

DOSAGE PROBATION: PROX

Rethinking the Structure
of Probation Sentences

Center For Effective Public Policy

Prepared for the
National Institute of Corrections
January 2014

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The Honorable Richard J. Sankovitz, Milwaukee County Circuit Court

Acknowledgements

We are grateful to the National Institute of Corrections generally, and the following individuals in particular, for their vision and leadership around effective correctional practice:

- Jim Cosby, Chief, Community Services Division, National Institute of Corrections
 - Greg Crawford, Correctional Program Specialist, Community Services Division, National Institute of Corrections
 - Lori Eville, Correctional Program Specialist, Community Services Division, National Institute of Corrections
-

Special thanks to our esteemed colleagues who took the time to thoughtfully review and critique this monograph:

- Guy Bourgon, Ph.D., Senior Researcher, Corrections Research, Public Safety Canada
 - Natalie Jones, Ph.D., Director of Research, Orbis Partners
 - Edward Latessa, Ph.D., Interim Dean and Professor, College of Education, Criminal Justice and Human Services, University of Cincinnati
 - Christopher T. Lowenkamp, Ph.D., Instructor, University of Missouri, Kansas City, Department of Criminal Justice and Criminology
 - David Robinson, Ph.D., Chief Executive Officer, Director of Assessment, Orbis Partners
 - Ralph Serin, Ph.D., Associate Professor, Department of Psychology, Carleton University
 - Kimberly Sperber, Ph.D., Chief Research Officer, Talbert House
 - Marilyn Van Dieten, Ph.D., C.Psych., Senior Partner, Director of Program Implementation and Development, Orbis Partners
-

And to those who made important contributions to its development:

- Kurt Bumby, Ph.D., Senior Manager, Center for Effective Public Policy
 - Mark Carey, President, The Carey Group
 - Rachelle Ramirez, Program Associate, Center for Effective Public Policy
-

This project was supported by Cooperative Agreement No. 12CS09GKM1 awarded by the National Institute of Corrections. The National Institute of Corrections is a component of the U.S. Department of Justice. Points of view or opinions in this document are those of the authors and do not necessarily represent the official position or policies of the U.S. Department of Justice.

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INTRODUCTION

Isaac Newton was among the first modern scientists to recognize that new discoveries depend heavily on science that is already established: “If I have seen further,” he wrote, “it is by standing on the shoulders of giants.”¹

Giant strides have been made in the fields of public administration and criminal justice by applying science to practice. **Evidence-based decision making** asserts that public policy and practice should be informed by the best available research and enhanced through ongoing performance measurement and evaluation. Scientific study has demonstrated that recidivism can be reduced when three key principles are followed:

- **The risk principle** suggests that justice system interventions should be matched to offenders’ risk level, focusing more intensive interventions on moderate and high risk offenders.
- **The need principle** asserts that justice system interventions should target those factors that most significantly influence criminal behavior.
- **The responsivity principle** demonstrates that interventions are most effective when they are based on research-supported models and tailored to the unique characteristics of individual offenders.

In this paper, we propose to take this knowledge one step further: to link the duration of probation supervision to the optimal amount of intervention an offender needs in order to reduce risk of reoffense. The proposed “dosage” model of probation suggests that the length of supervision should be determined by the number of hours of intervention necessary to reduce risk, rather than an arbitrarily (or customarily) established amount of time (e.g., 3 years, 5 years).

For many offenders, the research shows that correctional intervention is analogous to treating a patient: too little intervention and the patient receives little or no benefit; too much, and the treatment is ineffective or even harmful.² Given this, we postulate that the length of supervision should depend on how long it takes an offender to achieve the dosage target—the type and amount of intervention that research tells us he or she needs in order to maximize the potential for behavior change and that is necessary in order to minimize risk to the public—rather than a fixed term of supervision.

¹Letter to Robert Hooke, 15 February 1676, quoted in *The Correspondence of Isaac Newton, Volume 1, 1661–1675*, ed. H. W. Turnbull (Cambridge: Cambridge University Press, 1959), 416.

²Although the framework described in this paper is focused specifically on offenders placed on probation, the principles seem to apply similarly to offenders on parole and offenders who are incarcerated. The types of services and conditions under which dosage is provided may vary, but the underlying principles are believed to be constant.

