

Risk Assessment and Management in the Context of ACT

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Presentation Overview

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



Introduction to Risk Assessment

Risk Assessment

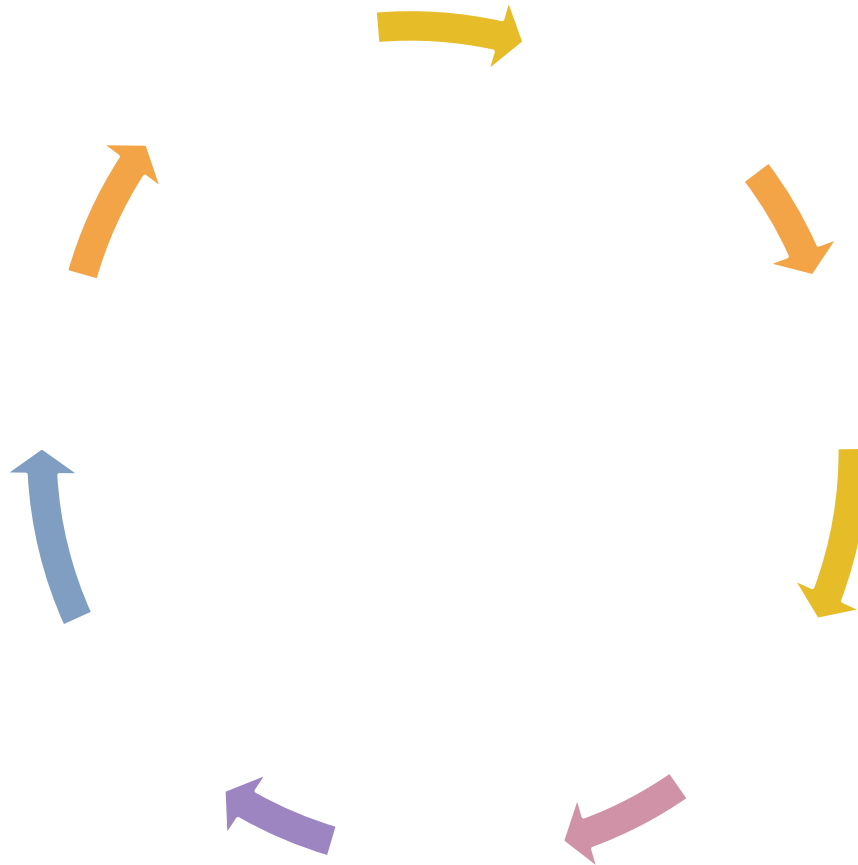
- ▶ **Process of:**
 - ▶ Identifying factors associated with threat(s) to public safety
 - ▶ Estimating likelihood and severity of future threat(s) to public safety
 - ▶ Informing decisions
 - ▶ Identifying strategies to mitigate risk
 - ▶ Monitoring risk over time
- ▶ **Will occur with or without risk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



