involved in domestic violence (past or current) .. 1 _____

MT8. Number of inpatient hospital stays in the past 12 months
a. None 0
b. One or more ..... 1 _____

MT9. Other person(s) has access to the alleged victim's finances
a. No 0
b. Yes (check all that apply) ..... 1 _____
☐ PSP
☐ Alleged perpetrator
☐ Family member
☐ Other: _____

MT10. Primary support person characteristics (*check applicable and add for score*)
a. __ Not applicable—no primary support person
b. __ Not applicable—primary support person has none of the characteristics below 0
c. __ Has unrealistic expectations of the alleged victim 1
d. __ Perpetrated maltreatment on another (child or adult) as an adult (check all that apply) 1
☐ Child maltreatment
☐ Adult maltreatment
☐ Domestic violence
e. __ Lacks the skills/training to perform caregiving tasks ..... 2 _____

TOTAL MALTREATMENT RISK SCORE _____

SCORED RISK LEVEL. Assign the alleged victim's risk level based on the highest score on either the self-neglect or maltreatment scale, using the following chart:

Self-neglect Score	Maltreatment Score	Scored Risk Level
_____ 0–2	_____ 0–2	_____ Low
_____ 3–5	_____ 3–5	_____ Moderate
_____ 6 +	_____ 6 +	_____ High

OVERRIDES

__ No overrides apply

Mandatory overrides: If risk is low or moderate, increase risk to high if any of the following conditions are present in the current investigation. Mandatory overrides indicate a sudden disruption to the alleged victim's situation and/or status.
__ PSP is no longer available, no replacement PSP is available, AND alleged victim cannot manage without PSP
__ Alleged victim has lost access to critical services (exclude loss of PSP)
__ Alleged victim has become homeless
__ Significant decline in alleged victim's physical or mental health status

Discretionary override: If the APSW is aware of unique circumstances that would increase or decrease the likelihood of a future incident of self-neglect or maltreatment, the risk level may be increased or decreased by one level with supervisory approval.
__ Increase risk by one level
__ Decrease risk by one level

Reason for discretionary override: _____

FINAL RISK LEVEL: ☐ Low ☐ Moderate ☐ High

COMMENTS: _____

_____

Supervisor Approval: _____

Administrator Approval: _____
(required for discretionary overrides to decrease risk)

SUPPLEMENTAL ITEMS
Information collected in these items will be used in a future study to determine if there is a relationship between one or more of these factors and subsequent maltreatment or self-neglect to improve the classification power of the risk assessment. If the data indicate a relationship, one or more of these factors may be added to the risk assessment. These are the potential risk items.

S1. Alleged victim has current mental health concerns (within the most recent 12 months)
__ No
__ Yes (*check all that apply*)
If yes, what is/was the alleged victim's treatment status during the most recent 12 months:
__ Received/is receiving inpatient treatment
__ Received/is receiving outpatient treatment
__ No treatment. Alleged victim has consistently refused mental health services
__ No treatment. Alleged victim's needed mental health services were/are not available

S2. Alleged victim had mental health concerns prior to the most recent 12 months
__ No
__ Yes *(check all that apply)*
If yes, what was the alleged victim's treatment status:
__ Received inpatient treatment related to prior mental health concerns
__ Received outpatient treatment related to prior mental health concerns
__ No treatment. Alleged victim consistently refused mental health services prior to the most recent 12 months
__ No treatment. Alleged victim's needed mental health services were not available prior to the most recent 12 months

S3. Concerns about alleged victim's cognitive functioning
__ No
__ Yes (*indicate assessment and score, if applicable*)
Assessment used: _____
Score: _____

S4. Alleged victim is receiving or has received developmental disability services
__ No, alleged victim does not have a developmental disability
__ No, alleged victim has been diagnosed with a developmental disability but has not received treatment/services
__ Services refused
__ Services not available
__ Other:
__ Yes, alleged victim has been diagnosed with a developmental disability and received services
__ Currently receiving services
__ Has received services in the past

S5. Hazardous living conditions are present in the alleged victim's home at the end of the investigation
__ No hazardous living conditions exist
__ Yes, one or more conditions exist (*check all that apply*)
__ Dangerous pets
__ Unsanitary (e.g., rotting food, animal or human feces)
__ No working utilities and alternative arrangements have not been made
__ Home is physically unsafe
__ Hoarding behaviors

S6. Alleged victim is socially isolated
__ No
__ Yes

S7. PSP is the alleged perpetrator
__ No
__ Yes

DATA ITEMS:
This information will be used to study the equity of the risk assessment to ensure that it treats all groups fairly. These are NOT potential risk items.

