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	Reforming Juvenile Justice: A Developmental Approach	
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Appendix B The Missouri Model: A Critical State of Knowledge

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Over the past two decades, the juvenile incarceration rate has increased steadily. On any given day, more than 368 of every 100,000 juveniles are serving time in correctional facilities, and nearly all of them will be released back into the communities from which they came (Snyder and Sickmund, 1999). A continuum of programming services is needed to aid the incarcerated juvenile population in preparing for release, leaving prison, and returning to the community so that the likelihood of successful community adjustment can be improved and the risk of recidivism reduced.

The Missouri Model of juvenile corrections has been heralded as a leader in the area of juvenile reform; however, little empirical research on the program has been conducted. The primary goal of this appendix is to provide a critical assessment of the Missouri model. It begins with a brief historical description of juvenile corrections in Missouri. Next, the program model is described and linkages are made to the relevant best practices literature in the juvenile justice field. Included is a discussion of the feasibility of this model for implementation in other states and suggestions for sustainability. Finally, proposals for future research are outlined and the need for additional data and analysis is described.

HISTORY OF THE MISSOURI JUVENILE JUSTICE SYSTEM

The structure and tone of the juvenile justice system at any given point in time are governed by period-specific understandings of what causes delinquency and how best to correct delinquent behavior (Bernard, 1992). The philosophical ideas about what causes crime contain within them implicit policy implications for how to fix "the problem." Although there is period-specific variation in the understanding of casual influences, the juvenile justice system has followed identifiable cycles.

The state of Missouri has been strongly influenced by legal thinking on juvenile justice and delinquency. Like most states in the early part of the 20th century, juveniles were held in gender-segregated training facilities (Abrams, 2003). The state opened two facilities in 1889: Boonville held males, and Chillicothe females. The institutions were run as paramilitary organizations, and solitary confinement and other isolation techniques were used for discipline. Reports of violence were rampant. In 1948, two youth were killed in the Boonville facility. At the peak custody level, Boonville housed 675 youth.

During this time, the courts began to take a more active role in affecting the juvenile justice processes. In 1967, the U.S. Supreme Court extended the rights of juveniles through *In re Gault* and a series of high-profile cases. Similarly, in 1957, the Missouri legislature passed the Unified Juvenile Court Act. Under the act, the juvenile court was now given jurisdiction over all cases related to delinquency and status offenses, abuse and neglect, and adoption. Specifically,

the act required the court to consider the least restrictive alternative in punishment and to stress the need for reduced out-of-home placement. One of the central proponents, Judge Robert G.J. Hoester of St. Louis City, argued that the new act was bold and made the court a "treatment center rather than a punishment center" (Abrams, 2003).

This legislation paved the way for constructing the W.E. Sears Youth Center in Popular Bluff. This was the first dormitory-style juvenile correctional facility in the state and was designed around the positive peer culture model (Abrams, 2003). Two additional camps were opened in 1962 and 1964 to address the crowding and violence associated with the congregate facilities. This new model of small group staffing was to serve as an experiment until funds for a larger training school could be procured. Calls were made by the Missouri Law Enforcement Assistance Council, Attorney General John C. Danforth, and Governor Kit Bond to reform the juvenile system. However in 1971, a bill to provide \$3 million in funding to support the building of a new training school was defeated (Abrams, 2003). Although the original bill was defeated, Tim Decker, the current director of the Division of Youth Services (DYS), argues that the small pilot programs were instrumental in securing eventual legislator support. The pilot programs required little initial financial support but provided valuable evidence to frontline workers, legislators, others that the new approach would work (Decker, 2010).

In 1974, under the Juvenile Justice and Delinquency Prevention Act, the federal government mandated that no juvenile could be detained in an institution for criminal offenders if she or he was not guilty of criminal behavior. This legislation expanded federal oversight of juvenile courts and correctional facilities, which were now required to function in a similar manner to adult courts and prisons.

During this time, there was a complete organizational change in the juvenile justice system in Missouri. The Missouri Division of Youth Services was created as a new free-standing agency in the Department of Social Services through the Omnibus State Reorganization Act of 1974. The division was developed using a decentralized organizational design, and offices were separated into five geographic regions, enhancing administrative and service delivery at a local level. In 1975, DYS Director Max Brand called for a five-year reorganization plan that included building several additional dormitory-style facilities, based on the positive reports garnered from the original Popular Bluff facility. During this time, several states were questioning the efficacy of the congregate punishment model for juvenile offenders. Most notable was the Massachusetts Experiment, in which Jerome Miller led the charge to close all training schools in the state, including the prototypical training school, the Lyman School for Boys (Miller, 1991). The changes in juvenile corrections also came on the heels of the larger deinstitutionalization movement of this era.

