Risk Assessment and Management in the Context of Competency Restoration

Sarah L. Desmarais, PhD
Professor of Psychology
North Carolina State University

April 16, 2021, 2:00 PM ET

SAMHSA's GAINS CENTER

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Substance Abuse and Mental Health Services Administration

Welcome and Housekeeping

Lisa Callahan, PhD
Senior Research Associate II
Policy Research Associates, Inc.
SAMHSA's GAINS Center

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Agenda

Welcome	**Lisa Callahan, PhD** *Senior Research Associate II* *Policy Research Associates and SAMHSA's GAINS Center*
Opening Remarks	**Roxanne Castaneda, MS OTR/L FAOTA** *Public Health Advisor, SAMHSA*
Presentation	**Sarah L. Desmarais, PhD** *Professor of Psychology* *North Carolina State University*
Closing Remarks	**Lisa Callahan, PhD** *Senior Research Associate II* *Policy Research Associates and SAMHSA's GAINS Center*

Opening Remarks

Roxanne Castaneda, MS OTR/L, FAOTA
Public Health Advisor
SAMHSA

Introducing the Speaker: Sarah L. Desmarais, PhD

Professor of Psychology
North Carolina State University

- Dr. Sarah L. Desmarais is Professor in the Applied Social and Community Psychology Program at North Carolina State University. Her research focuses on assessment and treatment of risks and needs associated with criminal behavior, interpersonal violence, and terrorism.
- She has over 120 peer-reviewed publications on topics including violence and mental illness, risk assessment, terrorism, and intimate partner violence; and she has held over $9 million in contracts and grants from agencies including the National Institute of Mental Health, the National Institute on Drug Abuse, the National Science Foundation, and the North Carolina Division of Social Services.
- Dr. Desmarais has conducted trainings worldwide on violence risk assessment and has written reports adopted by the U.S. National Institute of Justice and National Institute of Corrections.

Presentation Overview

- Introduction
- Context
- Risk assessment approaches and tools
- State of the science
- Risk management

Introduction to Risk Assessment

Risk Assessment

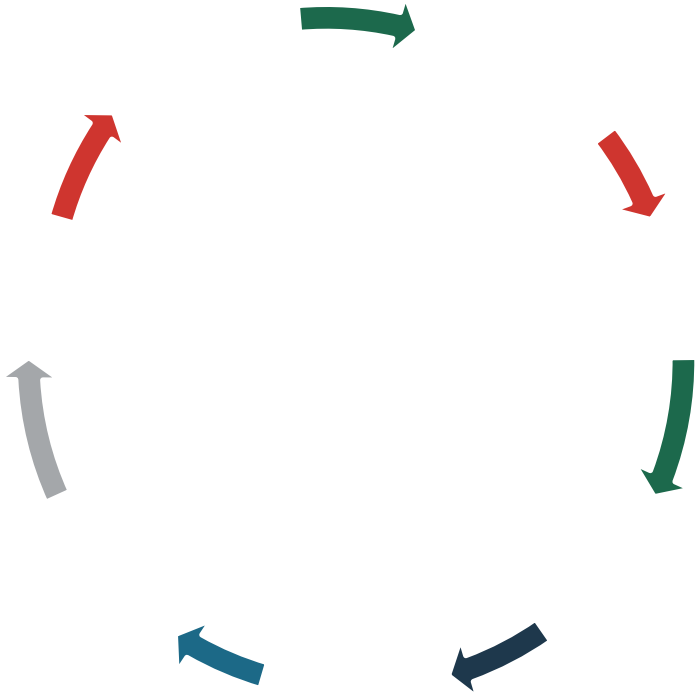
- Process of:
  - Identifying factors associated with threat(s) to public safety
  - Estimating likelihood and severity of future threat(s) to public safety
  - Informing decisions
  - Identifying strategies to mitigate risk
  - Monitoring risk over time
- Will occur with or without risk assessment instruments

Role of Risk Assessment Instruments

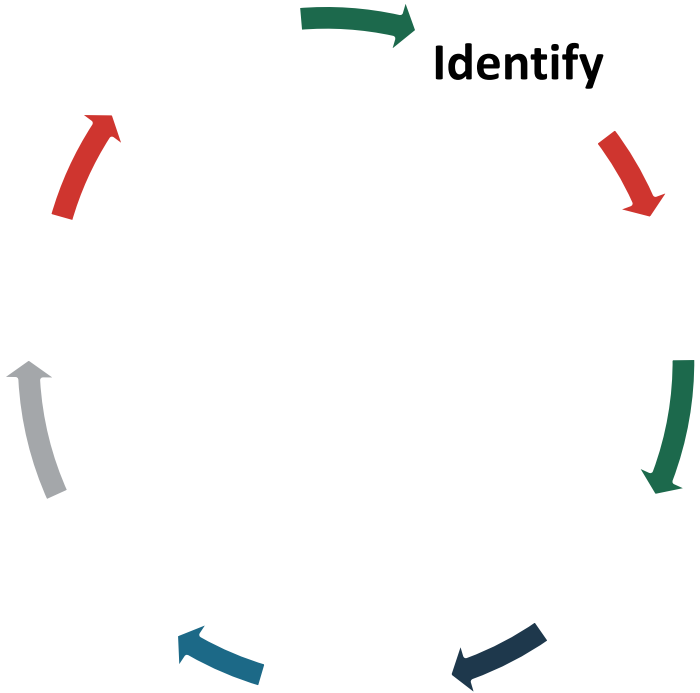
Structured risk assessment instruments are designed to inform (not replace) decision-making.