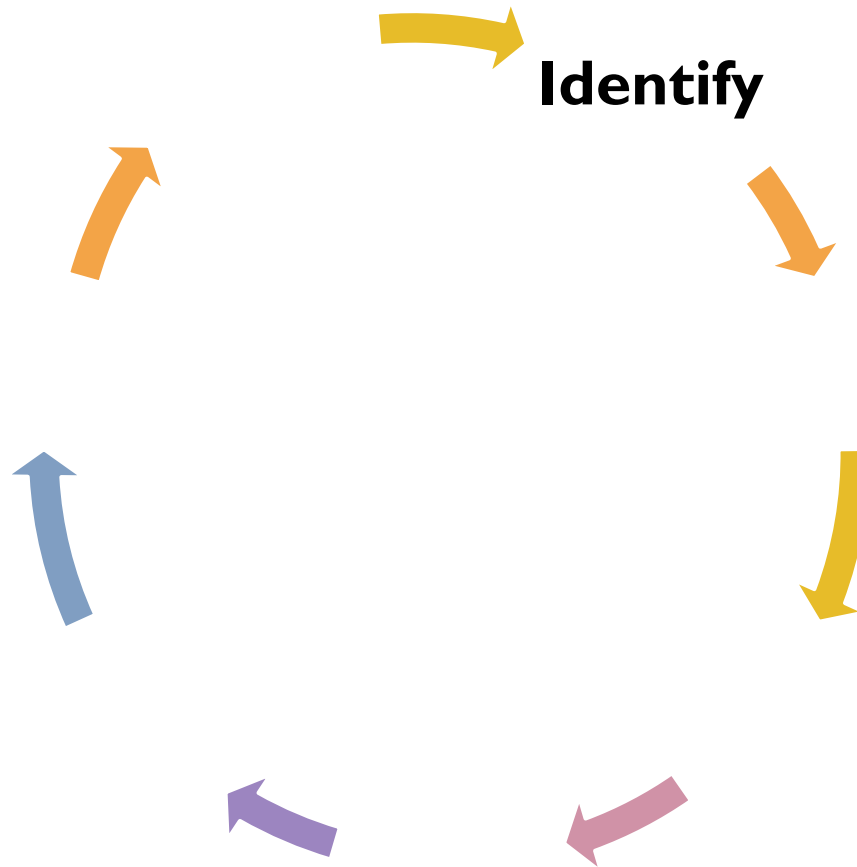
Role of Risk Assessment Instruments

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

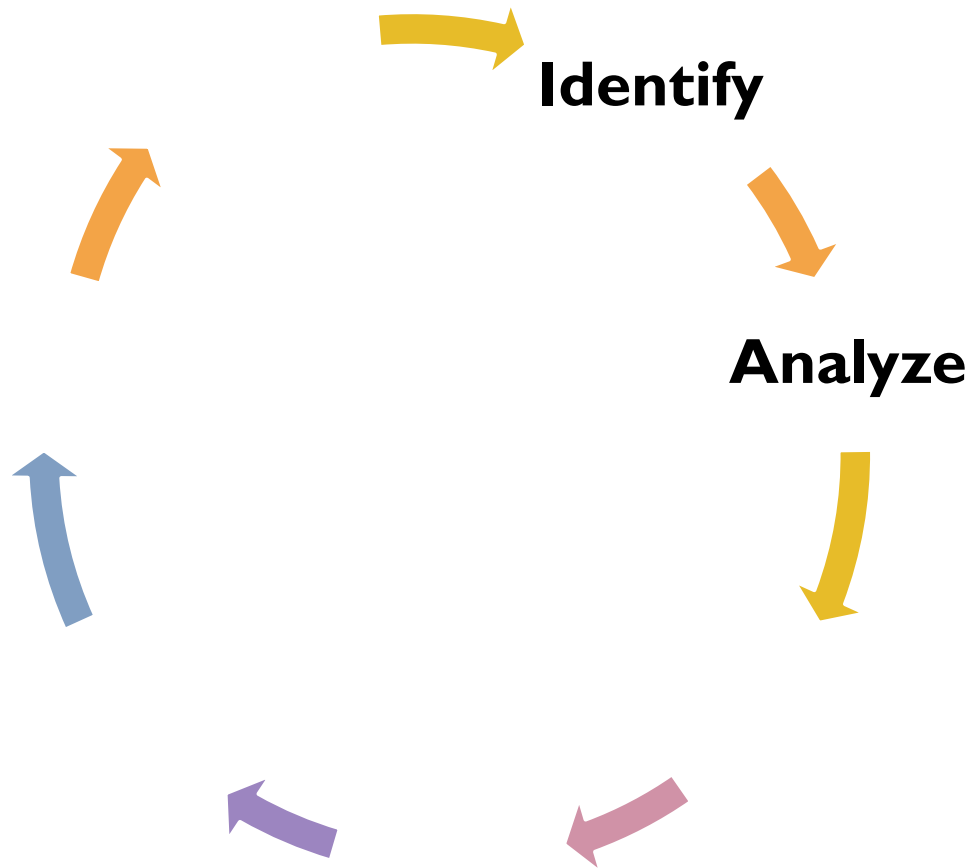
