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

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ABSTRACT

This report summarizes research completed for National Institute of Justice (NIJ) grant (No. 2008-IJ-CX-0025), which funded a joint effort between New Hampshire's Bureau of Elderly and Adult Services (BEAS) and the National Council on Crime and Delinquency (NCCD) to construct and validate an actuarial risk assessment. The resulting assessment is completed by Adult Protective Services (APS) workers to help inform decisions related to the likelihood of future maltreatment or self-neglect. Other public service agencies, including child protection and corrections, 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. The research question was whether an actuarial risk assessment could serve a similar purpose for APS agencies by enhancing their abilities to reduce maltreatment of the most vulnerable clients.

The goal of the grant was to determine whether an actuarial risk assessment could be constructed that validly and reliably classified individuals reported for adult maltreatment or self-neglect, and whether workers and other agency staff would find the risk assessment useful in practice. Initiated in 2008, Phase I involved a longitudinal study of 763 individuals investigated for allegations of self-neglect or maltreatment between March 1 and September 30, 2009, then observed for a standardized six-month period to measure subsequent reports to BEAS. Phase I resulted in an actuarial risk assessment that BEAS workers began completing in 2009 to help inform decisions regarding an individual's likelihood of future harm.[1] Workers scored the risk assessment composed of items related to self-neglect and/or abuse to obtain a risk classification related to the likelihood of future reports to APS. Phase II, completed in 2010, consisted of inter-rater reliability testing and a process evaluation to assess implementation fidelity. Reliability testing involved 24 caseworkers (of 35 total) who scored the

[1] In this report, the term "maltreatment" refers to neglect or physical, sexual, or emotional abuse perpetrated by another person, because it is the term used by New Hampshire BEAS. "Harm" refers to any type of harm, whether self-neglect or abuse/neglect perpetrated by someone else.

risk assessment items for three vignettes, and resulted in high inter-rater agreement across items. The process evaluation showed that implementation fidelity and workers' perceived utility of the actuarial tool varied by region. As a result of the process evaluation and reliability studies, BEAS managers and supervisors initiated a number of practice-improvement efforts.

Phase III involved a second, prospective validation study of the risk assessment conducted with a larger client sample (n=1,064) and observation of harm recurrence for a longer, one-year, standardized follow-up period. The self-neglect index of the risk assessment more accurately classified individuals by risk than did the risk of abuse/neglect index. This could be the result of low base outcome rates for re-maltreatment, varied implementation fidelity, and/or missing risk or protective factors not measured in existing data sources. Overall, the risk assessment validly classified individuals reported for allegations of harm by the likelihood of future harm of any type.

Findings suggest the possibility of constructing a valid and reliable actuarial assessment to classify individuals reported to APS by the likelihood of future maltreatment; however, additional research is needed to improve the classification abilities of the assessment. Results from the process evaluation suggest that completing a validated actuarial risk assessment could be helpful to APS workers. For example, supervisors reported they were beginning to consider risk in decisions about attempting to engage individuals refusing APS involvement (i.e., more varied efforts at re-engaging if high risk). This research indicates a strong need to continue developing research-based assessments for APS field staff and managers—specifically, to improve on the classification abilities of the risk assessment, identify additional empirical risk factors if possible, and to study how an actuarial risk assessment and other decision-support tools can help improve the accuracy and consistency of decisions made by APS caseworkers.

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EXECUTIVE SUMMARY

Adult protective services (APS) agencies work to protect some of our most vulnerable adults from harm. Faced with limited resources and a growing population, frontline workers and their managers need the best tools available to help target the most intensive interventions to the individuals at greatest risk. These tools should be research-based to increase the accuracy and consistency of decisions made by those workers.

This report summarizes research completed for a National Institute of Justice (NIJ) grant (No. 2008-IJ-CX-0025) to construct and validate an actuarial risk assessment for workers to complete at the end of an APS investigation. Implementing an actuarial assessment may enhance the abilities of APS agencies to reduce maltreatment of their most vulnerable clients by effectively targeting limited resources. This research built upon a prior collaboration between New Hampshire's Bureau of Elderly and Adult Services (BEAS) and the National Council on Crime and Delinquency (NCCD).

The three-phase project began in 2008. Phase I involved conducting a longitudinal study to construct an actuarial risk assessment. BEAS workers began completing the risk assessment in 2010 to help inform decisions regarding an individual's likelihood of future harm. Phase II, completed in 2010, consisted of inter-rater reliability testing and a process evaluation to assess implementation fidelity. Phase III involved a prospective validation study of the risk assessment to be conducted with a larger client sample and observation of maltreatment recurrence for a longer standardized follow-up period (12 months).

This work is built upon a prior collaboration between NCCD and BEAS. The New Hampshire Department of Health and Human Services BEAS approached NCCD, a nonprofit social research agency, in 2007 with the idea of developing and implementing an actuarial risk assessment to be completed by APS workers. Other public service agencies, including child protection and corrections, have implemented simple, objective, and reliable actuarial risk assessments to help workers identify high-risk clients and prioritize them for service intervention. 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 research question was whether an actuarial risk assessment could serve a similar purpose for APS agencies working to protect their most vulnerable clients from maltreatment.

Examining the Feasibility of Constructing an Actuarial Risk Assessment for Future Reports of Harm

The first step was a two-part feasibility study conducted by BEAS and NCCD in 2008. The feasibility study consisted of two components: (1) examining elder maltreatment recurrence in a population of BEAS clients using administrative data, in particular to determine whether the base rates (proportion experiencing re-maltreatment) were high enough to support a validation study; and (2) reviewing current literature and state APS risk assessment practices to inform validation study design and development of a data collection instrument. An examination of existing administrative data showed base outcome rates were sufficient to construct an actuarial risk assessment, although the proportion with subsequent, substantiated abuse or neglect was less than 5%. Prior history and other characteristics were significantly related to subsequent maltreatment across types. Theoretical and empirical factors not systematically collected by APS workers in the BEAS data system were incorporated into a data collection instrument that workers completed for a limited time period. The

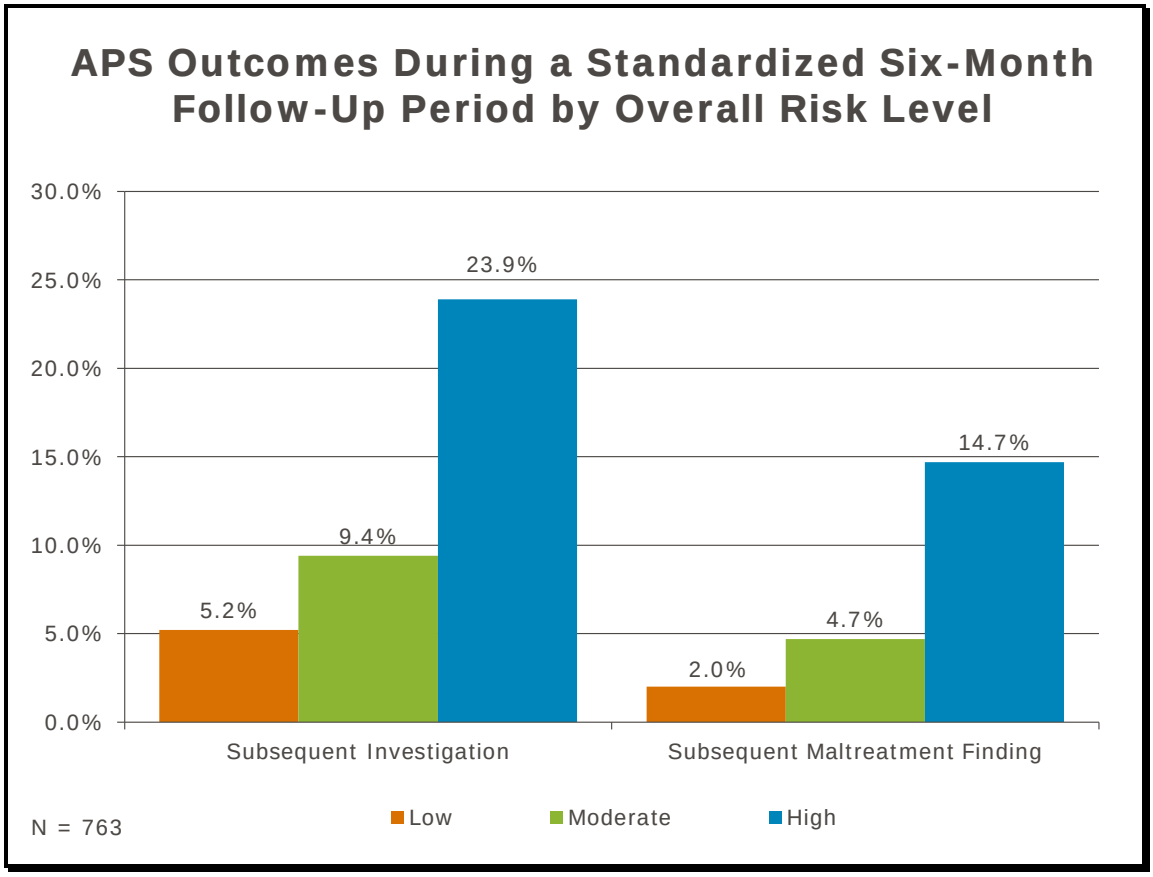
potential risk factors were identified through a review of the literature, a survey of state APS agencies, and a search for previously developed assessments tested for reliability and validity. Theoretical and empirical data suggested the risk factors for self-neglect differ from risk factors for abuse or neglect by another individual, and a valid and useful risk assessment would likely require maltreatment-specific indices. NCCD and BEAS staff finalized the data collection instrument of potential risk factors, and APS workers began completing the instrument at the end of investigations of alleged harm to elders and vulnerable adults in 2008. The purpose was to collect information under field conditions in order to conduct a longitudinal validation study for constructing a risk tool.

Constructing a Risk Assessment to Estimate the Likelihood of Future Harm

The study sample for Phase 1 consisted of 763 unique clients investigated for allegations of self-neglect or maltreatment between March 1 and September 30, 2009. Each individual assessed for threats of harm was observed for a standardized six-month period for subsequent reports to BEAS. The longitudinal study resulted in an actuarial risk assessment that, upon completion by BEAS workers, estimates the likelihood of future maltreatment and/or self-neglect based on client characteristics related to subsequent harm. For reasons discussed previously, the tool is composed of two indices: one set of factors strongly related to self-neglect and another related to abuse/neglect by another individual.

The final risk level provided to caseworkers is based on the higher of the two risk levels resulting from scoring of the indices. The resulting risk classification corresponded to significant increases in the proportion of individuals experiencing that outcome. 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 E1). 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 E1



Testing Inter-Rater Reliability

In the fall of 2010, 24 of 35 APS workers participated in inter-rater reliability testing of the risk assessment with three investigation vignettes altered to protect individual identities. All of the risk items had an average percent agreement of 75% or higher, and most were 85% or higher, demonstrating strong inter-rater agreement. Workers sometimes differed in whether or not they identified a primary support person, and some neglect items measuring the primary support person's expectations of the alleged victim and capacity to provide care had lower than average rates of agreement. Some measures and definitions need improvement, but overall findings suggest the risk assessment tool items can achieve inter-rater agreement and potentially help improve the consistency of worker scoring.

Conducting the Process Evaluation

Three months post-implementation, NCCD and BEAS staff conducted a process evaluation to measure implementation fidelity and identify ways to strengthen practice. NCCD researchers collected information through feedback from APS workers and supervisors, a review of APS case files, and analysis of electronically available assessment and investigation data. The study showed that implementation fidelity and workers' perceived utility of the actuarial tool varied by region. BEAS managers and supervisors initiated a number of practice improvement efforts as a result of the process evaluation and reliability studies. These included regional site visits to review cases collaboratively,

integrating practice and decision-support discussions into regular supervisory meetings, and facilitating information exchange across regions.

Validating the Actuarial Assessment

The last phase of the grant research was to validate the risk assessment with a one-year follow-up period to ensure accurate classification of adults by their likelihood of harm. Findings showed the risk assessment validly classifies individuals by the likelihood of future maltreatment, though additional research is needed to improve the actuarial assessment's predictive capabilities.

The risk assessment performed better when classifying individuals in the 2009 construction sample compared to those in the 2011 validation sample (Table E1). For individuals in the construction sample, the risk assessment classified adults such that an increase in risk corresponded to an 80.0% or more increase in the outcome rate across all maltreatment outcomes observed. For individuals in the validation sample, an increase in the risk level corresponded to an increase of 20.0% to 45.0%.

Table E1

Overall Risk Classification by Subsequent Adult Maltreatment Outcomes

Construction Sample Risk Classification	Sample Distribution		Outcomes During Six-Month Standardized 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%**
2011 Validation Sample Risk Classification	**Sample Distribution**		**Outcomes During 12-Month Standardized Follow-Up Period**	
	N	**%**	**Investigation**	**Founded Allegation**
Low	452	42.5%	13.1%	7.7%
Moderate	494	46.4%	19.0%	10.5%
High	118	11.1%	22.0%	13.6%
Total Sample	**1,064**	**100.0%**	**16.8%**	**9.7%**

The self-neglect index of the risk assessment more accurately classified individuals by risk than did the risk of abuse/neglect index. A number of factors may help explain why the maltreatment by another index did not perform as well as it did in the construction sample: The proportion of sampled individuals with subsequent alleged and confirmed abuse/neglect was low; outcome rates varied over time; completion and use of the risk assessment by caseworkers in the field varied, which could have impacted validity findings; and the study may have failed to measure important risk and protective factors that could have improved the classification abilities. Organizational culture may also have had an impact on implementation fidelity and the validity findings; supervisor support for implementation and worker willingness to consider actuarial information in decision making varied. Classification findings for the validation sample were not as robust as those of the construction sample, but they

rarely are. Overall, results suggest the need for additional efforts to improve the classification abilities of an actuarial tool for workers to complete when making service allocation decisions.

Limitations of the Research

The research has two limitations that researchers and practitioners need to keep in mind. First, the outcome—maltreatment and self-neglect reported to BEAS—does not represent all adult maltreatment. Community-based prevalence studies indicate only a small proportion of actual maltreatment is reported (e.g., Lifespan of Greater Rochester, 2011). In addition, researchers were unable to measure outcomes such as criminal prosecution and/or placement of a perpetrator, placement of the victim, intensity and duration of services provided to clients, or death. This is true of both the construction and validation samples, but may have contributed to the lack of robustness observed in the predictive validity findings for the assessment.

The findings may or may not be generalizable to other jurisdictions. The research was conducted in New Hampshire, a primarily White, largely rural population with a low rate of recurrent abuse or neglect allegations among individuals reported for abuse/neglect. APS agencies may vary a great deal in their policies and procedures, availability of support services, variation in use of multidisciplinary teams and/or other evidence-based practices, and/or staff capabilities (skills and/or workload). Agencies may vary in the proportion of individuals re-reported for alleged maltreatment or self-neglect. The transferability of the risk assessment's performance needs to be tested with future studies.

Implications for Practice and Future Research

Actuarial risk assessments should be valid, reliable, equitable, and useful. Findings from this research suggest it is possible to construct a valid and reliable risk assessment that classifies elders and other vulnerable adults by the likelihood of future harm, although additional research is needed to improve predictive accuracy. A research-based risk assessment could help APS agencies ensure effective use of limited resources, despite the chronic lack of funding for APS services and a growing service population. In order to effectively reduce future harm to individuals, however, a risk assessment must also be useful as well as valid. Results from qualitative research efforts suggest that completing a validated actuarial risk assessment could be helpful to APS workers. Some workers, including those new to the job, reported the tool was helpful. Supervisors and workers indicated the risk classification had helped inform decisions about repeated attempts to engage individuals who refuse APS involvement (i.e., more varied efforts at re-engaging if high risk). These results are compelling and suggest an actuarial assessment that classifies individuals by the likelihood of future harm could be helpful in ensuring the best use of limited resources.

More research is needed to improve the classification abilities of the risk assessment; ensure that completing the tool is useful to APS workers; identify additional, unmeasured empirical risk and protective factors related to subsequent maltreatment; and study how an actuarial risk assessment and other decision-support tools can best help improve the accuracy and consistency of decisions made by APS caseworkers. Future research should explore the dynamics of empirical risk and protective factors related to subsequent maltreatment over time, to test actuarial methods, to determine if other methodological approaches achieve better results when observed outcomes have low base rates, and to test the transferability of a validated actuarial assessment on other regions or populations.

In order to best understand the outcomes experienced by self-neglecting or maltreated adults, a comprehensive longitudinal study referencing data from across public service systems is needed. The current research was conducted without controlling for the impact of interventions. Subsequent death, placement in a different care environment, criminal action, or guardianship may or may not mitigate risks of harm. Such cross-systems research is also likely to foster collaborations between agencies in a given region to measure, monitor, and improve the effectiveness of efforts to prevent harm to vulnerable adults.

APS agencies would be in a stronger position to ensure the effectiveness of interventions if they had data with which to monitor practice and defend the need for their services. APS agencies need to systematically collect information about the risk and protective factors of individuals and families referred to them and the prevention/intervention efforts executed by APS workers when investigating elder abuse and neglect. For example, some APS agencies purge unfounded investigations. This research shows, however, that individuals' likelihood of re-investigation and founded allegation is not related to whether current allegations were founded or not. APS agencies also vary in the type and depth of information recorded by workers in an administrative database. Improving the quality and consistency of information recorded by APS workers across jurisdictions would enable better research.