D1. Please indicate the race/ethnicity of the alleged victim (*check only one*):
__ White/Caucasian
__ Native Hawaiian/Other Pacific Islander
__ Asian
__ American Indian/Alaskan Native
__ African American/Black
__ Hispanic origin
__ Multiple races/ethnicities
__ Other: _____
__ Missing/not given

D2. Please indicate the race/ethnicity of the PSP (*check only one*):
__ White/Caucasian
__ Native Hawaiian/Other Pacific Islander
__ Asian
__ American Indian/Alaskan Native
__ African American/Black
__ Hispanic origin
__ Multiple races/ethnicities
__ Other: _____
__ Missing/not given

Table A1

Self-neglect Index
Item Analysis: Construction Sample

Item	Sample Distribution		Subsequent Self-neglect Investigation				Subsequent Self-neglect Finding			
	N	%	N	%	Corr.	P Value	N	%	Corr.	P Value
Total Sample	**763**	**100.0%**	**47**	**6.2%**			**33**	**4.3%**		
SN1. Prior investigations (check only one)					.091	.006			.080	.013
None	548	71.8%	29	5.3%			19	3.5%		
One	177	23.2%	11	6.2%			10	5.6%		
Two or more	38	5.0%	7	18.4%			4	10.5%		
SN2. Alleged victim previously received ongoing services					.065	.037			.062	.043
No	690	90.4%	39	5.7%			27	3.9%		
Yes	73	9.6%	8	11.0%			6	8.2%		
SN3. Alleged victim previously refused services					.087	.008			.058	.056
No	703	92.1%	39	5.5%			28	4.0%		
Yes	60	7.9%	8	13.3%			5	8.3%		
SN4. Current investigation is for self-neglect					.153	.000			.119	.000
No	246	32.2%	2	0.8%			2	0.8%		
Yes	517	67.8%	45	8.7%			31	6.0%		
SN5. Alleged victim currently refuses services					.134	.000			.116	.001
No	498	65.3%	19	3.8%			13	2.6%		
Yes	265	34.7%	28	10.6%			20	7.5%		
SN6. Service provider will not accept alleged victim for services					.110	.001			.084	.010
No	731	95.8%	41	5.6%			29	4.0%		
Yes	32	4.2%	6	18.8%			4	12.5%		
SN7. Age of alleged victim at time of current report*					.053	.070			.026	.240
Under 80	528	69.2%	28	5.3%			21	4.0%		
80 or older	235	30.8%	19	8.1%			12	5.1%		
SN8. Number of inpatient hospital stays in past 12 months					.103	.002			.037	.152
None	511	67.0%	25	4.9%			21	4.1%		
One or two	212	27.8%	15	7.1%			8	3.8%		
Three or more	40	5.2%	7	17.5%			4	10.0%		
SN9. Alleged victim has current or historic alcohol/drug problem					.078	.015			.101	.003
a. Not applicable	641	84.0%	35	5.5%			22	3.4%		
Alcohol or drug	104	13.6%	9	8.7%			9	8.7%		
Alcohol and drug	18	2.4%	3	16.7%			2	11.1%		
b. Alcohol (current or historic)					.061	.047			.088	.007
No	662	86.8%	37	5.6%			24	3.6%		
Yes	101	13.2%	10	9.9%			9	8.9%		
c. Drug (current or historic)					.064	.038			.068	.031
No	724	94.9%	42	5.8%			29	4.0%		
Yes	39	5.1%	5	12.8%			4	10.3%		

*Although not significant in bivariate analysis, the correlation was significant in the regression model.

Table A2

Maltreatment Index
Item Analysis: Construction Sample

Item	Sample Distribution		Subsequent Maltreatment Investigation			
	N	%	N	%	Corr.	P Value
Total Sample	**763**	**100.0%**	**34**	**4.5%**		
MT1. Prior investigations (check applicable and add for score)					.070	.026
None	548	71.8%	21	3.8%		
One or more	171	22.4%	8	4.7%		
One or more, emergency services notified	44	5.8%	5	11.4%		
MT2. Prior abuse finding (emotional, physical, or sexual abuse)					.112	.001
None	749	98.2%	31	4.1%		
One or more	14	1.8%	3	21.4%		
MT3. Alleged victim previously received ongoing services					.081	.013
No	690	90.4%	27	3.9%		
Yes	73	9.6%	7	9.6%		
MT4. Current investigation is for maltreatment by another person					.181	.000
No	505	66.2%	9	1.8%		
Yes	258	33.8%	25	9.7%		
MT5. Current finding for maltreatment by another person					.163	.000
No	688	90.2%	23	3.3%		
Yes	75	9.8%	11	14.7%		
MT6. Alleged victim perpetrated maltreatment on another (child or adult) as an adult					.062	.044
Not applicable	736	96.5%	31	4.2%		
Yes	27	3.5%	3	11.1%		
MT7. Alleged victim adult relationships (check applicable and add for score)					.083	.011
a. Not applicable	490	64.2%	17	3.5%		
Problematic adult relationships or domestic violence	228	29.9%	12	5.3%		
Problematic adult relationships and domestic violence	45	5.9%	5	11.1%		
b. Alleged victim has problematic adult relationships other than domestic violence**					.047	.110
No	525	68.8%	20	3.8%		
Yes	238	31.2%	14	5.9%		
c. Alleged victim involved in domestic violence					.092	.006
No	683	89.5%	26	3.8%		
Yes	80	10.5%	8	10.0%		
MT8. Number of inpatient hospital stays in the past 12 months*					.010	.387
None	511	67.0%	22	4.3%		
One or more	252	33.0%	12	4.8%		
MT9. Other person(s) has access to the alleged victim's finances					.085	.009
No	482	63.2%	15	3.1%		
Yes	281	36.8%	19	6.8%		

