

Using a Multi-level Risk Assessment To Inform Case Planning and Risk Management: Implications for Officers

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ONE OF THE primary goals of the federal probation and pretrial services system is to protect the community through the use of controlling and correctional strategies designed to assess and manage risk. In 2010, the Administrative Office of the U.S. Courts (AO) developed the Post-Conviction Risk Assessment (PCRA) tool as a means to assess offender risk in an effort to reduce future criminal behavior. Arguably, the best chances for reducing future criminal behavior occur when officers not only have a reliable way of identifying high-risk offenders but also can intervene in the criminogenic needs of those offenders (Andrews et al., 1990; Lowenkamp & Latessa, 2004; Bonta & Andrews, 2007; Campbell, French, & Gendreau, 2007; Johnson et al., 2011).

Clients with higher PCRA scores have poorer probation outcomes—compelling evidence of PCRA's predictive accuracy (Johnson, Lowenkamp, VanBenschoten, & Robinson, 2011; Lowenkamp, Johnson, Holsinger, VanBenschoten, & Robinson, 2013). Half of the 18 PCRA points reflect criminal history factors, while the other half reflect viable case planning targets indicative of criminogenic needs (Bonta & Andrews, 2016). Moreover, clients with similar PCRA scores can have different point elevations across the subscales (i.e., education/employment, substance abuse, social networks, and cognitions) that identify different case planning needs for different

clients. Furthermore, PCRA score changes over time are related to client outcomes; increases in PCRA scores lead to increased client failure, while decreases in PCRA scores lead to lower rates of recidivism (Cohen, Lowenkamp, & VanBenschoten, 2016; Luallen, Radakrishnan, & Rhodes, 2016). Because the PCRA has the ability to predict client outcomes for both baseline and change scores, probation officers are better equipped to identify intervention strategies for individual clients. Nonetheless, while the PCRA predicts client rearrests as well as informing case planning and risk management, this process is not completely intuitive for some officers. Therefore, the purpose of this paper is to make the process more explicit, especially regarding violent rearrest.

Revisions to the PCRA have led to the creation of PCRA 2.0, which reflects improved client normative data, clarifications of scoring rules, removal of some unscored test questions that did not substantially enhance predictive power, inclusion of static risk factor questions, and Psychological Inventory of Criminal Thinking Styles (PICTS) scales predictive of violent arrest. Despite evidence that probation officers in some jurisdictions ignore or override statistical risk assessments (Miller & Maloney, 2013), the importance of the PCRA is embedded within federal probation policy. Future training is intended to assist officers in recognizing the predictive validity PCRA 2.0 provides, while also highlighting the limitations of unstructured assessments (i.e., ignoring or overriding PCRA risk categories based on professional

judgment or intuition). The expectation is that officers will incorporate PCRA 2.0 assessments into their correctional practices, thereby improving decisional accuracy, case planning, and risk management.

Increased scrutiny of sentinel events (e.g., sensational community failure—see Sheil, Doyle, & Lowenkamp, 2016, in this issue of *Federal Probation*) sparked interest within federal probation in including within the PCRA a violence risk assessment and interventions. Central to a consideration of sentinel events is the inclusion of acute dynamic risk factors that could signify the potential imminence of an event within a higher-risk group. Before including the violence assessment in PCRA, only one item was violence-specific, raising the question of whether the utility of the PCRA could be augmented through the rating of violence flags as a second level of risk assessment. The inclusion of validated violence flags is intended not only to insulate officers and the agency from undue criticism in the wake of an offender committing a serious violent offense, but also to reduce risk of harm to the community and further enhance officer safety. This risk assessment process, commonly known as due diligence in the field of risk assessment, must be credible and employ a best practice approach. The key consideration is a defensible decision process, and not merely an accurately predicted outcome.