I. INTRODUCTION

This report summarizes research completed for a National Institute of Justice (NIJ) grant (No. 2008-IJ-CX-0025), which funded a joint New Hampshire Department of Health and Human Services Bureau of Elderly and Adult Services (BEAS) and National Council on Crime and Delinquency (NCCD) effort to construct and validate an actuarial risk assessment to be used in adult protective services (APS) investigations. The project began in 2008 and involved three phases. Phase I work resulted in an actuarial risk assessment that BEAS workers began completing in 2009 to help inform decisions regarding an individual's likelihood of future harm. The risk assessment was constructed by conducting a longitudinal study of client risk factors and other case characteristics observed by APS workers at a sample investigation. APS workers recorded potential factors in a web-based database at the end of each investigation, to allow us to examine the relationship between these characteristics and the recurrence of elder abuse or neglect. Phase II, completed in 2010, consisted of inter-rater reliability testing and a process evaluation to assess implementation fidelity. Phase III involved a second, prospective validation study of the risk assessment with a larger client sample and a longer follow-up period (12 months).

A. Statement of the Problem

Among elders living in the community (i.e., non-institutional), approximately 5–14% are reported as victims of harm (Acierno et al., 2010; Laumann, Leitsch, & Waite, 2008; Collins, 2006; Lachs & Pillemer, 2004). Referrals to APS agencies do not reflect the full scope of the problem. Earlier estimates suggested one in 13 cases of harm to elders was reported (National Center on Elder Abuse [NCEA], 2006; Jogerst et al., 2003). A 2011 study found the self-reported elder abuse incidence rate to be 76 per 1,000 older residents—nearly 24 times greater than the rate of cases referred to social services (Lifespan of Greater Rochester, 2011).

The consequences of elder harm can be severe enough to require hospitalization and/or cause significant physical pain (Heath, Kobylarz, Brown, & Castaño, 2005). A higher than average proportion of adults referred to APS or another agency for elder harm suffer depressive symptoms (Comjis, Smit, Pot, Bouter, & Jonker, 1998; Heath et al., 2005) and/or dementia (Dyer, Pavlik, Murphy, & Hyman, 2000). Early longitudinal studies demonstrated that adults referred to APS for self-neglect or abuse by another individual were more likely to be placed in a nursing home (Lachs, Williams, O'Brien, & Pillemer, 2002; Blenkner, 1971) and were more likely to die during a standardized follow-up period than were other adults not referred to APS (Lachs et al., 1998; Blenkner, 1971). APS practices and the availability of less restrictive care options have changed, however, since observation of these cohorts (1985 or earlier). A more recent study showed a greater number of assessed APS clients being referred to home health services than institutional placement (Heath et al., 2005). These studies indicate that elders reported to APS are at greater risk of negative outcomes and more in need of interventions than are elders not referred to APS. Oftentimes, APS may be a last resort for ensuring the safety of a vulnerable population.

The number of reported incidents of harm has steadily increased as the US population continues to age and more states introduce additional mandatory reporters (Bronstein & Admiraal, 2005; Jogerst et al., 2003). Adults ages 65 and older currently represent approximately 12.4% of the total population, but will comprise approximately 20% by the year 2030, with an estimated population size of 71.5 million (Administration on Aging, 2007). These increases in population size and number of mandated reporters are likely to increase the demand for APS services. The National Center on Elder Abuse (NCEA) 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).

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 harm, including physical abuse, emotional or verbal abuse, sexual abuse, financial exploitation, neglect by another person, and self-neglect. Most APS agencies serve elders as well as vulnerable adults under the age of 60. The risk of being reported to an APS agency appears to increase with age (Pavlik, Hyman, Festa, & Dyer, 2001) and a lack of social support (Acierno et al., 2010).

APS workers face a number of difficult decisions. After investigating allegations, APS workers determine whether or not they are founded (i.e., are true) or unfounded (i.e., are not true), and whether to offer protective services. During an investigation, an APS worker must evaluate both the current safety of his/her client and the longer-term risk to the client's future well-being. An APS worker must balance concerns for a client's safety and risk with the right to self-determination. After an evaluation of the threats to an individual's harm, an APS worker may provide short-term services to ensure an individual's safety or longer-term services to mitigate the risk of future abuse and neglect.

Research indicates worker decisions to provide services are complicated by a number of factors, including resource availability, the difficulty of assessing an adult's decision-making capacity, and high caseloads. Decisions made in protecting adults are complicated by individual case, agency, and practitioner factors (Killick & Taylor, 2009). Research demonstrates workers may vary in their judgments regarding a client's capacity for decision making when faced with the same evidence (i.e., same client) (Braun, Gurrera, Karel, Armesto, & Moye, 2009; Kitamura & Kitamura, 2000). A qualitative study of 24 social workers and managers found a worker's reasons for providing services varied considerably based on perceived resource limitations and/or negative views of residential care (Wilson, 2002). Workers also have self-reported that high caseloads impede their ability to engage a client in service delivery (Bergeron, 2002). In summary, research conducted to date suggests worker decisions regarding provision of services can vary and may be influenced by factors unrelated to an individual's condition.

The evidence regarding what works (i.e., effectiveness of APS services) in reducing future elder abuse and neglect is limited and tends to be qualitative rather than quantitative (Anthony, Lehning, Austin, & Peck, 2010; Ploeg, Fear, Hutchison, MacMillan, & Bolan, 2009). An APS case manager's ability to coordinate effectively with other agencies on behalf of a client and use multidisciplinary teams can lead to efficient and effective assessment and case-planning practices, according to findings (Cambridge & Parkes, 2006; Mosqueda, Burnight, Liao, & Kemp, 2004). A recent systematic review found two studies that examined the effectiveness of a service approach on the recurrence of abuse/neglect, but neither reported a significant effect (Ploeg, Fear, Hutchison, MacMillan, & Bolan, 2009). The reviewers found insufficient evidence to endorse any specific intervention as an effective approach to preventing elder maltreatment. Additional research is needed to describe how APS workers intervene to protect adults, and how successful the interventions are at preventing future harm.

Considering the prevalence, complexity, and consequences associated with elder self-neglect and abuse or neglect by another individual, transparent and informed decision making is critical to improving the effectiveness of service delivery. If resources allow, agencies can use a multidisciplinary or other comprehensive safety planning approach to every APS client reported to the agency. In most agencies, however, resources are limited. Actuarial risk information can be helpful in directing limited resources toward individuals most at risk of future harm.

One way this is accomplished is by improving the consistency and accuracy of APS workers' service decisions through completion of an actuarial risk assessment that effectively classifies clients by the likelihood of future harm. Evidence from child protective services (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. More recently, a study of correctional programs demonstrated that identifying high-risk individuals with an actuarial assessment

and varying service intensity by risk level was effective at reducing overall rates of recidivism, and that greater adherence to risk-based programming was positively related to reductions in recidivism (Lowenkamp, Latessa, & Holsinger, 2006), confirming the findings of prior studies that a high level of supervision activity significantly reduced criminal activity among high-risk offenders, but had little effect on low-risk offenders (Baird, 1991; Eisenberg & Markley, 1987). Findings from experimental psychology also support the conclusion that actuarial instruments can predict future behavior more accurately than an individual decision maker, even those with extensive clinical training (Andrews, Bonta, & Wormith, 2006; Dawes, Faust, & Meehl, 1989; Meehl, 1954).

Research in other public service areas indicates that risk-based contact standards are effective in reducing the overall likelihood of a critical event. For example, a quasi-experimental study conducted in Michigan evaluated the effectiveness of a structured approach to case management decisions in CPS (Wagner, Hull, & Luttrell, 1995). Workers in pilot counties completed a validated actuarial risk assessment at the end of an investigation that informed the decision whether or not to open a case and also prescribed monthly contact standards that increased as the risk level increased. Outcomes showed a significant reduction in the overall rates of harm for pilot versus comparison counties. A study of four Wisconsin counties showed similar findings (Wagner & Bell, 1998). More recently, a study of correctional programs demonstrated that using an actuarial assessment to identify high-risk individuals and, consequently, varying services by risk level was effective at reducing overall rates of recidivism; in addition, greater adherence to risk-based programming was positively related to reductions in recidivism (Lowenkamp, Latessa, & Holsinger, 2006).

Along with improving the consistency and validity of caseworker decisions, research-based risk assessments help workers facilitate case planning with other agencies and allocate limited resources to those at highest risk of future harm. This approach to effective service aligns with evidence indicating a

need for increased standardization of assessment processes (Anthony et al., 2010) and other best practices (Cambridge & Parkes, 2006).

B. Background

The New Hampshire Department of Health and Human Services BEAS approached NCCD in 2007 about developing and implementing an actuarial risk assessment to be completed by APS workers. BEAS staff wondered whether actuarial methods could help them more effectively manage their limited resources, primarily by focusing resources on individuals with the greatest likelihood of future harm. Other public service agencies, including child protection, health, and corrections, 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 research question was whether an actuarial risk assessment could serve a similar purpose for APS agencies by enhancing their ability to reduce maltreatment of the most vulnerable clients.

To determine this, BEAS and NCCD conducted a feasibility study in 2008 that examined elder maltreatment recurrence in a population of BEAS clients.[2] The feasibility study consisted of two components: (1) analysis of available data to determine whether rates of subsequent maltreatment among BEAS-involved adults 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.

An examination of existing administrative data showed base outcome rates were sufficient to construct an actuarial risk assessment, and some prior history and other available characteristics were significantly related to subsequent maltreatment. The characteristics of 536 adults with founded BEAS investigations between July 1 and December 31, 2006 were examined relative to their subsequent

[2] See http://nccdglobal.org/sites/default/files/publication_pdf/feasibilityofriskassessment.pdf to review the report.

involvement with BEAS during a standardized 12-month follow-up period. Among the 536 adults with founded maltreatment, 14.6% were re-referred for maltreatment allegations during the subsequent year, and 10.3% were founded as maltreatment victims during the one-year period. More (9.3%) were re-reported for self-neglect during the follow-up period than were referred for abuse or neglect by another person (4.3%), and less than 1% were referred for both. A greater proportion of adults initially referred for self-neglect were re-referred for self-neglect during the follow-up period than adults initially investigated for maltreatment by another person (12.8% and 3.3% respectively), while adults initially referred for maltreatment by another person were more likely than those referred for self-neglect to be subsequently referred for maltreatment by another person (8.5% compared to 3.9%).

The review of the literature and existing screening and risk assessments used by APS workers and other service providers identified a number of potential risk factors not systematically collected by APS workers in the BEAS data system. To supplement the empirical factors, additional potential factors to measure were gleaned from three data sources:

- A literature review of relevant, peer-reviewed publications to identify research-based risk factors related to adult maltreatment;
- An examination of research on the reliability and validity of assessments for elder maltreatment, such as the Indicators of Abuse (IOA) assessment and the Elder Assessment Instrument (EAI); and
- A phone survey of APS administrators from 37 states about the use and design of risk assessments. Of the 37 states represented, 26 had state-sponsored risk assessments to be completed for APS clients. The content of these 26 assessments was reviewed to identify additional potential factors.

These data sources showed that risk factors for self-neglect differ from the risk factors for abuse or neglect by another person, and a valid and useful risk assessment would likely require maltreatment-specific indices.[3] NCCD and BEAS staff collaborated to design a data-collection

[3] A review of relevant literature indicated the terminology used to describe elder neglect or abuse differs by agency and

instrument of potential risk factors to be collected by APS workers investigating allegations of harm. The purpose was to collect information under field conditions in order to conduct a longitudinal validation study for constructing a risk tool. Most of the items collected for study were identified through multiple sources (Table 1; see Appendix B for specific items).

Table 1

Domains in the Risk Assessment Data Collection Instrument by Source

Potential Risk Factor/Domain	Identified in Descriptive Research	On Reliable Assessments	On State Agency, Consensus-Based Risk Assessments
Characteristics of Elder			
Minority status	X		
Advanced age	X		
Low income/financial status	X	X	X
Social support/relationships with others	X	X	X
Difficulty with ADLs	X	X	X
Living situation (alone/with others)	X		
Depression/mental health issue	X	X	
Physical health	X	X	
Dementia/cognitive abilities*	X		X
Evidence of maltreatment		X	X
Elder characteristics (self-care, substance problem)		X	X
Characteristics of Caregiver			
Difficulty meeting elder's needs		X	X
Caregiver characteristics (mental health and/or substance problem)		X	X
Caregiver-elder relationship		X	X

*Although some consider dementia to be a physical condition, many assessments group dementia and cognition.

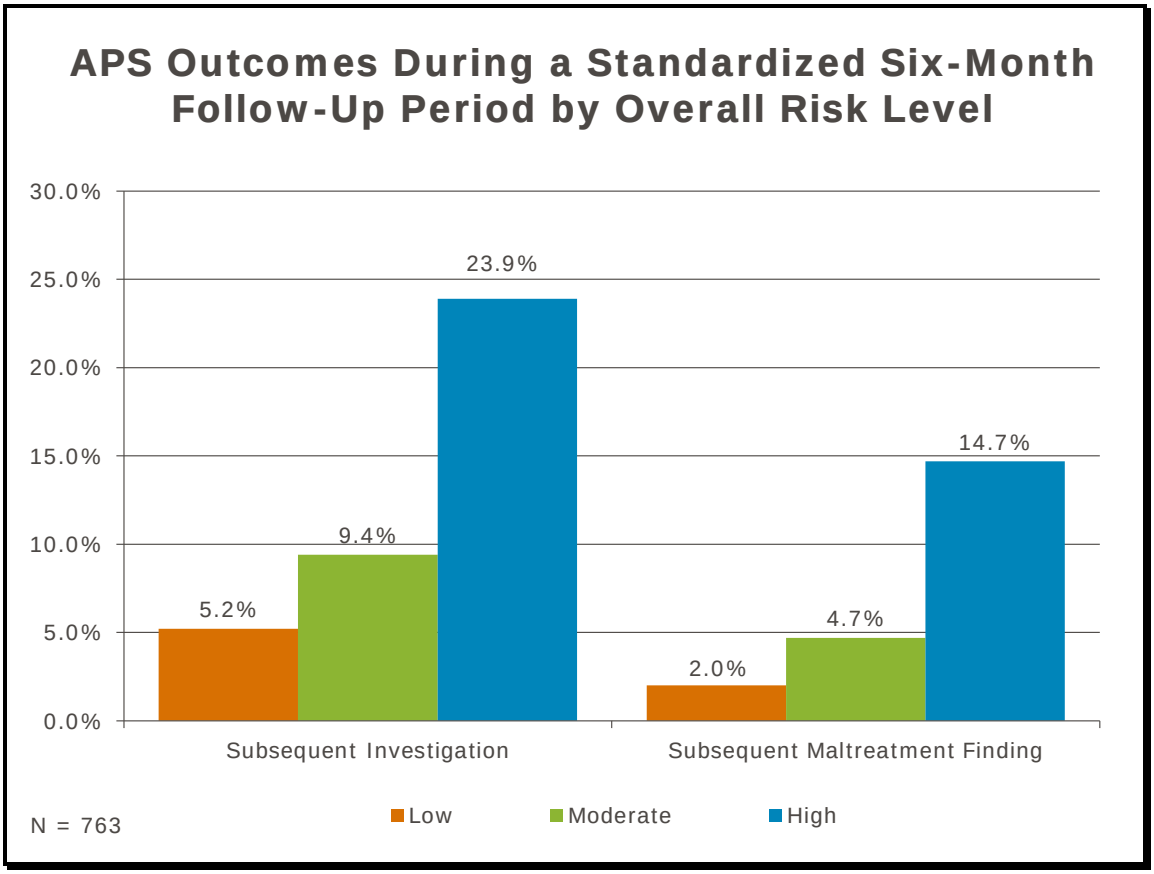
In 2008, NIJ awarded NCCD a grant to partner with BEAS in developing an actuarial risk assessment that could be completed by workers to inform their decisions related to risk of future harm.

audience. In this report, the term "maltreatment" refers to neglect or physical, sexual, or emotional abuse perpetrated by another person, because it is the term used by New Hampshire BEAS. "Harm" refers to any type of harm, whether self-neglect or abuse/neglect perpetrated by someone else.

The grant resulted in an actuarial risk assessment composed of client characteristics related to subsequent elder maltreatment that BEAS workers complete to estimate the likelihood of future elder maltreatment and/or self-neglect. This risk assessment resulted from a longitudinal study of 763 unique individuals investigated for allegations of self-neglect or maltreatment between March 1 and September 30, 2009. During a standardized six-month period, each individual assessed for threats of harm was observed for subsequent reports to BEAS (the available measure of maltreatment). For reasons discussed previously, the tool is composed of two indices: one set of factors strongly related to abuse/neglect and another related to self-neglect.

The final risk level provided to workers is based on the higher of the two risk levels resulting from scoring of the indices. The resulting risk classification corresponded to significant increases in the proportion of individuals experiencing that outcome. 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 1). 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 1



The risk items demonstrated strong inter-rater reliability. Twenty-four APS workers read and scored the risk assessment for three investigation vignettes altered to protect individual identities. All items had an average percent agreement of 75% or higher, and most were 85% or higher. When they differed, workers differed in identification of any primary support person providing care. BEAS managers incorporated this information into practice improvement efforts planned to support implementation.