Section I of this paper offers a review of key research about reducing an offender’s risk of reoffending—evidence-based approaches to reducing recidivism in our communities. Section II builds on these approaches and reviews recent research on dosage, its applicability to sentencing and community supervision practices, and its promise for reducing recidivism even further. Taken together, this research establishes a policy and practice framework upon which a new model of supervision—“dosage probation”³—can be constructed. Section III outlines the dosage probation model, an approach designed to build upon the existing research and advance community supervision with the goal of increasing community safety through recidivism reduction, as well as reducing the fiscal impact associated with extended periods of supervision.

³ The term “dosage probation” is drawn from NIC’s *Evidence-Based Decision Making in Local Criminal Justice Systems Initiative* in Milwaukee County, Wisconsin. The term was conceived to name a demonstration project engineered by criminal justice system and community partners in Milwaukee, working with their NIC technical assistance provider. This project is featured later in this paper.

SECTION I

THE PRINCIPLES OF EFFECTIVE INTERVENTION

Over the past three decades, researchers in the U.S., Canada, and abroad have conducted studies of probationers and parolees, juveniles and adults, and programs and services of all varieties, including those administered in institutions and provided in the community. While there remains much to understand about the pathways to criminal and delinquent behavior and the strategies that will result in desistance, there is much we know now about what makes interventions effective in reducing recidivism.

Who We Target for Intervention Matters: The Risk Principle

One of the key tenets of effective intervention is the “risk principle.” It holds that offender programming should be matched to the offender’s assessed level of risk. The links between the two have been demonstrated over decades of research (Andrews & Bonta, 2010; Lowenkamp, Latessa, & Holsinger, 2006). Conversely, considerable research has shown that offering services to offenders without regard to risk level typically fails to reduce recidivism and, particularly for low risk offenders, may result in increased recidivism (see, e.g., Andrews & Bonta, 2010; Lowenkamp, Latessa, & Holsinger, 2006; Lowenkamp, Latessa, & Smith, 2006; Lowenkamp, Pealer, Smith, & Latessa, 2006).

Lowenkamp, Latessa, and Holsinger, in their 2006 meta-analysis of nearly 100 correctional programs, found compelling evidence of the importance of the risk principle. The study sample was comprised of 13,676 offenders who had been placed in halfway houses, in community correctional facilities, and under probation or parole supervision. For the purposes of the analyses, the offenders were categorized in two groups, low/low-moderate risk and moderate/high risk.⁴ The researchers found that recidivism was lower among those placed in facilities and programming that adhered to the risk principle and, conversely, that recidivism increased when programs and services were delivered without regard to risk.

A key to putting this research to work is the ability to reliably assess and classify offenders according to the risk of reoffense they present. Researchers have studied whether offender risk to reoffend can reliably be predicted. It can be.

Research demonstrates that risk to reoffend is most accurately assessed when structured, empirically based tools are used in combination with professional judgment. Furthermore, research has conclusively demonstrated that matching the level of intervention to offenders’ assessed level of risk produces the greatest reductions in recidivism, with minimal intervention provided to low risk offenders and greater intervention provided to moderate and high risk offenders.

⁴ For purposes of this paper, offenders who present the highest risk of reoffense are excluded. In the literature, the term “high risk offender” typically does not refer to that small portion of offenders who are better described as “extremely high risk.” The principles and practices suggested in this paper are of questionable efficacy with this sub-population.

Studies demonstrate that structured, research-grounded risk assessment tools in combination with professional judgment are reliable, in contrast to unstructured assessment methods and/or professional judgment alone (Campbell, French, & Gendreau, 2009; Grove, Zald, Lebow, Snitz, & Nelson, 2000; Hanson & Morton-Bourgon, 2004).⁵ Intervention programs that employ tools such as these are more effective in reducing recidivism than those that do not (see, e.g., Lowenkamp, Latessa, & Smith, 2006).

What We Target for Intervention Matters: The Need Principle

A second cornerstone of effective correctional intervention is the “need principle.” Research demonstrates that although offenders typically have many needs, some of them result in criminal behavior but others do not. These traits are referred to as “criminogenic needs” and represent the changeable, crime-influencing risk factors that must be the targets of risk reduction efforts (Andrews & Bonta, 2010).

The criminogenic needs that most strongly predict recidivism are antisocial cognition (thoughts and beliefs) that support antisocial behavior; antisocial temperament, which is often characterized by poor decision making skills, anger management difficulties, and impulse control deficits; and antisocial associates (see Andrews & Bonta, 2010; Gendreau, Little, & Goggin, 1996). Other dynamic risk factors that influence crime, albeit to a lesser degree, include family/marital stress, substance abuse, employment instability, educational attainment and engagement difficulties, and lack of prosocial leisure activities.