Table A2

Maltreatment Index
Item Analysis: Construction Sample

Item	Sample Distribution		Subsequent Maltreatment Investigation			
	N	%	N	%	Corr.	P Value
Total Sample	**763**	**100.0%**	**34**	**4.5%**		
MT10.Primary support person characteristics						
a. Not applicable	684	89.6%	23	3.4%	.156	.000
One or more applies to PSP	79	10.4%	11	13.9%		
b. Has unrealistic expectations of the alleged victim					.095	.004
No	712	93.3%	28	3.9%		
Yes	51	6.7%	6	11.8%		
c. Perpetrated maltreatment on another person					.254	.000
No	753	98.7%	29	3.9%		
Yes	10	1.3%	5	50.0%		
d. Lacks skills needed for caregiving					.163	.000
No	709	92.9%	25	3.5%		
Yes	54	7.1%	9	16.7%		

*Significantly correlated with maltreatment finding outcome.

Appendix B

Examining Measures of Accuracy for the Risk Assessment

A. Examining Receiver Operating Characteristics Curves for the Risk Scores

The actuarial risk scores (derived from summing client risk factors) were evaluated by estimating the receiver operating characteristics (ROC) curve. The ROC curve is an excellent test of diagnostic accuracy because the curve plots the true positive rate (sensitivity) and true negative rate (1 – specificity) for each risk score. Zweig and Campbell (1993) described the ROC graph as follows:

> "…a plot of all of the sensitivity/specificity pairs resulting from continuously varying the decision threshold over the entire range of results observed...On the y-axis is sensitivity, or the true-positive fraction [defined as (number of true-positive test results)/(number of true-positive + number of false-negative test results)]...also referred to as positivity in the presence of a disease or condition...On the x-axis is the false-positive fraction, or 1 – specificity [defined as (number of false positive results)/(number of true negative + number of false positive results)]" (p. 564).

Essentially, the ROC curve represents the range of sensitivities and specificities for a test score. A test with perfect identification of positive cases is represented by the upper-left corner of the plot (100% sensitivity and 0% specificity), whereas a test with no correct identification would result in a 45-degree diagonal from the lower left to the upper right. The closer an ROC curve is to the upper left corner, the more accurate the test.

Figure B1: The ROC Curve for Self-neglect Risk Score by Subsequent Self-neglect Allegations During the Standardized Six-Month Follow-up Period

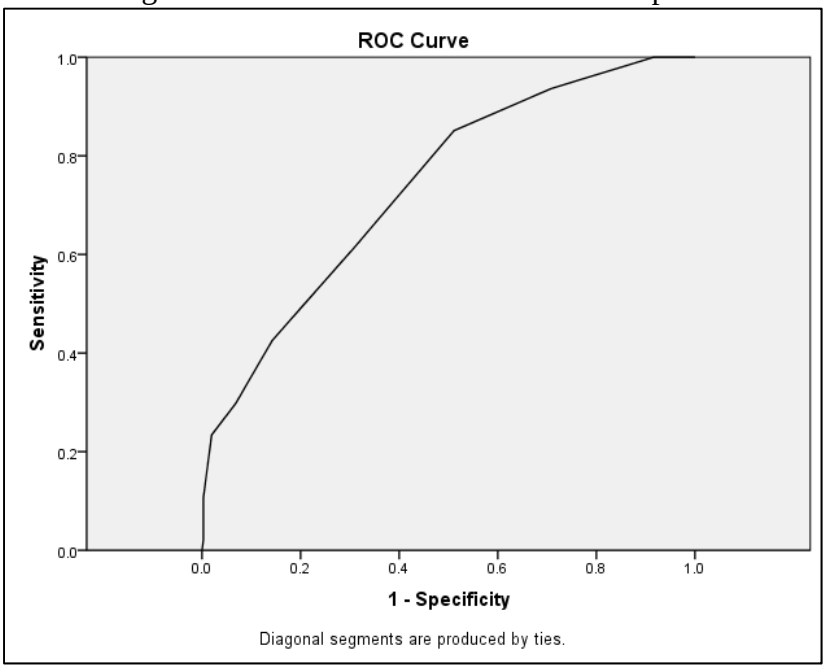
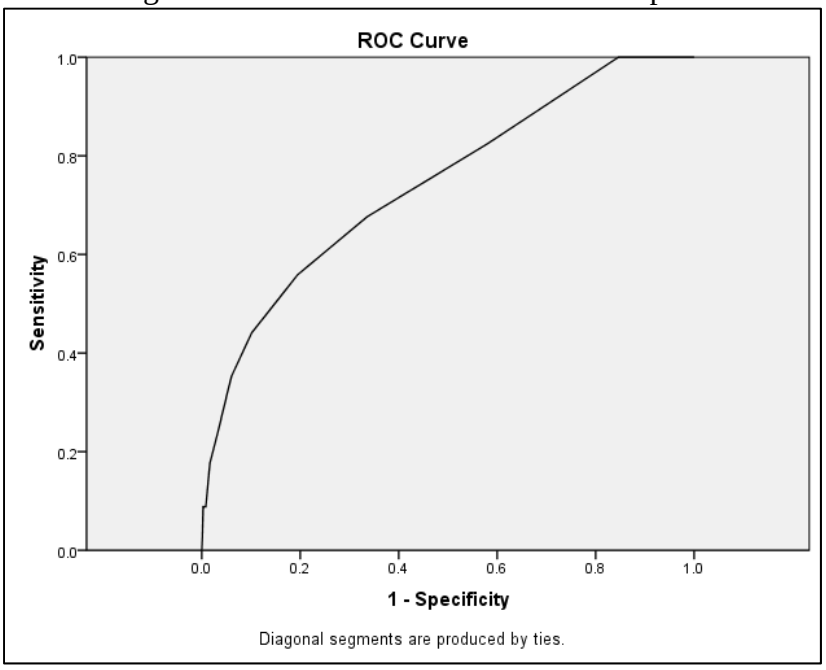