BEAS implemented the actuarial risk assessment statewide in August 2010. NCCD staff created a web-based data collection system to collect workers' scoring of the risk assessment during the study period and until further validation of the instrument's predictive validity. The initial training introduced staff to the actuarial risk assessment, including its research base, as well as the web-based form for

completion. Post-training, workers participated in an inter-rater reliability test of the risk assessment items and definitions. Findings showed the risk assessment tool items demonstrated strong inter-rater agreement and could help improve the consistency of worker scoring. Items measuring characteristics of neglect had lower rates of agreement than did prior history or abuse items, and workers sometimes differed in whether or not they identified a primary support person. Overall, however, findings suggest the risk assessment tool items can achieve inter-rater agreement and potentially help improve the consistency of worker scoring. The third section of the report reviews the individual items.

Three months post-implementation, NCCD and BEAS staff conducted a process evaluation to measure implementation fidelity and identify ways to strengthen practice. NCCD researchers collected information through feedback from APS workers and supervisors, a review of APS case files, and analysis of electronically available assessment and investigation data. The study showed implementation fidelity and workers' perceived utility of the actuarial tool varied by region. BEAS managers and supervisors initiated a number of practice improvement efforts as a result of the study, which are described in the fourth section of the report.

The last step in this research process was to validate the risk assessment with a one-year follow-up period to ensure accurate classification of adults by their likelihood of harm. Findings showed the risk assessment validly classifies individuals by the likelihood of future maltreatment, though additional research is needed to improve the actuarial assessment's predictive capabilities. Section five describes these findings in more detail.

The remainder of this report describes the research methods and findings in more depth. The next section describes how the risk assessment was constructed, followed by the methods and findings of the reliability study, process evaluation, and validation study.

II. CONSTRUCTION OF THE ACTUARIAL RISK ASSESSMENT FOR APS WORKERS

In order to conduct a longitudinal study of risk factors, NCCD referenced information recorded by caseworkers investigating allegations of harm. The purpose of the study was to construct an actuarial risk assessment for workers to complete to help inform decisions about the likelihood of subsequent abuse/neglect of an individual. The next section describes methods used to conduct the study and construct the risk assessment. The following section reviews the risk assessment and its performance classifying sampled individuals by future reports of maltreatment.

A. Risk Assessment Longitudinal Study Methods

As mentioned previously, BEAS and NCCD staff constructed a data collection instrument in 2007 composed of potential factors not recorded by BEAS workers as part of current practice (Appendix B 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 collection instrument until the sample size was sufficient to enable construction of a risk assessment. The determination of sample size sufficiency was informed by a power analysis (of the sample size needed to detect a 10% change from a 10% proportion), but was defined as a six-month cohort of individuals referred to BEAS to help ensure a representative sample cohort of sufficient size.

The sample consisted of 763 unique clients investigated for allegations of self-neglect or maltreatment with a data collection instrument completed between March 1 and September 30, 2009. Completion rates were high during the sample period; statewide, monthly completion rates ranged between 90.2 and 92.8%. If a client had more than one investigation during the sample period, the first investigation was selected for the sample. 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. Measures—such as alleged and confirmed type(s) of maltreatment, client and perpetrator demographics, and information describing whether services were arranged or refused—were obtained from the data collection system and Options, New Hampshire's data management system.

Just over one quarter of sample clients were under age 60 when the sample investigation was conducted (Table 2). An additional 21% were between ages 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. More than 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 2

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%
Developmental Disability	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 3). Approximately one third (33.8%) were referred for some type of maltreatment by another individual, 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 3

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%.

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 number of statistical methods have been applied in risk assessment construction; but simple, less precise methods of statistical evaluation (like bivariate analyses followed by regression analyses) 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. 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 allegations. The rate of alleged and founded maltreatment perpetrated by another individual was 5% or less. Accurate risk assessment classification is much more difficult when the base rate of the estimated outcome is very low (Goodie & Fantino,

1999; Schönemann & Thompson, 1996). Therefore, the primary outcomes referenced during risk assessment construction were re-investigation rates. Findings should be interpreted with caution given the low base rates.

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.

Bivariate associations confirmed that the characteristics related to subsequent self-neglect often differed from the characteristics related to subsequent maltreatment by another person. Thus the resulting risk assessment is composed of two separate indices, a nine-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 risk level corresponds to policy recommendations for case service (open a case for high risk individuals and not for moderate or low risk), but are not the sole determinant of service provision. Substantiated findings and income also influence service eligibility. If a case is opened for ongoing services (either APS or adult in-home), the SDM risk level is used to guide the frequency of worker intervention, whereby alleged victims at greatest risk receive more intensive intervention (e.g., three face-to-face and two collateral contacts each month). Case workers can override these recommendations with supervisory approval.

C. Findings for the Constructed Actuarial Assessment

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 allegations of maltreatment or self-neglect that, across outcomes, is significantly greater.

The risk assessment can be found on the next page, followed by findings for both the self-neglect index and the maltreatment index. Findings for the overall risk classification follow for the total sample, by investigation disposition and by the age of the client. .

NEW HAMPSHIRE BUREAU OF ELDERLY AND ADULT SERVICES
RISK ASSESSMENT

Alleged Victim Name: _____ (last, first)

Risk Assessment Date: _____/_____/_____

SELF-NEGLECT **Score**

SN1. Prior APS investigations of any type (*check only one*)
- a. None....0
- b. One or two....1
- c. Three 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)

1. Risk Assessment Classification Findings for Self-Neglect

The nine-item 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. During that follow-up period, 6.2% of sampled clients were involved in an investigation for alleged self-neglect on at least one occasion (see Table 4). 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 4

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

Self-Neglect Risk Level	Sample Distribution		Outcomes During the Six-Month Follow-Up Period	
	N	%	Self-Neglect Investigation	Founded 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%**

2. Risk Assessment Classification Findings for Maltreatment

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

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 individual during the follow-up period (z test, $p<.05$; see Table 5). 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 classification abilities of the index 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 5

Current Risk of Maltreatment Classification by Subsequent Maltreatment Outcomes

Maltreatment Risk Level	Sample Distribution		Outcomes During the Six-Month Follow-Up Period	
	N	%	Maltreatment Investigation	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%**

3. Risk Assessment Classification Findings for Any Harm

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. When classified by overall risk level, 32.5% of BEAS clients were assessed as low risk (see Table 6). 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 6). 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 6

Overall Risk Classification by Subsequent Harm

Overall Risk Level	Sample Distribution		Outcomes During the Six-Month 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%**

A greater proportion of clients with a sampled founded investigation were classified as high risk than were clients with unfounded allegations (see Table 7). 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 7

Overall Risk Classification by Subsequent Harm

Overall Risk Level	Sample Distribution		Outcomes During the Six-Month Follow-Up Period	
	N	%	Investigation	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%**

BEAS serves individuals age 60 years or older and vulnerable adults under the age of 60. Most (662) of the sample were adults age 60 years or older, and 101 were 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.

The risk level distribution was similar regardless of client age. Among clients age 60 or older, 33.4% were classified as low risk, 52.0% as moderate risk, and 14.7% as high risk (see Table 8). 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 age 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 8

Risk Classification by Maltreatment Outcomes by Age Group

Overall Risk Level	Sample Distribution		Outcomes During the Six-Month Follow-Up Period	
	N	%	Investigation	Founded Allegation
60 Years 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 Years of Age				
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%**

APS Protection Intake

Neighbor calls to report that Jim Andrews, an elderly male who lives next door, appears to be the victim of some type of physical abuse.

When returning mail delivered to the wrong address earlier in the day, the caller noticed bruises covering Mr. Andrews' arms and an open abrasion on his left cheek. The 90-year-old Andrews is known to suffer a degree of dementia and receives hospice services in his home. When asked about the cuts and bruises, Mr. Andrews discloses he was struck repeatedly by one of his hospice caregivers the evening prior for leaving a gas burner on and unattended.

III. RELIABILITY TESTING THE ACTUARIAL ASSESSMENT FOR APS WORKERS

Inter-rater reliability testing is an important process to ensure workers can consistently evaluate the items or domains in the same way when provided with the same case information. Essentially, reliability means that given the same information, workers will independently reach the same results. Reliability is a pre-requisite for validity; an assessment cannot be valid if it is not reliable. The following describes inter-rater reliability testing of the actuarial assessment developed in Phase I of the grant.

A. Inter-Rater Reliability Testing Methods

APS workers completed inter-rater reliability testing of the risk items and corresponding definitions a few months after training on use of the assessment. A total of 24 staff participated in reliability testing, which corresponded to 57% of the 42 BEAS workers investigating alleged harm. Participating workers were selected randomly within each region of the state. The test consisted of an introduction to the purpose of the assessment and associated definitions, followed by instructions to independently read and score the assessment for three case vignettes provided.

The measure used for testing inter-rater reliability of the assessment items was percent agreement. Percent agreement measures the frequency in which different participants reached the same conclusion regarding risk item scores for the three case vignettes. This method of reliability was selected because it is a straightforward and easily quantifiable measure. Percent agreement does not control for the degree to which different raters might select the same response by chance, but it is highly unlikely that participating staff would complete vignettes randomly. Percent agreement was calculated using the following formula:

$$Average\ percent\ agreement\ for\ item\ i = \frac{(a_1 + a_2 + \cdots + a_n)}{(r_1 + r_2 + \cdots + r_n)}$$

Where a is the number of raters who agreed with the most common response for item i on each vignette, n is the total number of vignettes completed for item i, and r is the number of raters on each vignette for item i. The highest possible agreement is 100%, achieved when all 24 participants rated an item the same way for all three vignettes. This is a high level of agreement, however, and is difficult to attain when testing with case vignettes. Given that most of the risk assessment items are dichotomous, we hypothesized that the risk items would have an average agreement of 75% or better. This is the equivalent of saying that reliability is acceptable when three out of four people give the same response.

B. Inter-Rater Reliability Findings

When averaged across the three vignettes scored by the 24 workers, average inter-rater agreement was high for almost all risk items (Table 9). All risk items averaged 84% agreement or higher, with the exception of the maltreatment risk item 17—whether the primary support person (PSP) has unrealistic expectations of the alleged victim—which resulted in 75% average agreement.

Staff who participated in inter-rater agreement differed in whether or not they recorded responses for the three PSP-related items on the maltreatment index. These differences are reflected in lower rates of average agreement for the maltreatment risk score and overall risk level obtained, which had an average agreement of 65.1% and 66.9% respectively. Participants may have differed in their perceptions of whether or not a PSP was present who should be assessed as part of the risk assessment, or may have struggled with item definitions.

Overall, inter-rater reliability results demonstrated that the items and definitions can lead to reliable assessment scoring. Items with lower-than-desired inter-reliability findings were addressed through post-training clarifications with staff and informed practice strengthening efforts conducted by BEAS supervisors and managers during the early months of implementation.

Table 9

Risk Assessment Overall Item Agreement
Minimum, Maximum, and Average Agreement
24 Caseworkers Rating Three Cases

Risk Assessment Item		Agreement			
		Observations	Minimum Agreement	Maximum Agreement	Average Agreement
R1.	Prior APS investigations of any type	72	95.8%	100.0%	97.2%
R1a.	Emergency services notified	72	54.2%	100.0%	84.7%
R2.	Prior abuse finding	70	72.7%	100.0%	86.7%
R3.	Alleged victim previously involved in open APS protection or non-protection case	72	83.3%	100.0%	90.3%
R4.	Alleged victim previously refused services	72	58.3%	100.0%	84.7%
R5.	Current investigation is for self-neglect	72	91.7%	100.0%	95.8%
R6.	Current investigation is for maltreatment by another person	71	95.8%	95.8%	95.8%
R7.	Current finding for maltreatment by another person	72	91.7%	100.0%	95.8%
R8.	Alleged victim currently refuses services	71	54.2%	95.8%	81.9%
R9.	Service provider cannot or will not accept alleged victim for services	71	95.8%	100.0%	98.6%
R10.	Age of alleged victim at time of current report	72	91.7%	100.0%	95.8%
R11.	Alleged victim perpetrated maltreatment on another (child or adult) as an adult	72	100.0%	100.0%	100.0%
R12.	Alleged victim involved in domestic violence (past or current)	72	100.0%	100.0%	100.0%
R13.	Alleged victim has problematic adult relationships other than domestic violence	72	95.8%	100.0%	97.2%
R14.	Number of inpatient hospital stays in past 12 months	72	66.7%	100.0%	88.9%
R15a.	Alleged victim has current or historic alcohol problem	72	91.7%	100.0%	95.8%
R15b.	Alleged victim has current or historic drug problem	72	91.7%	100.0%	95.8%
R16.	Other person has access to alleged victim's finances	72	95.8%	100.0%	98.6%
R17.	PSP has unrealistic expectations of the alleged victim	30	52.2%	100.0%	75.7%
R18.	PSP victim perpetrated maltreatment on another (child or adult) as an adult	28	90.9%	100.0%	97.0%
R19.	PSP lacks the skills/training to perform caregiving tasks	28	56.5%	100.0%	85.5%
Self-neglect index risk level		65	83.3%	100.0%	93.0%
Maltreatment index risk level		66	59.1%	69.6%	65.1%
Overall initial risk level		66	45.8%	95.7%	66.9%

C. Summary of Findings

The inter-rater reliability test of the risk assessment items and definitions showed high rates of average percent agreement. Items measuring characteristics of neglect had lower rates of agreement than did prior history and/or abuse factors, and workers sometimes differed in whether or not they identified a primary support person. Overall, however, findings suggest that the risk assessment tool items with the associated definitions can achieve inter-rater agreement, potentially improving the consistency of worker scoring.

APS Protection Intake

Call from Ryan McKinney, stepson of 80-year-old Joan McKinney.

While Mrs. McKinney was recently hospitalized for a mild stroke, her biological brother, James Wilson, had her sign documents that she believed to be release forms. In actuality, the papers she signed were a quitclaim deed to her home and a document giving Mr. Wilson power of attorney.

Shortly after the paperwork was signed, Mrs. McKinney's home was sold and her brother collected all the proceeds. The police were initially contacted but they refuse to press charges because Mr. Wilson has power of attorney.

Until this point, Mrs. McKinney had no reason to distrust her brother, and she is having a very difficult time believing he would take advantage of her in any way. Mrs. McKinney was released from the hospital earlier in the week and is currently staying with her stepson (caller), but he indicates there is not enough room in his apartment for her to remain for an extended period. Since her house was sold, she has nowhere else to live.

IV. PROCESS EVALUATION OF RISK ASSESSMENT IMPLEMENTATION

Three months after implementation of the risk assessment, NCCD staff conducted a process evaluation to measure the quality of implementation and learn how to strengthen it. To assess implementation fidelity, NCCD researchers collected information through feedback from APS workers and supervisors, a review of APS case files, and analysis of electronically available assessment and investigation data.

The primary objectives of the process evaluation were (1) to observe how adult protective services workers (APSWs) use the risk assessment relative to the prescribed use; and (2) if possible, to identify ways to strengthen risk assessment implementation. The fidelity of other assessments relative to case decision making was evaluated in order to give BEAS administrators a more comprehensive interpretation of case practice. NCCD researchers sought information from three sources: 1) field observations from APSWs and their supervisors; 2) a qualitative review of APS case files to observe whether APSWs were completing the assessments in compliance with state policy and whether assessment findings corresponded with other case information; and 3) assessment findings collected by APSWs under field conditions.

A. Process Evaluation Methods

Qualitative feedback from agency field staff was obtained via focus groups, followed by a web-based survey of all staff. NCCD staff solicited feedback regarding the decision-support tools (perceived validity and utility) through focus groups conducted in October 2010 with two groups of APSWs and one group of APS supervisors. Participants represented a variety of geographic regions and differed in years of experience working in APS (six months to 18 years). The supervisor focus group included nine supervisors from 10 district offices; their supervisory job experience ranged from just under one year to 17 years. Two NCCD researchers facilitated each focus group; one led discussion while a second

researcher recorded the session (with participants' permission) and took detailed notes. Focus group protocol involved the facilitators asking broad questions to initiate discussion on topics such as how the risk assessment has affected practice, usefulness of the assessments to APSWs, and whether assessment content is appropriate relative to the decision being informed.

The purpose of the focus groups was to gain input from a small number of APSWs and most supervisors to inform design of a web survey. The web survey enabled NCCD to solicit feedback about the assessments and implementation from all APSWs and supervisors who complete APS investigations and cases. Topics covered by the survey were similar to those discussed in the focus groups. The survey was programmed into Vista, a web-based survey program; a link to the survey was emailed to APSWs and supervisors who carry caseloads. The online survey was available for approximately two weeks. During the two-week data collection period, 26 (59.1%) of the 44 APSWs and supervisors who carry caseloads completed the survey. This survey response rate was higher than those obtained from other web-based surveys (Cook, Heath & Thompson, 2000).

***Case Review Methods*.** The process evaluation included a review of paper case files to examine whether assessments were completed according to policy, whether case files included information to support assessment scoring, and whether case actions taken by APSWs corresponded to policy recommendations associated with assessment findings. Three NCCD researchers read a sample of 69 case files. We sampled the cases by randomly selecting two completed investigations with a completed risk assessment per worker statewide. Results of the case review have limited application because reviewers did not have access to the entire case file. Because of policy, local staff made copies of the sampled cases and provided them to the reviewers. The quantity of information provided varied. The majority of case files included only the investigation summary and information relevant to the investigation of a particular allegation(s); very few case files included APSW notes and/or open case information.