Various sources provide important information regarding possible violence flags. First was the review of violence risk appraisal instruments (e.g., LS/CMI, Andrews, Bonta,

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& Wormith, 2004; HCR-20V,³ Douglas, Hart, Webster, & Belfrage, 2013; PCL-R, Hare, 2003; and ODARA, Hilton, Harris, Rice, Lang, Cormier, & Lines, 2004). Next came a consideration of meta-analyses and meta-reviews (Desmarais, Singh, & Johnson, in press; Yang, Wong, & Coid, 2010; Singh, 2013). Key critiques also led to potential variables for inclusion as violence flags (Douglas & Skeem, 2005; Harris, Rice, Quinsey, & Cormier, 2015; Mills, Kroner, & Morgan, 2011). Candidate variables for violence flags were shared with experienced researchers and clinical colleagues in the United States, Canada, and New Zealand for feedback. After receiving feedback, a final list of 18 factors was compiled for empirical validation. Figure 1 presents a depiction of the multi-level risk assessment model.

In composing potential violence flags, it was important to restrict the flags to factors readily available in existing case file information while avoiding duplication of factors already included in the PCRA. This, however, meant that some promising factors (e.g., diagnoses, degree of planning, hostile ideation or schema) might be excluded. It also meant, at least in the early stages of development, that the violent risk factors would be primarily static and not include acute dynamic risk factors. An important revelation in this research was the recognition that specific types of violence warrant unique predictors. For instance, meta-analytic studies suggest that predictors for non-sexual violence (e.g., hostile attitudes), intimate partner violence (e.g.,

violation of non-contact orders), and sexual violence (e.g., deviant sexual preference) are distinct. Although the client outcome in validating the multi-level model includes sexual crimes, given the low prevalence and base rates for hands-on sexual violence amongst federal probationers, these unique predictors were excluded. The violent rearrest behaviors of primary interest in this research were intimate partner violence, robbery, aggravated assault, and homicide/manslaughter.

Most of the criminal violence measured in this study is considered to be goal-directed or instrumental. Instrumental violence refers to violence that takes place for a clearly identifiable purpose other than as a response to provocation or frustration. Such violence typically takes place within the context of a robbery or burglary (Douglass, 2010). This means that interventions should primarily focus on criminal thinking, justifications for the use of violence, and problem solving. In cases where anger may be an issue, interventions may also include coping with anger and arousal, identification of triggers, and conflict management. This will be reviewed more fully in the discussion section.

Methods

Sample

Data were drawn from a sample of 69,311 offenders who started federal supervision at least two years prior to December 1, 2014 (the date of the record check), who had a PCRA administered within 6 months of the start

TABLE 1.
Description of Sample

	Unweighted Sample	
	N	%
Male	1,871	80
Hispanic		
Yes	315	14
No	1,972	84
Unknown	38	2
Race		
Asian	58	3
Black	825	36
Native American/ Eskimo	95	4
White	1,313	57
Other	4	<1
Unknown	10	<1
Age	2,325	39.68 (11.98)
PCRA	2,325	6.8 (3.69)

of supervision, and for whom a total PCRA score was present. A sample of 25 cases from each of the 93 districts was identified, yielding a sample of 2,325 cases that were sent to the districts for data collection. A total of 1,885 records were returned, of which 1,642 provided usable or complete data. The 1,642 cases represent 48,025 male and female offenders of varied ethnicities from urban and rural locations (see Table 1).

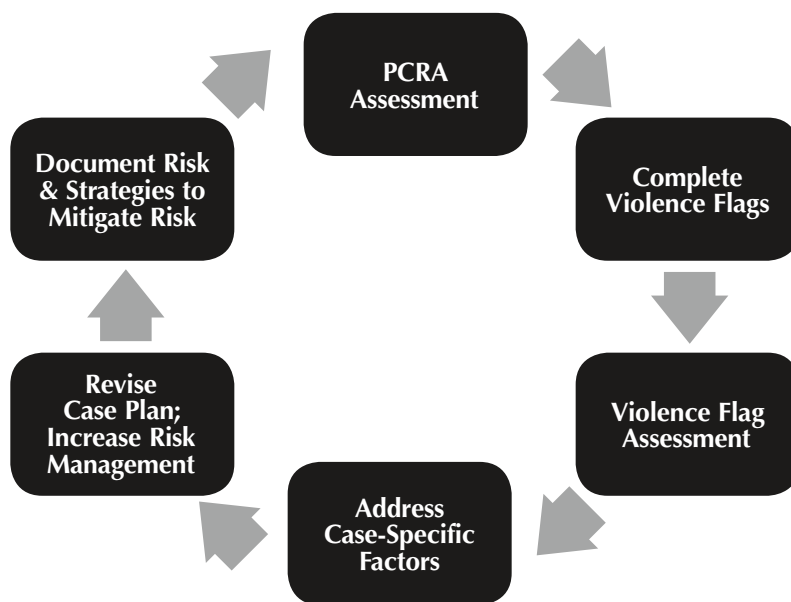
Using presentence reports and other case-work documents available in federal probation electronic records, probation officers coded violence flags for the sample of cases. As such, this was an archival study in which a coding manual with decision rules was provided to each of the districts and coders. A primary contact was assigned to address any questions regarding the coding of the violence flags.