Offenders present other needs, such as low self-esteem, depression, anxiety, or general health concerns, but research has not demonstrated a clear link between these factors and recidivism (Gendreau et al., 1996). As such, they are considered non-criminogenic⁶ and, according to the need principle, should not be the emphasis of correctional interventions.

Research shows that interventions that target criminogenic rather than non-criminogenic needs consistently lead to superior outcomes (Andrews & Bonta, 2010; Gendreau, French, & Taylor, 2002; Gendreau & Goggin, 1996; Lowenkamp, Latessa, & Smith, 2006). Furthermore, targeting a greater

⁵ It is important to note that, in the field, “risk to reoffend” can be considered a relative term. To be clear, in our discussion here we intend that likelihood to reoffend is determined using structured, empirically based assessment methods; that quality control mechanisms ensure accurate assessment results; and that stated risk levels are not adjusted as the result of overrides or policy-driven cut points.

⁶ While these risk factors are well-established for the general population of male offenders, studies identify additional and/or other factors or contexts for females and some sub-populations of offenders (e.g., sex offenders). Detailing the risk factors associated with sub-groups of offenders is beyond the scope of this paper. The distinction around risk factors is not intended to imply that the dosage model would be inappropriate for sub-groups of offenders.

number of criminogenic needs (e.g., 3–4 more criminogenic than non-criminogenic needs) results in more substantial recidivism reductions—as much as 30 percent lower on average—than is achieved when targeting fewer criminogenic needs (e.g., 1–2 more criminogenic than non-criminogenic needs) (Gendreau et al., 2002).

These principles apply to both treatment programs and to interventions by probation officers themselves (Bonta, Ruge, Scott, Bourgon, & Yessine, 2008; Lowenkamp, Flores, Holsinger, Makarios, & Latessa, 2010; Lowenkamp, Pealer, et al., 2006). When an officer uses face-to-face time with an offender to address criminogenic needs, better outcomes are achieved, including reduced recidivism (Bonta et al., 2008, 2011; Robinson et al., 2012). Thus, it is not surprising that when officers target non-criminogenic needs and spend more time monitoring conditions of supervision during their contacts with offenders, reductions in recidivism rates are not positively affected (Bonta et al., 2008).

Studies have demonstrated the factors that are correlated to recidivism and isolated those that have the greatest influence on future criminal behavior. Research has also demonstrated that when these criminogenic needs are effectively targeted with moderate and high risk offenders, recidivism is reduced, particularly when multiple needs are addressed. These results hold steady whether the agent of change is a program, service, or intervention by a corrections professional such as a probation or parole officer.

How We Intervene and Interact Matters: The Responsivity Principle

The effectiveness of interventions also depends on delivering them in ways that are most likely to engage offenders and facilitate meaningful change, and by matching the right program to the offender and his or her individual traits. This is known as the “responsivity principle,” which is comprised of two aspects: general and specific responsivity (see, e.g., Andrews & Bonta, 2010).

■ **General responsivity** refers to the fact that some types of programming are generally more effective than others. In particular, offenders respond better to cognitive behavioral strategies than to other kinds of programming (see Andrews & Bonta, 2010; Lipsey, Landenberger, & Wilson, 2007). Cognitive behavioral strategies assist offenders with changing harmful thinking patterns and attitudes, as well as developing prosocial skills. Studies show that well-implemented cognitive behavioral interventions can reduce recidivism by as much as 30 percent on average, particularly with moderate to high risk offenders (Andrews & Bonta, 2010; Lipsey et al., 2007; Lowenkamp et al., 2010; Lowenkamp, Latessa, & Holsinger, 2006).

Other strategies are not as effective, in particular traditional surveillance- and enforcement-oriented approaches to supervision, designed primarily around imposing, monitoring, and enforcing conditions of supervision, and sanctioning noncompliance (see, e.g., Bonta et al., 2008; Cullen & Gendreau, 2000; Drake, Aos, & Miller, 2009; Lowenkamp et al., 2010).