Methods for Review of Aggregate Case Management Information. The process evaluation included an examination of aggregate assessment data to help determine whether the risk assessment was functioning as intended and to profile APS clients using risk assessment data. NCCD also examined case actions by risk level to see if workers were using the risk assessment findings to guide case action decisions (i.e., prevalence of risk levels, risk level overrides, and case action by risk level rates). In January 2011, NCCD extracted risk assessment data from NCCD's web-based application and from Options to examine risk assessment results, override rates, and case action by risk level results for 300 unique individuals assessed for maltreatment between August 1 and October 31, 2010, whose protective investigation ended prior to the end of December 2010.

B. Process Evaluation Findings

Feedback obtained from focus groups and the web survey indicated variety in how APSWs complete and use the assessments in practice, and in how useful they find the assessments when making decisions. Many APSWs and supervisors indicated the risk assessment has no impact on practice, and said they rarely or never use assessment findings when deciding which cases to open. Others said the assessment offers a different perspective, or another way to look at risk, even though they are not always in agreement with the risk level.

APSWs noted several risk assessment items, definitions, and policies that could be clarified. For example, not all workers are sure which investigations require risk assessment and when risk assessments should be completed. Some workers found some definitions unclear. For example, some APSWs were unsure which prior investigations should be counted when responding to the prior investigations item on the risk assessment.

Some participating APSWs expressed confusion about the risk-based case opening guidelines. Most APSWs were not sure what to do when they wanted to open a case for alleged victims classified as

low risk or not provide ongoing services for alleged victims classified as moderate or high risk; they asked for a way to document the reason(s) for their case action decisions. Some workers and supervisors said that contact standards are not attainable with current workload conditions, noting vacancy rates in several offices.

A review of 69 APS cases showed a majority of workers complete assessments according to policy (i.e., for the correct cases and within the required timeframe). APSWs provided documentation of imminent danger factors identified after the first face-to-face contact on the safety assessment, and assessment scoring was consistent with case file narrative in 83.6% of cases reviewed. Workers were less likely to consistently document risk factors. Documentation of risk factors on the risk assessment and the case file was consistent in fewer than half (45.6%) of cases. In most cases, items were marked on the risk assessment but were not supported in the case file. It is important to note that only limited case file information was available for review; risk factors could have been well-documented in case file materials not available to researchers.

To help determine if the risk assessment was functioning as intended, a profile was created of alleged victims with risk assessments completed for investigations that began between August 1 and October 31, 2010. The profile showed that completion of the risk assessment in practice resulted in more alleged victims being classified as low risk relative to the 2010 risk assessment validation study. During the observation period, 43.7% of alleged victims were classified as low risk (before overrides) compared to 32.2% in the risk study sample. APSWs exercised risk level overrides in 9.7% of cases; overrides were used to decrease the risk level in 76.9% of those investigations, resulting in even more alleged victims being classified as low risk after overrides (48.0%).

Findings from the focus groups, surveys, and case review also suggested workers are not using the risk assessment classification to guide decisions about case opening. Policies and procedures recommend opening a case for alleged victims classified as moderate or high risk, regardless of finding,

and closing low-risk investigations unless unresolved threats to safety exist at the end of the investigation. The case opening guidelines outline exceptions to these recommendations (see Appendix A of this report). For example, under BEAS policy, an APS protective case cannot be opened for alleged victims with unfounded allegations. An adult in-home case may be opened, but only if the alleged victim is income-eligible. These alleged victims may be referred for community-based services, but those referrals do not result in an open APS case. Additionally, if an alleged victim refuses services, the worker will close the case and no services are provided.

APSWs opened or continued a case for 31.1% of the low-risk, 28.4% of the moderate-risk, and 29.2% of the high-risk, founded investigations. APSWs opened or continued a case for 1.2% of the low-risk and 9.6% of the moderate-risk, unfounded investigations. None of the high-risk, unfounded investigations were opened for ongoing services (Table 10).

Table 10

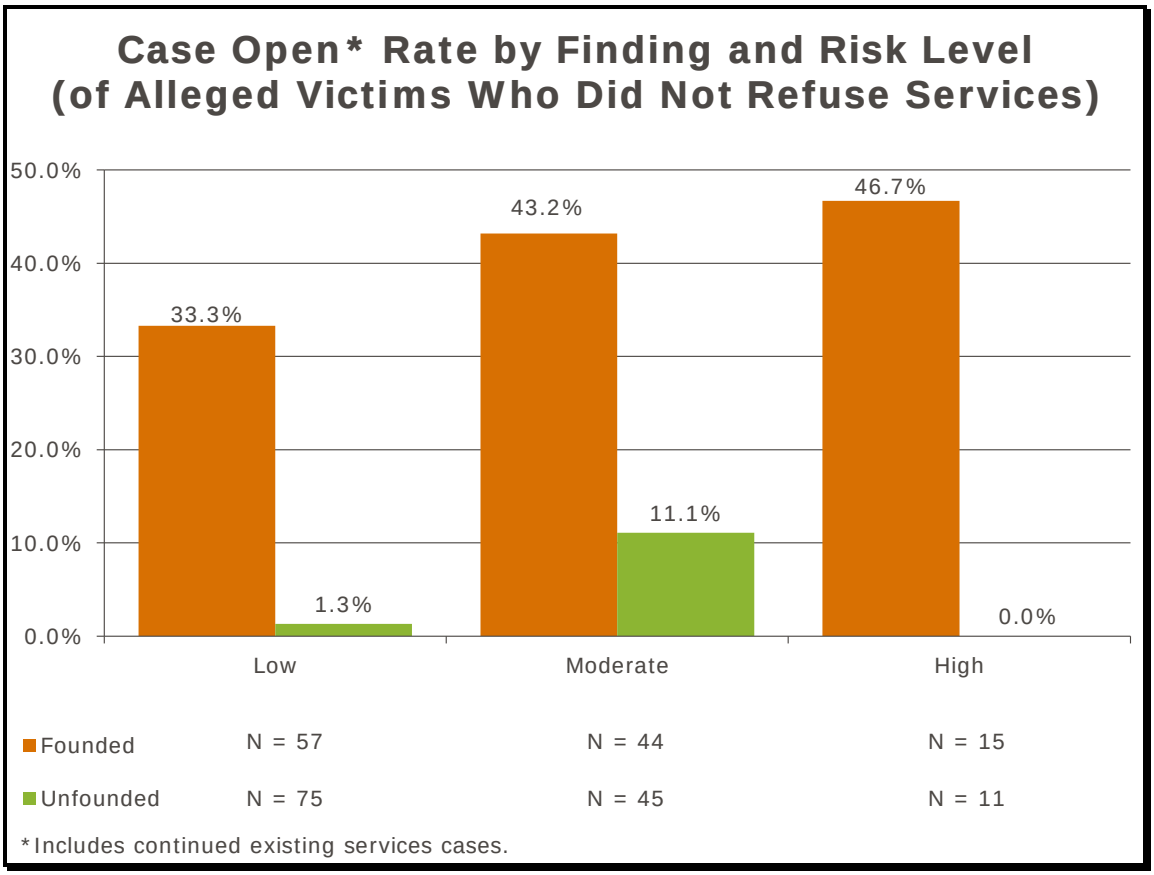
Case Action by Finding and Risk Level

Risk Level	Case Action						Total	
	Open/Continue Case		Alleged Victim Refused Services		No Case Opened			
	N	%	N	%	N	%	N	%
Founded Investigations								
Low	19	31.1%	4	6.6%	38	62.3%	61	100.0%
Moderate	19	28.4%	23	34.3%	25	37.3%	67	100.0%
High	7	29.2%	9	37.5%	8	33.3%	24	100.0%
Total	**45**	**29.6%**	**36**	**23.7%**	**71**	**46.7%**	152	100.0%
Unfounded Investigations								
Low	1	1.2%	8	9.6%	74	89.2%	83	100.0%
Moderate	5	9.6%	7	13.5%	40	76.9%	52	100.0%
High	0	0.0%	2	15.4%	11	84.6%	13	100.0%
Total	**6**	**4.1%**	**17**	**11.5%**	**125**	**84.5%**	148	100.0%

When investigations resulting in alleged victims' refusal were removed from the analysis, the case opening rate increased for moderate- and high-risk investigations, particularly those with founded allegations. APSWs opened or continued an existing case for 43.2% of moderate-risk, founded investigations and 46.7% of high-risk, founded investigations.

Case open rates were much lower for unfounded investigations. Only 11.1% of moderate-risk, unfounded investigations and none of the high-risk, unfounded investigations resulted in an open case (Figure 2). Subsequent discussions showed this was primarily the result of funding restrictions and a lack of funding for serving individuals with unfounded allegations.

Figure 2



C. Summary of Findings

The process evaluation showed a majority of APSWs and supervisors complete assessments as required, and many understand the model. Some staff, however, expressed confusion about the purpose of the assessments, particularly the risk assessment, and indicated the assessments have not changed practice. In addition, multiple data sources indicated the fidelity with which the decision-support system is implemented varies by APSW and/or regional office.

The process evaluation identified a number of ways to strengthen assessment implementation, which were subsequently pursued by BEAS and NCCD staff. First, BEAS managers and NCCD staff made clarifying changes to some risk assessment items and definitions. Second, BEAS managers scheduled a series of regional site visits to follow up with APSWs and supervisors, engage in discussions to increase staff understanding of the risk assessment's purpose and limitations, and discuss how assessment information can be used to inform practice. BEAS managers took additional steps to help strengthen implementation. At regularly scheduled supervisor meetings they reviewed the role of the decision-support system (i.e., as complementary to rather than as a replacement for clinical judgment), the purpose and policies regarding completion of each assessment, and ways in which supervisors can reference assessment findings during case staffings to reinforce their relevance to case decisions made by workers. BEAS regularly monitors practice using aggregate data and has an active quality assurance team to help support workers in their practice. Agency staff incorporated assessment completion and relevance to case decisions into existing quality assurance efforts. During site visits and related work, BEAS managers identified a number of ways workers used risk information to inform their decision making—such as making an additional contact during an investigation—and then shared these practice approaches with other staff. At presentations to the 2010 National Association of States United for Aging and Disabilities conference and the 2011 National Adult Protective Services Association conference, BEAS staff cited examples of supervisors going back to investigators who had submitted

high-risk client cases for closure in order to strategize creative and alternative ways to make one additional attempt to engage the client in ongoing services. This sometimes resulted in a different approach to service intervention by more thoroughly assessing the client's motivation to decline services or sending a different investigator out. This illustrates the value of client risk knowledge on supervisor and caseworker decision making, resulting in higher rates of successful engagement of high-risk clients who otherwise would not receive services.

Third, BEAS staff examined the availability of resources, including an assessment of staff workload, to identify whether contact standards associated with risk level were attainable, how best to serve high-risk individuals, and whether additional changes in practice (e.g., change in contact standard expectations) were needed. BEAS managers also began exploring additional funds to enable the provision of services for individuals who are identified as high risk but are not eligible for existing services because reported allegations were not confirmed and their income is higher than existing criteria.

These efforts to clarify the objectives, policies, and procedures of the decision-support system and their application to decisions made by APS workers on a daily basis should improve implementation, which in turn should increase the likelihood that use of the assessment has a positive impact on client outcomes.

APS Protection Intake

Female coworker of Kellen Swanson, a 19-year-old developmentally disabled male, calls to report suspected maltreatment.

Caller reports Kellen lives with his mother. While waiting for his ride home today, Kellen disclosed that when he gets home he is usually sent to his room. Kellen went on to explain that he has to stay in his room until his mother "lets him out," which sometimes is not until the next morning. According to the caller, Kellen has stated in the past that he does not have friends because his mother yells and "friends make messes."

On several occasions in the past when this coworker called Kellen's home to inquire about switching shifts, a female assumed to be Kellen's mother answered, each time stating plainly that Kellen is unable to come to the phone.

There is a prior history of suspected neglect documented by CPS in 2001, but the claim went unsubstantiated.

V. VALIDATING THE ACTUARIAL ASSESSMENT FOR APS WORKERS

The last stage of the grant involved testing the constructed risk assessment to determine its predictive validity. The population for which the assessment is validated is the same as the one referenced for assessment construction—individuals reported to BEAS in New Hampshire as potential victims of maltreatment—which means this is a temporal rather than external validation (Altman & Royston, 2000). The following section describes the methods used to validate the actuarial assessment, and is followed by a review of the findings.

A. Validation Study Methods

The validation sample consisted of 1,064 unique individuals investigated for allegations of maltreatment in New Hampshire between September 2011 and April 2012. As mentioned previously, this sample is similar to the construction sample, but involves a later cohort of individuals reported to the agency. As with the construction sample, if a client had more than one investigation during the sample period, the first investigation was selected for the sample. Data describing subsequent APS outcomes were observed for each client during a standardized follow-up period of 12 months after their sample report. (Note: The construction sample used a six-month follow-up period.) Outcomes were the same measures used in the construction study: investigated reports of allegations of self-neglect or maltreatment by another person, and confirmed findings of maltreatment during the follow-up period. Measures—such as maltreatment type(s) alleged and confirmed, client and perpetrator demographics, and information describing whether services were arranged or refused—were obtained from the data collection system and Options, New Hampshire's data management system.

The methods for the validation study differed from those of the construction study in two ways. First, the follow-up period was longer (12 months versus six months). Second, calculation of the follow-up period differed slightly. When conducting the construction study, a number of investigations were open for an extended period of time. Given the length of investigations, the follow-up period began 30

days following the index report date. In the validation study, the follow-up period began on the day the investigation closed. This methodology more closely mimics risk completion in practice, since risk assessments are to be completed at the end of investigations, prior to a case action decision.

A majority (70.7%) of the 1,064 sampled individuals were 60 years of age or older (Table 11). Only 29.3% were under the age of 60. Nearly two thirds (60.1%) of clients were female and 39.6% were male. Only 6.3% of the 1,064 sampled clients were identified as developmentally disabled. Nearly half (44.7%) of clients were living alone in their own homes at the time of the sample incident, and 17% were living in their own home with someone else (e.g., spouse, relatives, friends).

Table 11

Characteristics of Sampled Clients
Outcomes by Characteristics of Sampled Clients

Client Characteristics		Sample Distribution		Outcomes During the One-Year Follow-Up Period	
		N	%	Investigation	Founded Investigation
TOTAL SAMPLE		**1,064**	**100.0%**	**16.8%**	**9.7%**
Age Range	18–59	312	29.3%	15.1%	9.3%
	60–69	175	16.4%	20.6%	13.1%
	70–79	234	22.0%	20.9%	11.5%
	80–89	283	26.6%	14.1%	7.4%
	90–99	58	5.5%	12.1%	5.2%
	Above 100	2	0.2%	0.0%	0.0%
Race/Ethnicity	Caucasian	1,001	94.1%	16.2%	9.6%
	Hispanic	9	0.8%	22.2%	11.1%
	African American	8	0.8%	25.0%	0.0%
	Asian/Pacific Islander	4	0.4%	25.0%	25.0%
	Native American	2	0.2%	0.0%	0.0%
	Multiple Races/ ethnicities	2	0.2%	50.0%	0.0%
	Other	3	0.3%	0.0%	0.0%
	Missing/not provided	35	3.3%	31.4%	14.3%
Gender	Female	639	60.1%	16.7%	8.8%
	Male	422	39.7%	17.1%	11.1%
	Unknown	3	0.3%	0.0%	0.0%
Developmental Disability	No/unknown	997	93.7%	16.6%	9.7%
	Yes	67	6.3%	19.4%	9.0%
Living Arrangement	Alone in own home	476	44.7%	16.4%	11.1%
	Own home with spouse/partner	182	17.1%	14.8%	9.3%
	Own home with relatives	162	15.2%	20.4%	7.4%
	In relative's home	134	12.6%	15.7%	6.0%
	Public housing	26	2.4%	19.2%	15.4%
	In friend's home	24	2.3%	8.3%	8.3%
	Own home with friends	22	2.1%	27.3%	13.6%
	Homeless	18	1.7%	16.7%	5.6%
	Other	20	1.9%	20.0%	15.0%

As was true for the construction sample, the majority (68.1%) of sampled individuals were referred to BEAS for self-neglect (Table 12). Approximately one third (31.9%) were referred for some type of maltreatment by another individual; 12.3% for emotional abuse, 8.3% for neglect by another person, 11.1% for financial exploitation, 6.3% for physical abuse, and 0.8% for sexual abuse. Among the 1,064 individuals, 44.2% had self-neglect allegations confirmed and 7.4% of clients were confirmed for maltreatment by another person. Of the sample investigations, 18% were opened for services (or kept open for services), and 18.6% of sample individuals were offered, but refused, services.