The biggest challenge to juvenile corrections in Missouri came in 1975, when the U.S. District Court for the Western District of Missouri filed a consent decree challenging the conditions at Boonville. The Missouri system continued to expand the dormitory-style system; Chillicothe was closed in 1981, and Boonville shut down in 1983. In 1983, as a partial result of the consent decree, the Missouri House of Representatives created a standing committee on children, youth, and families, one of the first in its kind. In 1987, a DYS blue ribbon panel was convened to explore the needs of youth. The panel recommended the development of a 15-member bipartisan Youth Services Advisory Board, comprised of local and state lawmakers and experts, to help plan for expanding the juvenile treatment and correctional services in the state. The board is legislatively mandated and initially included several high-ranking conservative stakeholders, such as Stephen Limbaugh, an influential judge. The diverse nature of the board

helped bridge political gaps and negotiate scarce resources for DYS programming. The board was a catalyst for the system-wide implementation of the new juvenile corrections model and helped quadruple the budget from \$15 million in 1985 to \$60 million today (Abrams, 2003). The dynamic, enduring support of the board was a central element in the development and sustainability of the Missouri model.

The progressive juvenile justice era, however, was short-lived. Starting in the 1980s, there was a decisive change in the focus of the juvenile justice system. The change was fueled by the perception that the juveniles were more violent than ever, and the criminal justice system was too lenient on juvenile offenders (Dilulio, 1995; Wilson, 1995). Missouri was not immune to the "get-tough" movement. Missouri legislators filed numerous bills during the early 1990s seeking to stiffen juvenile sentences, broaden transfer to adult courts, and increase the number of youth sentenced to juvenile courts. The Missouri Juvenile Justice Association, working in conjunction with Governor Mel Carnahan, conducted a comprehensive analysis of the juvenile justice system. Instead of yielding to the pressure of legislators, the DYS and the governor worked together to educate the community and governmental stakeholders on the cost-effectiveness and success of the Missouri model. In addition, Governor Carnahan signed legislation in 1995 that created the juvenile and family court division within the Office of State Courts Administrator. This division was charged with collecting data on the juvenile courts and developing a standardized training and educational protocol for DYS staff (Abrams, 2003). It is through this evidence-based lens that Missouri continues today.

THE MISSOURI MODEL

The Division of Youth Services is managed under the Missouri Department of Social Services. Established in 1974, the agency is currently under the direction of Director Tim Decker. Its mission is to "enable youth to fulfill their needs in a responsible manner within the context of and with respect for the needs of the family and the community" (http://dss.mo.gov/dys/). The state operates under a defined set of goals that stress the importance of positive youth development, through the provision of treatment services that maximize youth and community safety. This type of therapeutic treatment model, centered on coordinated services, restorative integration, and specialized counseling, is consistently found to be associated with reduction in recidivism (Lipsey, 2009).

The Division of Youth Services has jurisdiction for youth mandated to its care by one of 45 Missouri juvenile courts (Missouri Department of Social Services, 2011). Juveniles supervised by circuit courts and youth under age 17 convicted in adult courts are not under the jurisdiction of DYS. The agency maintains a budget of \$60.5 million and operates under a decentralized administrative structure with administrative centers in five regions of the state. DYS offers a broad range of services, including residential and community-based programming for youth and families.

Although the philosophy and beliefs of the Missouri Division of Youth Services permeate the juvenile justice system, the Missouri model refers specifically to the services provided to youth in institutional confinement. In total, DYS operates 32 residential facilities (726 total beds), including secure and moderate care facilities and group homes (Missouri Division of Youth Services, 2003). Average per diem cost is \$167.30 per child for an annual cost of \$61,064. Youth in secure and moderate care facilities typically serve 9-12 months in the facility, and the average length of stay in group homes is 4-6 months. All statistics are reported by Missouri and are contained in official technical reports (Missouri Division of Social Services, 2011).

Missouri DYS Population

Only a very small fraction (2.5 percent) of the 648,648 Missouri youth ages 10-17 have contact with juvenile or family courts each year. Approximately 15,000 youth annually are convicted in Missouri circuit, juvenile, or family courts. In total, 77 percent of referrals to juvenile courts in 2008 were informally disposed and required little, if any, further action by the court. Less than half of youth with a formal disposition were sent to out-of-home placement; 56 percent were placed under the supervision of the Children's Division, 22 percent (1,143) were committed to DYS, and the remaining resided with family or in a private agency. Data on youth referred to state courts are compiled by the Office of State Courts Administrator (McElfresh et al., 2009). The Missouri Supreme Court oversees the circuit courts, which provide oversight for local family and juvenile courts.

A very small proportion of juvenile law offenders are remanded to DYS; the majority of youth served by DYS were committed to a youth institution. A total of 1,004 new commitments and 91 recommitments were made to DYS in 2010; DYS served another 155 youth in the community. During FY2010, DYS had custody of 2,111 youth (Missouri Department of Social Services, 2011).