Figure B2: The ROC Curve for Maltreatment Risk Score by Subsequent Alleged Maltreatment During the Standardized Six-month Follow-up Period



The area under the ROC curve can be used as a single measure to compare curves. The area under the curve (AUC) statistic depicts "the probability that the value of the test result or biomarker of a randomly selected diseased subject will exceed that of a randomly selected non-diseased subject" (Liu, Li, Cumberland, & Wu, 2005, p. 258), and equates to the Mann-Whitney version of the nonparametric Wilcoxon test statistic (Zweig & Campbell, 1993). Standard errors can be calculated for the areas, most often using the Hanley and McNeil approach (1983), which corrects for tests using the same sample of cases.

Both the self-neglect and the maltreatment risk scores derived from this study resulted in an AUC of .74 (Table B1). These AUC scores were significantly different from .5 (not shown), indicating that predictive abilities were greater than chance.

Table B1

Comparing Risk Functions Using Area Under the ROC Curve Statistics

Risk Score	Area Under the Curve Statistics		95% Confidence Interval Bounds	
	AUC	SE	Lower	Upper
Self-neglect score relative to subsequent allegations of self-neglect	.74	.04	.67	.81
Maltreatment score relative to subsequent allegations of maltreatment	.74	.05	.65	.83

The area under the ROC curve is a good summary measure of accuracy for a dichotomous outcome and is applicable for analyzing the consequences of decision criteria, such as whether or not to offer APS services. A more useful approach of the risk continuum, however, is to classify placements into several groups defined by an increase in the probability of a negative outcome such as future elder maltreatment. When three or more groups are defined, the dispersion index is a better measure of risk assessment accuracy.

B. Examining the Dispersion Index for the Overall Risk Classification Level

The dispersion index for risk (DIFR) was introduced in 1998 by Silver and Banks as a method for assessing the classification abilities of a risk assessment. The DIFR measures the potency of a risk assessment by assessing how an entire cohort is partitioned into different groups and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights the distance between a subgroup's outcome rate from the cohort's base rate by the subgroup size to estimate the "potency" of a classification system. Because this measure considers proportionality and differences in outcome rates among *several* subgroups, it is a measure of the efficacy of classification systems.

The DIFR formula is as follows:

$$DIFR = \sqrt{\sum_{i=1}^{k} \left(1n\left(\frac{P}{1-P} \right) - 1n\left(\frac{p_i}{1-p_i} \right) \right)^2 * \frac{n_i}{N}}$$

where k is the number of subgroups in the risk classification model, P is the total sample base rate of the outcome, N is the total sample size, p_i represents the base rate of each of the k subgroups, and n_i is the size of each k subgroup. In sum, the DIFR considers the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and adjusts for the size of the group classified to each level.[4]

The DIFR score for the re-investigation outcome was .56, and the DIFR score for subsequent confirmation during the standardized six-month follow-up period was .71. New Hampshire BEAS plans to validate this risk assessment approximately 1.5 years after

[4] The limitations of the DIFR are as follows:

1. It measures distance from the mean without considering whether it is in the expected or logical direction. Therefore, when outcome rates do not conform to the basic expectations (i.e., that failure rates will increase as risk levels increase), the test is inappropriate.

2. It measures overall dispersion from the base rate and does not assess the degree of separation between any two risk categories. In a similar fashion, the DIFR cannot help assess whether a risk classification model is classifying two subgroups similarly, but rather assesses the dispersion within a subgroup (given that group's base rate).

implementation by observing outcomes for a 12-month follow-up period. A longer follow-up period is likely to result in higher base outcome rates, which should have a positive impact on the DIFR scores obtained.