Table 12

Characteristics of Sample Intakes
Outcomes by Characteristics of Sample Intakes

Sample Intake Characteristics		Sample Distribution		Outcomes During the One-Year Follow-Up Period	
		N	%	Investigation	Founded Investigation
TOTAL SAMPLE		**1,064**	**100.0%**	**16.8%**	**9.7%**
Allegations*	Self-neglect	725	68.1%	17.2%	11.7%
	Emotional abuse	131	12.3%	18.3%	5.3
	Neglect by another person	88	8.3%	14.8%	2.3
	Exploitation	118	11.1%	14.4%	7.6
	Physical abuse	67	6.3%	16.4%	4.5%
	Sexual abuse	8	0.8%	12.5%	12.5%
Allegation Type*	Maltreatment by another person	339	32.0%	15.9%	5.3%
	Self-neglect	725	68.1%	17.2%	11.7%
Findings by Allegation	Emotional abuse	27	2.5%	18.5%	7.4%
	Exploitation	33	3.1%	12.1%	6.1%
	Neglect by another person	16	1.5%	12.5%	0.0%
	Physical abuse	9	0.8%	22.2%	0.0%
	Sexual abuse	2	0.2%	0.0%	0.0%
	Self-neglect	470	44.2%	17.2%	12.3%
Findings by Allegation Type	Maltreatment by another person	79	7.4%	15.2%	5.1%
	Self-neglect	470	44.2%	17.2%	12.3%
Case Opening Decision**	Open new case	154	14.5%	14.9%	8.4%
	Continue existing case	37	3.5%	21.6%	16.2%
	Case close	678	63.7%	15.2%	7.8%
	Client refused services	198	18.6%	23.2%	15.7%

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

**Each report/investigation stemming from one intake receives a separate case action decision; therefore, more than one case action may have been recorded for each intake in the sample.

Overall, during the one-year follow-up period, 16.8% of the sampled individuals were re-investigated for alleged maltreatment or self-neglect, and 9.7% were confirmed as mistreated. Among the entire sample, 11.0% of individuals were re-investigated for allegations of self-neglect, and 8% were confirmed for self-neglect during the standardized, one-year follow-up period. A lower proportion of individuals (6.2%) were re-investigated for abuse and/or neglect, and 2.0% were confirmed for subsequent abuse/neglect during the follow-up period.

Methods of analyses were similar to those used to evaluate performance of the constructed risk assessment. The accuracy of scored risk classifications was examined by assessing the proportion of individuals with subsequent maltreatment reports by risk classifications. The following section reviews findings for both the self-neglect and maltreatment-by-another-person indices and for the overall risk classification, which is the higher of the two scored risk classifications.

B. Validation Study Findings

The actuarial assessment performed well when classifying individuals by the likelihood of future self-neglect allegations (Table 13). An increase in consecutive risk levels corresponded to at least a 60% increase in the proportion of families re-investigated or confirmed in the future for self-neglect.

Table 13

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

Self-Neglect Risk Level	Sample Distribution		Outcomes During the 12-Month Follow-Up Period	
	N	%	Self-Neglect Investigation	Self-Neglect Finding
Low	586	55.1%	8.2%	4.8%
Moderate	394	37.0%	14.0%	10.9%
High	84	7.9%	22.6%	16.7%
Total Sample	**1,064**	**100.0%**	**11.5%**	**8.0%**

The neglect/abuse by another risk index did not perform as well. Most sample individuals were classified as low risk (68.1%), and very few (4.1%) were classified as high risk (Table 14). The remaining 27.3% were classified as moderate risk.

The risk of maltreatment index distinguished well between low-risk and higher-risk classifications, but did not perform as well in distinguishing high- and moderate-risk individuals. Among individuals classified as low risk for abuse/neglect by another individual, 4.1% were re-investigated during the one-year follow-up period, compared to 11.0% of moderate-risk and 9.0% of high-risk individuals. Results were similar when the outcome was subsequent founded maltreatment perpetrated by someone else.

An item analysis of the risk of maltreatment index showed two thirds of the items had a significant relationship with subsequent allegations of harm. Among the remaining items, a number have a theoretical relationship to abuse that was not empirically validated in this study (domestic violence, has perpetrated violence in the past). Some items, such as an alleged victim's past history of perpetrating maltreatment, were scored infrequently, which may have impacted significance of the relationship to outcomes (see Appendix F for detailed information).

Table 14

Current Risk of Maltreatment Classification by Maltreatment Outcomes

Maltreatment Risk Level	Sample Distribution		Outcomes During the 12-Month Follow-Up Period	
	N	%	Maltreatment Investigation	Founded Maltreatment
Low	729	68.5%	4.1%	1.6%
Moderate	291	27.3%	11.0%	2.7%
High	44	4.1%	9.1%	2.3%
Total Sample	**1,064**	**100.0%**	**6.2%**	**2.0%**

As mentioned previously, the overall classification—the higher of the risk levels assigned by the indices—establishes a risk level that estimates the likelihood of subsequent maltreatment of any kind

(i.e., either self-neglect or abuse/neglect by another person). When completed at the end of an investigation, workers scored the tool and classified 42.5% of BEAS clients as low risk (Table 15), slightly more (46.4%) as moderate risk, and 11.1% as high risk.

Among clients classified as low risk, 13.1% were re-investigated during the follow-up period, compared to 19.0% of moderate- and 22.0% of high-risk individuals. When the outcome was subsequent founded or confirmed allegations of harm, an increase in risk also corresponded to an increase in the proportion experiencing confirmed maltreatment, although the differences were not significant.

Table 15

Overall Risk Classification by Subsequent Harm

Overall Risk Level	Sample Distribution		Outcomes During the One-Year Follow-Up Period	
	N	%	Investigation	Founded Allegation
Low	452	42.5%	13.1%	7.7%
Moderate	494	46.4%	19.0%	10.5%
High	118	11.1%	22.0%	13.6%
Total Sample	**1,064**	**100.0%**	**16.8%**	**9.7%**

1. Overall Risk Classification Findings by the Sample Investigation Disposition

A greater proportion of clients with a sampled founded investigation were classified as high risk than were clients with unfounded allegations (Table 16). Among clients with founded allegations at the time of the sample investigation, 33.0% were classified as low risk, 52.6% as moderate risk, and 14.4% as high risk. Among clients with unfounded allegations at the time of sampling, 52.6% were classified as low risk, 39.8% as moderate risk, and 7.6% as high risk.

The risk assessment performed similarly regardless of allegation findings when distinguishing between low- and higher-risk individuals; but among individuals with founded allegations, it did not

distinguish well between moderate- and high-risk individuals. Among clients with a founded sample investigation, 12.2% of low-risk clients were re-investigated for either self-neglect or maltreatment, compared to 19.4% of moderate-risk and 19.0% of high-risk clients. Among clients with unfounded sample investigations, 13.7% of low-risk clients, 18.5% of moderate-risk clients, and 28.2% of high-risk clients were re-investigated during the standardized one-year follow-up period. Findings were similar when the outcome was subsequent confirmation of findings.

Table 16

Overall Risk Classification Outcomes by Investigation Disposition

Overall Risk Level	Sample Distribution		Outcomes During the Follow-Up Period	
	N	%	Investigation	Founded Investigation
Total Sample	**1,064**	**100.0%**	**16.8%**	**9.7%**
Founded Investigation				
Low	181	33.0%	12.2%	9.4%
Moderate	289	52.6%	19.4%	12.1%
High	79	14.4%	19.0%	12.7%
Total Founded	**549**	**100.0%**	**16.9%**	**11.3%**
Unfounded Investigation				
Low	271	52.6%	13.7%	6.6%
Moderate	205	39.8%	18.5%	8.3%
High	39	7.6%	28.2%	15.4%
Total Unfounded	**515**	**100.0%**	**16.7%**	**8.0%**

2. Overall Risk Classification Findings by Age

The actuarial risk assessment performed similarly when classifying adults by elder status (60 years of age or more). Slightly more individuals ages 60 or older classified as moderate or high risk (Table 17). Among those 60 years of age or older, 40% classified as low risk, compared to 48.4% of individuals under age 60 (Table 16). Regardless of age, an increase in risk classification corresponded to

an increase in the proportion re-investigated or confirmed for maltreatment during the one-year follow-up period. The increases, however, were not always significant.

Table 17

Risk Classification Outcomes by Age

Overall Risk Level	Sample Distribution		Outcomes During the Follow-Up Period	
	N	%	Investigation	Founded Investigation
Total Sample	**1,064**	**100.0%**	**16.8%**	**9.7%**
60 or Older				
Low	301	40.0%	14.6%	8.3%
Moderate	362	48.1%	19.1%	10.5%
High	89	11.8%	21.3%	12.4%
Total 60+	**752**	**100.0%**	**17.6%**	**9.8%**
Under 60				
Low	151	48.4%	9.9%	6.6%
Moderate	132	42.3%	18.9%	10.6%
High	29	9.3%	24.1%	17.2%
Total < 60	**312**	**100.0%**	**15.1%**	**9.3%**

C. Comparison of Risk Assessment Performance

The purpose of a validation study is to measure an actuarial assessment's performance on a population that differs from the one used to construct the tool. Classification results will be the most robust for the sample from which the assessment was constructed. Validating the scale on a separate population provides a reasonable approximation of how a risk assessment will perform when actually implemented. The ability of a risk assessment to classify families by maltreatment outcomes is expected to decrease somewhat when the risk assessment is applied to samples other than the construction sample. The amount of classification power lost from construction to validation sample is called shrinkage, and is normal and expected.[4]

[4] See Silver, E., Smith, W., & Banks, S. (2000). Constructing actuarial devices for predicting recidivism. *Criminal Justice and*

As expected, the risk assessment performed better when classifying individuals in the construction sample compared to those in the 2011 validation sample (Table 18). For individuals in the construction sample, the risk assessment classified families such that an increase in risk corresponded to an 80.0% or more increase in the outcome rate across all maltreatment outcomes observed. For individuals in the validation sample, an increase in the risk level corresponded to an increase of 20 to 45%.

Table 18

Overall Risk Classification Outcomes by Study Sample

Construction Sample Risk Classification	Sample Distribution		Outcomes During Six-Month Standardized 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%**
2011 Validation Sample Risk Classification	**Sample Distribution**		**Outcomes During 12-Month Standardized Follow-Up Period**	
	N	**%**	**Investigation**	**Founded Allegation**
Low	452	42.5%	13.1%	7.7%
Moderate	494	46.4%	19.0%	10.5%
High	118	11.1%	22.0%	13.6%
Total Sample	**1,064**	**100.0%**	**16.8%**	**9.7%**

The actuarial risk scores (derived from summing client risk factors) can be compared by estimating the ***receiver operating characteristics (ROC) curve***. The ROC curve tests diagnostic accuracy by plotting the true positive rate (sensitivity) and true negative rate (1 – specificity) for each risk score (Zweig & Campbell, 1993). In other words, the ROC curve represents the range of sensitivities and specificities for a test score. The area under the ROC curve (AUC) can be used as a single measure

Behavior, *29*(5), 733–764. See also Altman, D., & Royston, P. (2000). What do we mean by validating a prognostic model? *Statistics in Medicine*, *19*, 453–473.

to compare curves (Liu, Li, Cumberland, & Wu, 2005; Zweig & Campbell, 1993). It roughly represents the probability that the value of a positive case (future maltreatment) will exceed the value of a negative case (no future maltreatment).

The AUC score for classification in validation sample is 12 to 18% lower than the score for construction sample (Table 19). The AUC scores for both samples, however, were significantly greater than chance (i.e. significantly different from .5).

Table 19

Comparing Risk Functions Using Area Under the ROC Curve Statistics

Risk Classification by Allegation Type	AUC	SE
Construction Sample		
Self-neglect score relative to subsequent allegations of self-neglect	.74	.04
Maltreatment score relative to subsequent allegations of maltreatment	.74	.05
2011 Validation Sample		
Self-neglect score relative to subsequent allegations of self-neglect	.65	.03
Maltreatment score relative to subsequent allegations of maltreatment	.61	.04

The area under the ROC curve is a limited measure, however, primarily because it does not speak to the distribution of individuals by risk classification. In other words, it is possible to have a high AUC and a risk classification with the majority of people classified as moderate risk. In addition, the AUC, like other measures of predictive accuracy that assume a dichotomous decision, has limited applicability for measures with more than two classification categories.

When three or more groups are defined, the ***Dispersion Index for Risk (DIFR)*** is a better measure of risk assessment accuracy (Silver & Banks, 1988). 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 better measure of the efficacy of a multi-level classification system. The DIFR formula is:

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

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.[5]

Comparing the DIFR scores shows the risk assessment did not classify families in the validation sample with the same distinction between categories as what was achieved for the construction sample (Table 20). Essentially, the difference in average rates of recurrence from low- to high-risk was much greater for the construction sample compared to that of the validation sample.

Table 20

Dispersion Index for Risk (DIFR) by Subsequent Maltreatment Outcomes for the Construction and 2011 Validation Samples

Sample Group	Sample Size	DIFR Index for Outcomes			
		Investigation, Any Allegation		Maltreatment Confirmation	
Construction	763	.56	5.2–23.9	.71	2.0–14.7
Validation 2011	1,064	.24	13.1–22.0	.22	7.7–13.6
Change in DIFR Score		-.32		-.49	

[5] The limitations of the DIFR are:

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).

D. Summary of Findings

Results showed the actuarial risk assessment can classify individuals by the likelihood of future harm, alleged and confirmed. The self-neglect index of the risk assessment accurately classified individuals by the likelihood of future self-harm. The risk of abuse/neglect distinguished low-risk individuals from those at higher risk, but did not distinguish well between high- and moderate-risk individuals. Additional research is recommended to strengthen the actuarial assessment's predictive capabilities.

A number of factors may help explain why the maltreatment index is not performing as well as it did in the construction sample. First, the proportion of sampled individuals who experienced subsequent allegations of abuse/neglect by another individual during the standardized, one-year follow-up period was 5 to 6%, and the proportion with subsequent maltreatment allegations confirmed was 2%. As mentioned previously, it is difficult to accurately predict events with very low base rates. In addition, the proportion of individuals classified as high risk was very small (4%), and the proportion classified as low risk very large (68%).

Some maltreatment index items had lower than average inter-rater reliability, which may have adversely impacted its predictive abilities. The two questions with lowest reliability sought information about the primary support person's training and ability to provide care to the alleged victim and the primary support person's expectations of the alleged victim. Additionally, qualitative feedback indicated workers sometimes differed in whether or not they identified a primary support person, and, if so, who that person was. It may be that collecting information about the alleged perpetrator would result in more consistency and more predictive risk factors. It is also possible that the maltreatment index combines distinctly different types of maltreatment that have different risk factors. For example, a recent cross-sectional study found risk factors differed only for cases of financial exploitation, compared to cases involving multiple forms of elder maltreatment (Jackson & Hafemeister, 2011).

However, the feasibility study and Phase I longitudinal study showed some characteristics were significantly related to recurring maltreatment when aggregated across types. Recurrence of specific maltreatment types will have even lower base outcome rates, however, and actuarial risk assessment specific to maltreatment types may require alternative methodological approaches. Testing alternative risk assessment methodologies and identifying additional empirical risk factors may improve the maltreatment index performance and should be explored in future studies.

Practical use of the risk assessment in the field by workers varied, and this variation may have impacted validity findings. For example, the number of days an investigation was open, based on administrative data, ranged from less than 10 days to more than 90 days. This may be related to variation in the depth of the assessment conducted and the amount and accuracy of information obtained. The point at which the risk assessment was completed during the investigation varied among workers. Some completed the risk assessment mid-investigation, some prior to investigation close, and some completed it after the close of the investigation. The latter may suggest workers were completing the risk assessment as documentation, rather than completing the risk assessment to inform decision making.

An item analysis of the risk of maltreatment index showed two thirds of the items had a significant relationship with subsequent allegations of harm. Among the remaining items, a number have a theoretical relationship to abuse that was not empirically validated in this study (domestic violence, has perpetrated violence in the past). Some items, such as an alleged victim's past history of perpetrating maltreatment, were scored infrequently. Research identifying additional empirical risk and protective factors related to future maltreatment of adults is needed to improve an actuarial assessment's ability to estimate with greater specificity the likelihood of future abuse or neglect by another individual.

The sampled individuals were reported for either self-neglect OR maltreatment by another person at the time of the sample incident. However, of the 724 reported and sampled for alleged self-neglect, 54 (7.5%) had a prior investigation for maltreatment and 2.5% had a subsequent investigation for maltreatment. Conversely, among the 341 clients with index investigations for maltreatment, 46 (13.5%) were previously investigated for self-neglect and 2.1% were subsequently investigated for self-neglect. A longitudinal study with an extended, multi-year follow-up period may show additional fluctuations between self-neglecting behaviors and victimization by others. This has implications for use of the tool in preventing harm to vulnerable adults. Research on community-based factors suggests interventions for one type of harm may put the individual at risk for another type. For example, an individual's self-neglect may be remedied by establishing daily in-home visitations, but this increases one's likelihood of abuse and/or neglect by someone else. In other words, self-neglecting behaviors are a risk factor for abuse and/or neglect by another individual. The risk assessment classified individuals by the likelihood of self-neglect reasonably well, and if preventing self-neglect also reduces one's risk of being victimized, then use of the risk assessment could potentially reduce the likelihood of future maltreatment as well as self-neglect.

APS Protection Intake

Call received from Brian Holton, uncle of Kevin Jordan, a 20-year-old male who suffers from autism, severe developmental disability, and mild psychosis.

Mr. Holton reports that though Kevin lives with his parents, Casey and Jennifer Jordan, they do not provide him with necessary medications or transportation to receive physical health services. Physical therapy is scheduled for twice weekly and Kevin has only attended once in the last two months. A prescription for Risperdal, an antipsychotic medication, is more than three months overdue for refill.

