

# Multisystemic Therapy® (MST®) Research at a Glance

**Short Version** 

## Published MST Outcome, Implementation and Benchmarking Studies

January 2020

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## Multisystemic Therapy ® (MST ®) Research at a Glance

#### January 2020



MST is an internationally recognized program for at-risk youth and their families. For more than 30 years, MST has consistently demonstrated positive outcomes with chronic juvenile offenders. Based on the program's success, rigorous randomized trials were conducted to explore the feasibility and effects of adaptations of MST with other target populations. Results have been positive for treating problem sexual behavior, child abuse and neglect, substance abuse, serious emotional disturbances and chronic health care conditions. This document highlights the many areas of MST research and proven outcomes with traditional MST and MST clinical adaptations as well as research on the transport of MST to community practice settings.

#### Research Highlights

- 79 published outcome, implementation and benchmarking studies
- Yielding more than 150 published, peer-reviewed journal articles
- More than 58,000 families included across all studies
- 28 randomized trials
- 53 of the 79 studies conducted by independent researchers (not involving an MST model developer)
- 16 outcome studies using MST with serious juvenile offenders:
  - 11 randomized trials
  - 7 independent studies
  - 7 international studies
- 18 outcome studies using MST with adolescents with serious conduct problems
  - 7 randomized trials
  - 15 independent studies
  - 8 international studies
- 2 outcome studies with substanceabusing or -dependent juvenile offenders (MST-Substance Abuse)
- 3 outcome studies with juvenile sexual offenders (MST-Problem Sexual Behavior)
- 4 outcome studies with youths presenting serious emotional and behavioral disturbance (MST-Psychiatric)
  - 2 independent
- 3 outcome studies with maltreating families (MST-Child Abuse and Neglect)
- 6 outcome studies with adolescents with chronic health care conditions (MST-Health Care)
  - 5 independent
- 21 implementation studies
  - 16 independent
- 17 treatment process studies
  - 12 independent
- 12 cost related studies
  - · 6 independent

#### MST Research Demonstrates

- Long-term re-arrest rates in studies with serious juvenile offenders reduced by median of 42%
- Out-of-home placements, across all MST studies, reduced by a median of 54%
- Improved family functioning
- Decreased substance use among youth
- Fewer mental-health problems for youth
- Higher levels of client satisfaction
- Considerable cost savings

#### MST's positive results are long lasting

A 22-year, follow-up study by the Missouri Delinquency Project showed youths who received MST had:

- 36% fewer felony arrests
- 75% fewer violent felony arrests
- 33% fewer days incarcerated
- 37% fewer divorce, paternity and child support suits
- 56% fewer felony arrests for siblings

## MST has proven the importance of treatment adherence and quality assurance

For example, 3 large multisite studies on the transport of MST involving more than 7,000 families (see studies #11, 48, and 64) as well as several other well-conducted studies (see studies #6, 8, 14, 17, 20, and 73) have concluded that:

- High therapist adherence improves youth and family outcomes
- Ongoing quality assurance improves MST therapist and team adherence.

### MST has been effectively transported to community practice settings

- MST currently has more than 500 active programs.
- Adherence measures demonstrate that MST is being delivered with high levels of fidelity.
- Outcomes in community practice settings are similar to those of university-based trials.

## MST theory of change has been supported by treatment process research

 Mediation and qualitative studies have demonstrated the importance of improving family relations as the mechanism to reduce youth antisocial behavior. (See publications in Studies #8, #22, #26, #29, #31, #39 and #54)

More than 58,000 families included across all studies

79 outcome, implementation and benchmarking studies, yielding more than 150 peer reviewed journal articles

Most of the research publications listed in this document can be requested online from MST Services (MSTS). To request a publication, simply send an email with the publication number in the subject line (e.g., FSRC #104, MSTS #1095, etc.) to Network.Partner@mstservices.com. The publication number is listed after each citation in this document. The requested publication will be emailed directly to you.