Appendix C

The Data Collection Instrument

NEW HAMPSHIRE BUREAU OF ELDERLY AND ADULT SERVICES r: 04/05/08
ADULT PROTECTIVE SERVICES (APS)
RISK ASSESSMENT DATA COLLECTION INSTRUMENT

Alleged Victim Name: _____ Office: _____

Alleged Victim DOB: _____/_____/_____ Estimated Age (if DOB unknown): _____ Report Date: _____/_____/_____

Options Individual ID#: _____

Section I. Alleged Victim Characteristics. *Mark yes or no for each characteristic as it applies to the alleged victim.*

Relationships With Adults

Yes No
- ❑ ❑ Has problematic adult relationships other than domestic violence

- ❑ ❑ Has been involved in domestic violence within the past 12 months (*mark all that apply*)
  - ❑ As a victim
  - ❑ As a perpetrator

- ❑ ❑ Has been involved in domestic violence prior to the past 12 months (*mark all that apply*)
  - ❑ As a victim
  - ❑ As a perpetrator

- ❑ ❑ Has unrealistic expectations of primary support person

Physical Health

Number of emergency room visits in the past 12 months ____
Number of inpatient hospital stays in the past 12 months ____

Yes No
- ❑ ❑ Has regular physician
- ❑ ❑ Is able to understand medical information
- ❑ ❑ Is able to take medication appropriately
- ❑ ❑ Experiences poor physical health
- ❑ ❑ Is diagnosed with dementia
- ❑ ❑ Has a Mini-Mental State Exam (MMSE) score under 26[5]; MMSE score ____
- ❑ ❑ Requires assistance with ambulation, feeding, housework, or writing
- ❑ ❑ Requires continuous treatment/care

Mental Health

Yes No
- ❑ ❑ Had mental health problem within the past 12 months
- ❑ ❑ Had mental health problem prior to the past 12 months

Drugs and/or Alcohol

Yes No
- ❑ ❑ Had drug problem, excluding alcohol, within the past 12 months
- ❑ ❑ Had drug problem, excluding alcohol, prior to the past 12 months
- ❑ ❑ Had alcohol problem within the past 12 months
- ❑ ❑ Had alcohol problem prior to the past 12 months

Social Support/Isolation

[5] Crum, R.M., Anthony, J.C., Bassett, S.S., Folstein, M.F.. (1993, May 12). Population-based norms for the Mini-Mental State Examination by age and educational level. *JAMA*, *269*(18), 2386–91.

Number of face-to-face contacts with family members/friends outside of household in the past week ____
Number of times alleged victim participated in a social group/activity during the past month _____

Yes	No	
❑	❑	Has no friends or family members
❑	❑	Has friends and/or family, but they are unwilling to provide social support
❑	❑	Is geographically isolated
❑	❑	Perceives that he/she has insufficient support outside of the home
❑	❑	Refuses resources/services

Finances

Yes	No	
❑	❑	Has insufficient financial resources
❑	❑	Is financially dependent upon others
❑	❑	Mismanages finances

Maltreatment History

Yes	No	
❑	❑	Was maltreated as a child
❑	❑	Was maltreated as an adult
❑	❑	Has a history of self-neglect
❑	❑	Perpetrated maltreatment on another (child or adult) as an adult

Section II. Primary Support Person Characteristics. *Mark yes or no for each characteristic as it applies to the primary support person.*

❑ Not applicable—there is no primary support person

Relationships With Adults

Yes	No	
❑	❑	Has problematic adult relationships other than domestic violence
❑	❑	Has been involved in domestic violence within the past 12 months (*mark all that apply*) ❑ As a victim ❑ As a perpetrator
❑	❑	Has been involved in domestic violence prior to the past 12 months (*mark all that apply*) ❑ As a victim ❑ As a perpetrator
❑	❑	Has unrealistic expectations of alleged victim

Drugs and/or Alcohol

Yes	No	
❑	❑	Had drug problem, excluding alcohol, within the past 12 months
❑	❑	Had drug problem, excluding alcohol, prior to the past 12 months
❑	❑	Had alcohol problem within the past 12 months
❑	❑	Had alcohol problem prior to the past 12 months

Mental Health

Yes	No	
❑	❑	Had mental health problem within the past 12 months
❑	❑	Had mental health problem prior to the past 12 months

Quality of Care/Ability to Provide Care

Yes	No	
❑	❑	Lacks skills needed for the caregiving role
❑	❑	Demonstrates poor knowledge of the alleged victim's needs and abilities
❑	❑	Is physically unable to perform caregiving tasks
❑	❑	Experiences a high level of stress according to the AMA's "Caregiver Self-assessment Questionnaire"[6]
❑	❑	Appears or states he/she is overwhelmed

Perception of the Current Situation

Yes	No	
❑	❑	Refuses to cooperate with the APS investigation
❑	❑	Denies obvious problems related to the alleged victim's safety or care needs

Resources/Alternative Care

Yes	No	
❑	❑	Resources unavailable (mark all that apply)
		❑ Geographic barriers
		❑ Financial barriers
		❑ Insufficient services
❑	❑	Is reluctant or refuses to use available resources

Finances

Yes	No	
❑	❑	Is financially dependent on the alleged victim
❑	❑	Has access to alleged victim's finances/assets

Maltreatment History

Yes	No	
❑	❑	Was maltreated as a child
❑	❑	Was maltreated as an adult
❑	❑	Perpetrated maltreatment on another (child or adult) as an adult

[6] Found at http://www.ama-assn.org/ama1/pub/upload/mm/433/caregiver_english.pdf.