The uncle is also concerned that Kevin is being left under the supervision of friends of the parents known to have abused and mistreated him in childhood. For now, Mr. Holton is allowing Kevin to live in his home and is providing transportation and appropriate care, but ultimately wants Kevin returned to his parents after the issues in their home have been addressed and resolved.

VI. CONCLUSIONS

To fully understand the risk assessment's potential validity and utility in practice, it is important to view the research findings in aggregate. This section first summarizes key findings of the research conducted under this grant, then reviews practice implications and suggestions for future research.

A. Discussion of Findings

The NIJ awarded NCCD a grant in 2008 to partner with BEAS in developing an actuarial risk assessment that could be completed by workers to inform their decisions related to risk of future harm. Phase I work, a longitudinal study of individuals reported for maltreatment or self-neglect, resulted in an actuarial risk assessment—composed of client characteristics related to subsequent elder maltreatment—that BEAS workers complete to estimate the likelihood of future elder maltreatment and/or self-neglect. The study sampled 763 unique clients investigated for allegations of self-neglect or maltreatment between March 1 and September 30, 2009. Each individual assessed for threats of harm was observed for a standardized six-month period to observe subsequent reports to BEAS (the available measure of maltreatment).

The final risk level provided to caseworkers is based on the higher of the two risk levels resulting from scoring of the indices—one for maltreatment perpetrated by another person and one for self-neglect. The resulting risk classification corresponded to significant increases in the proportion of individuals experiencing that outcome. 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; an increase in risk level corresponded to a significant increase in the proportion of individuals with subsequent confirmed abuse/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.

The actuarial risk factors demonstrated high inter-rater reliability. Twenty-four APS workers read and scored the risk assessment for three investigation vignettes altered to protect individual identities. All items had an average percent agreement of 75% or higher, and most were 85% or higher. One area of difference highlighted in subsequent practice improvement efforts was that workers sometimes differed in the identification of a primary support person providing care. Overall, the risk assessment tool items and definitions demonstrated strong inter-rater agreement, and findings suggest that completing the tool could help improve the consistency of worker scoring.

NCCD and BEAS staff conducted a process evaluation three months post-implementation to measure implementation fidelity and identify ways to strengthen practice. NCCD researchers collected information through feedback from APSWs and APS supervisors, a review of APS case files, and analysis of electronically available assessment and investigation data. The study showed implementation fidelity and workers' perceived utility of the actuarial tool varied by region. BEAS managers and supervisors initiated a number of practice improvement efforts as a result of the process evaluation and reliability studies. These included regional site visits to review cases collaboratively, integrating practice and decision-support discussions into regular supervisory meetings, and facilitating information exchange across regions.

The last step in this research process was to validate the risk assessment with a one-year follow-up period to ensure it is accurately classifying adults by their likelihood of harm. Findings showed the risk assessment validly classifies individuals by the likelihood of future maltreatment, though additional research is needed to improve the actuarial assessment's predictive capabilities.

The self-neglect index of the risk assessment more accurately classified individuals by risk than did the risk of maltreatment index. A number of factors may help explain why the maltreatment by

another index is not performing as well as it did in the construction sample: The proportion of sampled individuals with subsequent abuse/neglect alleged or confirmed was low; completion and use of the risk assessment by caseworkers in the field varied, which could have impacted validity findings; and the study may have failed to measure important risk and protective factors that could have improved the classification abilities. Classification findings for the validation sample were not as robust as those of the construction sample, but they rarely are. Overall, results suggest the need for additional efforts to improve the classification abilities of an actuarial tool for workers to complete when making service allocation decisions.

B. Implications for Policy and Practice

Findings from this research suggest it is possible to construct a valid and reliable actuarial assessment that classifies individuals reported to APS by the likelihood of future maltreatment; however, additional research is needed to improve the classification abilities of the assessment. Results from qualitative research efforts suggest completing a validated actuarial risk assessment could be helpful to APS workers. Some workers, including those new to the job, reported finding the tool helpful. Supervisors reported they were beginning to consider risk in decisions about attempting to engage individuals refusing APS involvement (i.e., more varied efforts at re-engaging if high risk). This research indicates a strong need to continue developing research-based assessments for APS field staff and managers—specifically, to identify empirical risk and protective factors related to subsequent maltreatment, study how an actuarial risk assessment and other decision-support tools can help improve the accuracy and consistency of decisions made by APS caseworkers, and to better understand how effective practices can be disseminated.

Researchers and practitioners need to keep in mind two limitations of this research. First, the observed outcome, reported maltreatment, does not represent all adult maltreatment. Community-

based, prevalence studies indicate only a small proportion of actual maltreatment is reported (e.g., Lifespan of Greater Rochester, 2011). In addition, researchers were unable to measure outcomes such as criminal prosecution and/or placement of a perpetrator, placement of the victim, intensity and duration of services provided to clients, or death. This is true of both the construction and validation samples, but may have contributed to the lack of robustness observed in the predictive validity findings for the assessment.

The findings may or may not be generalizable to other jurisdictions. The research was conducted in New Hampshire, a primarily White, largely rural population with a low rate of recurrent abuse or neglect allegations among individuals reported for abuse/neglect. APS agencies may vary a great deal in their policies and procedures, availability of support services, variation in use of multidisciplinary teams and/or other evidence-based practices, and/or staff capabilities (skills and/or workload). Agencies may vary in the proportion of individuals re-reported for alleged maltreatment or self-neglect.

Despite these limitations, the results are compelling and suggest an actuarial assessment that classifies individuals by the likelihood of future harm could be helpful in ensuring the best use of limited resources, if tool performance can be improved. More research is needed to improve the classification abilities of the risk assessment, to ensure completing the tool is useful to line staff, and/or to ensure tools improve the consistency and accuracy of decisions made by field staff.

C. Implications for Further Research

A number of research options could be pursued to inform our understanding of risk of future harm. Longitudinal studies are needed to understand the dynamics of empirical risk and protective factors related to subsequent maltreatment over time, to test actuarial methods and determine if other

methodological approaches achieve better results when observed outcomes have low base rates, and to test the transferability of a validated actuarial assessment on other regions or populations.

In order to best understand the outcomes experienced by self-neglecting or maltreated adults, a comprehensive longitudinal study referencing data from across public service systems is needed. The current research was conducted without controlling for the impact of interventions. Subsequent death, placement in a different care environment, criminal action, or guardianship may or may not mitigate risks of harm. Such cross-systems research might help agencies in a given region consider collaborating to measure and monitor the effectiveness of efforts to prevent the harm of vulnerable adults. We know, for example, that a higher than average proportion of elders (Lachs, Wiliams, O'Brien, Pillemer, & Charleson, 1998) died or were institutionalized after an APS investigation.

Qualitative evidence suggests an actuarial tool can help increase the consistency of caseworker assessments; target limited resources on higher-risk individuals; and be useful to workers under some conditions, such as those new to the job. The research suggests conducting more research is worthwhile to explore how to improve the classification abilities of the actuarial assessment, to identify additional empirical risk and protective factors related to subsequent maltreatment, and study whether and how an actuarial risk assessment and other decision-support tools can help improve the accuracy and consistency of decisions made by APS caseworkers.

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DISSEMINATION OF RESEARCH FINDINGS

The primary means of dissemination to date consisted of the following conference presentations:

- 22nd Annual National Adult Protective Services Association conference, Buffalo, NY, September 2010. Kathy Park, NCCD, and Rachel Lakin, BEAS; "Evidence-based Assessment: Structured Decision Making® System in APS."

- 2010 National Association of States United for Aging and Disabilities conference. Kathy Park, "Developing a Research-Based Risk Assessment for APS Workers."

- 2011 Annual National Institute of Justice Conference, Arlington, VA, November 2011. Dennis Wagner and Kristen Johnson, NCCD; "Developing an Actuarial Risk Assessment for APS Workers."

- 2011 National Adult Protective Services Association conference, San Diego, CA, November 2011. Kathy Park, "Structuring Decision Making in APS."

We participated in the following webinar:

Elder Abuse Webinar Series: Innovative Research Partnerships: Building a Risk Assessment Tool for the N.H. Bureau of Elderly and Adult Services, Harvard Innovations Webinar, January 31, 2012, with Kristen Johnson, Rachel Lakin, and Kathleen Quinn. See http://www.innovations.harvard.edu/xchat-transcript.html?chid=372

Articles to submit for peer-reviewed publication are in progress. One article is currently being reviewed for resubmission to *Elder Abuse & Neglect*. A second article is in the process of being written.

Interim reports to BEAS have been posted to NCCD's website, to assist with dissemination efforts. Results of Phase I work were condensed into a *Focus* article and posted on our website:

- Park, K., Johnson, K., Flasch, S., and Bogie, A. (2010). *Structuring decisions made in adult protective services*. Madison, WI: NCCD. See http://nccdglobal.org/sites/default/files/publication_pdf/focus-adultprotectiveservices.pdf

- Johnson, K., Bogie, A., and Wagner, D. (2008). *Feasibility and design of an adult protective services risk validation study*. Madison, WI: NCCD. See http://nccdglobal.org/sites/default/files/publication_pdf/feasibilityofriskassessment.pdf

Appendix A

Risk Assessment Form and Item Analysis

NEW HAMPSHIRE BUREAU OF ELDERLY AND ADULT SERVICES
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 or two....1
- c. Three 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

Case Action Guidelines by Risk Level

The case action guidelines used by BEAS provide APSWs with a case action recommendation based on the final risk level. Regardless of determination (i.e., founded or unfounded), the guidelines recommend opening a case for all moderate and high risk investigations and not opening a case for low risk investigations. There are exceptions to the recommendation at each risk level. For example, moderate and high risk investigations may not result in an open case because the alleged victim may have refused services and/or services were not available based on determination and/or income level. Additionally, an APSW may open a case for a low risk alleged victim if imminent danger factors are still present in the household at the end of the investigation and/or the APSW's supervisor has approved an open case.

<table>
<tr><th colspan="4">Case Action Recommendation and Monthly Contact Standards by Risk Level</th></tr>
<tr><th>Risk Level</th><th>Case Action Decision</th><th>Exceptions</th><th>Monthly Contact Standards for Open Cases</th></tr>
<tr><td>Low</td><td>Case not opened

Includes all founded and unfounded investigations, except as noted under "exceptions"</td><td>Open if:
Founded or unfounded—continue active case
Supervisor approves APSW recommendation to open case
Imminent danger factors identified at the beginning of the investigation remain unresolved at the end of the investigation</td><td>If a case is opened or an active case is being continued:

One face-to-face contact with the client</td></tr>
<tr><td>Moderate</td><td rowspan="2">Case opened if:
Founded or unfounded—continue active case
Founded—open as APS case
Founded or unfounded—open as adult in-home
Imminent danger factors identified at the beginning of the investigation remain unresolved at the end of the investigation</td><td rowspan="2">Case not opened if:
Founded—refused services
Founded—problem resolved (referral to community services)
Unfounded—referral made (when the alleged victim is over income)</td><td>Two face-to-face contacts with the client
AND
One collateral contact</td></tr>
<tr><td>High</td><td>Three face-to-face contacts with the client
AND
Two collateral contacts</td></tr>
</table>

If a case is opened for ongoing services (either APS or adult in-home), the SDM risk level is used to guide the frequency of worker intervention, whereby alleged victims at greatest risk receive more intensive intervention (e.g., three face-to-face and two collateral contacts each month). Case workers can override these recommendations with supervisory approval and documented reasons.

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 or two	177	23.2%	11	6.2%			10	5.6%		
Three 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

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[6]; 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

[6] 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), 2386–2391.

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

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"[7]
☐	☐	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

[7] 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.

Appendix C

Assessments Composing the Decision-Support System

NEW HAMPSHIRE BUREAU OF ELDERLY AND ADULT SERVICES r: 07/24/08
ADULT PROTECTIVE SERVICES
SDM® INTAKE ASSESSMENT

Alleged Victim Name: _____

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

Report Date: _____/_____/_____ **Report Time:** _____:_____ a.m. / p.m.

SECTION 1. REPORT CRITERIA

Part A. Determination of APS Eligibility

Does the report involve:
☐ an adult thought to be incapacitated; or
☐ circumstances that *suggest* an adult may be incapacitated?

no → ☐ *Stop. Provide caller with information and referral. Refer to:*
☐ *Field D.O.*
☐ *ServiceLink*
☐ *Other:* _____

yes ↓
☐ *Proceed to Part B.*

Part B. Report Type(s)

Mark the applicable report type(s) based on whether the reported concerns meet report type criteria.

☐ Self-neglect: An act or omission by an incapacitated adult that **results or could result** in the deprivation of essential services or supports necessary to maintain his/her **minimum mental, emotional, or physical health and safety** (reference RSA 161-F:43 VI). Mark all that apply.

___ Alcohol and/or other drug misuse leading to health or safety concerns
___ Clothing or lack thereof that creates a health hazard
___ Dangerous behaviors
___ Dehydration or malnutrition
___ Poor hygiene resulting in health hazards
___ Hoarding behavior that results in a health or safety hazard
___ Inability/failure to take medications as prescribed or to seek treatment for an illness
___ Inability/failure to manage funds that results in utility shut-off, loss of shelter, or other negative consequences
___ Unsafe/unhealthy living conditions
___ Other (specify): _____

☐ Neglect by an Alleged Perpetrator: An act or omission that **results or could result** in the deprivation of essential services or supports necessary to maintain the **minimum mental, emotional, or physical health and safety** of an incapacitated adult (reference RSA 161-F:43 III). Use this category if there is a legal relationship, a formal or informal arrangement, or an established pattern of caregiving between the alleged victim and alleged perpetrator. If this does not exist, review self-neglect report type. Mark all that apply.

___ Refusal or failure to provide adequate supervision or physical care
___ Refusal or failure to provide or allow access to clothing, food, shelter/utilities:
___ clothing ___ food ___ shelter/utilities
___ Refusal or failure to assist in basic personal hygiene
___ Refusal or failure to arrange or provide access to prescribed medical treatment or prescribed medications for:
___ mental health needs ___ physical health needs
___ Other (specify): _____

☐ Emotional Abuse: The misuse of power, authority, or both; verbal harassment; or unreasonable confinement that **results or could result** in the mental anguish or emotional distress of an incapacitated adult (reference RSA 161-F:43 II(a)). Mark all that apply.

___ Chemical restraint
___ Harassing/demeaning remarks
___ Intimidating/threatening behavior
___ Threatening remarks
___ Unreasonable confinement
___ Other (specify): _____

☐ Physical Abuse: Use of physical force that **results or could result** in physical injury to an incapacitated adult (reference RSA 161-F:43 II(b)). Mark all that apply.

___ Attack with object
___ Bite
___ Burn
___ Kick
___ Pinch/grab/choke
___ Push/pull/shove
___ Strike
___ Other (specify): _____

☐ Sexual Abuse: Contact or interaction of a sexual nature involving an incapacitated adult **without his/her informed consent** (reference RSA 161-F:43 II(c)). Mark all that apply.

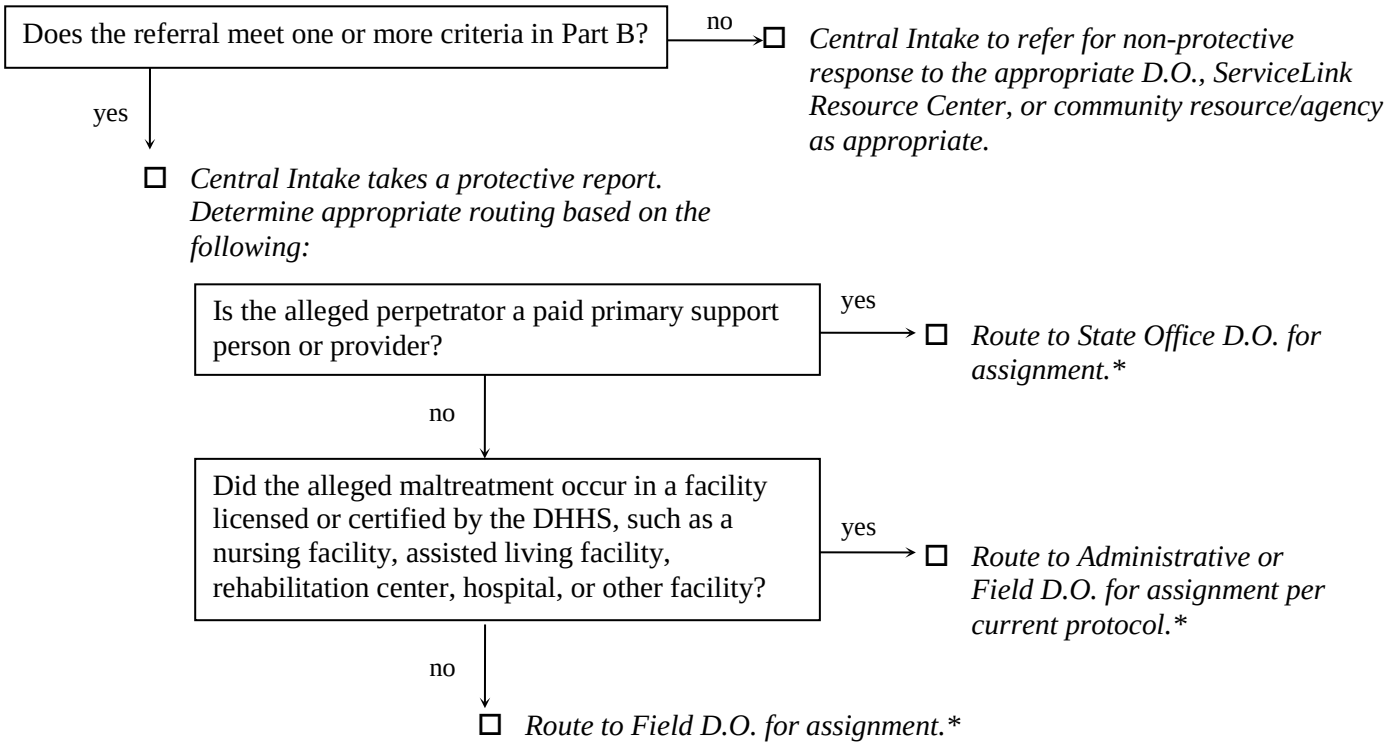
___ Exposure to sexual acts or materials
___ Physical contact of a sexual nature
___ Physical contact of a sexual nature involving an object
___ Sexual utilization of incapacitated adult for gratification of others
___ Other (specify): _____

☐ Exploitation: The illegal use of an incapacitated adult's person or property for another person's profit or advantage, or the breach of a fiduciary relationship through the use of a person or person's property for any purpose not in the proper and lawful execution of a trust, including but not limited to situations where a person obtains money, property, or services from an incapacitated adult **through the use of undue influence, harassment, duress, deception, or fraud*** (reference RSA 161-F:43 IV). Mark all that apply.