Desmarais & Lowder (2020); Vincent & Viljoen (2020)

Process of Risk Assessment



Process of Risk Assessment



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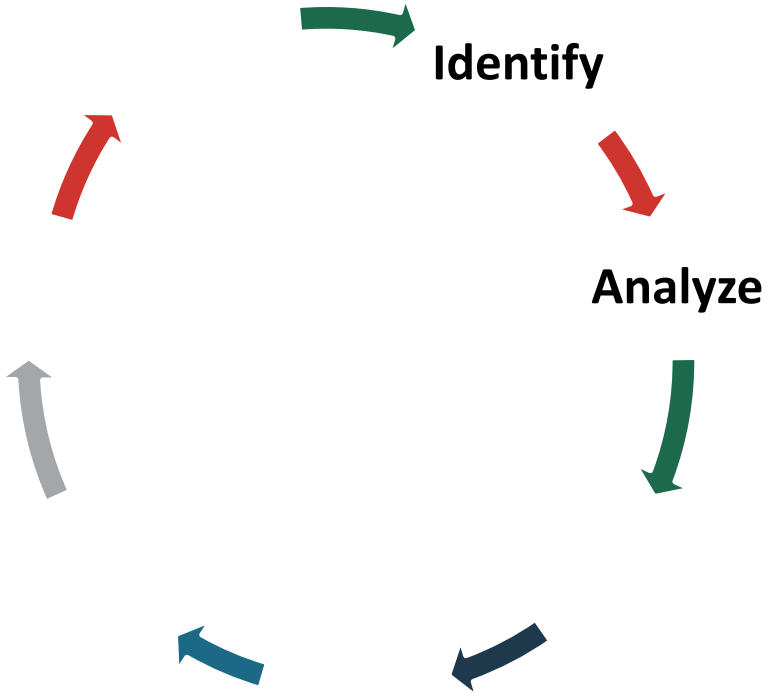

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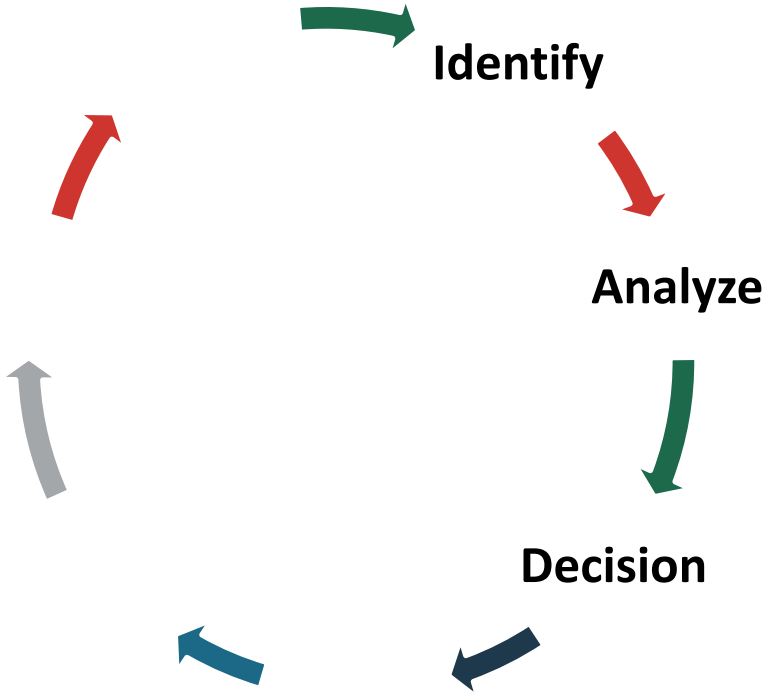

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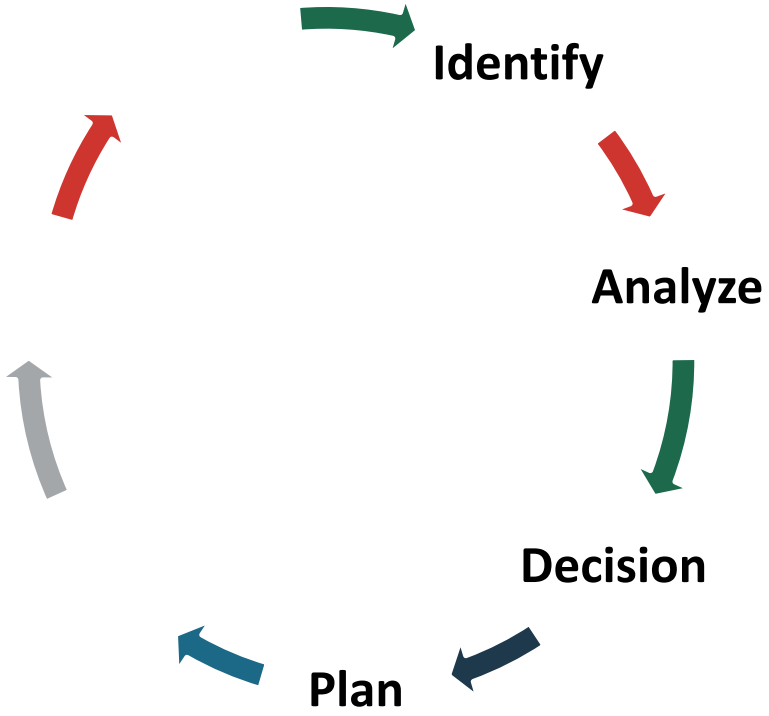