NEW HAMPSHIRE BUREAU OF ELDERLY AND ADULT SERVICES r: 04/05/08
ADULT PROTECTIVE SERVICES (APS)
RISK ASSESSMENT DATA COLLECTION INSTRUMENT
DEFINITIONS

Section I. Alleged Victim Characteristics

Relationships With Adults

Has problematic adult relationships other than domestic violence. Alleged victim has problematic or conflictual relationships with other adults in his/her life, including primary support person, family, and/or friends. Do not include incidents of domestic violence.

Has been involved in domestic violence within the past 12 months. The alleged victim has been involved in two or more physical assaults or multiple periods of intimidation/threats/harassment during the past 12 months. If domestic violence is present, indicate whether the alleged victim was the victim of domestic violence, the perpetrator, or both.

Has been involved in domestic violence prior to the past 12 months. The alleged victim has been involved in two or more physical assaults or multiple periods of intimidation/threats/harassment prior to the past 12 months. If domestic violence was present, indicate whether the alleged victim was the victim of domestic violence, the perpetrator, or both.

Has unrealistic expectations of primary support person. Alleged victim has shown unrealistic expectations of primary support person, either in the past or currently, as evidenced by the following:

- The primary support person is expected to behave or perform in ways that cannot reasonably be expected given the primary support person's education, physical and/or mental capabilities, or the alleged victim's condition. For example, primary support persons with physical limitations may be unrealistically expected to help alleged victims transfer.

- Alleged victim may expect primary support person to refrain from necessary care at the request of the alleged victim. For example, physically limited alleged victims may unrealistically expect primary support person to refrain from assisting with activities of daily living even though alleged victim requires assistance.

Physical Health

Number of emergency room visits in the past 12 months. Record the number of times the alleged victim has visited the emergency room during the past 12 months, regardless of whether he/she was admitted.

Number of inpatient hospital stays in the past 12 months. Record the number of times the alleged victim has been admitted to the hospital during the past 12 months for physical health issues.

Has regular physician. The alleged victim has a physician (or physician group) who is familiar with the alleged victim's current medical conditions, medications, etc., and whom he/she has seen on a regular basis, including at least one visit in the past 12 months.

Is able to understand medical information. The alleged victim is able to understand basic medical information related to his/her health condition(s), including instructions for caring for injuries, directions for taking medications correctly, and the necessity of engaging in or refraining from activities at physician's instruction. Alleged victim is able to name and/or describe current medical conditions and related treatments.

Is able to take medication appropriately. The alleged victim demonstrates the ability to take medication in appropriate dosages at the correct time on a consistent basis. Examples of inappropriate medication include but are not limited to the following:

- Not taking prescribed/advised medications.
- Consistently taking medications at the wrong time of day.
- Forgetting to take medications or inability to remember if medications have been taken.
- "Making up" for missed doses by increasing subsequent dosage.

Experiences poor physical health. The alleged victim has physical health problems, including severe, untreated allergies that are exacerbated by the alleged victim's current environment; broken hip or bones; pressure ulcer(s); skin breakdown; dehydration; malnutrition; frequent dizziness; and problems with eyesight, hearing, speech, teeth, chewing, swallowing, bladder or bowel control, or breathing. Include information gathered from medical records, self-report, or worker's clinical observation.

Is diagnosed with dementia. The alleged victim has been diagnosed by a physician as having dementia. Diagnoses may include Alzheimer's disease, Pick's disease, dementia caused by stroke, or Parkinson's disease.

Has a Mini-Mental State Exam (MMSE) score under 26. The alleged victim has an MMSE score under 26. Indicate the most recent MMSE score. A score of 20–26 indicates mild dementia, 10–19 indicates moderate dementia, and a score less than 10 indicates severe dementia.

Requires assistance with ambulation, feeding, housework, or writing. The alleged victim has difficulty with use of limbs and requires a walker, wheelchair, or hands-on assistance in order to be ambulatory, but does not require continuous care; and/or alleged victim requires assistance with activities of daily living (ADLs) or instrumental activities of daily living (IADLs). Examples of ADLs include bathing, dressing, eating, transferring, and using the toilet. Examples of IADLs include communication, use of transportation, meal preparation, shopping, doing laundry, or housekeeping.

Requires continuous treatment/care. The alleged victim is bedridden, has an uncontrolled or debilitating chronic disease, or has deteriorating functional ability that causes him/her to be completely dependent on others for care.

Mental Health

Had a mental health problem within the past 12 months. Alleged victim or others have made verifiable statements that indicate that within the past 12 months, the alleged victim:

- Has been diagnosed as having a significant mental health disorder (based on DSM-IV criteria) by a mental health clinician or medical physician;
- Had repeated referrals for mental health/psychological evaluations; or
- Was recommended for treatment/hospitalization or was treated/hospitalized for mental health problems.