## Published MST Outcome, Implementation and Benchmarking Studies January 2020

MST w	ith Serious Ju	venile Offe	nders
Study #	Authors	Design	Population
1	Henggeler et al. (1986)	QE	Delinquents and their families
3	Borduin, Henggeler, Blask & Stein (1990)	RCT	Adolescent sexual offenders and their families
4	Henggeler, Melto & Smith (1992)	on RCT	Violent and chronic juvenile offenders and their families
5	Borduin et al. (1995)	RCT	Violent and chronic juvenile offenders and their families
6	Henggeler, Melto et al. (1997)	on RCT	Violent and chronic juvenile offenders and their families
8	Henggeler, Pickr & Brondino (199		Substance-abusing and- dependent delinquents and their families
9	Borduin, Schaeff & Heiblum (2009		Juvenile sexual offenders and their families
16	Timmons- Mitchell et al. (2006)	RCT— Independent	Juvenile offenders (felons) at imminent risk of placement and their families
17	Henggeler et al. (2006)	RCT	Substance-abusing and -dependent juvenile offenders in Drug Court and their families
21	Curtis, Ronan, Heiblum & Crellin (2009)	BM— Independent	Juvenile offenders in New Zealand and their families
22	Letourneau et al. (2009)	RCT	Juvenile sexual offenders and their families
25	Glisson et al. (2010)	RCT/ CRO— Independent	Juvenile offenders and their families
26	Butler et al. (2011)	RCT— Independent	British juvenile offenders and their families
40	Fain et al. (2014)	QE— Independent	Chronic juvenile probationers
42	Baglivio et al. (2014)	QE— Independent	Juvenile offenders
49	Trupin et al. (2011)	QE— Independent	Incarcerated juvenile offenders and their families

<b>QE=</b> Quasi-experimental
RCT=Randomized clinical trial
<b>BM=</b> Benchmarking
IR=Implementation Research
<b>CRO</b> =Counties randomized to organizational
intervention conditions, youth in counties to MS7
or usual care

	ith Adolescent ct Problems	ts with Seri	ous
Study #	Authors	Design	Population
12	Ogden & Halliday- Boykins (2004)	RCT— Independent	Norwegian youth with serious antisocial behavior & their families
18	Ogden, Hagen & Andersen (2007)	BM— Independent	Norwegian youth with serious antisocial behavior & their families
20	Sundell et al. (2008)	RCT— Independent	Swedish youth with conduct disorder and their families
27	Boonstra et al. (2009)		Dutch seriously antisocial & delinquent juveniles & their families
28	Boxer (2011)	Treatment process— Independent	Adolescents in MST Programs and their families
29	Asscher et al. (2013)	RCT— Independent	Dutch youth with severe & violent antisocial behavior & their families
31	Glebova et al. (2012)	Treatment process	Youth with serious antisocial behavior and their families treated by 51 MST therapists
34	Weiss et al. (2013)	RCT— Independent	Adolescents with serious conduct problems in self-contained classrooms and their families
37	Painter (2009)	QE— Independent	Youth with externalizing disorders
39	Gervan et al. (2012)	Treatment process— Independent	Youth who were physically aggressive or at imminent risk of placement and their families
47	Smith-Boydston et al. (2014)	QE— Independent	Youth with behavior problems
48	Lofholm et al. (2014)	QE— Independent	Swedish youth with severe behavior problems
51	Boxer et al. (2015)	Treatment process— Independent	Adolescents and their families in MST programs
54	Paradisopoulos et al. (2015)	Treatment process— Independent	British youths who completed MST
56	Barth et al. (2007)		Behaviorally troubled youth and their families
63	Porter & Nuntavisit (2016)	BM— Independent	Australian youth with severe externalizing problems
65	Vidal et al. (2017)		Youth at high risk of out- of-home placement
70	Fonagy et al. (2018)		British youth with antisocial behavior
71	Eeren et al. (2018)	QE— Independent	Dutch youth with antisocial behavior

## Published MST Outcome, Implementation and Benchmarking Studies January 2020

MST-Problem Sexual Behavior Studies (MST-PSB)				
Study #	Authors	Design	Population	
3	Borduin, Henggeler, Blaske & Stein (1990)	RCT	Adolescent sexual offenders and their families	
9	Borduin, Schaeffer & Heiblum (2009)	RCT	Juvenile sexual offenders and their families	
22	Letourneau. et al. (2009)	RCT	Juvenile sexual offenders and their families	