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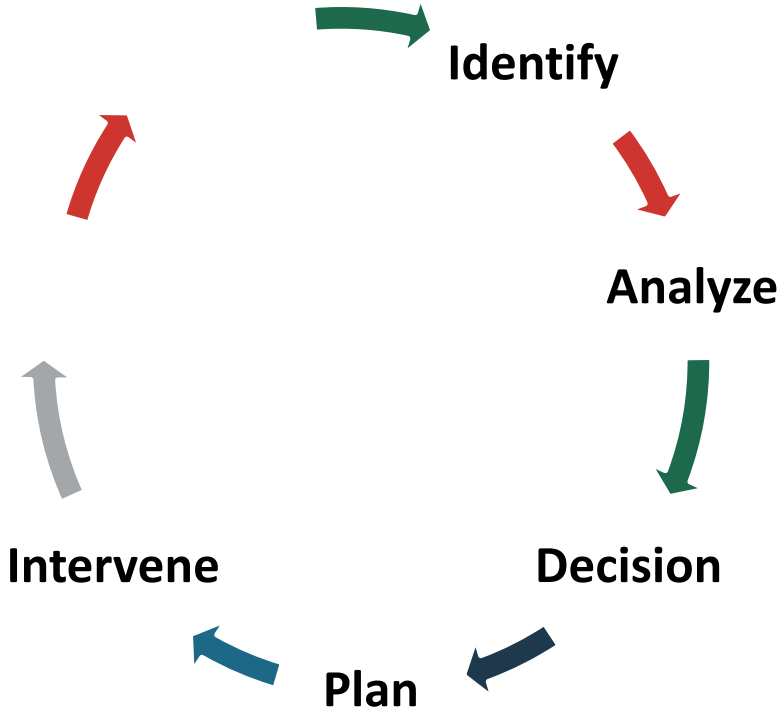

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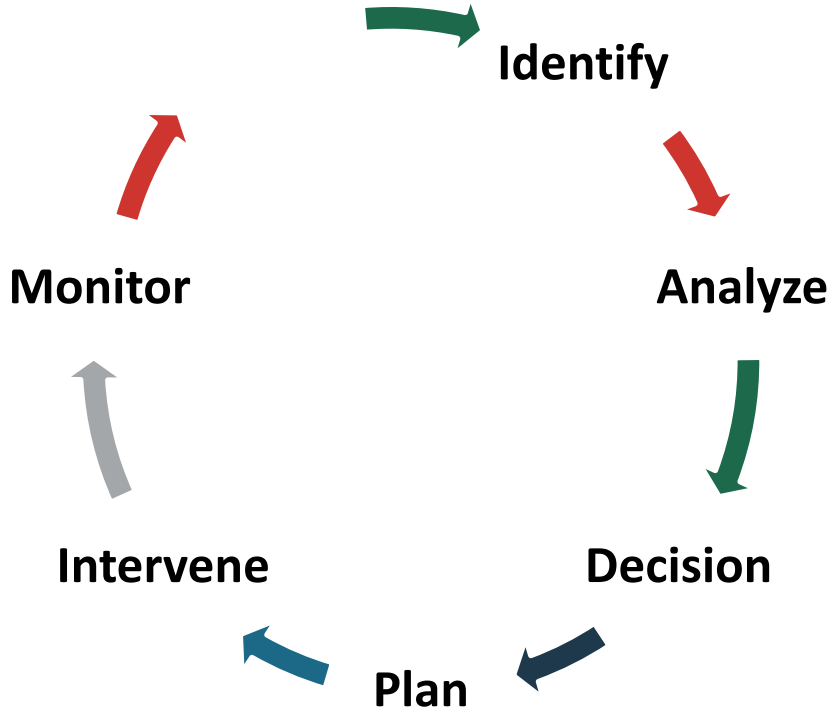

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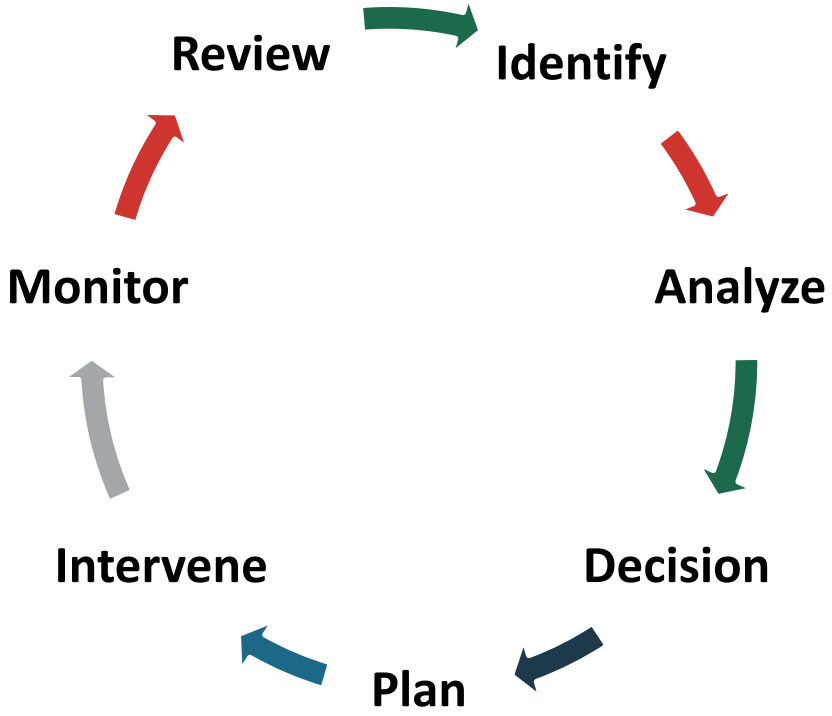