Results

Overview of Analyses

The analysis for this study was conducted in four stages. During the first stage, potential violence flags were identified using statistical techniques. In the second stage, violence flags were validated using construction and validation samples. The third stage consisted of summing the identified violence flags to produce a violence flag score. In the fourth and final stage, violence flags and PCRA results were combined to develop a series of

FIGURE 1.
Multi-level Risk Assessment Model



risk categories or bins.

Validation of Violence Flags

The final sample of 1,642 cases had fewer than 4 items missing and there was no replacement of missing items with the overall mean score during statistical analyses. A weighted sample was used in subsequent analysis. The analytic strategy involved a 50 percent random split of the sample into construction and validation samples.

The weighted sample was used to identify the strongest 10 predictors of violent arrest from the candidate violence flags. The list of 10 violence flags is presented in Table 2. In addition to the 10 violence flags, associations for the total PCRA score and the top 4 PICTS

TABLE 2.
Association between candidate variables and violent rearrest with weighted sample

Variable	Chi-square	p-value
PCRA Category	1588.257	0.000000
Prior Violent Arrests	701.608	0.000000
Current Violent Offense	634.382	0.000000
Plans Violence	530.582	0.000000
Age at First Arrest	503.395	0.000000
<i>PICTS - Power Orientation</i>	<i>431.720</i>	<i>0.000000</i>
Prior Stalking	422.484	0.000000
History of Treatment Noncompliance	349.015	0.000000
Gang Member	290.739	0.000000
Ever Use a Weapon	231.363	0.000000
<i>PICTS - Entitlement</i>	<i>220.138</i>	<i>0.000000</i>
Current DV	187.809	0.000000
<i>PICTS - Denial of Harm</i>	<i>178.703</i>	<i>0.000000</i>
Prior DV Arrests	160.715	0.000000
<i>PICTS - Self Assertion/ Deception</i>	<i>150.085</i>	<i>0.000000</i>
Ever Victimize Stranger	68.620	0.000000

scales (in italics) are also presented in Table 2.

Each of the 10 factors that were present was given a value of one. The flags were then summed to produce a count of the flags present. The distribution of the flag count across the weighted sample and the failure rate associated with each score on the violence flag count is presented in Table 3.

The next strategy was to assign cases to one of three risk groups based on flag scores.

TABLE 3.
Distribution of Marker Counts for Weighted Data

Marker Count	N	%	Cum %	Failure Rate
0	12,192	25	25	0.2
1	6,538	14	39	2.7
2	6,040	13	52	6.7
3	6,138	13	64	2.1
4	4,646	10	74	12.8
5	3,847	8	82	11.1
6	2,602	5	87	7.3
7	2,485	5	93	25.6
8	1,640	3	96	18.5
9	1,154	2	98	17.2
10	501	1	100	12.4
11	231	0	100	42.4
12	11	0	100	0.0

TABLE 4.
Distribution, Failure Rates, and Percentage of Violent Arrests Identified by Violence Risk Categories for Weighted Samples

Violence Risk Category	N	%	Cum %	Failure Rate	% Identified
0	25,131	52	52	1.15	9.0
1	15,186	32	84	8.18	38.4
2	7,708	16	100	22.07	52.6
Violence Risk Category	N	%	Cum %	Failure Rate	% Identified
Low	18,423	38	38	0.49	2.8
Low/Moderate	18,131	38	76	7.34	41.1
Moderate	8,509	18	94	11.76	31.0
High	2,962	6	100	27.38	25.0

A review of the data suggested that cutoffs of 0-3, 4-6, and greater than 7 would be appropriate. Table 4 presents outcome data for the three violence categories for comparison with the PCRA risk categories.