The following statistics detail the population served by the Division of Youth Services in Missouri. The DYS population is predominately male (84.3 percent) with an average age of 15.2. Most youth were Caucasian (66.2 percent); 31.3 percent were African American, and 2.5 percent were of another race.¹ In total, 10.7 percent of all new commitments in 2010 were for serious, personal felonies (robbery, assault), and 42 percent of the population was serving time for lesser felonies, usually for property or drug-related offenses. In addition, 37 percent of the new commitments were for misdemeanors (probation violation and petty larceny), and 10.4 percent for juvenile status offenses (violation of court order).

Many youth come to DYS with histories of substance abuse, educational limitations, and other challenges. Youth report an average nine years of schooling at the time of commitment. Over half (57.8 percent) of youth have a history of substance abuse involvement, and 42.4 percent have had prior mental health services. Many (56 percent) youth lived with a single parent before commitment, and most youth lived in urban areas prior to incarceration. In total, 65 percent of youth resided in one of the state's five metropolitan statistical areas; 29.3 percent of the total population came from the St. Louis region.

Description of Program Model

The Missouri model of juvenile corrections includes four core elements: (1) continuous case management, (2) decentralized residential facilities, (3) small-group, peer-led services, and (4) a restorative rehabilitation-centered treatment environment. Each element of the program model is detailed below, and more information can be found in official DYS documents (Missouri Department of Social Services, 2011) or the DYS Missouri model website (http://www.missouriapproach.org/). There is also an Annie E. Casey report that provides details on the programmatic elements (Mendel, 2010).

Information on ethnicity was not provided.

Case Management

The Missouri model is based on a continuous care model of case management. Case managers are assigned at initial court contact and remain with the youth and family until discharge. In order to provide intense, individualized treatment, caseloads for youth specialists are capped at 15 to 18 families. The state maintains a system of indeterminate sentencing, so the duration of treatment in the facility and in the community is based on the evaluations of the case manager.

The case management process begins with a comprehensive risk assessment. The Missouri Office of State Courts Administrator has developed three classification tools.² The risk assessment and classification matrix examine the relative likelihood of future delinquency and provide suggestions for graduated sanctions. A needs assessment is conducted after sentencing and is designed to assist with case management and treatment planning. The use of validated needs assessment scales in conjunction with case management is consistent with the principles of the risk needs responsivity (RNR) model (Andrews et al., 1990; Lowenkamp and Latessa, 2005c; Lowenkamp et al., 2006a). The RNR model has become a benchmark for effective programs with adults and has gained support among juvenile programs.

The case management approach continues in secure confinement. The caseworker maintains contact with the youth and family during the term of confinement. The caseworker is part of a coordinated treatment team that can include representatives from the school, treatment services, and facility staff. The case manager facilitates communication with the youth and family, advocates for the needs of the youth, and works with the youth and family to develop a prerelease plan.

In addition to traditional case management and institutional supervision, the state provides intensive case monitoring for individuals released from institutional placement. Aftercare is an important component, as the early period after release from incarceration has been shown to be the most critical in determining recidivism outcomes for juveniles (Austin et al., 1987; Fagan, 1990; Murray and Cox, 1979). Although DYS does not adhere to a specific aftercare program model per se, the services provided to youth in Missouri following secure confinement mirror that of the successful Intensive Aftercare Program (IAP) designed by Altschuler and Armstrong (1994). Like the IAP model, DYS provides a continuum of services to the juvenile from inception of confinement to community integration.

Intensive surveillance is also a key component of the after-care model. The caseworker provides the primary point of contact throughout the adolescent's tenure in the system. The program also employs community mentors, typically a position filled by college students or local agency staff, to maintain consistent, frequent contact with youth. These individuals provide cost-effective case management assistance and facilitate small caseload sizes for case managers. Graduated sanctions and participant incentives are also a central part of the program model. Overall, 1,335 youth participated in the intensive case monitoring program in FY2010 (Missouri Department of Social Services, 2011).

DYS provides a number of community care services, including individual and family counseling, education services, and temporary housing. The DYS has set up community support networks in each of the communities where facilities are located. Staffed by volunteers from the community and local social services agencies, the goal of the networks is to link each child with

² See the court website for more information and scales used (http://www.courts.mo.gov/page.jsp?id=1199).

services in the community. Community residents are encouraged to volunteer and visit the facilities, and youth participate in local social service projects. In addition, 561 youth were provided employment training through a partnerships program with the Division of Workforce Development (Missouri Department of Social Services, 2011). Youth in this program participate in job training and receive minimum wage compensation for the duration of the program.

