CORRECTIONAL SERVICE CANADA

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Identifying the Community High Risk Population for Allocation of the Program Integrity Funding

Risk models reliably identify the highest risk offenders in the community who require the highest level of service.

Why we did this study

The Correctional Service of Canada has been receiving funding since 2007 to improve results with high-risk offenders in the community. Currently, the districts receive equal funding and have been allowed flexibility on how to use it. A standardized and empirically based method was required to define the high-risk population that the funding should support. The goal was to allow for this funding to be incorporated into existing allocation mechanisms, promote successful reintegration, and ensure that interventions are targeted to high-risk populations in the community across the districts.

What we did

A cohort of federally-sentenced offenders released in 2013 through 2017 were identified and followed for at least 30 days or until the period of data collection ended (September 23, 2018). The median number of days follow-up was 341 although these times varied by gender and Indigenous background. The cohort was split to include a development sample (70%) used to identify the variables that define the highest risk group and a validation sample (30%) to confirm these results. This resulted in a total N of 15,782 for the development sample and 6,772 for the validation sample. The most recent risk and need assessments were used to derive predictors based on previous research indicating their bidirectional relationship to offender outcomes. In addition to these assessments, age, release type, index offence type, index offence severities, number of offences on the sentence, instigating institutional incidents, institutional charges/misconducts, were included in the modeling. Flags or alerts that could be relevant (i.e., detention criteria flags, dangerous offender flags, security threat group, Section 84 releases) were assessed for their contribution to the outcome in the initial steps of the procedures.

Outcomes were assessed based on Offender Management System data on returns to federal custody with an offence. Different modeling approaches were tried for each offender group, namely Decision Tree Analysis, Random Forests, Gradient Boosting and Logistic Regression. Choice of the factors included in the final models was based on optimizing the risk ratio, the overall accuracy of the model (percent true positives and true negatives), the succinctness of the model, and in the reduction of false negatives, which meant a reduction in the misclassification of a high-risk offender as a low risk offender. The area under the Receiver Operating Characteristic (ROC) curve for each of the models were reported (Area Under the Curve; AUC). Although not the primary goal of the project, a set of models was also developed to identify which offenders from each group were highest risk for returns to custody for any reason.

What we found

The models reliably predicted the highest risk offenders. AUCs were in the moderate to high range and risk ratios demonstrated that the high-risk groups were 2 to 4 times more likely to reoffend than the average reoffending rate for the offender group. Of note, factors predicting reoffending and returns to custody for any reason that were common to the three offender groups included: the risk rating on the CRI, substance misuse rating on the DFIA-R and institutional misconducts. The high-risk groups identified through this research are for the most part (over 80%) already being supervised through the higher levels of community supervision (Levels I, A-Residency, and A).

What it means

The findings highlight the importance of criminal history factors (CRI and institutional misconducts) in predicting returns to custody with an offence, but also other key criminogenic needs, especially substance misuse. Both the static factors and the dynamic factors included in the models reflect problems in self-control that can be mitigated with appropriate interventions. With respect to the RNR framework, identifying offenders at highest risk is the first step in the application of the risk principle. The next step is to deliver appropriate services of higher intensity to these high-risk offenders, the goal of the program integrity funding.

For more information

Stewart, L.A., Hachouch, Y., & Wilton, G. (2018). *Identifying the community high-risk population for allocation of the Program Integrity Funding* (Research Report R-424). Ottawa, Ontario: Correctional Service of Canada.

To obtain a PDF version of the full report, or for other inquiries, please e-mail the Research Branch or contact us by phone at (613) 995-3975.

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