The Risk-Need-Responsivity Simulation Tool

For people involved in the criminal justice system, evidence-based practice (EBP) and treatments emphasize that assessment and programming should target criminal justice, criminogenic need, and other behavioral issues. The notion is that individual outcomes can be improved by assessing for a number of related and often overlapping dimensions such as offending (e.g. criminal history risk), needs (e.g. antisocial peers, antisocial cognitions, antisocial values/thinking) and behavioral health factors (e.g. substance use, mental health, trauma). This evidence-based practice is referred to as the Risk-Need-Responsivity (RNR) Model (Andrews and Bonta, 2010; Caudy et al., 2013).

Another component of the EBP model is the nature of the programs and interventions offered to individuals. Effective programs must be able to address the criminal justice, behavioral health, and criminogenic needs of individuals to achieve positive results.

The RNR framework focuses on improving outcomes by encouraging the justice system to respond to its clients in a manner that is likely to yield better outcomes. While effective programs can reduce recidivism for individual offenders, effective systems can reduce recidivism for populations of offenders. This requires individual assessments to pay particular attention to a broader range of factors that directly relate to individuals’ risk for reoffending and prioritize these needs for targeted treatment. It also requires practitioners to implement programs that target certain profiles of offenders with specific needs. The RNR framework reinforces the need for jurisdictions to have a range of effective, well-implemented programs that target the varying needs of the justice-involved population. It is important to address gaps in services to develop responsive programs and ultimately, a responsive system.

This web-based decision-support system—the RNR Simulation Tool—was developed to help jurisdictions and providers implement the RNR framework. The system assists justice and behavioral health agencies (government, private, or non-profit) who wish to translate EBPs into practice. This approach integrates the science around effective screening, assessment, programs, and treatment matching (responsivity) to improve individual and system outcomes. To that end, the RNR Simulation Tool has three portals: 1) The RNR Program Tool for Adults; 2) Assess an Individual; and 3) Assess Jurisdiction’s Capacity.

This document provides users with general information about each portal and the intended uses. Please email rnrtool@gmu.edu for more specific information or to answer any questions about the tool. The RNR Simulation Tool is available online at: [http://www.gmuace.org/tools/](http://www.gmuace.org/tools/)
Three Easy-to-Use Web Portals

THE RNR PROGRAM TOOL

This 30-minute program assessment tool examines the content, quality, dosage, and other factors of services/treatments/controls offered for justice-involved individuals. Jurisdiction administrators or program managers simply input information about a specific program offered and the tool provides detailed feedback indicating what risk-need profiles the program is best suited to meet. The portal also rates the program’s overall quality according to the RNR principles and core correctional practice. When applicable, the tool provides recommendations for how program administrators can refine the program to better achieve responsivity and improve outcomes. The three main goals of the program tool are: 1) to classify programs to facilitate treatment matching, 2) to explore how programs currently target the risk level and criminogenic needs of their clients, and 3) to assess programs on their use of evidence-based practices. The tool is intended to help criminal justice agencies better understand the resources available to them and to foster responsivity to specific risk-need profiles.

ASSESS AN INDIVIDUAL

The Assess an Individual portal emphasizes using data from criminal justice and behavioral health screenings and assessments to determine the most effective type of program and controls to reduce individual recidivism. This portal can be used with a jurisdiction’s instruments, by itself, or in combination with other tools. Designed for line staff, users are asked to answer 17 questions about individual offenders’ risk, needs, and lifestyle factors. The system then provides a recommendation regarding the type of program that would best fit the individual and lead to the greatest recidivism reductions. If certain information is not available, the RNR Simulation Tool will rely upon its underlying database of offender risk-need profiles to estimate likely attributes based on the prevalence of each attribute in the national population. Users can integrate jurisdiction-specific data regarding the prevalence of individual attributes to produce customized feedback. This portal also estimates a percent reduction in recidivism that one might expect if the offender is matched to the level of programming that is consistent with their unique needs (i.e., a program of best fit).