Multiple meta-analyses demonstrate that such strategies fail to reduce recidivism and, in some instances, are associated with increases in recidivism (see Drake et al., 2009; Gendreau, Goggin, Cullen, & Andrews, 2000; Lowenkamp et al., 2010; Lowenkamp, Latessa, & Holsinger, 2006; Lowenkamp, Pealer, et al., 2006). For instance, in one meta-analysis, intensive supervision, electronic monitoring, and day reporting were found to be significantly less effective in reducing recidivism than cognitive behavioral strategies (Lowenkamp, Latessa, & Smith, 2006).

Far more effective are “blended” or balanced supervision frameworks in which risk management and accountability functions (e.g., monitoring and enforcement) are paired with rehabilitative or risk-reducing strategies (Bonta et al., 2008, 2011; Bourgon, Gutierrez, & Ashton, 2011; Drake et al., 2009; Gendreau et al., 2000; Lowenkamp et al., 2010; Lowenkamp, Latessa, & Smith, 2006; Taxman, Yancey, & Billanin, 2006). In addition, as will be explored further, an important aspect of general responsivity is the nature and degree of professional alliance between the offender and the professionals with whom they work.

- **Specific responsivity** speaks to the individual characteristics of the offender (e.g., gender, culture, cognitive or developmental functioning, motivation to change, etc.). This aspect of the responsivity principle recognizes the diversity of the offender population and that individual

differences among offenders influence how they engage, internalize, and respond to interventions. It suggests the ineffectiveness of a “one size fits all” approach.

General and specific responsivity are best addressed through a constellation of evidence-based elements referred to as “core correctional practices” (Andrews & Bonta, 2010; Dowden & Andrews, 2004). These risk-reducing strategies include, for example, developing a strong professional alliance with offenders; modeling and reinforcing prosocial attitudes and behaviors; creating opportunities to teach concrete skills such

as problem solving, impulse control, and anger management; allowing for practice and rehearsal of newly learned skills; using reinforcers and responses to noncompliant behavior effectively; and providing advocacy and brokerage to support offenders’ participation in needed programs and services. Implementing core correctional practices has been shown to reduce recidivism (Andrews & Bonta, 2010; Bonta et al., 2008, 2011; Dowden & Andrews, 2004; Robinson et al., 2012).

Research highlights the pivotal role probation officers in particular can play in steering offenders away from illegal behavior (Bonta et al., 2008, 2011; Kennealy, Skeem, Manchak, & Eno Loudon, 2012; Pappozzi & Gendreau, 2005; Robinson et al., 2012; Skeem, Eno Loudon, Polaschek, & Camp, 2007). Worth noting is a recent study indicating that offenders who perceived their corrections professionals to have a balanced orientation (i.e., trusting, caring, fair, and authoritative)

The research underlying the responsivity principle grounds correctional interventions in models and specific techniques that are shown to reduce recidivism. It highlights the powerful influence of corrections professionals—in addition to service providers—as change agents and identifies the strategies and approaches that are most effective in reducing offender recidivism.

reoffended at lower rates (Kennealy et al., 2012). This is consistent with earlier research identifying better outcomes among offenders who are supervised by officers who see themselves as taking a balanced approach to supervision (Paparozzi & Gendreau, 2005).

As is described above, adherence to any one of the three intervention principles—risk, needs, and responsivity—yields better results for probation supervision. When supervision strategies are designed to incorporate all three, even better results are achieved (Andrews & Bonta, 2010; Lowenkamp et al., 2010; Lowenkamp, Latessa, & Smith, 2006).

Research demonstrates that the approach and skills of corrections professionals can influence recidivism outcomes. Offenders on the caseloads of corrections professionals who successfully build professional alliance, focus on criminogenic needs, work with offenders to identify and address skill deficits, and use rewards and responses to noncompliant behavior effectively are less likely to engage in future criminal behavior.

How Well Interventions Are Implemented Matters

Unfortunately, studies of adherence to these principles and practices reveal that the fidelity of implementation is less than optimal (see Gendreau, Goggin, & Smith, 1999; Lowenkamp et al., 2010; Lowenkamp, Latessa, & Smith, 2006).

