Moving from Principle to Execution

Applications of the Risk-Dosage Relationship

Kimberly Sperber, PhD
May 27th, 2015
Today’s Session

• Overview of relevant research on risk principle and risk-based dosage

• Discuss the role of dosage in probation and parole

• Discuss practitioner requirements for triaging dosage by risk
Research Overview

Setting the Stage
The Risk Principle

• Identify offenders with higher probability of re-offending

• Target offenders with higher probability of re-offending

• Targeting lower risk offenders can lead to *increases* in re-offending
What Makes Someone High Risk?

- Severity of the offense DOES NOT equal risk to re-offend
- Primary risk factors:
  - Hx of antisocial behavior
  - Antisocial attitudes
  - Antisocial Peers
  - Antisocial Personality
  - Education
  - Employment
  - Substance Abuse
  - Leisure
- Dynamic risk factors also known as criminogenic needs
Support for the Risk Principle

- Hundreds of primary studies
- 7 meta-analyses
- Men, women, juveniles, violent offenders, sex offenders

- Programs that target higher risk offenders are more effective
- Reductions in recidivism are greatest for higher risk offenders
- Intensive interventions can harm low risk offenders
2002 UC Ohio Study of HH’s and CBCF’s

Treatment Effects for Low Risk Offenders

Probability of Recidivism
2002 UC Ohio Study of HH’s and CBCF’s

Treatment Effects For High Risk Offenders

![Bar chart showing probability of reincarceration across different facilities and agencies. The chart includes various agencies such as River City Fresh Start, Alternative House, Commission on Men’s, and others. The vertical axis represents the probability of reincarceration, ranging from -40 to 40. Each facility or agency is represented by a bar, labeled with numerical data that indicates the effect size. The agencies and their corresponding effect sizes are: Canton SEPTA, Lucas County Community Assessment Program, Stark County Alternative Agency, Montgomery County Community Corrections Association, Toledo VOAMahoning County EOCC, Erie County Community Treatment Center, Cuyahoga County Community Transitions, Franklin County Community Programs, Butler County Coop Drug, Lorain/Medina Small Programs, Summit County Community Programs, Licking/Muskingum Small Programs, Scioto County Community Programs, Adams County Community Programs, Fairfield County Community Programs, Scioto County Community Programs, and Lucas County Community Assessment Program. The chart indicates varying effect sizes, with some facilities showing positive effects and others showing negative effects.]
2010 UC Ohio Study of HH’s and CBCF’s

Treatment Effects for Low Risk
2010 UC Ohio Study of HH’s and CBCF’s

Treatment Effects For High Risk Offenders
Supervision and Fidelity to The Risk Principle

- Lowenkamp et al. (2006)
  - Programs that met the criteria for higher-risk sample resulted in an average decrease in recidivism of 5 percent. Comparatively, programs that did not adhere to this criterion were associated with a 2 percent increase in recidivism on average.
  - Programs that varied intensity by risk reduced crime by 4%. Programs that did not produced no impact on recidivism.
  - Programs that provided more referrals to high risk offenders reduced recidivism by 7 percent. Programs that did not meet this criterion only saw a 1 percent reduction in recidivism.
Lowenkamp et al. (2006) Continued

- Programs where 75 percent of the referrals were treatment-oriented and targeted criminogenic needs reduced recidivism, on average, by 11 percent. Programs that did not have a 3 to 1 referral ratio favoring services targeting criminogenic needs increased recidivism, on average, by 3 percent.

- When looking at cumulative impact of the criteria, the authors found:
  - Programs that met 0 criteria increased recidivism 13 percent.
  - Programs that met one or two factors decreased recidivism by 3 percent.
  - Programs that adhered to three or more factors reduced recidivism by 15 percent.
Operationalizing the Risk Principle

- Separate living quarters
- Separate groups
- Risk-specific caseloads
- Risk-based reporting requirements
- Risk-based sanctioning grids
- Varying dosage by risk
- Varying length of stay by risk
Challenges for Practitioners

- We understand more services/supervision for high risk and less services/supervision for low risk

- **Conceptual** understanding of the risk principle versus **operationalization** of the risk principle in real world community settings to achieve maximum outcome

- “Can we **quantify** how much more service to provide high risk offenders?”
Research on Dosage
Developing Dosage Protocols at Talbert House

- Limited Empirical Guidance:
  - Lipsey (1999)
    - Meta-analysis of 200 studies
    - Serious juvenile offenders
  - Bourgon and Armstrong (2005)
    - Prison study on adult males

- Development of Dosage Research Agenda
  - Partnership with UC School of Criminal Justice
First Talbert House Study

• Methodology:
  - 100-bed CBCF for adult male felons
  - Sample size = 689 clients
  - Clients successfully discharged between 8/30/06 and 8/30/09
  - Excluded sex offenders
  - Dosage defined as number of group hours per client
  - Recidivism defined as new sentence to prison
  - All offenders out of program minimum of 12 months
Recidivism by Risk and Dosage

Findings

• We saw large decreases in recidivism when dosage levels went from 100 to 200 hours for high risk offenders---81% to 57%.