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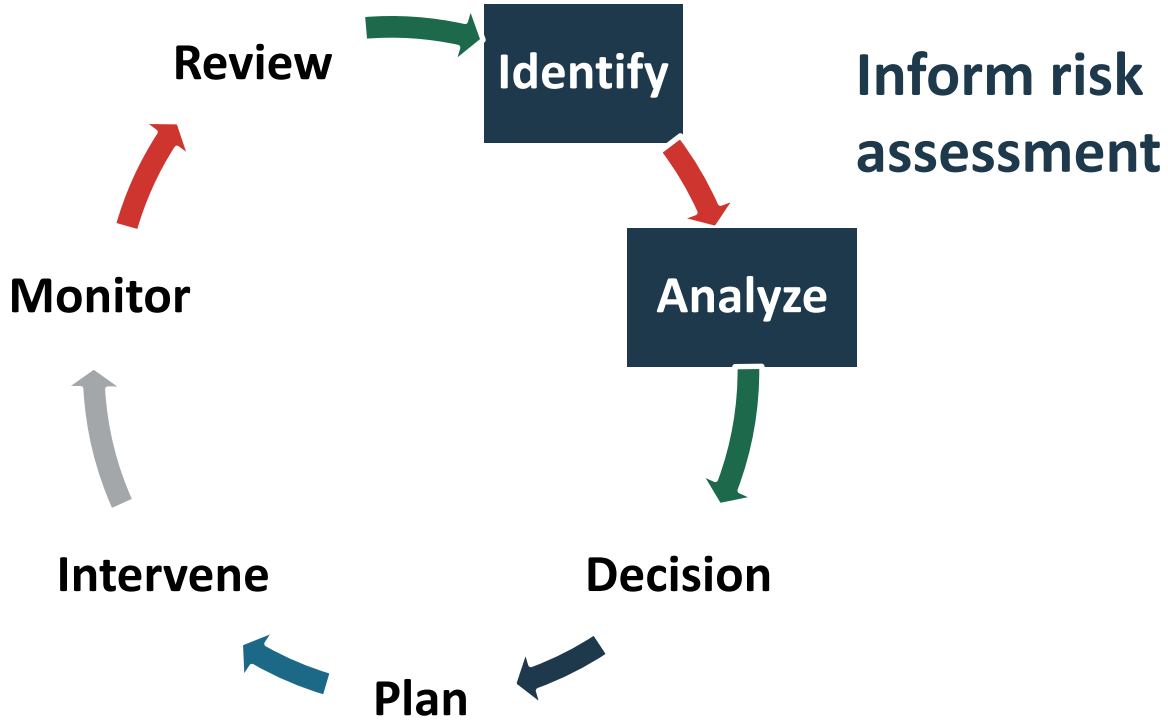

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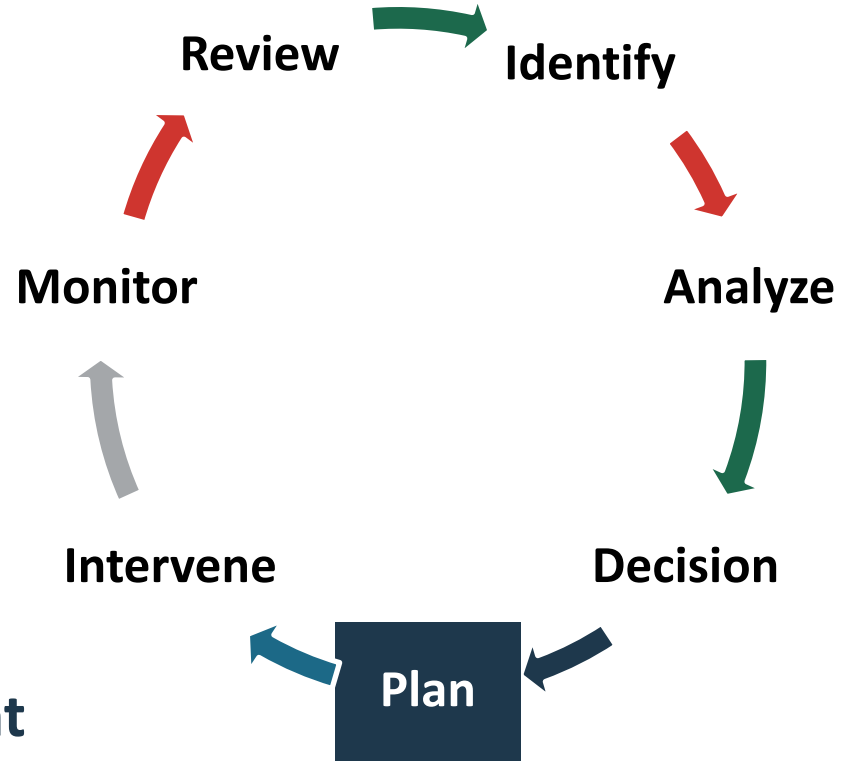
Process of Risk Assessment