Process of Risk Assessment



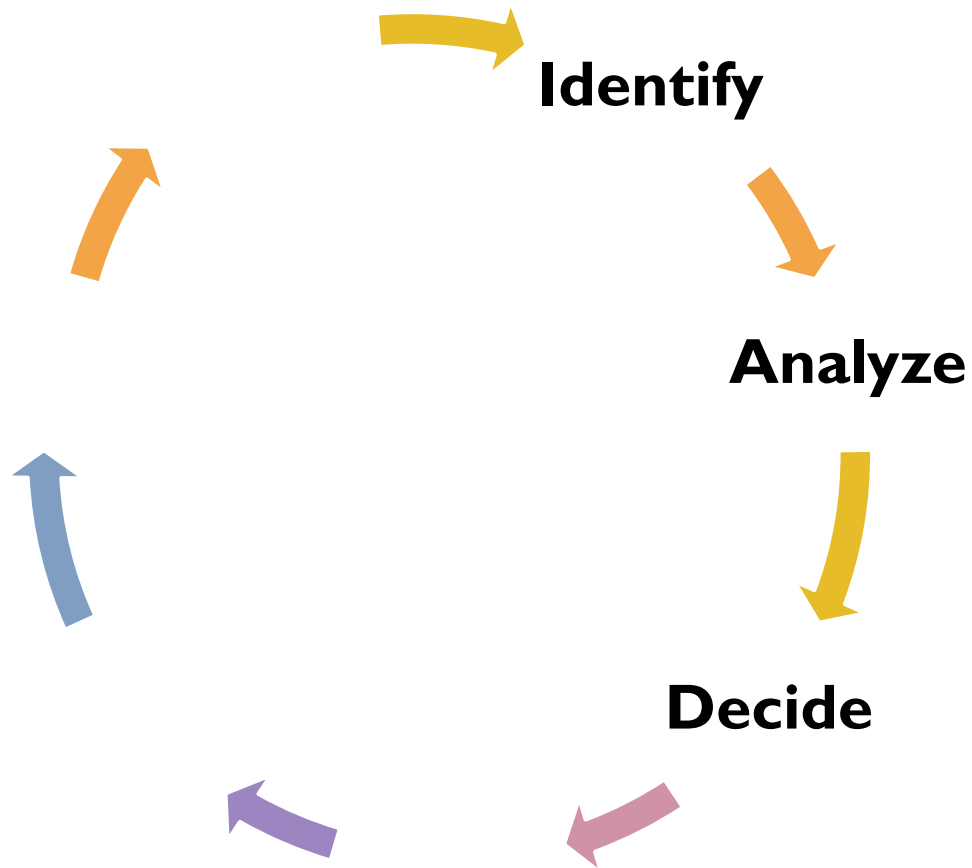
Process of Risk Assessment



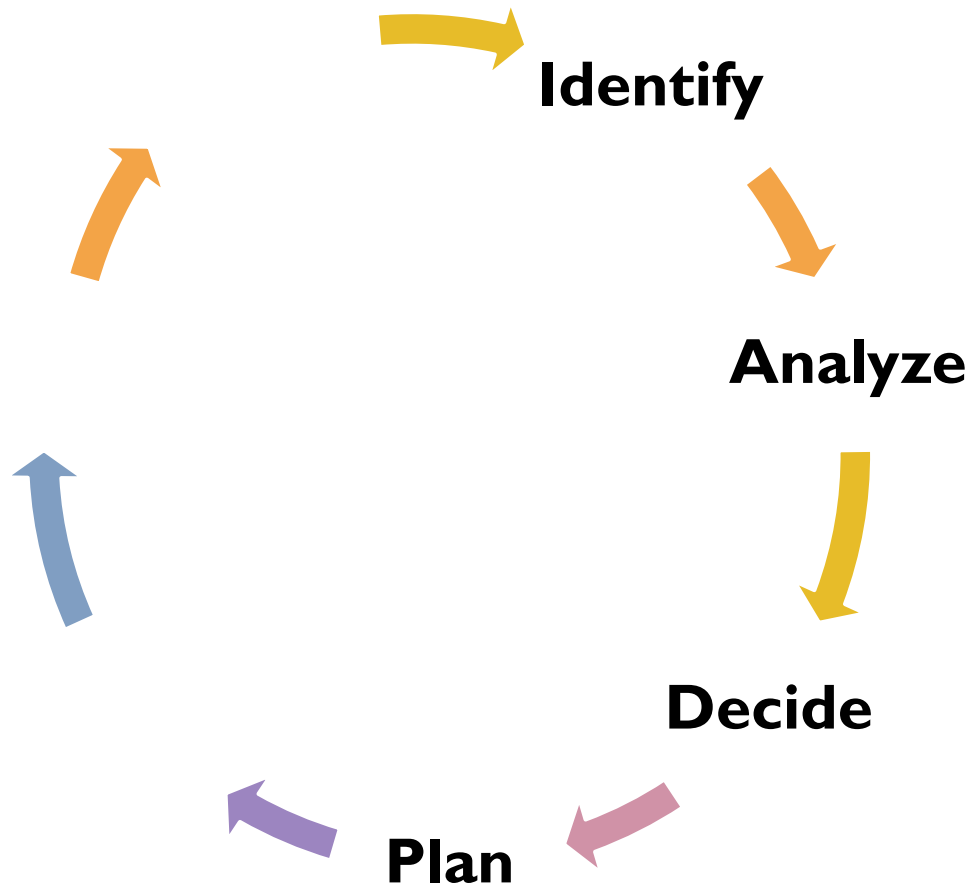