ASSESS JURISDICTION’S CAPACITY

The Assess Jurisdiction’s Capacity portal uses inputted information to assess a jurisdiction’s capacity to be responsive to the risk-need profiles of individuals in its jurisdiction. Based on data from 18 questions about the prevalence of risk and needs of individuals in the jurisdiction, the portal provides an initial recommendation of the amount and type of programming needed to adequately respond to the jurisdiction’s population. When users enter information regarding the available programs in a jurisdiction, the portal also identifies system-level gaps in the jurisdiction’s capacity to provide responsivity and recommends levels of programming the jurisdiction may need to augment in order to better respond to the needs of their population.
The RNR Program Tool portal uses program-specific information to categorize programs into six different program groups. Each group has a different target area that reflects the program’s focus to address offending behaviors.

Q: What are some essential features of effective correctional programs?

A. There are many different factors that can impact the effectiveness of a program including risk, needs, responsiveness, implementation, and dosage. Programs with good adherence to each of these key features tend to have better outcomes. The key is what criminogenic behaviors the program addresses and the different cognitive and behavioral tools used to assist individuals in changing these behaviors. The RNR Program Tool provides users with feedback and scores on the essential features of programs to allow users to understand a program’s strengths and areas where it can be improved. The tool also provides examples of high-quality programs to guide improvements. Program managers can use overall program ratings or scores on essential features to work with justice agencies to maximize exposure to effective programs.

**Classifying Programs to Guide Responsivity and Outcomes**

<table>
<thead>
<tr>
<th>GROUP A</th>
<th>• Dependence on “Hard” Drugs</th>
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<tbody>
<tr>
<td>GROUP B</td>
<td>• Criminal Thinking/Cognitive Restructuring</td>
</tr>
<tr>
<td>GROUP C</td>
<td>• Self Improvement &amp; Management</td>
</tr>
<tr>
<td>GROUP D</td>
<td>• Interpersonal Skills</td>
</tr>
<tr>
<td>GROUP E</td>
<td>• Life Skills</td>
</tr>
<tr>
<td>GROUP F</td>
<td>• Punishment Only</td>
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*Hard Drugs are those substances that exhibit a direct link with offending behavior. These substances include amphetamines, opiates, and crack/cocaine.*

**High-Quality Programs:**

- Use cognitive behavioral therapy (CBT) and social learning interventions that focus on assisting with restructuring prosocial thinking;
- Offer programs that adhere to a core model, use an evidence-based treatment curriculum, and have staff that are skilled in service delivery;
- Manage dosage and intensity of interventions based on criminal justice risk factors, criminogenic needs, and behavioral health needs;
- Identify a primary target for cognitive inter-ventions (e.g. substance dependence, criminal thinking);
- Collaborate with justice agencies to ensure that controls are integrated into treatment programming;
- Create an environment where individuals can improve by emphasizing motivation to change and building commitment to treatment; and
- Provide feedback to individual participants in programs to ensure long-term success.
Example of the RNR Program Tool Feedback Report for a Reentry Program

Below is a sample feedback report from the RNR Program Tool portal for a jail-based program that primarily targets criminal thinking. The feedback includes a summary of program components and scores in each of the six scoring areas as well as suggestions for improvement where applicable.

**RISK: 100%**
- Program targets moderate- to high-risk offenders.
- Program uses a validated risk-needs instrument.

**NEED: 100%**
- Program targets criminal thinking including antisocial thinking, criminal peers, and self-control.
- Program uses target-specific assessment criteria or instrument to determine eligibility.

**RESPONSIVITY: 100%**
- Research indicates the primary modality used in the program is effective (CBT, specifically the *Thinking for a Change* curriculum).
- The program uses both rewards and sanctions.
- The program is available for specific offender populations (e.g. offenders who are 18-30 years old).