Informs risk management

Adapted from Health Level Seven (2010)

Context of Competency Restoration

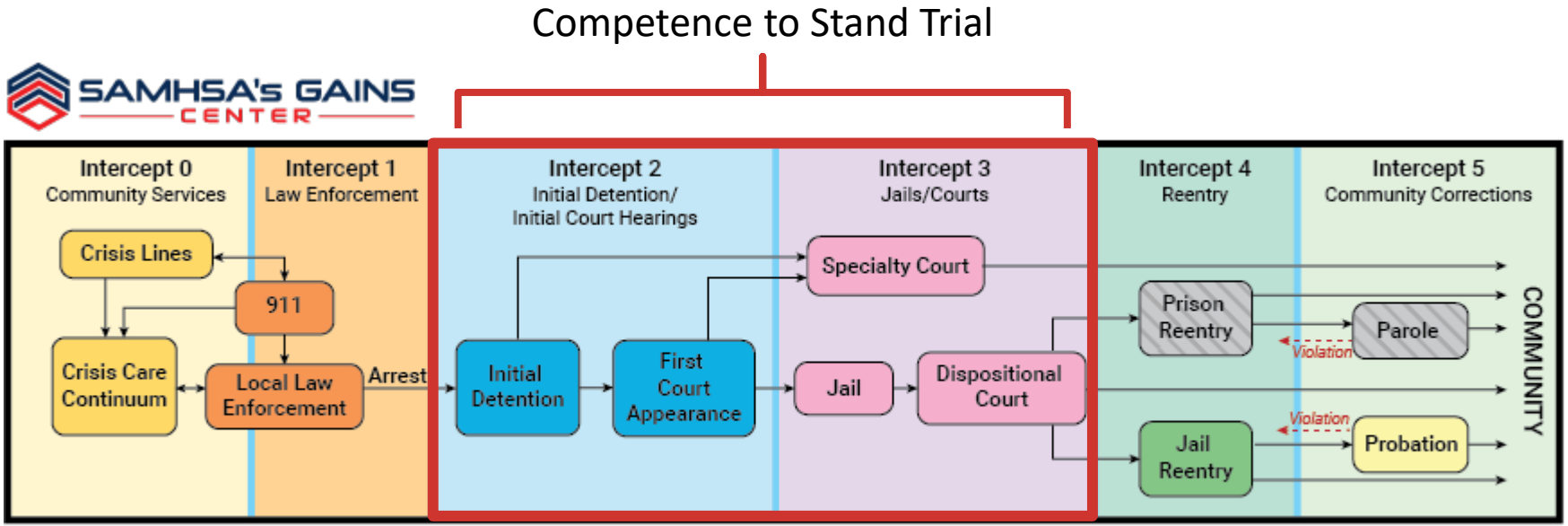
Reforming Competence Restoration

- High rates of referrals for competence to stand trial evaluation and restoration processes
  - Long waits in jail
  - Psychiatric decompensation
  - Social and economic impacts
  - Delay of criminal justice proceedings
  - Negative impact on due process
  - High system costs

Critical need for improved system response

Danzer, et al. (2019); Callahan & Pinals (2020); Zapf & Roesch (2011)

Opportunities for Diversion



Abreu, D., Parker, T. W., Noether, C. D., Steadman, H. J., & Case, B. (2017). Revising the paradigm for jail diversion for people with mental and substance use disorders: Intercept 0. *Behavioral Sciences & the Law, 35*(5-6), 380-395. https://doi.org/10.1002/bsl.2300

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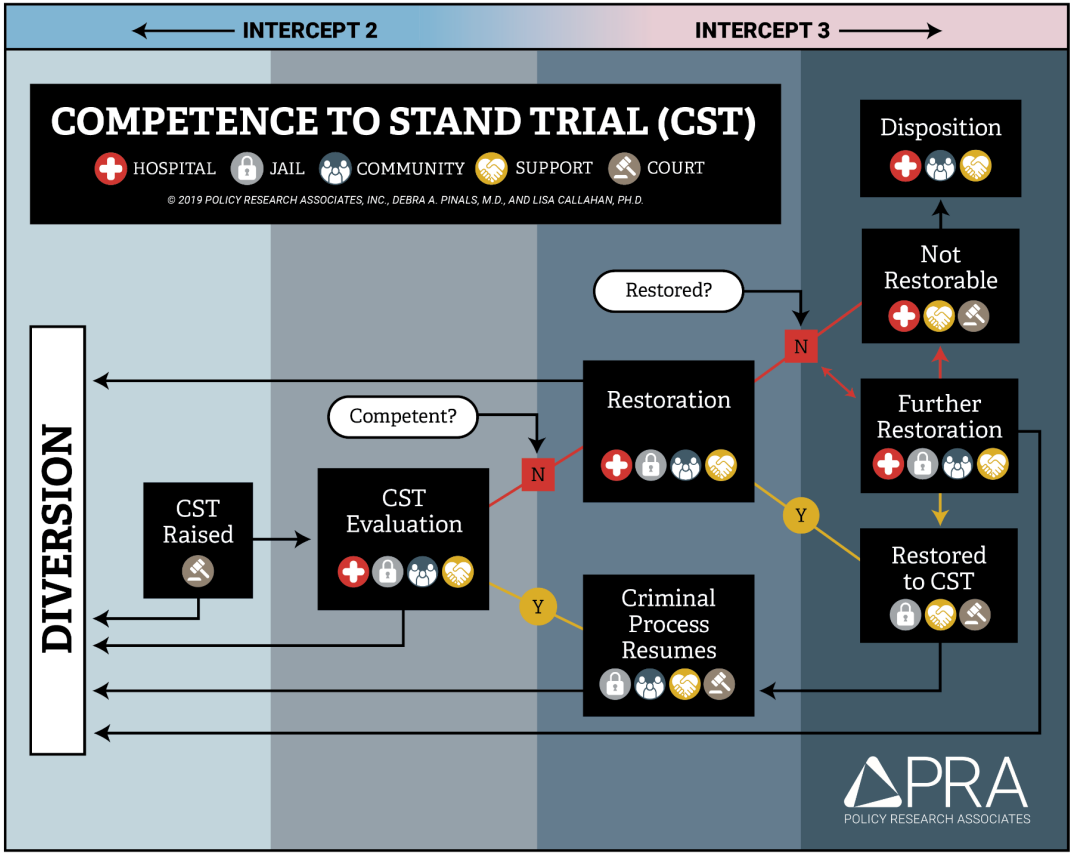
Opportunities for Diversion