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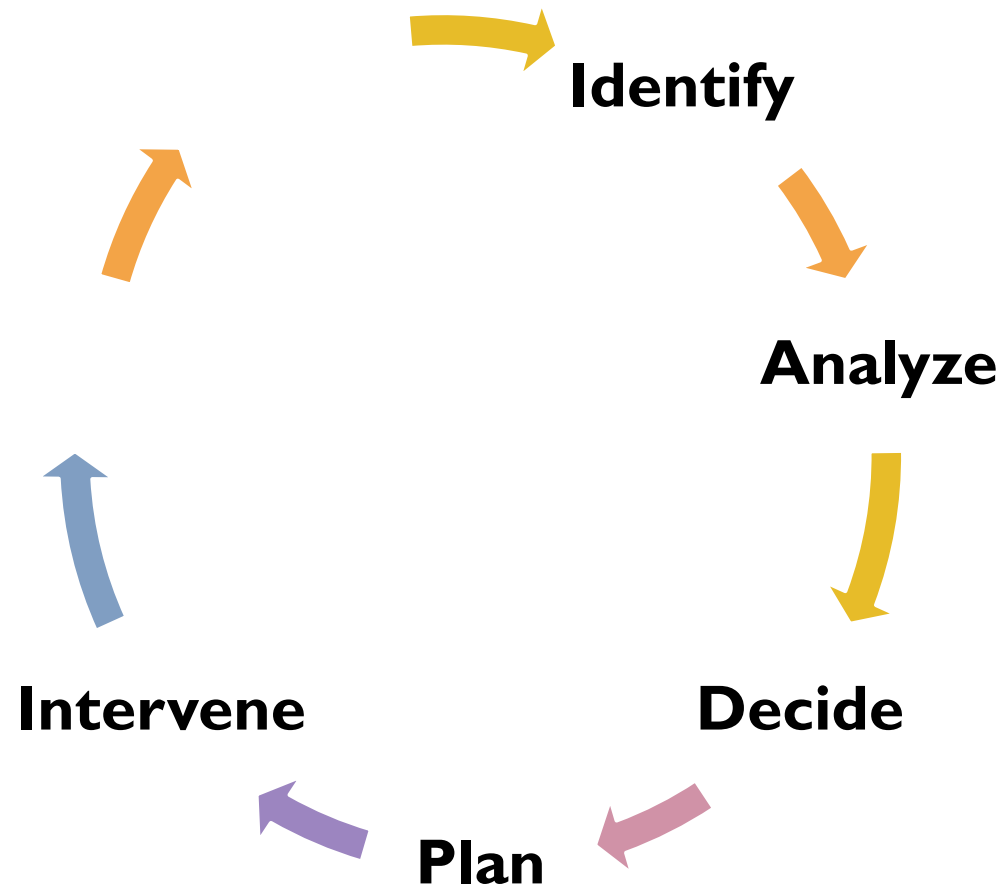
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