Fidelity and Integrity of Correctional Programs and Services

Lowenkamp, Pealer, and colleagues (2006) conducted a meta-analysis of 66 supervision-based programs (including day reporting, electronic monitoring, intensive supervision, work release, and some treatment interventions such as substance abuse, domestic violence treatment, and residential programming) designed for diverting offenders from jail or prison. The authors examined the degree to which the programs were faithful to the risk and needs principles. They found the following:

- A majority of the programs failed to reduce recidivism (and, indeed, slightly increased it).
- Those programs adhering to the risk and need principles achieved lower recidivism rates.
- When supervision length was a function of risk, recidivism reductions resulted; likewise, no risk-reducing effect was found for supervision lengths that were not in accordance with the risk principle.
- Recidivism rates were lower when higher risk offenders were referred to more treatment programs.
- When more referrals were made to risk-reducing programs (i.e., interventions that targeted criminogenic needs) rather than to programs addressing non-criminogenic needs, recidivism decreased.
- Increases in recidivism were observed for offenders who were referred to more non-criminogenic than criminogenic interventions.

The analyses also indicated a linear association between recidivism rates and the cumulative adherence to four measures of the risk and need principles. These measures were (1) prioritization of higher risk offenders, (2) longer supervision periods for higher risk offenders, (3) more treatment referrals for higher risk offenders, and (4) higher density of referrals for criminogenic than non-criminogenic needs. Programs adhering to 3–4 measures achieved significant recidivism reductions; those adhering to 1–2 measures achieved minimal reductions; and for programs that adhered to none of the measures of the risk/need principles, increases in recidivism were found.

Fidelity and Integrity of Corrections Professionals' Interventions

While some of the research focuses on program design, other research focuses on the role corrections professionals can play in implementation. Five studies (or sets of studies) are worth noting.

In 2010, Lowenkamp and colleagues published a meta-analysis of 58 intensive supervision programs with over 11,000 offenders, exploring the extent to which supervision philosophy (i.e., human service-oriented versus deterrence-oriented) and program integrity (i.e., alignment with the evidence-based principles of correctional intervention) were related to outcomes. The researchers concluded that

- supervision was most effective in reducing recidivism when it followed a “balanced” model and when the program aligned well with the principles of effective correctional intervention; and
- recidivism increased for supervision programs that were deterrence-oriented and that did not adhere well to intervention principles.

To gain an understanding of the extent to which probation officers' contacts with offenders aligned with the principles of effective correctional intervention and the core correctional practices, researchers reviewed the risk/needs assessments, case files, and audiotaped sessions of 62 probation officers (Bonta et al., 2008). Findings included the following:

- Consistent with the risk principle, officers generally had more contacts/sessions with higher risk offenders than lower risk offenders, although the frequency of these contacts may have been insufficient for optimizing risk-reducing interventions with high risk offenders.
- Criminogenic needs were identified through assessments, and indicators of these needs surfaced during the course of the sessions, although few of these needs were acknowledged or addressed during these contacts, nor were core correctional practices utilized routinely.

- When criminogenic needs were targeted in sessions, the density was high (i.e., multiple criminogenic needs were targeted), making it difficult to adequately address them and resulting in less productive sessions. Paradoxically, under these circumstances, the more criminogenic needs that officers attempted to address within a single session, the higher the recidivism rate.⁷
- Many officers devoted more time during sessions to addressing conditions and compliance-related matters than to criminogenic needs. When this was the case, higher recidivism rates were identified.

In an effort to understand the link between caseload size, the presence or absence of evidence-based practices, core correctional practices, and recidivism, a multi-site study (Jalbert et al., 2011) was conducted, with the following results:

- Officers with smaller caseloads made more frequent contacts with offenders.
- Officers had more time to spend during those contacts.
- Officers were more likely to utilize effective correctional interventions.
- Offenders supervised by officers with smaller caseloads had lower recidivism rates, if the supervision agency had implemented evidence-based practices.
- When probationers were supervised on reduced caseloads in agencies in which evidence-based practices had not been implemented, recidivism rates were higher.

A fourth group of studies focused on training programs developed to incorporate evidence-based principles and core correctional practices into the day-to-day efforts of supervision officers, particularly in their face-to-face contacts with offenders. Such training initiatives are designed not only to promote skill acquisition on the part of officers, but also to sustain these skills, and thus fidelity of implementation over time, through coaching, supervision, and mentoring. Promising examples include the Effective Practices in Community Supervision (EPICS), Strategic Training Initiative in Community Supervision (STICS), and Staff Training Aimed at Reducing Re-arrest (STARR) models (see, e.g., Bonta et al., 2011; Lowenkamp, Holsinger, Robinson, & Alexander, 2012; Robinson et al., 2012; Smith, Schweitzer, Labreque, & Latessa, 2012). These approaches have proven effective: as a result of officers focusing more on criminogenic needs and skill building, supervision failure and recidivism rates were significantly lower (Bonta et al., 2011; Lowenkamp et al., 2012; Robinson et al., 2012).