Had a mental health problem prior to the past 12 months. Alleged victim had a mental health problem as defined above that was present prior to the last 12 months.

Drugs and/or Alcohol

The alleged victim had drug or alcohol problem that interfered with daily functioning. Interference is evidenced by the following:

- Drug/alcohol use that affects marital or family relationships;
- Inability to care for self or other adult/child living in the home;
- Self-report of a problem;
- Hospitalization for a drug/alcohol problem;
- Health/medical problems caused by a drug/alcohol problem.

Indicate whether a problem with drugs or alcohol was/is present DURING the past 12 months AND/OR was present prior to the last 12 months.

Social Support/Isolation

Number of face-to-face contacts with family members/friends outside of the household in the past week. Record the number of face-to-face contacts the alleged victim had with friends and family members outside of the home during the past week.

Number of times alleged victim participated in a social group/activity during the past month. Record the number of times the alleged victim participated in a social group or activity during the past month. This can include activities in the alleged victim's home with people that live outside the home or activities in the community that the alleged victim attended, including church or senior center activities, clubs, meetings, or scheduled visits with friends or family members.

Has no friends or family members. Alleged victim has no friends or immediate family members.

Has friends and/or family, but they are unwilling to provide social support. Alleged victim's family members and/or friends are unwilling to provide social support.

Is geographically isolated. Alleged victim is geographically isolated from a community or family/friends with whom he/she can socialize.

Perceives that he/she has insufficient support outside of the home. The alleged victim perceives that he/she has insufficient support outside of the home, although he/she may have social contact with others outside the home.

Refuses resources/services. The alleged victim is capable of accepting and/or accessing needed resources or services, but chooses not to do so.

Finances

Has insufficient financial resources. The alleged victim is without the income, savings, or other financial resources to meet basic needs for food, clothing, shelter, or medically necessary goods and services.

Is financially dependent upon others. The alleged victim depends on others for money and/or resources to meet basic needs for food, clothing, shelter, or medically necessary goods and services. Include only financial dependence on individuals. If alleged victim is dependent upon government assistance or other aid from public/private organizations, answer this item "no."

Mismanages finances. The alleged victim is unable to meet basic needs because available income, savings, or other financial resources have been mismanaged by him/herself or another person. The alleged victim may be unable to account for his/her money or property.

Maltreatment History

Was maltreated as a child. Alleged victim was maltreated by a parent/caregiver when alleged victim was a child, including physical, sexual, emotional abuse and/or neglect.

Was maltreated as an adult. Alleged victim has been maltreated as an adult. Include prior substantiated reports of maltreatment to APS and/or credible evidence or disclosure of maltreatment that occurred but was not officially reported (do not include incidents of domestic violence or self-neglect).

Has a history of self-neglect. The alleged victim has a known history of self-neglect. Include prior substantiated reports of self-neglect that were investigated by APS and/or credible statements or reports from the alleged victim or others regarding prior self-neglect.

Perpetrated maltreatment on another (child or adult) as an adult. Alleged victim perpetrated maltreatment on a child and/or other adult. Include credible reports of maltreatment that were not reported to APS/CPS, law enforcement, etc.

Section II. Primary Support Person Characteristics

Relationships With Adults

Has problematic adult relationships other than domestic violence. Primary support person has problematic or conflictual relationships with other adults in primary support person's life, including alleged victim, family, and/or friends. Primary support person has difficulty making friends or maintaining relationships with adults in his/her life. Do not include incidents of domestic violence.

Has been involved in domestic violence within the past 12 months. The primary support person has been involved in two or more physical assaults or multiple periods of intimidation/threats/harassment in the current household or any other household of which he/she was a part during the past 12 months. If domestic violence is present, indicate whether the primary support person was the victim of domestic violence, the perpetrator, or both.

Has been involved in domestic violence prior to the past 12 months. The primary support person has been involved in two or more physical assaults or multiple periods of intimidation/threats/harassment in the current household or any other household of which he/she was a part prior to the past 12 months. If domestic violence was present, indicate whether the primary support person was the victim of domestic violence, the perpetrator, or both.

Has unrealistic expectations of alleged victim. The primary support person has shown unrealistic expectations of the alleged victim, either in the past or currently, as evidenced by the following:

- Alleged victim is expected to behave or perform in ways that are unreasonable given the alleged victim's physical and/or mental/cognitive capabilities.
- Alleged victim may be expected to perform self-care responsibilities beyond his/her abilities.
- Alleged victim may not be allowed to engage in self-care activities.

Examples include but are not limited to the following:

- Alleged victim has physical limitations and is expected to move between rooms independently or more quickly than his/her condition allows.
- Alleged victim has diagnosed dementia and is expected to remember instructions for taking medication.
- Alleged victim does not have significant limitations but is confined to bed or to the home.