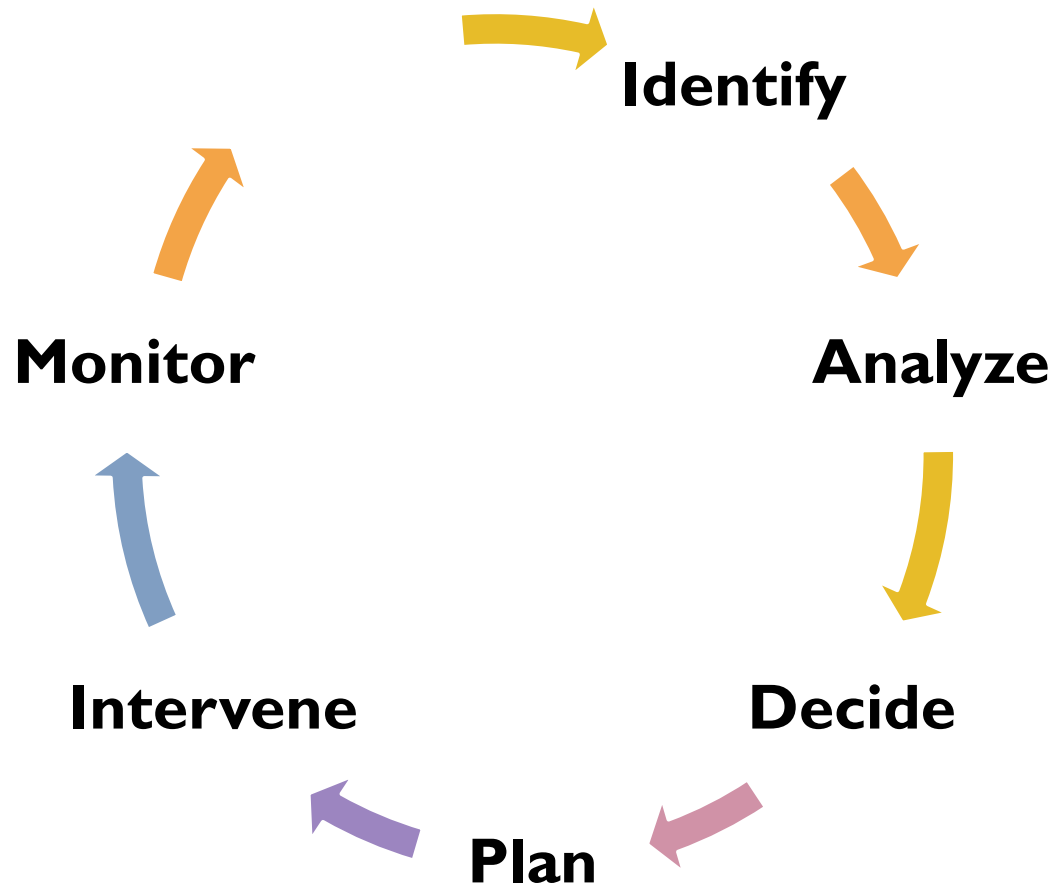
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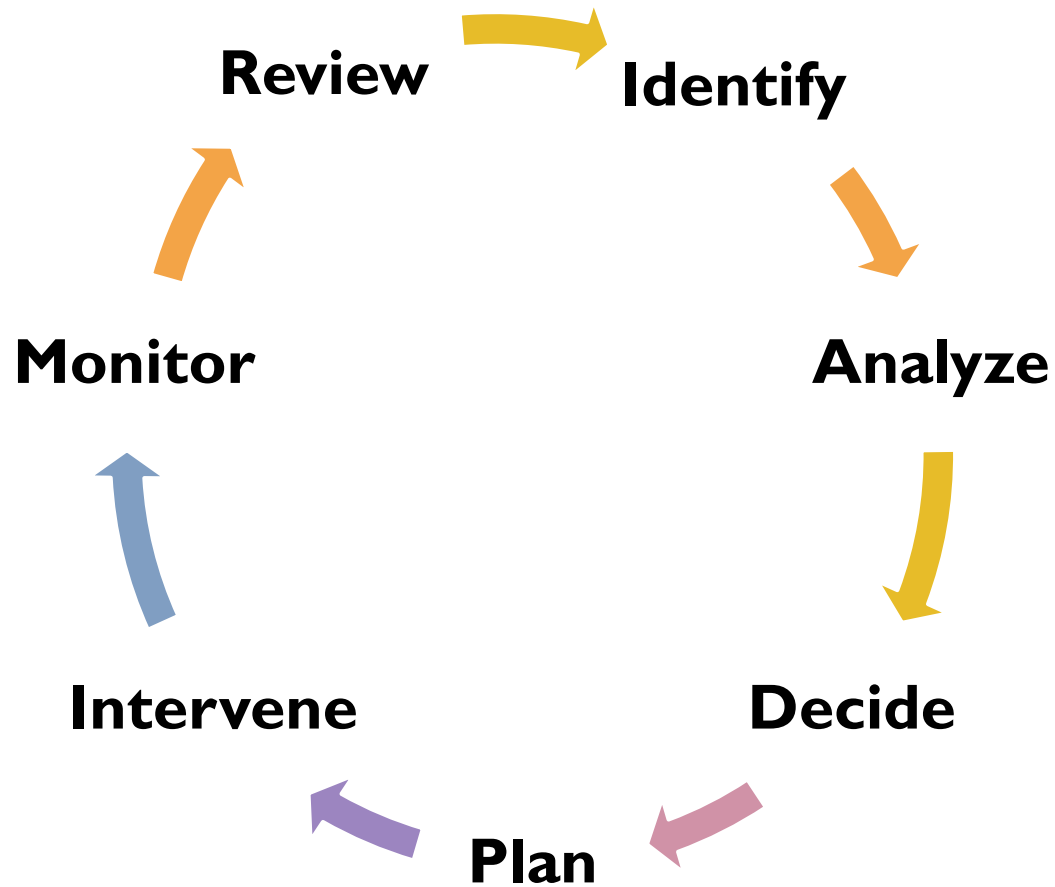
Process of Risk Assessment