⁷ This study determined that 67% of probation officers dealt with an average of 5.2 criminogenic needs during a supervision session. Researchers determined that the more topics that were covered during the session, the higher the recidivism rate.

Studies have demonstrated that while the principles of effective intervention are key to risk reduction, attention must be paid to implementation and fidelity in order for recidivism reduction potential to be realized. Furthermore, researchers have shown that corrections professionals, including but not limited to probation and parole officers, can have a significant impact on offender outcomes; however, skills training and coaching are critical to their success in this regard.

Finally, Bonta and colleagues (Bonta et al., 2008, 2011) have demonstrated a link between recidivism and the amount of time officers spend face-to-face with an offender. They found that recidivism rates among officers who spent 16–39 minutes with offenders per session were lower than the recidivism rates of officers who spent less than 16 minutes.

The Relationship Between Early Termination of Supervision and Recidivism

In 2009, the Administrative Office of the Courts, an agency of the U.S. Federal Courts, conducted an initial study of the impact of early termination of supervision among federal probationers. This study demonstrated that such practice, when limited to appropriate cases, did not adversely affect public safety. An expanded study was subsequently conducted using a larger sample and a matched-sample design. Subjects in the early termination and the full-term groups were followed for three years after release, and recidivism was measured on the basis of arrests for new crimes. Although the subjects of the study were predominately low risk offenders, moderate and high risk offenders were represented as well. Researchers determined that the offenders in the early termination groups, regardless of risk level, had lower rates of recidivism than their full-term counterparts (Baber & Johnson, 2013).

SECTION II

ADDING DOSAGE TO THE EQUATION

How Much Dosage We Deliver Matters

In the health care field, determining the appropriate dosage is an empirical venture:

- Conduct an assessment to identify the extent and nature of a presenting concern, including its root causes and the patient’s unique characteristics.
- Identify the range of potential interventions with demonstrated effectiveness in producing positive outcomes.
- Determine a course of intervention, including the optimal amount, frequency, and duration of the intervention.

Research in the corrections field, and in particular research concerning intervention principles, suggests that a similar approach can be taken to determining the type and amount of intervention an offender should receive to minimize recidivism and increase public safety—the “dosage.”

Studies examining differential dosage are quite limited, but generally support this concept (see Sperber, Latessa, & Makarios, 2013a, 2013b). For example:

- Gendreau and Goggin’s (1996) post-hoc analysis of the effectiveness of correctional interventions revealed that programs of 3–4 months in duration were associated with better outcomes than shorter programs.
- In a meta-analysis of 200 juvenile programs, effectiveness was linked to duration, with programs that lasted a minimum of 6 months yielding larger effect sizes than those of shorter length. The findings also revealed that roughly 100 hours was needed to reduce recidivism (Lipsey, 1999).
- A meta-analysis of more than 40 cognitive behavioral programs revealed that effectiveness was greater for programs that targeted higher risk offenders who also received greater frequency and total hours of programming (Lipsey et al., 2007).
- Lowenkamp, Latessa, & Holsinger’s meta-analysis (2006) revealed that simply providing the proper model of programming (i.e., cognitive behavioral) was not sufficient to maximize risk reduction. Rather, effectiveness was enhanced by differential dosage—more units of service or referrals to risk-reducing programs and longer duration of interventions. The researchers found that this approach was more effective for higher risk offenders than for lower risk offenders receiving the same dosage.
- An empirical examination involving over 600 adults in a prison setting (Bourgon & Armstrong, 2008) concluded that, for moderate risk offenders, 100 programming hours was sufficient, whereas moderate/high risk offenders required 200 treatment hours, and high risk/high need offenders may require more than 300 hours.

- In yet another study, the relationship between dosage and recidivism was explored with a sample of 69 parolees under supervision who had dropped out of a community-based treatment program targeting antisocial attitudes (Kroner & Takahashi, 2012). Dosage was measured not only in terms of number of sessions prior to the drop-out point, but also with respect to previously completed prison-based programs. Current dosage was predictive of recidivism, but the number of prior program completions was not. In addition to providing further confirmation of the importance of differential dosage, the findings illustrate the importance of engaging and retaining offenders in order to prevent drop-out.
- Most recently, the effectiveness of differential dosage was examined among a sample of nearly 700 adult offenders discharged from a community-based correctional facility who were under supervision (Sperber et al., 2013b). Generally speaking, greater treatment dosages were associated with reductions in recidivism across risk levels, and were most pronounced with high risk offenders: high risk offenders receiving high dosage (200 or more hours) compared to those receiving a moderate dosage (100–199 hours) recidivated at markedly lower rates.