• The results are not as strong for moderate risk offenders
Second Talbert House Dosage Study

- We expanded sample (n=903)
- Hours examined by increments of 50
- Looked at low/medium, medium, and medium/high
Methodology

• 100-bed CBCF for adult male felons
• Clients successfully discharged between 8/30/06 and 12/31/10
• Excluded sex offenders
• Dosage defined as number of group hours per client
• Recidivism defined as new sentence to prison
• All offenders out of program minimum of 12 months

Center for Health & Human Services

Talbert House
Building a Stronger Community...
One Life at a Time.
Summary of Findings

- Relationship between dosage is not linear and moderated by risk

- Largest changes in recidivism for low-moderate and moderate risk cases occurred when the dosage moved from less than 100 to 100-149, and then back up when dosage increased (over 150 hours for low-moderate, and over 250 for moderate).

- For higher risk offenders largest reduction was when dosage went from 150-199 to 200-249. Reductions continued but at a lower rate.
Unanswered Questions
(Sperber, Makarios, & Latessa, 2013)

1. Defining dosage
2. What counts as dosage?
3. Prioritization of criminogenic needs
4. Counting dosage outside of treatment environments
Unanswered Questions

5. Sequence of dosage
6. Cumulative impact of dosage
7. Impact of program setting
8. Low risk but high risk for specific criminogenic need
Unanswered Questions

9. Nature of dosage for special populations
10. Impact of skill acquisition
11. Identifying moderators of risk-dosage relationship
12. Conditions under which dosage produces minimal or no impact
Treatment Dosage and Personality: Examining the Impact of the Risk-Dosage Relationship on Neurotic Offenders
Sperber, Makarios, and Latessa

- Research on the risk principle confirms that correctional practitioners should differentiate services by offender risk.
- Research also confirms that these services should be based on a cognitive-behavioral modality.
- At the same time, there is some research to suggest that offenders with certain personality types (e.g. neurotics) are higher risk for re-offending and may not fare as well as other personality types within cognitive behavioral programs.
- If this is true, increasing cognitive behavioral dosage for high risk neurotic offenders may have a detrimental impact on recidivism for those offenders.
- Consequently, this study examines personality type as a moderator of the risk dosage relationship to determine the impact on recidivism.
Methodology

- 100-bed CBCF for adult male felons
- Clients successfully discharged between 8/30/06 and 12/31/10
  - 980 offenders total
  - 257 neurotic offenders
- Excluded sex offenders
- Dosage defined as number of group hours per client
- Recidivism defined as return to prison
- All offenders out of program minimum of 12 months
Rates of Recidivism by Defined Categories of Risk and Dosage

- Low-Med: 30, 15
- Medium: 54, 42, 40
- Med-High: 85, 45
- Overall: 49, 42, 42

Legend:
- Red: 0-99 Tx Hours
- Green: 100-199 Tx Hours
- Blue: 200+ Tx Hours
Summary

• Pattern for neurotics similar to the overall sample
• Increasing dosage reduces recidivism but not equally for all risk levels
• Largest decrease in recidivism was for the high risk/high dosage group
Examining the Risk-Dosage Relationship in Female Offenders
Spiegel and Sperber

- Studies on the number of treatment hours necessary to reduce recidivism for high risk offenders are few in number.
- Studies to date have relied on male samples.
- Cannot assume that a standard number of treatment hours necessary to reduce recidivism exists for both men and women.
- Present study examines the impact of varying levels of treatment dosage by risk for female offenders in a halfway house setting.
Methodology

• Sample size = 314 clients
• Clients successfully discharged between 10/1/07 and 2/28/10
• Dosage defined as number of group hours per client
• Recidivism defined as re-arrest
  – Checked Hamilton County and referral/home county websites
  – All offenders out of program minimum of 12 months
Rates of Recidivism by Defined Categories of Risk and Dosage

66.7% for medium risk offenders is only based on 3 cases; must interpret with caution.
Summary

• Further evidence of the application of the risk principle to women
  – Over-treating lower risk women can result in recidivism increase
• Findings suggest a non-linear relationship for both risk groups
• Initial increases in dosage have positive impact on recidivism
• Increasing dosage to 151+ hours appears to result in increases in recidivism
Limitations

- Sample drawn from a single halfway house with limited geographical region
- Limited risk distribution
- Limited dosage distribution
- Inclusion of drug court clients in sample
- Reliance on public websites for recidivism checks
  - Limited geographical range for recidivism
    - Doesn’t account for all Ohio counties
    - Doesn’t account for bordering counties of other states
Forthcoming Studies

• Under Construction:
  – Examining the Risk-Dosage Relationship in Sex Offenders
  – The Impact of Client Strengths on the Risk-Dosage Relationship
  – The Relative Impact of Role-Play versus Treatment Hours: Is There a Trade-Off?
# Role Play vs Hours