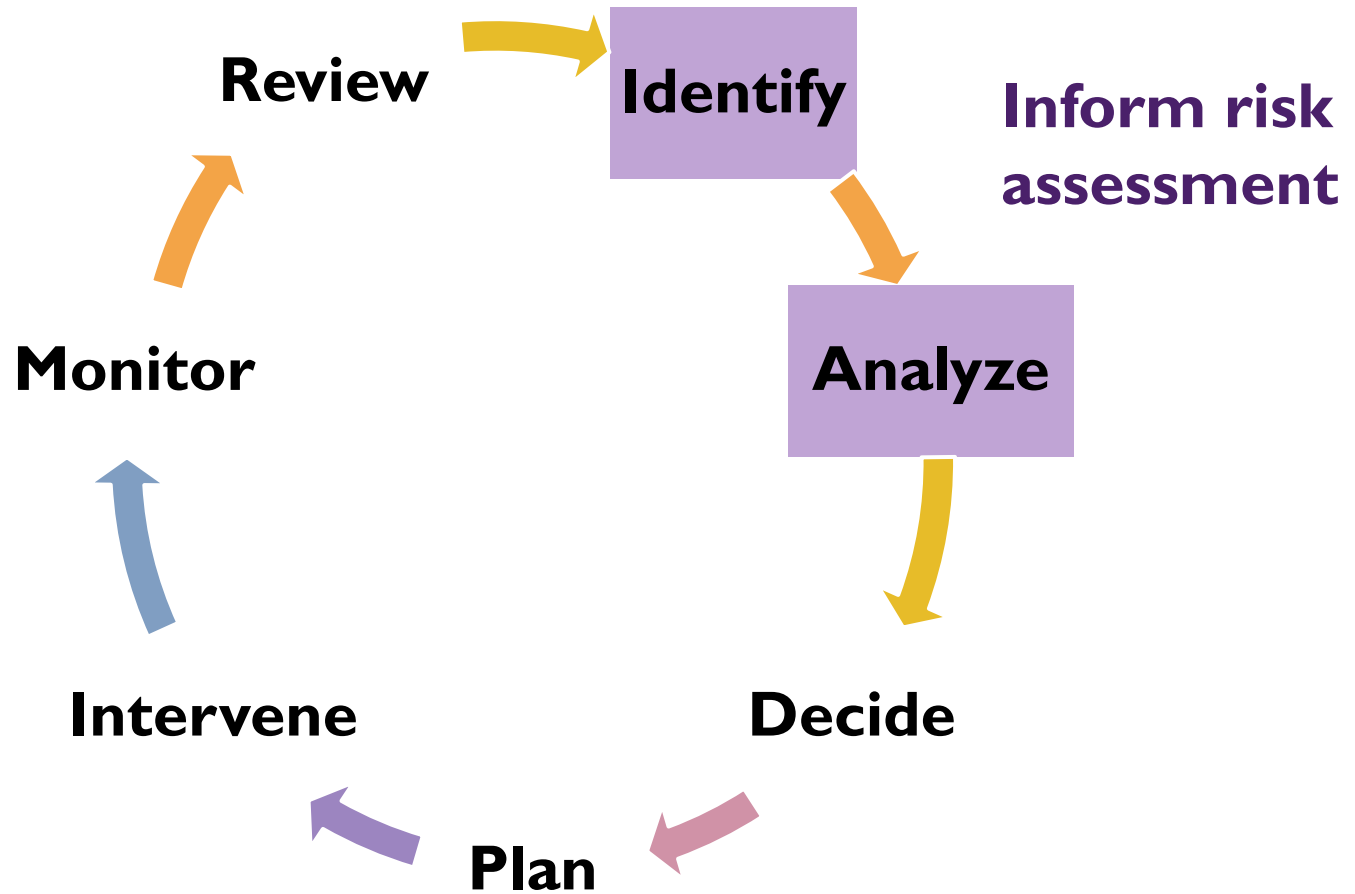
Process of Risk Assessment



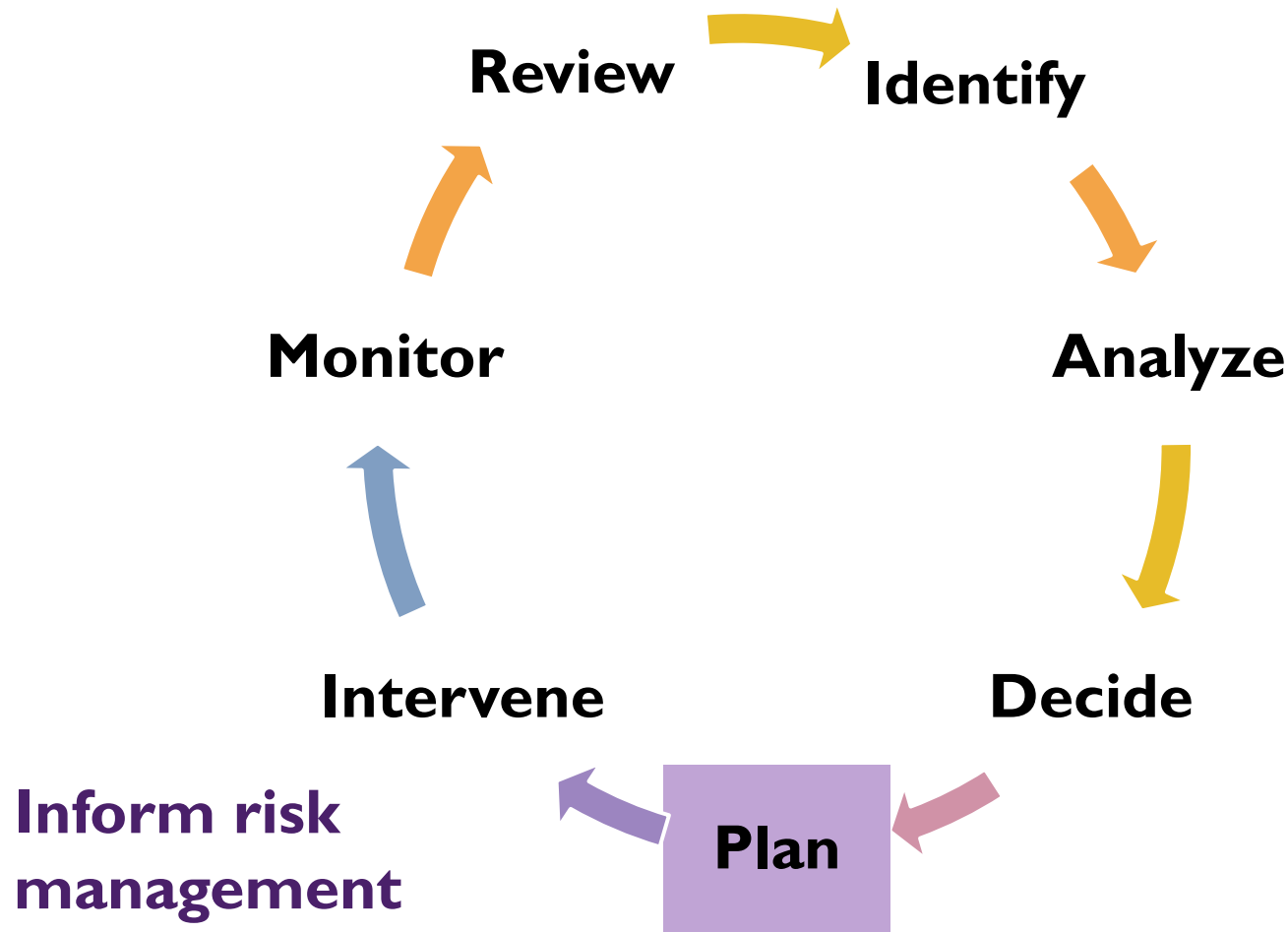
Process of Risk Assessment



Process of Risk Assessment



Process of Risk Assessment



Screening vs. Assessment

Screening

- ▶ Identification of individuals at potentially heightened risk for violence
- ▶ Indicate a need for further evaluation or preliminary intervention

Assessment

- ▶ Comprehensive evaluation of likelihood of violence
- ▶ Consider individual's functioning across multiple domains
- ▶ Integrates information from multiple sources



Risk vs. Other Types of Assessment

- ▶ Risk assessment is distinct from assessment of one particular risk factor
- ▶ Examples
 - ▶ Mental health
 - ▶ Substance use
 - ▶ Personality
 - ▶ Cognitive functioning



Risk Assessment Approaches

Approaches to Risk Assessment

- ▶ 2 general approaches

- I. **Unstructured professional judgments**

- ▶ Decision maker relies on their professional training and experience to estimate threat to public safety

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:
 - ▶ 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



Approaches to Risk Assessment

- ▶ 2 general approaches

- 1. **Unstructured professional judgments**

- ▶ Decision maker relies on their professional training and experience to estimate violence risk

- 2. **Structured risk assessment instruments**

- ▶ Set list of items that are 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

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