Decentralized Residential Facilities

As noted, the DYS operates 32 residential facilities, including 7 secure care facilities, 18 moderate care facilities, and 7 community residential group homes (Missouri Department of Social Services, 2011). All facilities are developed around a small-group, dormitory-style model; however, the architecture and design of the facilities vary widely. DYS has built some new residential facilities, but some institutions are reappointed schools, and two are part of college campuses. The residential facilities share several common characteristics. All of them are small, with no more than 50 youth and an average population of 20. In contrast, the original training schools were large, congregate institutions that housed over 100 youth. Youth stay in a dedicated small group (10-12) throughout their stay, and the agency strives to maintain a 1:6 staff-to-youth ratio (Missouri Department of Social Services, 2011).

The juvenile institutions bear little resemblance to a traditional training school. The facilities were designed to reflect the rehabilitative ideal. Living areas have appointments similar to a college dorm, including bunk beds, dressers, and carpet. Most facilities also have a larger congregate area with recreational activities. Youth dress in street clothing and remain in small groups while in the facility. The institutions do not resemble high-security facilities and do not include perimeter razor wire or barred windows.

The small-group congregate system is important for two primary reasons. First, DYS has a defined goal of keeping youth within 50-75 miles of their home. The traditional congregate facilities separated youth from family. Youth are now allowed home visits to maintain familial relationships and facilitate eventual reentry. DYS has identified the family as an integral part of the treatment process. Keeping children near family facilitates group participation, as the division views parents and families as the expert on their child (Becker and Decker, 2008).

Second, the cottage model allows for 24/7, eyes-on supervision in lieu of isolation and other physical controls typically used in training schools. Instead, the organization relies on active supervision by trained staff to maintain order and safety. The first stage of treatment in Missouri includes meeting the basic safety and security needs of youth. Safety and structure provide the backbone for effective treatment; therefore, the organizational design of the institution reinforces the rehabilitative ideal (Becker and Decker, 2008). Research suggests that smaller institutions are less crowded and are more likely to emphasize rehabilitation over control (Lipsey et al., 2010).

Peer-Centered Treatment Model

Residential facilities provide a wide range of treatment services (Becker and Decker, 2008). The department has developed an integrated treatment model theoretically based on Bronfenbrenner's (1979) ecological model of development. The treatment models rests on the assumption that successful services must address the cultural values of youth, intimate effects (school and peer), and extended family and work.

Peer-based treatment is a central element of the treatment model. DYS treatment is built on the assumption that change does not occur in isolation. Youth and staff work together throughout the treatment process. The staff facilitates a peer leadership and support culture that reinforces the importance of safety, support, and civility in the institution. Youth participate in a highly structured weekly schedule and all activities, meals, and treatment as a group. In addition, youth are asked to check in with each other during the day to express concerns or to praise positive behaviors.

DYS does not prescribe a specific treatment model. Instead, it has developed an integrated treatment plan that stresses group processes while providing treatment and services for individual and family needs. Treatment services vary by institution, group, and even adolescent. All youth must participate in youth-centered therapy and educational services. The division was heavily influenced by the Office of Juvenile Justice and Delinquency Prevention's Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders (Howell, 1995b). And it uses strategies suggested by the Full Frame Institute (www.fullframeinitiative.org) to refine and shape youth interventions. Decker stresses that they are continually revising and changing programs based on the needs of youth.

Positive, Treatment-Centered Environment

As noted, DYS has identified a series of core beliefs that reinforce all treatment and staffing decisions. Training and staffing are central to maintaining a positive treatment environment. The residential facilities staff are considered counselors and youth specialists, not guards, as they are commonly called in juvenile training centers and adult facilities. Staff are present in the facility at all times, and managers work flexible schedules to address the needs of youth. Steps are taken to maintain consistency in staffing to help create a healthy group culture.

The division has increased the education requirements of staff to enhance and broaden the role and responsibilities traditional juvenile caseworker. Youth specialist positions now require 60 hours of college coursework, and the division actively recruits on college campuses to draw the best students (Mendel, 2010). Staff also undergo nearly 300 hours of training during the first two years of employment and must undergo additional in-service training each additional year. The training curriculum, overall, has been rewritten to reinforce rehabilitation instead of law enforcement or correctional techniques to manage behavior. Contractual services are integrated into the holistic treatment model, and leadership supervises implementation to ensure consistency and success (Becker and Decker, 2008). Unlike some other states, DYS has does not outsource the housing needs of youth; contractors are responsible only for specialized treatment needs.

DYS also runs an accredited school district, and each adolescent is placed in educational programming for six hours per day. DYS manages 42 educational programs in the institution and the community, employing approximately 150 teachers.³ The staff is accredited using the same standards as all public schools in Missouri, and the state employs a pool of staff with experience working with children with diverse educational backgrounds. Over 40 percent of youth have special education needs. Educational staff are part of the unified treatment process as employees of DYS. And DYS has recently extended its education system are able to continue to graduation, even if they have been discharged from the system.

³ http://dss.mo.gov/dys/ed.htm.