___ Appropriation, taking, hiding, or using an incapacitated adult's money, property, or other assets not on the behalf of the incapacitated adult
___ Failure or refusal to make available the property or assets of the incapacitated adult to him/her or his/her legal representative
___ Other (specify): _____

**This does not include fraud by a business. If this is the situation, follow protocol regarding making a referral to the Attorney General's office and local law enforcement.*

Part C. Intake Referral Decision
Answer each question "yes" or "no" until a recommended intake referral decision is reached.



* *Cross-report to law enforcement if the referral involves serious bodily injury and/or there is reason to believe a crime has been committed.*

Recommended Intake Referral Decision: ☐ Central Intake takes protective report. Report to be routed to:

☐ Field D.O. ☐ Administrative D.O. ☐ State Office D.O.

☐ Central Intake refers for non-protective response. Report to be referred to:

☐ Field D.O. ☐ ServiceLink ☐ Other: _____

☐ **Discretionary Override (reason):** _____

_____

Central Intake Worker: _____ Date: _____/_____/_____

Part D. Final Intake Referral Decision: ☐ Central Intake takes protective report. Report to be routed to:

☐ Field D.O. ☐ Administrative D.O. ☐ State Office D.O.

☐ Central Intake refers for non-protective response. Report to be referred to:

☐ Field D.O. ☐ ServiceLink ☐ Other: _____

Central Intake Supervisor: _____ Date: _____/_____/_____

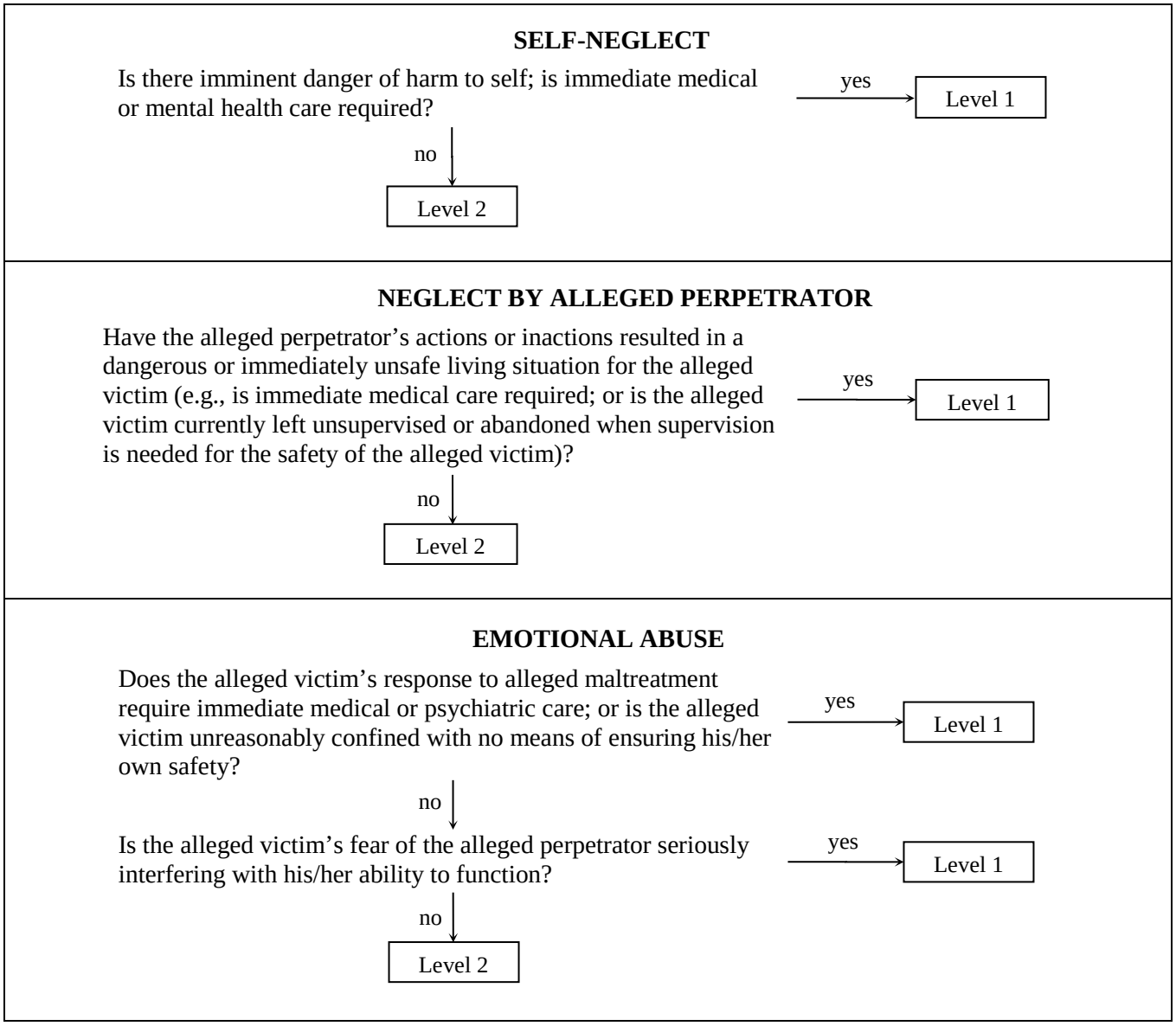
SECTION 2: RESPONSE PRIORITY FOR PROTECTIVE REPORTS

Part A. Response Priority Decision Trees

Complete the appropriate response priority decision tree(s) for each report type marked in Section 1, Part B. If the answer to a question is unknown, **answer in the most protective way.** Response priority levels are as follows:

Level 1 = Initiate investigation within 24 hours from receipt of the report that is recorded in the OPTIONS "Report date" field.

Level 2 = Initiate investigation within 72 hours from receipt of the report that is recorded in the OPTIONS "Report date" field.



PHYSICAL ABUSE

Are injuries evident or suspected? → yes → Level 1

no ↓

Is the alleged victim fearful; does the alleged perpetrator have access; or are there threats of imminent violence? → yes → Level 1

no ↓

Level 2

SEXUAL ABUSE

Do the reported allegations suggest that physical evidence needs to be obtained; does the report suggest a crime has occurred; does the alleged perpetrator have access; or does the alleged victim need immediate medical care? → yes → Level 1

no ↓

Level 2

EXPLOITATION

Are the alleged victim's resources being mismanaged or misappropriated to the extent that minimum needs for food, shelter, medical/health care, or supervision are not being met? → yes → Level 1

no ↓

Is there an immediate concern for preserving assets that are necessary for the alleged victim's current living arrangement? → yes → Level 1

no ↓

Level 2

Part B. Response Priority Assignment

Recommended Response Priority: ☐ Level 1 = Initiate investigation within 24 hours from receipt of the report

☐ Level 2 = Initiate investigation within 72 hours from receipt of the report

Policy Override to Level 2 From Level 1: ☐ The adult is in an alternative safe environment and is expected to remain there pending a Level 2 response.

☐ Discretionary Override: _____

Central Intake Worker: _____ Date: _____/_____/_____

Part C. Final Assigned Response Priority

☐ Level 1 = Initiate investigation within 24 hours from receipt of the report

☐ Level 2 = Initiate investigation within 72 hours from receipt of the report

OPTIONS Report ID#s: _____ _____ _____ _____

OPTIONS Individual ID#: _____

Central Intake Supervisor: _____ Date: _____/_____/_____

NEW HAMPSHIRE BUREAU OF ELDERLY AND ADULT SERVICES r: 07/24/08
ADULT PROTECTIVE SERVICES
SDM® SAFETY ASSESSMENT

Alleged Victim Name: _____ **Assessment Date:** _____/_____/_____

Report ID: _____ **Report Date:** _____/_____/_____

Initial Face-to-face Contact Date: _____/_____/_____ **Report Types** (circle all that apply): SA N PA EA EX S-N

Factors Influencing Vulnerability (Mark all that apply to the alleged victim):

___ The alleged victim is isolated.

___ Significant untreated suspected or diagnosed medical or mental health disorder, or alcohol or drug dependency.

___ Diminished cognitive functioning (e.g., dementia, developmental disability, delirium).

___ Diminished physical functioning (e.g., non-ambulatory, limited use of limbs, sensory disability).

SECTION 1: IMMINENT DANGER FACTORS

Assess the household/facility for each of the following factors that indicate the presence of imminent danger to the alleged victim. Answer yes or no for each factor based on all information known and available at the time of assessment completion.

Alleged Victim (Individual ID#: _____)

Yes No

☐ ☐ 1. The alleged victim experienced serious bodily injury or a plausible threat of serious bodily injury by a primary support person or some other person in the current investigation, as indicated by the following:
_____ Injury or abuse to the alleged victim other than accidental
_____ Threat to cause harm or retaliate against the alleged victim
_____ Use of physical or chemical restraint
_____ A primary support person who voices concern that he/she will maltreat the alleged victim

☐ ☐ 2. There is a history of maltreatment or self-neglect that suggests that the alleged victim's safety is of immediate concern.
_____ The alleged victim has a history of self-neglect that suggests safety is of immediate concern.
_____ The alleged victim's current safety is of immediate concern because the primary support person has a history of maltreatment as a perpetrator.

☐ ☐ 3. Sexual abuse is suspected, and circumstances suggest that the alleged victim's safety is of immediate concern.

☐ ☐ 4. The alleged victim's explanation for an observed injury to him/herself is questionable or inconsistent with the type of injury, and the nature of the injury suggests that the alleged victim's safety is of immediate concern.

☐ ☐ 5. The alleged victim refuses access.

☐ ☐ 6. The alleged victim does not or cannot meet his/her immediate needs for safety and supervision, physical care, food, clothing, shelter, and/or medical or mental health care.

☐ ☐ 7. The physical living conditions are hazardous and immediately threatening to the health and/or safety of the alleged victim.

☐ ☐ 8. The alleged victim's current substance use seriously impairs the alleged victim's ability to care for him/herself.

Yes No

☐ ☐ 9. Violence, including domestic or family violence, exists in the home and poses a threat of physical and/or emotional harm to the alleged victim.

☐ ☐ 10. The alleged victim demonstrates significant mental/emotional distress or disorientation that suggests he/she is a danger to him/herself or others.

☐ ☐ 11. Other imminent danger factor related to the alleged victim (describe): _____

_____

_____

Primary Support Person Name: _____

Primary Support Person Date of Birth: _____/_____/_____

☐ Not applicable—no primary support person

Yes No

☐ ☐ 1. The primary support person fails or is unable to protect the alleged victim from serious harm or threatened serious harm by others.

☐ ☐ 2. The primary support person's explanation for an observed injury to the alleged victim is questionable or inconsistent with the type of injury, and the nature of the injury suggests that the alleged victim's safety is of immediate concern.

☐ ☐ 3. Access to the alleged victim is being denied by the primary support person or some other person.

☐ ☐ 4. The primary support person does not or cannot meet the alleged victim's immediate needs for safety and supervision, physical care, food, clothing, shelter, and/or medical or mental health care.

☐ ☐ 5. The primary support person's current substance use seriously impairs his/her ability to provide care.

☐ ☐ 6. Other imminent danger factor related to the primary support person (describe): _____

_____

If all imminent danger factors are marked "No" for both the alleged victim and the primary support person, go to Section 3.

If any imminent danger factors are marked "Yes" for either the alleged victim or the primary support person, go to Section 2.

SECTION 2: RECOMMENDED IMMEDIATE SAFETY INTERVENTIONS

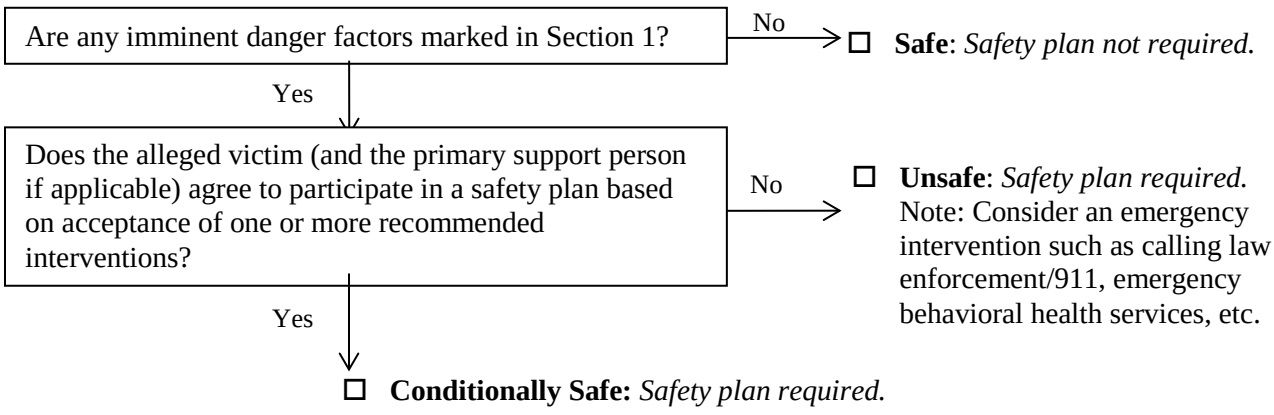
Note: This section is required if there are any imminent danger factors identified in Section 1.

Safety interventions are actions recommended specifically to mitigate any identified imminent danger factors. They should address immediate considerations for safety rather than long-term changes. Safety interventions should be implemented in accordance with New Hampshire BEAS policies and procedures. Mark all interventions recommended by the APSW to mitigate identified imminent danger factors, then indicate whether the alleged victim (and the primary support person if applicable) accepts the intervention.

Interventions Recommended Mark all interventions recommended or planned by the APSW or another person.	**Acceptance Indicator** Indicate if the alleged victim and/or the primary support person (PSP) accepted the intervention.	
	Alleged Victim	PSP ☐ N/A*
☐ 1. Intervention by the worker (do not include the investigation itself).	☐	☐
☐ 2. Use of the alleged victim's family members, neighbors, and/or friends as safety resources.	☐	☐
☐ 3. Use of community agencies or services as safety resources.	☐	☐
☐ 4. Agreement by a primary support person(s) to protect the alleged victim from the alleged perpetrator.	☐	☐
☐ 5. The alleged perpetrator will leave the home, either voluntarily or in response to legal action.	☐	☐
☐ 6. The alleged victim voluntarily leaves the home.	☐	☐
☐ 7. Other safety intervention (describe):	☐	☐

*If there is no primary support person, do not complete this column.