**IMPLEMENTATION: 64%**
- Program requires attendance at a minimum of 75% of sessions for successful completion.
- Program is administered by either clinical staff or a mix of clinical and corrections staff.
- All program staff have at least a bachelor’s degree and prior experience delivering the *Thinking for a Change* curriculum.
- Program staff regularly communicate with supervision staff about participants’ progress.
- Program has been externally evaluated.
- Program uses *Thinking for a Change* manual to guide implementation.
- Program uses trained supervisors to coach staff on questions that arise during the course of instruction.
- Program has an internal team that monitors quality assurance.

**IMPLEMENTATION: To Improve Score:**
- Change program completion criteria to require change in thinking errors.
- Integrate staff who have advanced degrees (e.g., MASW, LCSW, PhD).
- Program director can arrange for external evaluation of the program.

**DOSAGE: 40%**
- Program provides approximately 180 hours of treatment to participants.
- Treatment is spread across 13 to 17 weeks.
- Services are provided on a daily basis, for approximately 10 to 14 hours per week.

**DOSAGE: To Improve Score:**
- Increase dosage to provide 200+ hours of direct treatment to participants.
- Extend program length to deliver services for 26+ weeks.
- Increase program hours to 15+ hours per week or 3+ hours per day.
- Offer program in phases and include aftercare.

**ADDITIONAL FEATURES: 60%**
- Program includes a number of complementary programing including: contingency management, educational services, psychosocial education, alcohol or drug education, moral reasoning, relapse prevention, and motivational interviewing.
- Program is located in a criminal justice facility (local jail).
- Program includes random monthly drug testing.

**ADDITIONAL FEATURES: To Improve Score:**
- Increase participation in other programs to complement the *Thinking for a Change* curriculum.
Finding the Right Programs for Justice-Involved Individuals

USING RISK AND NEED INFORMATION TO IMPROVE RESPONSIVITY AND REDUCE OFFENDING.

The **Assess an Individual** portal of the RNR Simulation Tool assists users in selecting appropriate controls and treatment for individuals.

**Q: What type of programming would this individual benefit from?**

A. The first step in matching offenders to appropriate programming groups is to identify their risk of recidivism and criminogenic needs. Risk information includes criminal history, age at first arrest, prior terms of probation or incarceration, and violations. Needs information refers to factors that influence an individual’s current situation, such as substance abuse or dependence, mental health, employment, associates, and criminal thinking. Often, this information can be obtained from a jurisdiction’s validated risk and need assessment instrument. Certain information (e.g. substance use severity and mental health) may require additional assessment. To determine what programming would most benefit an individual, agencies should prioritize individuals’ needs to ensure that criminogenic needs (those related to offending behaviors) receive immediate treatment.

**Q: What if the type of program recommended is not available?**

A. The Assess an Individual portal provides three recommendations of programming for each individual. The “best fit” programming recommendation will result in the highest recidivism reduction. The tool also provides second– and third-best fitting program recommendations. For each program recommendation made, the model also provides estimated reduced recidivism rates based on completion of a program. Users should keep in mind that the highest recidivism reductions will result from the best fitting programs.

**Q: Does the tool consider individual strengths?**

A. The RNR Simulation Tool assesses individual strengths to recognize the positive factors in individuals’ lives. Strengths include education, housing stability, employment, financial stability, and prosocial supports. These positive factors act as important stabilizers to help a person successfully complete supervision and treatment, and take positive steps in their lives. Reviewing the risk and need profile with an individual builds their knowledge and understanding of their own needs and helps strengthen commitment to address these factors.

**THE CASE OF THE MODERATE-RISK OFFENDER**

Moderate-risk offenders may pose a special challenge for justice professionals. While they tend to have shorter criminal histories than higher-risk offenders, they may also have a number of criminogenic needs and destabilizing factors which contribute to the risk of reoffending.

For example, a young adult with few prior arrests, but who is dependent on heroin, may be classified as moderate-risk despite a clear dependence disorder. It is important to assess criminogenic needs in addition to risk to determine factors linked to offending behaviors.

In responding to moderate-risk offenders, interventions should emphasize their criminogenic needs. Often such individuals do not need the same level of supervision controls placed on them. However, they may still benefit from evidence-based programming to help reduce their needs and build stabilizers in their lives.