Retrieved 17 March 2021 from www.pra.com.

Competency Restoration Context

- 3 issues of primary concern
  - Incompetence
  - Restorability
  - Location of restoration efforts
    - State hospitals
    - Jails
    - Outpatient

Danzer, et al. (2019); Pinals & Callahan (2020)

Location of Restoration

- Goal
  - Least restrictive level of care
- Considerations
  - Availability of hospital beds
  - Track record of
    - Medication adherence
    - Use of outpatient to prevent decompensation
  - Likelihood of appearing in court
  - Level of risk to public safety
  - Availability of treatment services and risk management strategies in the community

Danzer, et al. (2019); Pinals & Callahan (2020)

Requires completion of a reliable and valid assessment of risk to public safety that can inform decision-making and intervention

Risk Assessment Approaches

Approaches to Risk Assessment

Two General Approaches

1. **Unstructured professional judgments**
   - Decision maker relies on their professional training and experience to estimate threat to public safety

Desmarais & Lowder (2020)

Unstructured Risk Assessment

- Concerns
  - Training and expertise
  - Lack of transparency
  - Lack of consistency
  - Highly susceptible to biases
  - Poor accuracy

"Flipping Coins in the Courtroom"

Ennis & Litwack (1974); Monahan (1981)

Unstructured Risk Assessment

- Decades of research that statistical estimates of human behavior are:
  - More consistent
  - More transparent
  - More accurate
  - Less biased

    especially for judgments of violence and crime

- Risk assessment instruments developed to address the limitations of unaided human judgment

Meehl (1954); Grove, et al. (2000); Jung, et al. (2020); Lin, et al. (2020)

Approaches to Risk Assessment

Two General Approaches

1. **Unstructured professional judgments**
   - Decision maker relies on their professional training and experience to estimate threat to public safety
2. **Structured risk assessment instruments**
   - Set list of items rated and combined to produce risk estimates
     - Diverse methods to combine and produce scores
   - Paper-based or computerized
   - Filled out based on records or require an interview
   - Accepted state of science and practice

Desmarais & Lowder (2020)

Examples

- Recidivism risk
  - Ohio Risk Assessment System (ORAS)
  - Level of Service (LS) instruments*
  - Correctional Offender Management Profile for Alternative Sanctions (COMPAS)*
- Violence risk
  - Historical-Clinical-Risk-20 (HCR-20)
  - Short-Term Assessment of Risk and Treatability (START)
  - Violence Risk Appraisal Guide (VRAG)
- Sexual violence risk
  - Static-99R
- Pretrial risk
  - Public Safety Assessment (PSA)*
  - Virginia Pretrial Risk Assessment Instrument (VPRAI)

**Includes violent recidivism risk and/or validated for violent recidivism.*

State of the Science

Media Coverage and Discourse

- Risk assessment instruments are:
  - Unable to predict outcomes.
  - Racially biased.
  - Increasing punitive response.
  - Exacerbating racial disparities.

Examples

The New York Times

The Problems With Risk Assessment Tools

RAIs simply add a veneer of scientific objectivity and mathematical precision to what are really very weak guesses about the future.

— Pretrial Justice Institute

The Marshall Project

NEWS FILED 6:00 a.m. 07.05.2019 By BETH SCHWARTZAPFEL

Can Racist Algorithms Be Fixed?

A new study adds to the debate over racial bias in risk assessment tools widely used in courtrooms.

The Philadelphia Inquirer

Pennsylvania's proposed risk-assessment tool is racist, critics say. It's up for a vote this week anyway.

by Samantha Melamed, Updated: September 4, 2019

11/22/2019

The Boston Globe

OPINION | JENS LUDWIG AND CASS R. SUNSTEIN

Discrimination in the age of algorithms

By Jens Ludwig and Cass R. Sunstein . Updated September 24, 2019, 5:00 a.m.

THE USE OF PRETRIAL "RISK ASSESSMENT" INSTRUMENTS:

A SHARED STATEMENT OF CIVIL RIGHTS CONCERNS

July 2018

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Scientific Issues

- Risk assessment instruments are:
  - Unable to predict outcomes → Predictive validity
  - Racially biased → Test bias
  - Increasing punitive response → Effectiveness
  - Exacerbating racial disparities → Disparate impact

Concerns should be taken seriously and evaluated using rigorous (and appropriate) scientific methods.