The results suggest that both the flags alone and the PCRA appear to usefully identify groups that are at a higher risk of committing an act of violence. Moreover, data suggest that the violence flags might function as a violence trailer to augment the PCRA, even though the original purpose of the multi-level model was to determine if the violence flags could be integrated into PCRA to provide improved prediction. Predictive validity analyses are described below.

Predictive Accuracy of Multi-Level Model

The AUC results for weighted samples are presented in Tables 5 (construction sample) and Table 6 (validation sample) for multiple violence outcomes. A review of these tables suggests acceptable predictive accuracy for both construction and validation samples and for all three client outcomes. In each situation, the inclusion of violence flags increases the predictive accuracy above that of the PCRA alone.

These findings suggest the multi-level risk assessment model has merit above and beyond either the PCRA or the violence flags alone. The increased breadth of predictors increases face validity with respect to violence risk at no decrease in predictive accuracy. In fact, accuracy is slightly increased across all comparisons. Subsequent analyses (not presented here) also indicate that the use of the violence flags in conjunction with the PCRA allows for greater accuracy in identifying offenders at increased risk of violence.

Discussion

This research regarding the development and validation of a multi-level violence risk assessment model was initiated as a proof of concept. The goals of the research included: (1) examination of the predictive validity of the PCRA regarding violent rearrest; (2) inclusion of credible risk flags to augment validity; (3) incorporation of a due diligence approach to risk assessment in order to mitigate criticism in the event of offender failure; and (4) informing offender level case planning and risk management. Based on the findings presented, the first three goals were fully met.

In terms of case planning and risk management, the model also provides some general guidelines. The model is a sorting strategy whereby offenders with higher scores (PCRA and violence flags) are at a significantly greater risk of violent re-offending. Hence, when offenders score higher on the model, officers should be more aware of the increased likelihood of offenders engaging in violent behavior, so they can implement supervision strategies to mitigate risk and document efforts taken to manage risk. Based on the violence flags, some suggestions are presented in Table 7 for officers managing offenders with violence flags. When endorsed, the violence flags imply differential strategies to be undertaken by officers, based on overall risk level and *type* of violent offender. This approach recognizes there is heterogeneity among violent offenders, with differences in factors such as risk level, motivation for violence (goal-directed versus anger), motivation for treatment, weapon use, victim preference (stranger versus acquaintance), and degree of planning.

Case Planning and Management

The original PCRA predicted general recidivism based on scored factors related to criminal history, social networks, education/employment, drug and alcohol use, and cognitions. Overrides occurred for individuals with persistently violent histories because the PCRA did not properly assess violence. In recognition of this limitation, PCRA 2.0 was created, which incorporates a violence risk assessment. PCRA 2.0 allows for better accuracy in identifying individuals at an elevated risk for committing a violent act based on static risk factors and current PICTS scales. Use of PCRA 2.0 should result in better decision making in the case planning and risk management process, mitigate risk of harm to the community, and enhance officer safety.

Persons on community supervision for

TABLE 5.
AUCs for Prediction of Violent Rearrest With Construction Sample (n=1,154)

	DV	Violent No DV	Violent & DV
PCRA	0.76	0.78	0.78
Flags	0.72	0.73	0.73
Both	0.77	0.79	0.79

TABLE 6.
AUCs for Prediction of Violent Rearrest With Validation Sample (n=1,154)

	DV	Violent No DV	Violent & DV
PCRA	0.67	0.81	0.80
Flags	0.69	0.78	0.78
Both	0.69	0.83	0.82