**Review case information with offenders to build an understanding of risk and to reinforce strengths.**

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A DRUG-ADDICTED OFFENDER:

Jessica is a 39-year-old female offender on probation for possession of cocaine. She is a moderate-risk offender with a DSM-IV classification of dependence on cocaine. She does not display any patterns of criminal thinking, nor does she have any mental illness. She has someone she can depend on for emotional support. She does not have a high school diploma and is not employed. She regularly depends on public shelters and has many financial difficulties. She also has a number of friends that are criminally active. Her environment does not promote a drug- and crime-free lifestyle.

Best Fit Program: Group A

Prioritize Treatment to Address Substance Dependence

The RNR Assess an Individual portal estimates that an individual like Jessica has a 46% chance of being rearrested within three years. Although she is only moderate-risk, given her substance dependence the tool recommends that a program in Group A would be the “best fit” for her and result in the greatest reduction in recidivism. As indicated, the system estimates Jessica’s likelihood of being arrested within three years can be reduced to 37% if she successfully completes a Group A program. In the event that such a program is not available, the system also provides second– and third-best fitting program recommendations. Since Jessica is a female offender, a Group A program that targets females may provide increased responsivity.

Estimated Recidivism Rate:
Three Year Rearrest = 46%

Target Needs
Substance Abuse
Antisocial Peers/Family
Education
Employment
Housing
Financial
Family Support

PROGRAM GROUP A - SUBSTANCE DEPENDENCE

Group A programs predominately target drug dependence on hard drugs (e.g., crack/cocaine, opioids, and amphetamines), but also include interpersonal and social skills interventions. These programs target offenders with substance dependence, and offer a range of dosage levels across a continuum of care. Staff who implement these programs should have advanced degrees and use an evidence-based treatment manual. Program settings may include residential drug treatment, therapeutic communities, specialty courts, or intensive outpatient treatment.
Connor is a 30-year-old male who was just released from jail. He served a sentence for breaking and entering (general offender). He has a long criminal history (both juvenile and adult) and is a high-risk offender with criminal thinking patterns. He meets DSM-IV criteria for dependence on marijuana and has a mental health condition. He says that he has no one he can count on for emotional or social support. He graduated from high school, but he does not currently have a job. He often sleeps at his friends’ houses and occasionally will stay at a shelter. He uses his money to buy marijuana and often has trouble meeting his financial obligations. His friends are not criminally involved, but his environment is not supportive of a drug- and crime-free lifestyle.

**Best Fit Program: Group B**

Prioritize Treatment to Address Criminal Thinking and Co-Occurring Substance Dependence

**System Outputs**

<table>
<thead>
<tr>
<th>Estimated Recidivism Rate: One Year Reconviction</th>
<th>Target Needs</th>
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</thead>
<tbody>
<tr>
<td>29%</td>
<td>Criminal Thinking/Lifestyle</td>
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The RNR Assess an Individual portal estimates that an individual like Connor has a 29% chance of being reconvicted within one year. Given his criminal thinking/lifestyle and other risk and need factors the tool recommends that a program in Group B would be the “best fit” for him and result in the greatest recidivism reduction. As indicated, the system estimates that Connor’s likelihood of recidivism can be reduced to 23% if he successfully completes a Group B program. In the event a Group B program is not available, second– and third-best fitting program recommendations are also provided.

**AN OFFENDER WITH CRIMINAL THINKING:**

Connor is a high-risk offender with a primary need of criminal thinking. He also has co-occurring substance dependence and mental illness. Treatment should be prioritized to target criminal thinking while also working to stabilize his substance use and mental illness.