Predictive Validity

- Degree to which the assessment results predict outcomes they were designed to predict
  - Identify and differentiate between people who pose lesser and greater risk to public safety.
- Performance metric
  - Measure strength of association between assessment results and observed behavior(s) during specified follow-up period.

Predictive Validity

- Hundreds of studies and more than a dozen meta-analyses of accuracy in predicting violence and crime
  - Schwalbe (2007, 2008)
  - Blair et al. (2008)
  - Guy (2008)
  - Smith et al. (2009)
  - Hansen et al. (2009)
  - Campbell et al. (2009)
  - Olver et al. (2009)
  - Viljoen et al. (2009)
  - Singh et al. (2011)
  - Bechtel et al (2011, 2017)
  - Fazel et al. (2012)
  - Helmus et al. (2012)
  - Williams et al. (2017)
  - Desmarais et al. (2016, 2020)
- Moderate effect sizes = acceptable predictive validity
- Better than unaided human judgments

Jung, et al. (2020); Lin, et al. (2020); Viljoen, et al. (2021)

Test Bias

- Quality and accuracy of estimates produced by risk assessment instruments
- Depends upon availability, quality, and accuracy of information
  - "Bias in, bias out"
    - Examples include age of first arrest, prior violent conviction.
  - Racist algorithms vs. racist systems
    - If data accurately represent practices, then algorithms that perform differently across groups are not racist but reveal systemic biases.

AERA, APA, & NCME (2014)*; Mayson (2019); Vincent & Viljoen (2020)*

Predictive Bias

- Peer-reviewed studies find limited evidence of differences in predictive validity by race/ethnicity.
- Differences between groups:
  - Differences are not consistently in anticipated direction.
  - Differences are small (statistically and practically).
  - Predictive validity remains good (or better) within groups.
- Relationship between assessment results and recidivism is comparable across groups.**
  - Average risk score relates to average recidivism rate in same way across groups.

E.g., Desmarais, et al. (2016, 2020); Skeem & Lowenkamp (2016); Lowder, et al. (2019,2020)

Test bias

≠

Systemic disparities

Lowder, et al. (2020); Marlowe, et al. (2006, 2020); Viljoen, et al. (2019)

Effectiveness

- To affect outcomes, assessment results must inform decisions and interventions.
- Judges and others do not always (or even often) use assessment results in decisions.
  - Example: treatment resource hypothesis
- As adherence to assessment results increase, outcomes improve.
  - Reduction in restrictive placements
  - Increased match of interventions to risks and needs
  - Reduced violence and recidivism

Garrett, et al. (2019); Lowder, et al. (2020); Marlowe, et al. (2020); Onifade et al (2019); Viljoen, et al. (2019)

Disparate Impact

- Occurs when decisions are more punitive (or lenient) as a function of group membership
  - Example: *Black people less likely to be diverted than White people.*
- To establish that risk assessment instruments **exacerbate** racial disparities, must show that:
  - RAI-informed decisions are more punitive for people of color compared to decisions that are not RAI-informed.
  - Example: Black people are less likely to be diverted than White people in RAI-informed decisions than decisions that are not RAI-informed.

Disparate Impact

- Key findings
  1. RAI-informed decisions less restrictive for people of color and White people compared to decisions that are not RAI-informed
  2. Limited evidence that RAI-informed decisions are more restrictive for people of color than decisions that are not RAI-informed
  3. Evidence that adherence to assessment results is associated with race/ethnicity

Lowder, et al. (2020); Marlowe, et al. (2006, 2020); Orton, et al. (2020); Viljoen, et al. (2019)

Summary of Scientific Evidence

- Risk assessment instruments
  - Show good (not poor) predictive validity.
  - Have limited (if any) predictive bias.
  - Contribute to less restrictive decisions.
  - Do not show disparate impact.

When evaluated using appropriate and rigorous scientific methods

“Risk assessment tools may not achieve a defined notion of fairness, but rather be comparatively better than status quo.”

Partnership on AI

Risk Management

Risk Management

- Implementing a risk assessment instrument is not enough to improve system response and case outcomes.

Risk-Need-Responsivity (RNR) Model

- Strategy for improving system response and case outcomes with adherence to:
  1. Risk principle
  2. Need principle
  3. Responsivity principle

Andrews & Dowden (2006); Andrews & Bonta (2010); Lowenkamp, et al. (2006)

Risk Principle

- Calibrate level of intensity and frequency of supervision and services to level of risk
  - Higher risk → more resources
  - Lower risk → fewer resources
- Over-intervening → increase adverse outcomes
  - Increase risk factors
  - Reduce protective factors

Risk Principle Guidelines

- **Low:** Routine monitoring and re-assessment
  - Monitor as usual and re-assess if circumstances change.
  - Typically there is no need for additional supervision or intervention.
- **Moderate:** Some focused supervision and intervention
  - Provide some well-planned risk management and intervention strategies (e.g., additional monitoring, short-term or problem-focused therapy).
- **High:** Intensive and specialized supervision and intervention
  - Implement immediate and sufficiently intense intervention strategies (e.g., specialized and targeted services, frequent contact/sessions).