**Sperber and Lowenkamp (in process)**

**Preliminary Analyses**

Logistic Regression Model Predicting Recidivism 18 Months

|                           | Odds Ratio | Std. Err | z     | P>|z| | [95% Conf. Interval] |
|---------------------------|------------|----------|-------|-----|---------------------|
| **TX Hours**              |            |          |       |     |                     |
| 0 to 99                   | Referent Group |          |       |     |                     |
| 100-199                   | 0.83       | 0.18     | -0.87 | 0.39| 0.55 1.26           |
| 200+                      | 0.80       | 0.19     | -0.93 | 0.35| 0.51 1.27           |
| **Role Plays Per Week**   |            |          |       |     |                     |
| Less than 1               | Referent Group |          |       |     |                     |
| 1                         | 0.68       | 0.12     | -2.12 | 0.03| 0.47 0.97           |
| 2                         | 0.53       | 0.11     | -3.00 | 0.00| 0.35 0.80           |
| 3+                        | 0.21       | 0.08     | -4.28 | 0.00| 0.10 0.43           |
| **LSI Category**          |            |          |       |     |                     |
| Low                       | Referent Group |          |       |     |                     |
| Moderate                  | 2.07       | 0.43     | 3.53  | 0.00| 1.38 3.11           |
| High                      | 5.22       | 1.39     | 6.19  | 0.00| 3.09 8.81           |
| Age                       | 0.98       | 0.01     | -2.80 | 0.01| 0.96 0.99           |
| Constant                  | 0.70       | 0.24     | -1.04 | 0.30| 0.35 1.38           |

Model Chi-Square = 68.71; p < .001
So What Do We Know?

- Research clearly demonstrates need to vary services and supervision by risk
- Currently have general evidence-based *guidelines* that suggest at least 100 hours for moderate risk and at least 200 hours for high risk
- Should not misinterpret to imply that 200 hours is required to have any impact on high risk offenders
- Not likely that there is a one-size-fits-all protocol for administering dosage
- Practitioners have a responsibility to tailor interventions to individual’s risk/need profile based on best available evidence
Dosage and Probation/Parole
Can We Count Supervision Contacts as Dosage?

Research on Supervision Effectiveness

- Solomon et al., 2005
  - Examined re-arrest rates of inmates released from 14 state prisons
  - Evaluated 3 groups:
    - Unconditional Release
    - Mandatory Parole
    - Discretionary Parole
  - All 3 groups performed essentially the same in terms of 2-year re-arrest rates.
    - No significant differences between the 3 groups
Research on Supervision Effectiveness

• Bonta et al., 2008

  – A meta-analytic review of 25 studies indicated that probation is no more effective than other community-based sanctions such as fines, community service, etc.
Looking Inside the Black Box

- Bonta et al., 2008
  - Audiotaped PO interactions with offenders
    - Number of contacts weakly related to risk for adults; not at all for youth
    - Criminogenic needs receiving most attention were substance abuse, family, and employment
    - Criminogenic needs receiving the least attention were antisocial attitudes (9%) and peers
    - Fairly good use of reinforcement but little modeling, practice, or homework
Black Box Continued

• Time spent discussing compliance:
  – 10 minutes = 18.9% recidivism
  – 15 or more minutes = 42.3% recidivism

• Time spent discussing criminogenic needs:
  – 0-15 minutes = 59.8% recidivism
  – 20-30 minutes = 47.6% recidivism
  – 40+ minutes = 33.3% recidivism
Integrating CBT into Probation/Parole

• Number of models developed
  - STICS
  - EPICS
  - EPICS II
  - STARR

• Common elements across the models
  - Thought-Behavior Chain
  - Cognitive Restructuring
  - Teaching Skills
  - Problem-Solving
  - Reinforcement
  - Use of Authority
  - Disapproval
CBT in Probation - STICS

Two Year Recidivism Results from Bonta (2010)
CBT in Probation - STARR

• Issues to Consider:
  - How many referrals do you make for high risk offenders versus low risk offenders?
  - What is the treatment model in use by the agency to which you refer?
  - Does that agency monitor dosage?
  - Does that agency tailor dosage and/or length of stay by risk?
  - Does that agency separate clients by risk?
  - How is successful completion of treatment defined?
    • Time-based versus competency-based
  - What information do you receive in progress reports from treatment agencies and how does it speak to dosage issues?
Requirements of Effective Execution

- Process for assessing risk for all clients
- Modified policies and curricula that allow for variation in dosage by risk
- Definitions of what counts as dosage and mechanism to measure and track dosage
- Formal CQI mechanism to:
  - monitor whether clients get appropriate dosage by risk
  - Monitor outcomes of clients receiving dosage outside of EBG
Conclusions

- Research clearly demonstrates the need to vary services and supervision by risk.
- Have some preliminary evidence about the amount of treatment needed to impact recidivism.
- Have some preliminary evidence that PO contacts can count as dosage, depending on the content and strategies used during the session.
- Effective monitoring of dosage requires mechanisms to define and count dosage.
Questions & Answers

kimberly.sperber@talberthouse.org