Although Decker contends that it is a challenge to provide services to such a diverse population, he feels that the integration of education into the total treatment package facilitates educational achievement. Decker and Steward (2011) report several positive outcomes of the DYS education model. In Missouri, 95 percent of youth in DYS care earned high school credits, and 30 percent go on to complete a General Educational Development (GED) certificate or earn a high school diploma; comparative national statistics indicate that 50 percent of youth in secure care earn credit and 11 percent graduate or earn a GED.

BEST PRACTICES FOR THE MISSOURI MODEL

Four Key Factors

The Missouri Division of Youth Services has identified four key factors that they believe are critical for developing and sustaining a successful juvenile treatment model (Decker, 2011). First, strong organizational leadership is needed. Director Mark Steward was at the helm of the department for over 17 years, providing continuity of management. In addition, the youth system as a whole has received strong, continued support from state government. Change was not a quick process. The Missouri model has become an example for change because of decisions made in the 1970s and 1980s (Abrams, 2003).

The legislature continues to keep close tabs on the organization through the bipartisan Youth Services Advisory Board. In fact, the advisory board remains a central element in the political success of the model. Having the support of conservative leaders in the state helped gained legitimacy for the program. The division to this day maintains an open door policy and preaches transparency in policy and practice. DYS leaders have actively sought out support from local, state, and national leaders. As Decker (2010) notes, constituency building is a key element to any successful program, particularly for long-term initiatives that span legislative cycles.

Second, an organizational culture change is needed. Several key factors facilitated change in Missouri. Mark Steward argues that it is critical that DYS is under the Department of Social Services and separate from the court and the adult correctional system. This organizational structure allows DYS to stay free from the philosophies underpinning most traditional adult carceral models. Decker agrees arguing that "changing our end destination often involves starting from a fundamentally different place."

Training and staffing are also key components to organizational change. In fact, cultural change must precede programmatic change. Decker argues that many organizations adopt an evidence-based model without acknowledging the nature of the organizational culture. Effective change is not driven by a specific program. Success is accomplished by having the "right people who share a set of beliefs and philosophies" (Decker, 2010).

Both Decker and Steward note that there was substantial turnover in the beginning of the new model, and they agree that proper staffing and training is one of the most important elements in the Missouri model. Enhancing educational requirements for staff and active recruitment from college campuses has revitalized staff in Missouri. Training and staff development do come with some costs. Former director Steward, who now helps translate the Missouri model into other jurisdictions, indicates that training staff is a very laborious process and can cost \$500,000 per year. Although the investment in training is large, he contends that costs pale in comparison to those of traditional security measures.

Third, highly effective treatment strategies and approaches are essential to positive youth outcomes. Decker stresses the importance of continual change and improvement in programmatic models. Equally essential is having the courage to change or remove a program if it is not working.

Constituency building and buy-in is the final key element. One main example in Missouri is the use and funding of community liaison councils in program sites throughout the state. The councils help manage the day treatment centers in the community. Community centers are an integral part of the reentry process, providing treatment services, peer support, and a general home base in the community. Decker indicates that it is important to lay the groundwork with community agencies and the legislators to help insulate the organizational mission. He argues that it is not possible for one agency to address the myriad needs associated with juvenile delinquency. Instead, DYS has chosen to use funds as a catalyst to support best practices in the community. In turn, the community has an investment in juvenile success and supports the agency mission.

Outcome Analyses

The Missouri model is generally regarded as one of the best approaches to juvenile justice practice available today. It has found considerable support in media accounts, and the program has garnered popular acclaim (Beaubien, 2007; McGarvey, 2005; Moore, 2009). Lipsey and colleagues (2010) consider Missouri's comprehensive strategy as a model juvenile justice system; they highlight the state's commitment to providing a continuum of graduated sanctions under the guidance of a caseworker and the use of a structured decision-making model to make treatment and placement decisions informed by risk and needs assessment.

Despite this strong support, there is no credible scientific evidence demonstrating the effectiveness of this approach. Much is still to be learned about how the program model affects long-term youth trajectories and to whom this model is most applicable. As is true of any intervention program, the strongest way of demonstrating effectiveness is to conduct a randomized clinical trial or, short of that, to conduct a rigorous quasi-experimental study. These designs ensure, to the greatest extent possible, that one is comparing identical treatment and control participants and that outcomes, such as recidivism, are measured in identical ways. There is a robust scientific literature supporting this approach to evaluation (Shadish et al., 2001). Moreover, the field of juvenile justice is increasingly relying on rigorous standards of evidence-based studies before concluding that programs are effective (Mihalic et al., 2001; Aos, 2002). However, the little research that has been conducted on the Missouri model falls far short of these standards.