Risk Principle in Competency Restoration

- Risk principle is relevant to two considerations:

1. Location

- Least restrictive level of care for identified level of risk
- Community resources must be available to manage risk

2. Case management

- Frequency and intensity of services
  - Conditions
  - Supervision strategies
  - Frequency of supervision meetings or court appearances
  - Treatment dosage (pharmacological and psychosocial)
- No universal standards or guidelines

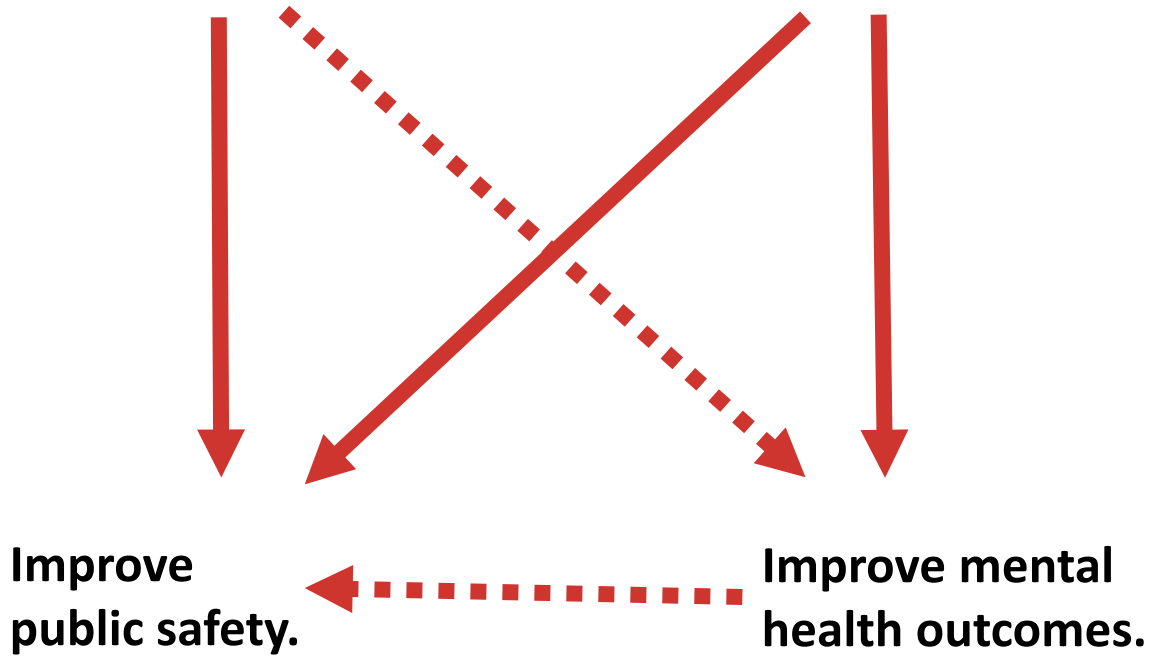
Need Principle

- Target risk and protective factors relevant to violence risk *for that person:*
  - Criminogenic needs and treatment needs
  - Increased treatment match, improved outcome
- Focus on:
  - Dynamic, not static factors
  - Proximal, not distal factors

Singh, et al. (2014); Garrett, et al. (2019)

Need Principle in Competency Restoration

Address **criminogenic** and **treatment** needs.



Desmarais & Lowder (2020)

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Responsivity Principle

- One-size-fits-all approaches do not work.
  - At both population and person levels
- Individually tailor risk management and treatment strategies to promote positive response.
  - Monitor progress
  - Change strategies over time, as needed
- Two types:
  1. General responsivity
     - Cognitive social learning methods
  2. Specific responsivity
     - Characteristics of individual and of system

Bonta & Andrews (2007); Bourgon & Bonta (2014); Kennedy (2000)

General Responsivity

- Use cognitive social learning methods with demonstrated effectiveness in changing behavior.
  - Provide structure to support prosocial behavior.
- Emphasize working alliance and relationship.
  - Establish a warm, respectful, trusting, and collaborative working alliance.
  - Create opportunity to reduce stigma and improve equity.
    - Example: Cultural humility and multicultural orientation approach

Bonta & Andrews (2007); Mosher, et al. (2017)

Specific Responsivity

- Address individual and environmental characteristics.
  - Internal responsivity
    - Tailor intervention or use specialized interventions.
    - Examples:
      - Culturally-tailored services
      - Trauma-informed training and services
      - Gender-specific services
      - Motivational interviewing
  - External responsivity
    - Aspects of environment may limit treatment effectiveness.
      - Staff skills, characteristics, and beliefs
      - Institutional culture
      - Broader practices and policies

Bonta & Andrews (2007); Bourgon & Bonta (2014); Kennedy (2000)

Responsivity Principle in Competency Restoration

- There are many responsivity factors, including mental illness.
  - Most will have current symptoms.
  - Some may have acute symptoms.
- Use stepwise, approach that prioritizes public safety.
  - Plan for safety and implement risk management strategies.
  - Address acute symptoms to build stability.
  - Treat criminogenic and treatment needs to case outcomes and public safety.

Desmarais & Lowder (2020)

Responsivity Principle in Competency Restoration

- Anticipate change in risk over time in response to intervention.
- Risk assessment and treatment plan have a shelf-life.
  - Establish metrics and expectations.
  - Implement mechanism and timeline for monitoring and review.
  - Modify assessment and plan as necessary.
- It is not necessary to start from scratch.
  - What has changed (for better or worse)?
  - What is the same?
  - What do strategies need to change?
  - What do strategies need to continue?

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Thank You

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