Further Study Needed

Further evaluation of dosage and its potential is needed. For instance, some studies conducted thus far suggest that the relationship between dosage and effectiveness may not be fully linear; that is, it appears that there may be a point of diminishing returns, treatment fatigue, or dilution of program effectiveness (Kroner & Takahashi, 2012).

Similarly, research demonstrates that attempting to address multiple criminogenic needs in a single encounter reduces the effectiveness of interventions (Bonta et al., 2008; Lowenkamp et al., 2012). These findings provoke questions about the specific circumstances under which the effectiveness of interventions are mitigated.

Additionally, while it is clear that dosage matters, there is less than optimal empirical guidance about how much dosage is desirable—and, in particular, what kinds of interactions with offenders “count” and how to measure dosage (Kroner & Takahashi, 2012; Sperber et al., 2013a, 2013b). If an offender attends a 90-minute treatment session but is disengaged, does this “count”? (Probably not.) If the offender practices a skill at home with a parent, does that count? (Possibly.) Given research showing the effectiveness of focusing interventions around the highest-value criminogenic needs, does this suggest that time devoted discussing the offender’s employment, for instance, doesn’t count—or simply counts less? These and other areas of inquiry will provide additional guidance in determining the structure of interventions of the future.

Although further research is clearly warranted given the limited number of studies conducted to date that are specific to dosage and recidivism, the following reflects a conceptual model to guide risk-based interventions:

Dosage Conceptual Model				
Risk Level	Dosage Target	Likely Duration	Illustration	
			Dosage Hours Delivered by Corrections Professional	Dosage Hours Delivered through Referral Services
Moderate risk	100 hours	12 months supervision (52 weeks) with 12 months services (52 weeks)	45 minutes/2 weeks for 12 months Total hours: 19.5	90 minutes/week for 12 months Total hours: 78
Moderate/ high risk	200 hours	18 months supervision (78 weeks) with 15 months services (65 weeks)	45 minutes/week for 12 months + 45 minutes/2 weeks for 6 months Total hours: 49	3 hours/week for 9 months + 90 minutes/week for 6 months Total hours: 156
High risk	300 hours	24 months supervision (104 weeks) with 18 months services (78 weeks)	45 minutes/week for 24 months Total hours: 78	6 hours/week or 24 hours/4 weeks for 6 months + 90 minutes/week or 6 hours/4 weeks for 12 months Total hours: 234

SECTION III

IMPLICATIONS: THE DOSAGE PROBATION MODEL OF SUPERVISION

Although the subject warrants deeper study, there appears to be sufficient grounding for further testing and perhaps expansion of the application of dosage to justice system practices (i.e., the dosage probation model). The following summarizes the relevant research to date:

- Applying evidence-based principles and practices (i.e., risk, need, and responsivity) with fidelity reduces recidivism (Bonta et al., 2011; Lowenkamp et al., 2012; Lowenkamp, Latessa, & Smith, 2006; Robinson et al., 2012).
- Corrections professionals' face-to-face contacts with offenders can be an effective intervention and, as such, corrections professionals play a key role as agents of change (Bonta et al., 2008, 2011; Robinson et al., 2012). Their risk-reducing interventions complement those provided by others (e.g., treatment providers) and, as such, it is reasonable to consider their interventions as contributing to the minimum dosage necessary to reduce recidivism.

Despite the lack of a standard operating definition of dosage, a growing body of evidence indicates that dosage considerations are important to maximizing outcomes and reducing recidivism with correctional populations, particularly for moderate and high risk offenders (see, e.g., Bourgon & Armstrong, 2005; Kroner & Takahashi, 2012; Sperber et al., 2013b). These findings suggest that officers' practices during the course of supervision can reasonably contribute toward the minimum dosage requirements needed for recidivism reduction, and that a probation model based on the risk, need, and responsivity principles has the potential to enhance risk-reduction efforts.