Part of the perceived success of the model comes from Missouri's reported relatively low recidivism rates. DYS provides a detailed annual report documenting patterns of recidivism (Missouri Department of Social Services, 2011). Data from the 2010 DYS annual report indicate that 89.8 percent of youth housed in detention facilities successfully completed the DYS program. The remaining failed for various reasons, including subsequent law violation while under supervision, new commitment to DYS, or absconding. The state also reports one-, two-, and three-year recidivism rates for youth who successfully complete DYS programming. According to data on a cohort of youth discharged from Missouri juvenile facilities in 1999, 33.9 percent of the sample recidivated within three years of completing the DYS program. In total, 29.3 percent were recommitted to DYS, were sentenced to adult 120-day shock incarceration, or

were sentenced to probation, and 4.6 percent was committed to adult prison. The recidivism rates have been relatively static over the past five years (Scott, 2009). However, these data remain entirely descriptive, not evaluative—that is, they describe the situation in Missouri, but they do not evaluate whether or not the Missouri model is effective or is any better than other approaches to juvenile justice. In order to do that, an adequate comparison group would have to be followed in identical ways to place these recidivism rates in the proper evaluative context.

Only one outside assessment of the Missouri model has been conducted. The report, funded by the Annie E. Casey Foundation, included measures of institutional safety. Mechanical restraints and isolation were rarely used in Missouri, and very few assaults on youth or staff were reported. In fact, youth in Ohio juvenile facilities were 2.5 times more likely to have been placed under mechanical restraints. Finally, no youth suicides have occurred in Missouri since the training schools were closed; 110 youth suicides occurred nationally between 1995 and 1999. The Annie E. Casey report also documented differences in recidivism levels between Missouri and other states (Mendel, 2010). For example Arizona, Indiana, and Maryland reported that over 20 percent of youth were sentenced to adult prison within three years of release from residential confinement in a juvenile facility, in comparison to 8.5 percent in Missouri. Similarly, Florida reported a one-year reconfinement rate of 28 percent; Missouri had a 17 percent recidivism rate during the same period. In New Jersey, 36 percent of youth were recommitted to juvenile custody for a new offense or sentenced to adult prison within two years of release; in Missouri the comparable figure was 14.5 percent.

Although these state differences are often pointed to as evidence of effectiveness by supporters of the Missouri model, their fundamental methodological weaknesses render them virtually meaningless. There is no evidence that the recidivism rates being compared in these different states reflect the behavior of similar youth. Youth can differ in prior offending histories, risk factors, demographic characteristics, and the juvenile justice process-to name just a few factors-that make it impossible to draw conclusions from gross comparisons such as these. In addition, the data were not evaluated on the basis of common reporting criteria (Scott, 2009), and the research did not rely on a common definition of recidivism. Scholars have cautioned against comparing recidivism rates across systems, particularly given the diversity of juvenile justice systems. The data were collected from eight states using aggregate data presented in official reports downloaded from the internet. No independent data verification was conducted. The size, nature, and age range of the juvenile samples varied across states. For example, the Missouri data represent youth under age 17, whereas Ohio tracks youth until age 20, probably inflating the statistics presented for this state.⁴ In addition, Missouri does not include the approximately 11 percent of youth who fail to complete programs in their outcome analysis, and the measure of recidivism does not include rearrests.

Since the Annie E. Casey report has been published, Maryland has responded to the apparent disparity between Maryland and Missouri, pointing out differences in measurement schemes that include the age of youth, the length of follow-up, and measures of recidivism (Maryland Department of Juvenile Services, 2008). Finally, static (e.g., age, gender, education status) and dynamic (e.g., gang membership, mental health status) predictors of juvenile recidivism were not evaluated.

It is essential to collect data on factors that may simultaneously influence selection into deviance and increase the likelihood for juvenile detention and eventual recidivism. Independent

⁴ http://www.dys.ohio.gov/DNN/LinkClick.aspx?fileticket= percent2fjIektmoWxA percent3d&tabid=117&mid=879.

data verification is needed before broad claims can be made based on the statistical data presented by Missouri—or any other state. Because of these and other serious methodological limitations, it is impossible to use the Annie E. Casey report to draw any conclusions about the effectiveness of the Missouri model. That is indeed unfortunate, given its popularity and the possibility that it may well be an effective program. But in order to inform policy, it is incumbent upon the model developers to convincingly and compellingly demonstrate the effectiveness of a program. That is not the case at the present time with respect to the Missouri model.

As is the case with the outcome evaluation, there has been no systematic process evaluation to determine whether the best practices for the Missouri model described above are actually essential for the development of the model. Although strong leadership, organizational culture change and so forth are certainly plausible ingredients for success, the case for the dissemination of the Missouri model would be greatly strengthened if those aspects were systematically and rigorously evaluated as well.