Drugs and/or Alcohol

The primary support person has a past or current drug/alcohol problem that interferes with daily functioning. Interference is evidenced by the following:

- Drug/alcohol use that affects marital or family relationships;
- Inability to care for self or other adult/child living in home;

- Self-report of a problem;
- Hospitalization for drug/alcohol problem;
- Health/medical problems caused by drug/alcohol problem.

Indicate whether a problem with drugs or alcohol was/is present DURING the past 12 months AND/OR was present prior to the last 12 months.

Mental Health

Had a mental health problem within the past 12 months. The primary support person or others have made verifiable statements that indicate that within the past 12 months the primary support person:

- Has been diagnosed as having a significant mental health disorder (based on DSM-IV criteria) by a mental health clinician or medical physician;

- Had repeated referrals for mental health/psychological evaluations; or

- Was recommended for treatment/hospitalization or treated/hospitalized for mental health problems.

Had a mental health problem prior to the past 12 months. The primary support person had a mental health problem as defined above that was present prior to the last 12 months.

Quality of Care/Ability to Provide Care

Lacks skills needed for the caregiving role. The primary support person lacks the skills/training to perform specific caregiving tasks (e.g., personal hygiene requirements, transferring, etc.) at the level required to care for the alleged victim.

Demonstrates poor knowledge of the alleged victim's needs and abilities. The primary support person demonstrates poor knowledge of the alleged victim's needs and abilities, as evidenced by lack of knowledge regarding alleged victim's illness, disability, and/or care required, and primary support person does not appear willing to gain the knowledge required to provide the care required by the alleged victim.

Is physically unable to perform caregiving tasks. Primary support person is physically incapable of providing necessary care due to a physical disability or other physical limitation (e.g., is not disabled, but lacks the physical strength required to lift/transfer a non-ambulatory alleged victim).

Experiences a high level of stress according to the AMA's "Caregiver Self-assessment Questionnaire." The primary support person experiences a high level of caregiving stress according to the American Medical Association's (AMA) "Caregiver Self-assessment Questionnaire" (see Appendix). Primary support person answered "yes" to either or both questions 4 and 11; or the total "yes" score was 10 or more; or the primary support person's score on question 17 was 6 or higher; or the score for question 18 was 6 or higher.

Appears or states he/she is overwhelmed. Clear evidence demonstrates that the primary support person is experiencing stress or burnout (i.e., has physical, financial, or psychological strain as well as marital, parental, or work obligations that compete with alleged victim's care). Examples include but are not limited to the following:

- Primary support person is easily frustrated, irritated, or angered by alleged victim.
- Primary support person states he/she doesn't have the time or desire to meet caregiving needs.
- Primary support person reports changes in appetite, persistent fatigue, sleep disturbances, or feeling too exhausted to meet alleged victim's needs.
- Primary support person reports sometimes feeling forced to act out of character or to do things he/she feels bad about.
- Primary support person reports feeling that he/she can't do what is really necessary or what should be done for alleged victim.

Perception of the Current Situation

Refuses to cooperate with the APS investigation. The primary support person refuses to cooperate with the worker(s) during the investigation or is difficult or impossible to contact. Note that the primary support person may initially be reluctant to participate in the investigation and/or services. This item should be marked "yes" only if the primary support person shows initial reluctance *and* continues to be uncooperative throughout the investigation.

Denies obvious problems related to the alleged victim's safety or care needs. The primary support person denies that problems related to alleged victim's safety or care exist, and maintains this belief throughout the investigation.

Resources/Alternative Care

Resources unavailable. Resources are geographically unavailable, or existing resources do not meet the needs of the alleged victim and/or primary support person. Resources may be available but financially unattainable for alleged victim and/or primary support person. If resources are unavailable, indicate the condition that makes then unavailable (geographic barriers, financial barriers, or insufficient services).

Is reluctant or refuses to use available resources. Resources are available, but the primary support person refuses assistance. The primary support person refuses services to assist him/her and/or poses a barrier to the provision of services to the alleged victim that are recommended to mitigate concerns about the alleged victim's safety and well-being.

Finances

Is financially dependent on the alleged victim. The primary support person is dependent on alleged victim's income or assets to maintain current housing, utilities, transportation, or to provide food.

Has access to the alleged victim's finances/assets. Evidence of the primary support person's access to alleged victim's finances/assets includes the following:

- Primary support person is listed on the alleged victim's financial accounts (e.g., checking and savings accounts).
- Primary support person can access alleged victim's finances without alleged victim's knowledge.
- Primary support person has power of attorney for financial matters on behalf of the alleged victim.

Maltreatment History

Was maltreated as a child. Primary support person was maltreated by a parent or caregiver when primary support person was a child, including physical, sexual, emotional abuse and/or neglect.

Was maltreated as an adult. Primary support person has been maltreated as an adult. Include prior substantiated reports of maltreatment to APS and/or maltreatment that occurred but was not officially reported (do not include incidents of domestic violence or self-neglect).

Perpetrated maltreatment on another (child or adult) as an adult. Primary support person perpetrated maltreatment on a child and/or other adult. Include credible reports of maltreatment that were not reported to APS/CPS, law enforcement, etc.