Taking together the research summarized in this paper, the primary elements of a dosage probation model emerge:

- Research-based, structured assessments are conducted to reliably differentiate higher from lower risk offenders.
- Sentencing, supervision, correctional programming, reentry, and violation decisions are informed by assessed level of risk, criminogenic needs, and optimal dosage.
- Probation completion is linked to achievement of a dosage target rather than a fixed period of time, thereby incentivizing offenders' engagement in risk-reducing interventions.
- Probation terms and conditions emphasize risk-reducing interventions that target criminogenic needs.
- Officers and offenders collaborate to develop case management plans; interventions are designed to address the most influential criminogenic needs; dosage targets are set.
- Offenders are referred to programs and services that demonstrate the capacity to effectively address their needs, thereby incentivizing service providers to deliver evidence-based programs.

- The amount of dosage received is tabulated over time and objective behavioral measures are used to gauge change.
- Probation officers are trained in core correctional practices; they are provided with ongoing coaching; and caseloads and workloads are “right-sized” so that officers have sufficient time to meaningfully engage offenders face to face.
- Quality assurance and continuous quality improvement strategies are implemented to ensure the integrity of these evidence-based practices.
- For those who meet their dosage target and who achieve objective behavioral indicators, probation is terminated, as opposed to terminating supervision at some point further down the road when supervision time “runs out.”

Conclusion

According to the U.S. Department of Justice, Bureau of Justice Statistics, 67% of individuals released from prison are rearrested within three years of discharge. An estimated 30% of adult probationers supervised in the community are reconvicted for a new crime. Despite changes in laws, sentencing practices, and intervention approaches, these recidivism rates have remained relatively stable for decades (Andrews & Bonta, 2010; Bureau of Justice Statistics, n.d.; Hughes & Wilson, 2005).

However, research over the past two decades demonstrates that significant reductions in recidivism are possible if current knowledge is applied with fidelity (see Andrews & Bonta, 2010; Lowenkamp, Latessa, & Smith, 2006). No longer is the challenge in understanding what we need to do to positively influence offender behavior; instead, the challenge is doing it. Practically speaking, adopting an evidence-based approach means restructuring the way in which we do business—in our jails and prisons, in probation and parole, and among judges, prosecutors, and others—so that organizational structures and cultures enable, rather than hinder, the implementation of policies, practices, programs, and services that are known to work in reducing criminal behavior.

Dosage probation takes our current knowledge of intervention principles to the next logical step. Implementation of the dosage probation model, coupled with a rigorous empirical evaluation, offers potential for a justice system double play: increasing public safety while decreasing the costs associated with offenders’ persistent cycle of crime.

CASE STUDY

Dosage Probation in Milwaukee County, Wisconsin

Introduction Sometimes the principal goal of correctional supervision is to contain a known risk over a given period of time. However, in most cases, the principal goal of supervision is risk reduction. Yet the measurement of successful completion of supervision usually is tied to the offender's ability to remain trouble-free for the duration of the supervision period rather than demonstration that risk has actually been reduced. If the primary objective of the criminal justice intervention is to accomplish risk reduction, then the termination of supervision should be tied to the achievement of that goal, not merely the passage of a given length of time.

Project Purpose Through its work in the *Evidence-Based Decision Making in Local Criminal Justice Systems Initiative*, a multidisciplinary team of criminal justice stakeholders in Milwaukee County (i.e., courts, corrections, prosecutors, defense attorneys, probation, and treatment) has designed and is empirically testing the first dosage probation experiment. Probationers will be sentenced to a period of "dosage probation," with the opportunity to earn early termination from supervision by accomplishing risk-reducing objectives.

Project Goals The project seeks to determine if the dosage probation model will

- lower recidivism among the target population;
- reduce the average length of supervision for those who successfully complete supervision; and
- align sentences with risk assessment information; align the probation agent's supervision and intervention practices, as well as community-based treatment, with needs information; and align probationer incentives with the achievement of risk reduction goals.

Study Design

- Approximately 600 medium and high risk offenders will be determined to be eligible for dosage probation.
- Offenders will volunteer to participate in the study.
- Eligible, voluntary offenders will be randomly assigned to either the control unit (business as usual) or the dosage probation unit.
- Agents in the dosage unit will be trained and coached in the principles of effective interventions and core correctional practices, and provided tools to engage offenders in behavior-changing activities.
- Independent evaluators will determine the impact of dosage probation on short-term measures (e.g., violations and revocations) and long-term measures (i.e., post-supervision recidivism).
Funding for the evaluation is provided under a grant from the U.S. Department of Justice, Bureau of Justice Assistance.

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