**PROGRAM GROUP B - CRIMINAL THINKING**

Group B programs primarily target criminal thinking/lifestyle by using cognitive restructuring techniques, but also include interpersonal and social skills interventions. These programs use cognitive-behavioral or behavioral based methods and offer a range of dosage levels across a continuum of care. Staff who implement the program should have advanced degrees in related fields and use an evidence-based treatment manual. Programs in Group B may include cognitive-based criminal thinking curriculums, therapeutic communities, behavioral interventions, and intensive supervision paired with treatment to change criminal thinking patterns.
Building a Responsive System

CLOSING THE GAP BETWEEN RISK-NEED PROFILES AND AVAILABLE SERVICES

The Assess Jurisdiction’s Capacity portal uses population-level data to assess a jurisdiction’s capacity to provide responsiveness. Based on inputted data about the prevalence of aggregate risk and needs in a jurisdiction, the tool will recommend the type and quantity of services that would best match the needs of that jurisdiction. For maximum responsiveness, we recommend jurisdictions use this portal in conjunction with the RNR Program Tool portal.

Q: How can my jurisdiction keep track of what programs we have available?

A. The RNR Simulation Tool offers a unique opportunity for program administrators to enter and save information about the programs they have available in their jurisdiction. Other site users can then view the available programs, including the programs’ intended targets (e.g., substance abuse, criminal thinking), to guide responsiveness and effectively match offenders to available programs.

Q: How can the RNR Simulation Tool help my jurisdiction prepare for changes associated with the Affordable Care Act (ACA)?

A. The RNR Simulation Tool will assist justice professionals in preparing for and responding to the expected influx in offender populations who will require access to behavioral health treatment services under the Affordable Care Act. The tool enables jurisdictions to classify their programs based on offender needs and helps determine if adequate programming exists to accommodate the offender population. Where sufficient programming is lacking, the portal provides recommendations to fill the treatment gap.

The Assess Jurisdiction’s Capacity Portal provides information on the match between a jurisdiction’s actual program capacity and the programming capacity recommended by the RNR Simulation Tool.
Example: Reducing Recidivism through System-Wide Responsivity

Jurisdiction A serves over 35,000 justice-involved individuals with community-based substance abuse and mental health treatments. Fifty-five percent of the population is high risk, 26% is moderate risk, and 19% is low risk.

The individuals in this jurisdiction also have varying substance use disorders. Thirteen percent of the population meets DSM-IV criteria for substance dependence on a criminogenic drug, 32% is dependent on marijuana or alcohol, 38% abuses a non-criminogenic drug, and 17% of the population does not meet DSM-IV criteria for substance use disorder. The population is also characterized by a number of other dynamic needs, with 68% of the population in need of employment assistance, 54% in need of educational services, 2% in need of housing assistance, and 41% in need of a combination of two or more services.

The RNR Simulation Tool performed a gap analysis to determine if treatment needs are being met by the programs in this jurisdiction. This gap analysis revealed that despite the availability of programming, a gap exists for services which target the most severe substance dependencies. At the same time, there is an excess of programming that targets interpersonal skill development (Group D).

Administrators can use this information to build the capacity of their system to provide appropriately targeted treatment to meet the needs of their offender population. This should help reduce offender needs, reduce individuals’ risk of recidivism, and increase public safety.

Jurisdiction A's gap analysis indicates that they are currently lacking adequate programming in Groups A, B, and C, and have an excess of programming in Groups D, E, and F. The RNR Simulation Tool not only identifies this gap in service provision, but also provides recommendations of programs to help fill the gap and increase the jurisdiction's capacity for responsibility.

REFERENCES


The RNR Simulation Tool is part of a larger suite of web-based translational tools for practitioners. The CJ-TRAK Knowledge Translation Tool Suite is also home to SOARING 2, an eLearning software package to train community corrections officers in evidence-based practices, and EMTAP, a synopsis of research findings in corrections and related fields. For more information on these or other ACE! projects, please contact ace@gmu.edu.

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CJ-TRAK was developed by the Center for Advancing Correctional Excellence (ACE!) (www.gmuace.org) at George Mason University. The RNR Simulation Tool involved the contributions from the Center for Advancing Correctional Excellence (ACE!), the University of Massachusetts, Lowell; Maxarth, LLC; and Slonky, LLC under grant BJA 2010 DG-BX-K026, with additional funding from SAMHSA under grant number 202171, the Public Welfare Foundation, and ACE!.