NEWS FILED 8:00 a.m. 07.01.2019 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.



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



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.

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 USE OF PRETRIAL "RISK ASSESSMENT" INSTRUMENTS:

A SHARED STATEMENT OF CIVIL RIGHTS CONCERNS

July 2018



Scientific Issues

▶ Risk assessment instruments are:

- ▶ Unable to predict outcomes → Predictive validity
- ▶ Racially biased → Predictive 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
 - ▶ 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) – Viljoen et al. (2009)
 - ▶ Blair et al. (2008) – Singh et al. (2011)
 - ▶ Guy (2008) – Bechtel et al (2011, 2017)
 - ▶ Smith et al. (2009) – Fazel et al. (2012)
 - ▶ Hansen et al. (2009) – Helmus et al. (2012)
 - ▶ Campbell et al. (2009) – Williams et al. (2017)
 - ▶ Olver et al. (2009) – Desmarais et al. (2016, 2020)
- ▶ Moderate effect sizes = acceptable predictive validity
- ▶ Better than unaided human judgments

Predictive Bias

- ▶ Peer-reviewed studies find limited evidence of differences in predictive validity by race/ethnicity
- ▶ When differences between groups
 - ▶ Not consistently in anticipated direction
 - ▶ Differences small (statistically and practically)
 - ▶ Predictive validity remains good (or better) within groups
- ▶ Relationship between assessment results and recidivism 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)*