SECTION 3: SAFETY DECISION



Additional information pertinent to the safety assessment:

APSW: _____ Date: _____/_____/_____

Supervisor: _____ Date: _____/_____/_____

NEW HAMPSHIRE BUREAU OF ELDERLY AND ADULT SERVICES r: 07/24/08
ADULT PROTECTIVE SERVICES
SDM® STRENGTHS AND NEEDS ASSESSMENT/REASSESSMENT

Client Name: _____ **Report ID:** _____

Report Date: _____/_____/_____ **Assessment Date:** _____/_____/_____

Assessment Type: ☐ Initial ☐ Reassessment

SECTION 1. CLIENT **Individual ID#:** _____	**RATING (a, b, or c)**
CL1. Physical Health (definition pp. 47–48) a. No concerns related to physical health b. Some concerns related to physical health c. Significant concerns related to physical health	
CL2. Cognitive Functioning/Orientation (definition p. 48) a. Good or strong cognitive functioning and minimal to no disorientation b. Some concerns related to cognitive functioning; and/or occasional disorientation c. Significant concerns related to cognitive functioning; and/or chronic disorientation	
CL3. Mental Health/Coping Skills (definition pp. 48–49) a. Adequate to strong coping skills; able to manage mild mental or emotional disability symptoms b. Moderate symptoms that impede the performance of some ADLs /IADLs c. Chronic/severe symptoms that impede the performance of most or all ADLs/IADLs	
CL4. Housing/Physical Environment (definition p. 49) a. Adequate housing that meets basic needs for health and safety b. Some minor concerns related to health and safety of current housing c. Significant concerns related to health and safety of current housing	
CL5. Physical Mobility (definition p. 50) a. Able to move about the home and community without assistance b Able to move about the home and community with minimal assistance c. Client requires extensive assistance to move about the home or community	
CL6. Household Relationships (definition pp. 50–51) ☐ Not applicable—client lives alone a. Generally supportive relationships b. Disruptive relationships c. Extremely problematic relationships	
CL7. Social/Community Support System (definition p. 51) a. Adequate support system b. Limited support system c. No support system	
CL8. Substance Use/Substance Use Disorder (definition p. 52) a. No substance use, or substance use has no noticeable adverse affects on health, safety, or ADLs/IADLs b. Substance use/substance use disorder impedes some ADLs/IADLs and may affect health and/or safety c. Substance use/substance use disorder impedes most or all ADLs/IADLs and impacts health and/or safety	

	RATING (a, b, or c)
CL9. Financial Resources (definition pp. 52–53) a. Financial resources are sufficient to meet basic needs b. Financial resources are insufficient c. No financial resources, or resources are severely limited	
CL10. Functional Communication and Literacy (definition p. 53) a. Able to communicate b. Able to communicate with minimal assistance c. Significant communication or literacy barriers	
CL11. Resource Management (definition pp. 53–54) a. Financial resources are adequately managed b. Financial resources are not well managed c. Financial resources are severely mismanaged	
CL12. Other Identified Client Strength/Need (not addressed in CL1–CL11) ☐ Not applicable—no strength/need other than what is identified in CL1–CL11 a. Client has a strength not addressed in CL1–CL11 b. Client has a minor need not addressed in CL1–CL11 c. Client has a significant need not addressed in CL1–CL11 Description:	

CLIENT PRIORITY STRENGTHS AND NEEDS

Enter the item number and description of up to three highest priority strengths and needs that will be addressed on the case plan. Prioritization of needs should occur among items with "c" responses, followed by items with "b" responses.

Priority Areas of Strength

1. _____ _____

2. _____ _____

3. _____ _____

Priority Areas of Need

1. _____ _____

2. _____ _____

3. _____ _____

SECTION 2. PRIMARY SUPPORT PERSON

☐ Not applicable—there is no primary support person

Primary Support Person Name: _____ **Date of Birth:** _____/_____/_____

Relationship to AV: ☐ spouse ☐ son or daughter ☐ other relative ☐ friend/neighbor ☐ other

RATING (a, b, or c)

PSP1. Quality of Care (definition pp. 54–55)
- a. Able and willing to meet the client's needs and can obtain resources
- b. Willing to meet the client's needs but requires assistance to obtain resources
- c. Unable or unwilling to meet the client's needs

PSP2. Physical Health (definition p. 55)
- a. Physical health does not interfere with ability to provide care
- b. Physical health occasionally interferes with ability to provide care
- c. Physical health interferes with ability to provide care

PSP3. Mental Health/Coping Skills (definition p. 56)
- a. Mental health does not interfere with ability to provide care; adapts or adjusts to chronic or changing needs of the client
- b. Mental health occasionally interferes with ability to provide care; has difficulty adapting to chronic or changing needs of the client
- c. Mental health interferes with ability to provide care; is unable to adapt to chronic or changing needs of the client

PSP4. Substance Use/Substance Use Disorder (definition p. 57)
- a. No substance use, or substance use does not interfere with ability to provide care
- b. Substance use/substance use disorder somewhat impedes ability to provide care
- c. Substance use/substance use disorder impedes ability to provide care

PSP5. Other Identified Primary Support Person Strength/Need (not addressed in PSP1–PSP4)
- ☐ Not applicable—no strength/need other than what is identified in PSP1–PSP4
- a. Primary support person has a strength not addressed in PSP1–PSP4
- b. Primary support person has a minor need not addressed in PSP1–PSP4
- c. Primary support person has a significant need not addressed in PSP1–PSP4

Description:

PRIMARY SUPPORT PERSON PRIORITY STRENGTHS AND NEEDS

Enter the item number and description of up to three highest priority strengths and needs that will be addressed on the case plan. Prioritization of needs should occur among items with "c" responses followed by items with "b" responses.

Priority Areas of Strength

1. _____ _____
2. _____ _____
3. _____ _____

Priority Areas of Need

1. _____ _____
2. _____ _____
3. _____ _____

APSW: _____ Date: _____/_____/_____

Supervisor: _____ Date: _____/_____/_____

Appendix D

Case File Review Form

APS CASE REVIEW TOOL

Intake ID: _____ Review Date: ___/____/____ Review Period From ___/____/____ to ___/____/____
APSW: _____ Reviewer: _____
Name Name Title

□ **Comparative review?**

SDM® Safety Assessment	**Yes**	**No**	**N/A**
1. Was the SDM safety assessment completed?	☐	☐	☐
2. Was the SDM safety assessment documented in a timely manner? Completion date:	☐	☐	--
3. Does the case narrative support the identified factors influencing the client's vulnerability?	☐	☐	--
4. Does the case narrative support the imminent danger factor identification?	☐	☐	--
5. Did the worker correctly use the "other" imminent danger factors?	☐	☐	☐
6. Are the indicated safety interventions supported by the case narrative?	☐	☐	☐
7. Was a safety plan completed according to policy?	☐	☐	☐
8. Was the resulting safety decision appropriate?	☐	☐	--
Explain all "no" responses:			

Risk Assessment	**Yes**	**No**	**N/A**
1. Was the risk assessment completed?	☐	☐	☐
2. Was the risk assessment documented in a timely manner? Completion date:	☐	☐	--
3. Does the case narrative support the identified risk factors?	☐	☐	--
4. Does the case narrative support any overrides that were exercised?	☐	☐	☐
5. Does the service decision (i.e., open/close) match the risk level recommendation?	☐	☐	--
6. If a case was opened, did worker attempt to meet contact standards during the first month of case opening?	☐	☐	☐
7. Does the case narrative support the completion of supplemental items?	☐	☐	--
Explain all "no" responses:			

Initial SDM® Strengths and Needs Assessment	Yes	No	N/A
1. Was the SDM strengths and needs assessment completed?	☐	☐	☐
2. Was the SDM strengths and needs assessment documented in a timely manner?	☐	☐	--
3. Was the SDM strengths and needs assessment completed on the appropriate person(s)?	☐	☐	--
4. Does the case narrative support the assessment scoring?	☐	☐	--
5. Does the service plan reflect appropriately identified priority strengths and needs?	☐	☐	--
Explain all "no" responses:			

Please briefly describe any coaching provided to the worker/supervisor:

Appendix E

Process Evaluation Data Collection Materials

Web-based Survey for New Hampshire Bureau of Elderly and Adult Services
Adult Protective Services (APS) Workers and APS Supervisors

We would like to ask you about your use and opinions of the Structured Decision Making® (SDM) assessments completed for New Hampshire adult protective services (APS) report investigations (the safety assessment, risk assessment, and strengths and needs assessment). The New Hampshire Bureau of Elderly and Adult Services (BEAS), through a grant funded by the National Institute of Justice (NIJ), has contracted with the National Council on Crime and Delinquency (NCCD) to solicit your input about the SDM® system because you are the best source of information about how the assessments are working in the field. Your responses will be kept completely confidential. Any identifying information collected (such as office) will be reported in aggregate only and will not be shared with the agency. Your responses will remain anonymous. Please feel free to be completely honest.

Risk Assessment

1. Based on your experience, how well has the SDM risk assessment met the following goals?

   Answer using the following scale:
   1 = not at all, 2 = not very well, 3 = somewhat, 4 = well, 5 = very well

   ___ Accurately identify those alleged victims most likely to experience future harm
   ___ Improve consistency of case-opening decisions across investigations

2. Since implementation of the SDM risk assessment in August 2010, deciding which alleged victims could benefit from opening a case is:
   ___ Easier
   ___ About the same
   ___ More difficult

3. How do you think implementation of the SDM risk assessment has affected practice?

   _____

   _____

4. How often do you use results of the risk assessment when deciding the following?

   Answer using the following scale:
   1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always

   ___ Which cases to open for ongoing services
   ___ How frequently you contact the alleged victim or collateral contacts during the open case

5. Overall, do the risk assessment items and definitions include all of the information you need to make a decision about which cases to open?
   ___ Yes
   ___ No

   If no, what additional information should be considered when making decisions?

   _____

   _____

6. Are any risk assessment items, definitions, or procedures confusing or problematic?
   ___ Yes
   ___ No

   If yes, list and describe:

   _____

   _____

7. How often do you agree with the following items?

   Answer using the following scale:
   1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always

   ___ The risk level assigned by the risk assessment
   ___ Recommended case-opening decision
   ___ The frequency of contacts recommended by the risk assessment

8. How easy is it to use the web-based version of the risk assessment?
   ___ Very easy
   ___ Somewhat easy
   ___ Somewhat hard
   ___ Very hard
   ___ Not applicable

   If you answered “somewhat hard” or “very hard,” what features of the automated assessment are difficult for you?

   _____

   _____

Safety Assessment

9. How often does the safety assessment support your evaluation of the incapacitated adult's imminent safety?
   ___ Never
   ___ Rarely
   ___ Sometimes
   ___ Often
   ___ Always

10. Overall, do the safety assessment items and definitions cover the information you need to identify imminent threats of harm and interventions?
   ___ Yes
   ___ No

   If no, what additional information should be considered when determining the alleged victim's safety?

   _____
   _____

11. Are any safety assessment items, definitions, or procedures confusing or problematic?
   ___ Yes
   ___ No

   If yes, list and describe:

   _____
   _____

Strengths and Needs Assessment

12. How often do you use results of the strengths and needs assessment when deciding what services to include in the case plan?
   ___ Never
   ___ Rarely
   ___ Sometimes
   ___ Often
   ___ Always

13. Overall, do the strengths and needs assessment items and definitions cover the information you need to identify areas of greatest need and strengths of the victim when developing the case plan?
   ___ Yes
   ___ No

   If no, what additional information should be considered when developing the case plan?

   _____
   _____

14. Are any strengths and needs assessment items, definitions, or procedures confusing or problematic?
___ Yes
___ No

If yes, list and describe:

_____

_____

All Assessments

15. Do you ever discuss any of the tools (the safety assessment, risk assessment, or strengths and needs assessment) with your supervisor or other staff?
___ Yes
___ No

If yes, in what circumstances do you discuss the assessments with your supervisor or other staff?

_____

_____

16. Are there ways the bureau could support you in your use of the SDM assessments?
___ Yes, there are ways the department could support me.
___ No, I have sufficient support.

If yes, describe how the bureau could support you in your use of the SDM assessments.

_____

_____

17. Are there ways the bureau could support you in making and monitoring monthly contact with victims and collaterals?
___ Yes, there are ways the bureau could support me.
___ No, I have sufficient support.

If yes, describe how the bureau could support you in making and monitoring monthly contact with victims and collaterals.

_____

_____

18. What additional services are needed in your district office region to address the needs of the victims and primary support persons?

_____

_____

The following questions are to help make sure we have the participation of a variety of staff.

19. In what district office are you currently located?
    __Berlin
    __Claremont
    __Concord (including Central Investigation)
    __Conway
    __Keene
    __Laconia
    __Littleton
    __Manchester
    __Rochester
    __Salem
    __Seacoast
    __Southern

20. How many years have you been in your current position? ___

Thank you for taking time to complete this survey. We value your input. If you would like to speak with someone about this survey, please contact Kristen Johnson, Senior Researcher at NCCD. Kristen can be reached by phone (608-831-8882) or email (kjohnson@mw.nccd-crc.org).

Appendix F

Item Analyses for Self-Neglect and Maltreatment Indices

Table F1

Self-Neglect Index
Item Analyses

Item	Sample Distribution		Subsequent Self-Neglect Investigation				Subsequent Self-Neglect Finding			
	N	%	N	%	Corr.	P Value	N	%	Corr.	P Value
Total Sample	**1,064**	**100.0%**	**122**	**11.5%**			**85**	**8.0%**		
SN1. Prior investigations (check only one)					.155	.000			.124	.000
None	803	75.5%	76	9.5%			53	6.6%		
One	181	17.0%	21	11.6%			15	8.3%		
Two or more	80	7.5%	25	31.3%			17	21.3%		
SN2. Alleged victim previously received ongoing services					.032	.150			.044	.075
No	961	90.3%	107	11.1%			73	7.6%		
Yes	103	9.7%	15	14.6%			12	11.7%		
SN3. Alleged victim previously refused services					.137	.000			.135	.000
No	935	87.9%	92	9.8%			62	6.6%		
Yes	129	12.1%	30	23.3%			23	17.8%		
SN4. Current investigation is for self-neglect					.139	.000			.150	.000
No	340	32.0%	17	5.0%			7	2.1%		
Yes	724	68.0%	105	14.5%			78	10.8%		
SN5. Alleged victim currently refuses services					.126	.000			.139	.000
No	861	80.9%	82	9.5%			53	6.2%		
Yes	203	19.1%	40	19.7%			32	15.8%		
SN6. Service provider cannot or will not accept alleged victim for services					.116	.000			.082	.004
No	1,029	96.7%	111	10.8%			78	7.6%		
Yes	35	3.3%	11	31.4%			7	20.0%		
SN7. Age of alleged victim at time of current report					-.011	.366			-.042	.087
Under 80	718	67.5%	84	11.7%			63	8.8%		
80 or older	346	32.5%	38	11.0%			22	6.4%		
SN8. Number of inpatient hospital stays in past 12 months					-.043	.082			-.025	.207
None	562	52.8%	75	13.3%			53	9.4%		
One or two	450	42.3%	39	8.7%			24	5.3%		
Three or more	52	4.9%	8	15.4%			8	15.4%		
SN9. Alleged victim has current or historic alcohol/drug problem					.050	.051			.061	.023
a. Not applicable	905	85.1%	96	10.6%			65	7.2%		
Alcohol or drug	137	12.9%	24	17.5%			18	13.1%		
Alcohol and drug	22	2.1%	2	9.1%			2	9.1%		
b. Alcohol (current or historic)					.073	.009			.073	.009
No	927	87.1%	98	10.6%			67	7.2%		
Yes	137	12.9%	24	17.5%			18	13.1%		
c. Drug (current or historic)					-.015	.307			.008	.392
No	1,020	95.9%	118	11.6%			81	7.9%		
Yes	44	4.1%	4	9.1%			4	9.1%		

Table F2

Maltreatment Index
Item Analyses

Item	Sample Distribution		Subsequent Maltreatment Investigation			
	N	%	N	%	Corr.	P Value
Total Sample	**1,064**	**100.0%**	**66**	**6.2%**		
MT1. Prior investigations (check applicable and add for score)					.065	.016
None	803	75.5%	43	5.4%		
One or more	246	23.1%	21	8.5%		
One or more, emergency services notified	15	1.4%	2	13.3%		
MT2. Prior abuse finding (emotional, physical, or sexual abuse)					.040	.096
None	1,029	96.7%	62	6.0%		
One or more	35	3.3%	4	11.4%		
MT3. Alleged victim previously received ongoing services					.061	.024
No	961	90.3%	55	5.7%		
Yes	103	9.7%	11	10.7%		
MT4. Current investigation is for maltreatment by another person					.133	.000
No	737	69.3%	30	4.1%		
Yes	327	30.7%	36	11.0%		
MT5. Current finding for maltreatment by another person					.068	.013
No	979	92.0%	56	5.7%		
Yes	85	8.0%	10	11.8%		
MT6. Alleged victim perpetrated maltreatment on another (child or adult) as an adult					.025	.208
Not applicable	1,033	97.1%	63	6.1%		
Yes	31	2.9%	3	9.7%		
MT7. Alleged victim adult relationships						
a. Alleged victim has problematic adult relationships other than domestic violence					-.033	.467
No	834	78.4%	52	6.2%		
Yes	230	21.6%	14	6.1%		
c. Alleged victim involved in domestic violence					.008	.397
No	1,007	94.6%	62	6.2%		
Yes	57	5.4%	4	7.0%		
MT8. Number of inpatient hospital stays in the past 12 months					-.048	.059
None	562	52.8%	41	7.3%		
One or more	502	47.2%	25	5.0%		
MT9. Other person(s) has access to the alleged victim's finances					.046	.066
No	657	61.7%	35	5.3%		
Yes	407	38.3%	31	7.6%		

Table F2

Maltreatment Index
Item Analyses

Item	Sample Distribution		Subsequent Maltreatment Investigation			
	N	%	N	%	Corr.	P Value
Total Sample	**1,064**	**100.0%**	**66**	**6.2%**		
MT10. Primary support person characteristics						
a. Has unrealistic expectations of the alleged victim					.069	.012
No	1,032	97.0%	61	5.9%		
Yes	32	3.0%	5	15.6%		
b. Perpetrated maltreatment on another person					.083	.003
No	1,052	98.9%	63	6.0%		
Yes	12	1.1%	3	25.0%		
c. Lacks skills needed for caregiving					.033	.143
No	1,025	96.3%	62	6.0%		
Yes	39	3.7%	4	10.3%		