NEEDS FOR FUTURE RESEARCH

The need for substantive information and examples of successful programs is a paramount concern for policy makers. Evidence-based practices are increasingly important, not only for line level personnel such as program managers or individual treatment specialists, but also for federal, state, and local policy makers seeking to promote investment in proven treatment strategies. At the national level, the federal government has made substantial investments in disseminating information about effective programs. A few examples of these efforts have included funding the development of influential research documents, such as that prepared by Sherman and colleagues (1997), and, at the programmatic level, long-term commitment to such efforts as Blueprints for Violence Prevention, housed in the Center for the Study and Prevention of Violence at the University of Colorado (http://www.colorado.edu/cspv/blueprints/index.html). The notion of model programs has gained momentum as local, state, and national policy makers have placed their ideological and fiscal commitments behind establishing frameworks for effective programs.

Much remains to be learned about best practices in juvenile detention and subsequent reentry. The following sections detail suggestions for the enhancement of knowledge of juvenile confinement and youth outcomes. Several policy suggestions are presented, including further documentation of the Missouri model that encompasses both process and outcome evaluations. In addition, the development of group-specific treatment modalities and enhanced studies of desistance and reentry programming for youth is encouraged.

Process Evaluation

There has been a growing interest among criminal justice professionals to identify "what works" in criminal justice programming. Researchers and practitioners alike have called for the compilation of data regarding why certain programs work, how successful programs are implemented, and what can be done to replicate successful programs in other cities (Sherman et al., 1997). Replication of programs, particularly with rigorous controls, is needed before practitioners can be confident in investing in a new model. As noted, implementation of a Missouri-style model requires a significant initial investment among staff and administrators, often resulting in dramatic change in organizational philosophy. The development of a rigorous

process evaluation can help identify the factors that impede or enhance implementation of program model. This type of analysis is particularly important among line staff, as they are the foundation of successful implementation. Process evaluations also allow researchers to separate execution breakdowns from program failure. Programs implemented contrary to plans may compromise outcomes.

Process evaluation can include a number of phases and modalities. An ideal process evaluation would first include observation and documentation of the correctional treatment modalities and services. Separate from the research methodology used, it is important assess program fidelity, identify implementation success, and provide general programmatic benchmarks for future interventions and sustainability. Because the treatment provided to the youth varies by institution and even by dormitory and adolescent, a program assessment component is needed to evaluate the particular aspect of treatment programming that is the most successful. The correctional program checklist (CPC) has been tested with juvenile populations and can help generate an estimate of program effectiveness based on established correctional and treatment protocols (Lowenkamp and Latessa, 2005c; Lowenkamp et al., 2006a). The effectiveness of programming can also be assessed using the standardized program evaluation protocol for assessing juvenile justice programs introduced by Lipsey et al. (2010).. The score is based on five domains, including the nature of the primary treatment service, supplemental service, treatment amount (duration and contact hours), treatment quality, and youth risk level.

Similarly, a thorough evaluation should include an examination of the DYS education system. Although the educational results denoted by DYS are encouraging, many states have grappled with the challenges of providing comprehensive educational services to a high-risk and high-needs population. For example, the Massachusetts Department of Youth Services recently underwent a complete reorganization because of high staff turnover, inconsistent educational quality, and lack of services for youth with special education needs (University of Massachusetts Donahue Institute, 2008). Given the size of the Missouri DYS population and the centrality of education for long-term success, it is critical to understand how educational needs are addressed in Missouri.

The use of structured interviews of principals at regular intervals can also help provide insight into program operation. These interviews should focus on the perceptions of those interviewed about project performance compared with expectations, implementation and operational issues, areas of needed improvement, perceptions of accomplishments, and suggestions for modifications. Replication rests on a detailed understanding of the program model and an ability to implement similar programming in diverse agencies.

Next, it is important to document the nature of the juvenile population sentenced to correctional supervision. As noted, very few youth who enter the Missouri juvenile and family court center enter a DYS facility. Some youth are handled informally, and others participate in diversionary programs. One global concern with juvenile justice models is that new programming models will bring more youth into the system than before program implementation, hence widening the net of correctional intervention. Documenting the flow of youth into the juvenile correctional system will help better illuminate the nature of the population served by Missouri institutions. The Missouri Office of State Courts Administrator, under the supervision of the Supreme Court of Missouri, maintains a Judicial Information System (JIS) database that tracks all juvenile law referral cases managed in state courts. These data should be used to compare youth diverted from confinement with youth in secure care. In turn, these data

can be used for the outcome analysis to help select appropriate comparison groups in comparable states.

Several states are currently in the process of considering adopting a Missouri-style model. Most of this work has been guided by the Missouri Youth Services Institute (http://www.mysiconsulting.org) under the leadership of Mark Steward, former director of the Missouri Division of Youth Services. Steward led the DYS for over 17 years and was one of the key staff responsible for designing and implementing the Missouri model. The agency is currently working with Louisiana; New Mexico; Santa Clara County, California; and the District of Columbia to replicate the model. Steward has not published case studies of the challenges agencies typically face in the implementation phase; doing so in a rigorous manner would be an excellent first step in a comprehensive program evaluation.