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 **exacerbates** racial disparities, must show that:
 - ▶ RAI-informed decisions are more punitive for people of color compared to decisions not RAI-informed
 - ▶ Example: *Black people less likely to be diverted than white people in RAI-informed decisions than decisions not RAI-informed*



Disparate Impact

▶ Key findings

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

Summary of Scientific Evidence

- ▶ Risk assessment instruments
 - ▶ Show good (not poor) predictive validity
 - ▶ 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 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

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
 - ▶ Reducing protective factors



Risk Principle Guidelines

- ▶ **Low:** Routine monitoring and re-assessment.
 - ▶ Monitor as usual and re-assess if circumstances change.
 - ▶ Typically 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 ACT

▶ Risk principle is relevant to two considerations:

1. Location of care

- 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

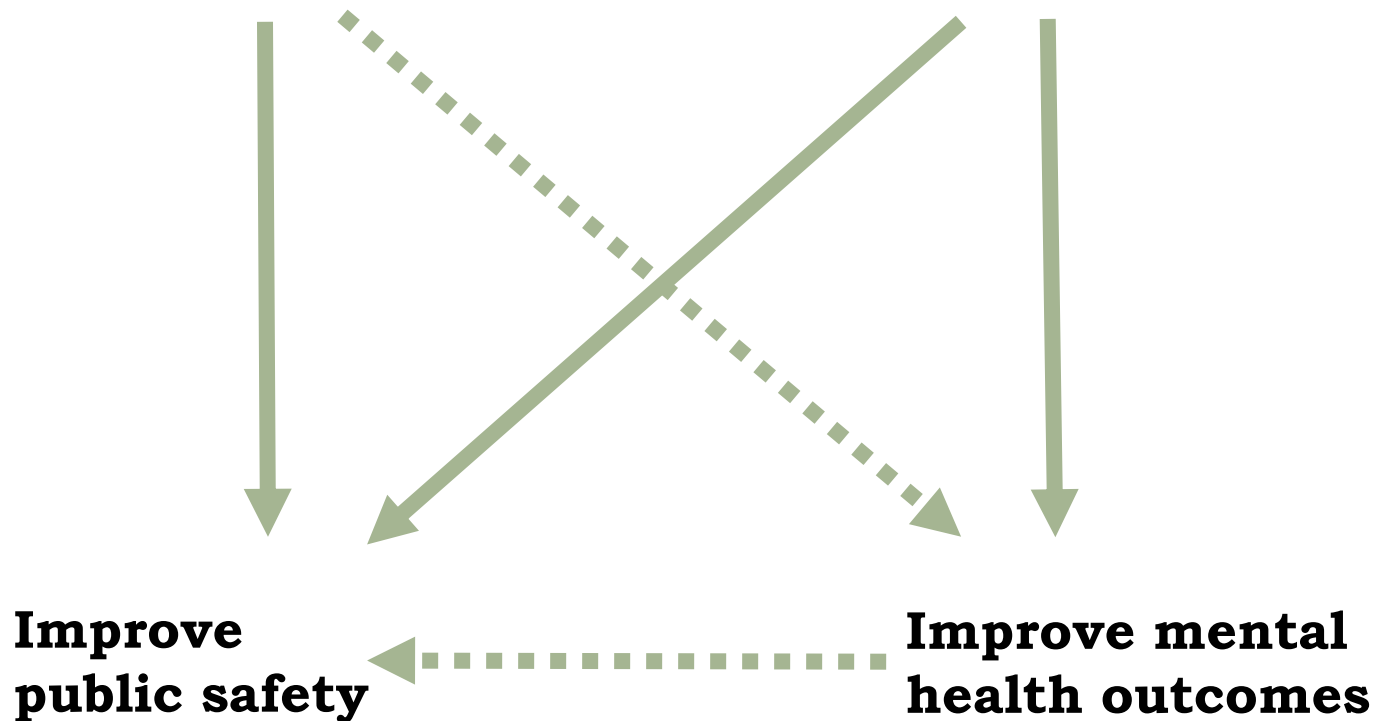


Need Principle

- ▶ 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

Need Principle in ACT

- ▶ Address **criminogenic** and **treatment** needs



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

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
 - ▶ Opportunity to reduce stigma and improve equity
 - ▶ Example
 - Cultural humility and multicultural orientation approach

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 that may limit treatment effectiveness
 - ▶ Staff skills, characteristics, and beliefs
 - ▶ Institutional culture
 - ▶ Broader practices and policies

Responsivity Principle in ACT

- ▶ 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

Responsivity Principle in ACT

- ▶ 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
- ▶ 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?



Q & A



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