TABLE 7.
Violence Flags and Differentiated Interventions

Violence Flag	Differentiated Intervention
PCRA Score	Higher scores require greater monitoring, restrictions, and interventions to mitigate risk.
Prior Violent Arrests	More likely to re-commit violent crime; target justifications for using violence to meet ends.
Current Violent Offense	More likely to re-commit violent crime; target justifications for using violence to meet ends or poor self-control (anger, impulsivity, poor problem solving).
Plans Violence	Violence is proactive not spontaneous. Target criminal thinking rather than anger.
Age at First Arrest	Earlier onset suggests longer criminal careers, requiring demonstration of change, not just verbal statements.
PICTS - Power Orientation	Violence is a choice to meet an end with rationalizations common and acceptance of responsibility lower. <i>Will likely reject treatment.</i>
Prior Stalking	More likely to re-commit domestic violence. Except in rare cases, most often knows victim.
History of Treatment Noncompliance	Use Core Correctional Practices, motivational engagement, and behavioral contracts linked to supervision requirements to increase treatment compliance.
Gang Member	Violence will be both predatory and anger-based (depending on rank in the gang). Requires monitoring of peers and victim access.
Ever Use a Weapon	If weapons taken to crime scene, risk is elevated. Violence more likely instrumental. If weapons selected by convenience, violence more likely impulsive.
PICTS - Entitlement	High levels indicative of justification for using violence, regardless of level of victim injury. <i>Will likely reject treatment.</i>
Current Domestic Violence	Violence is most likely instrumental (goal-directed to meet ends). Victim access a critical consideration.
PICTS - Denial of Harm	Rejects responsibility, justifies violence, will likely reject treatment.
PICTS - Self Assertion	Asserts will over others to achieve goals. Violence is rationalized.

a crime of violence present an elevated risk of harm to the community and may pose a greater danger to probation officers than individuals with non-violent offenses. Risk is increased even more if the individual has a recurrent pattern of violent behavior or affiliations with a gang (Battin-Pearson et al., 1998; Decker, 2000). The higher the risk an individual presents, the more intense the monitoring practices. Monitoring techniques may include, but are not limited to, increased field contacts, collateral contacts, drug testing, computer monitoring, and third-party risk assessment. Policy and procedures requiring more supervision contacts with higher-risk individuals may also be implemented. Frequency alone is not enough to deter future crime; therefore each contact must be purpose-driven and viewed as an opportunity to mitigate risk. In order to make contacts more purposeful, officers should routinely review the individual factors that led to the individual becoming high risk.

Observing current behaviors of offenders under supervision is a critical component of community corrections. However, officers should also review and investigate the circumstances surrounding prior violent offenses and consistently perform risk assessments as a part of their due diligence. A violence flag such as a history of planning violent behavior is indicative of proactive criminal thinking and may provide insight into how a person uses violence as a means to resolve conflict and control others. The prior use of weapons to commit a crime is a major public and officer safety concern, as access to firearms is empirically linked to lethal outcomes. The types of prior violent offenses and types of victims should also be carefully analyzed to properly address third-party risks. Persons under supervision for domestic violence, stalking, or threatening their victim(s) are more likely to go after the same victim. Access to victims should constantly be addressed, as it increases the likelihood of re-offense. No contact conditions and restrictions such as location monitoring and home confinement could be added by the court to address risk. When thoroughly analyzed, the totality of circumstances can aid officers in case planning and risk management. It will also contribute to increased public and officer safety.

The PICTS scales of power orientation, entitlement, denial of harm, and self-deception are used as violent flags in the multi-level assessment process. The presence of these factors merit careful consideration in case

planning and risk management. Individuals with elevated scores of power orientation tend to be manipulative and intimidating and exert power over others. Individuals with the criminal thinking error of entitlement may believe they are above the law, assume ownership over others, and often systematically misidentify wants as needs. Interventions should target criminal thinking and include cognitive-based individual or group treatment, the use of core correctional practices, problem solving, impulse control, identification of triggers, assignment of homework, and enhanced coping skills.

Evidence suggests that the effectiveness of correctional interventions is enhanced when officers match proper monitoring strategies, restrictions, and interventions (Andrews & Bonta, 2010; Landenberger & Lipsey, 2005; Lowenkamp & Latessa, 2005; Lowenkamp, Latessa, & Holsinger, 2006). The multi-level assessment should make case planning more individualized, allow officers to better recognize offenders who are at a higher risk of rearrest for a violent offense, and assist in creating supervision objectives.

Conclusions

Risk recognition is the primary initial step required by officers in managing their caseload. The multi-level risk assessment model provides a new approach to assist officers to appreciate the likelihood of violent rearrest by clients. Higher scores warrant more focused and prescriptive intervention by officers. Moreover, specific elevated flags inform both case planning (intervention within sessions with the client and referrals to service providers) and risk management (frequency of contact, frequency of face-to-face meetings, behavioral contracts, assignment of homework, etc.). Finally, risk recognition increases the requirement for increased documentation, especially in terms of how the officers have addressed client risk level and how they have responded to incidents of noncompliance by the client.

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