Outcome Analyses

There continues to be a pressing need for methodologically rigorous program evaluations in the area of juvenile Justice. Because the Missouri model requires a complete system change, a true experimental evaluation would be very difficult to implement. Other alternatives, however, are available. One strategy would be to identify key components of the Missouri model and randomly assess their effectiveness. For example, one could assess the effectiveness of the DYS case management approach or its educational component using experimental methods. Although this approach would not provide a total evaluation of the Missouri model, it would inform the understanding of important aspects of it. A second strategy, given the complexity of the model, is to use rigorous quasi-experimental designs and to rely on relatively new statistical modeling techniques, such as regression-discontinuity analysis (Berk et al., 2010) or propensity score modeling, to evaluate and compare the outcomes of the Missouri model with that of other states (Osborne, 2008).

For example, propensity score matching can be used to account for differences between groups and to parcel out some of the unobserved heterogeneity in the statistical models, thereby reducing the likelihood of sample selection bias (Rosenbaum and Rubin, 1983). The propensity score can be seen as a balancing score, as it allows one to isolate the effects of correctional treatment models on recidivism by comparing the outcomes of the Missouri sample with a comparable sample of juveniles from other states who have a similar risk of delinquency. Given the costs of the model and limited funding availability, it is important to understand the efficacy of this program for diverse groups. It is important to consider if this program works and for whom. Additional analyses on recidivism patterns by gender, educational status, and criminal history profile are warranted.

FUTURE DIRECTIONS

The heterogeneity in youth offender populations has been well documented. However, as Lipsey and Wilson (1998) aptly observed, there is "little systematic attention . . . given to reviewing the evidence for effectiveness with distinct type of offenders." Future research should also explore what works for whom and under what circumstances when designing and replicating future programming. There are several populations and needs groups to be explored.

Missouri has identified two particular subgroups in need of review: girls and youth who return to rural areas. Researchers have documented gendered pathways to crime and

imprisonment (Belknap, 2007; Bloom et al., 2003; Chesney-Lind, 1997; Daly, 1998; Daly and Chesney-Lind, 1988; Miller and Mullins, 2006; Owen, 1998). As noted in the DYS 2010 annual report, females account for only 15.7 percent of commitments, yet the agency notes that the population is a challenge given increasing populations and limited resources. Interestingly, females are more likely to be placed in custody than males. Females were most often committed to DYS for misdemeanors (43.6 percent) and juvenile offenses (21.5 percent). In contrast, males were most often serving time for felonies (55.9 percent). This finding is consistent with earlier work by Kempf-Leonard and Sample (2000), who found that prehearing detention and out-of-home placement were used for less serious crimes when compared with similar juvenile males.

Director Decker notes that the division has taken several steps to attend to the unique needs of girls, particularly in the area of reentry programming. DYS has recently implemented the Girls' Circle (http://www.girlscircle.com/) as part of their community after-care program. Research suggests that most institutional programs implemented for adult female offenders fail to address their unique needs, and even less is known about appropriate programming for girls in and out of the institution (Morash et al., 1998; Pollock, 2002). This area is particularly important for reform, as girls often enter criminality through different pathways than boys and take unique trajectories following imprisonment.

Missouri has also faced challenges in providing care to youth in rural areas, particularly given the agency's goal of providing youth services close to home. The state has been able to maintain services for rural populations through the diversionary program and has provided transportation to families of youth who are housed in faraway institutions, but it will need to continue to develop innovative ways in which to serve this population. In terms of practice and policy, much of the current research centers on metropolitan contexts of reentry. Although large numbers of youth return to more populated areas, a significant number come home to rural communities. Some researchers have raised questions about the applicability of theoretical models of criminal justice practice to both urban and rural settings (Osgood and Chambers, 2000).

In conclusion, this appendix has described the nature of the Missouri model, a model that is consistent with best practices in juvenile justice. What remains to be learned, however, is whether the program is actually effective in reducing recidivism when subjected to a scientifically credible evaluation. We also need to learn which elements of the program are most successful and the best manner in which similar program models can be replicated in other communities. In a time of scarce resources, implementation and outcome measures must be collected to ensure that effective programming is continued and ineffective programming is eliminated (Maxfield, 2001). That is particularly important for programs with the popular acclaim of the Missouri model. Similarly, it remains important to see if this model works well for all juveniles. As Rosenfeld (2008) suggests, future research should attempt to isolate offenders who are most amenable to treatment, given that many first-time offenders desist without additional correctional interventions, and still others do so regardless of intervention and treatment. Similarly, it is essential to enhance data collection efforts at both the national and the state levels. Doing so will also pave the way for better understanding of the particular needs of special populations in the system.