Implen	nentation St	ıdies	
Study #	Authors	Design	Population
10	Henggeler, Schoenwald, Liao, Letourne & Edwards (20		Youth referred to standard MST and their families
11	Schoenwald, Sheidow, Letourneau & Liao (2003)	Implementation research	Youth referred to standard MST and their families
32	Ogden et al. (2012)	Implementation research— Independent	Norwegian therapists, supervisors, and agency leaders
35	Stout & Hollere (2013)	en IR— Independent	MST and FFT programs
41	Westin et al. (2014)	IR— Independent	Youth referred to MST or FFT
44	Brunk et al. (2014)	Implementation research	Youth referred to standard MST
45	Hebert et al. (2014)	IR— Qualitative	Child protection team members
47	Smith-Boydsto et al. (2014)	n IR—QE— Independent	Youth in MST programs
48	Lofholm et al. (2014)	IR— Independent	Swedish youth in MST programs
50	Hendriks et al. (2014)	IR— Independent	MST and FFT programs
52	Welsh & IF Greenwood (2015)	R—Qualitative— Independent	Stakeholders in 5 states
53	Lange et al. (2016)	IR— Independent	Dutch and US families
55	Pantoja IR (2015)	—Qualitative— Independent	Chilean government documents
60	Van der Rijken et al. (2016)	IR—QE— Independent	Dutch adolescents and families
61	Bruns et al. (2016)	IR— Independent	U.S. state mental health systems
64	Lange et al. (2017)	IR— Independent	Dutch adolescents with severe behavior problems
66	Ter Beek et al. (2017)	IR— Independent	Dutch boys with problem sexual behaviors
68	Swenson et al. (2018)	IR— Qualitative	Disadvantaged communities in Ghana & US
72	Heriot & Kissouri (2018)	IR— Independent	New South Wales government and MST-CAN and FFTCW sites

Implementation Studies (continued)			
Study #	Authors	Design	Population
77	Hefti et al. (2019)	IR—Qualitative— Independent	Swiss welfare professionals
79	Walsh & Best (2019)	IR—QE and Qualitative— Independent	Northern Ireland families and practitioners

MST Child Abuse and Neglect Studies (MST-CAN)			
Study #	Authors	Design	Population
2	Brunk, Henggeler & Whelan (1987)	RCT	Maltreating families
24	Swenson et al. (2010)	RCT	Physically abused adolescents and their families
33	Schaeffer et al. (2013)	Pre-post and QE	Families with co- occurring parental substance abuse and child maltreatment

MST-Psychiatric Studies				
Study #	Authors	Design	Population	
7	Henggeler, Rowland et al. (1999)	RCT	Youth presenting psychiatric emergencies and their families	
15	Rowland et al. (2005)	RCT	Youth with serious emotional and behavioral disturbances and their families	
19	Stambaugh et al. (2007)	QE— Independent	Youth with serious emotional disturbance and antisocial behavior at risk for out-of-home placement and their families	
36	Tolman et al. (2008)	BM— Independent	Youth with serious emotional and behavioral disturbances	

MST-H	MST-Health Care Studies (MST-HC)				
Study #	Authors	Design	Population		
13	Ellis et al. (2004)	RCT— Independent	Adolescents with poorly controlled type 1 diabetes and their families		
14	Ellis, Frey et al. (2005a)	RCT— Independent	Inner city adolescents with chronically poorly controlled type 1 diabetes and their families		
23	Naar-King et al. (2009)	RCT— Independent	African-American adolescents with primary obesity and their families		
30	Ellis et al. (2012)	RCT— Independent	Adolescents with poorly controlled type 1 or type 2 diabetes and their families		
38	Letourneau et al. (2012)	. RCT	HIV infected youth with poor medication adherence		
43	Naar-King et al. (2014)	RCT— Independent	African-American adolescents with poorly controlled asthma		

#### Listing of published, peer-reviewed journal articles by study number

The publications cited below are the lead articles for the respective research study. Many of these studies have multiple publications. All publications related to each study are provided in the full length version of the MST Research at a Glance document, which can be found online at www.mstservices.com/mst-whitepapers

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#### Listing of published, peer-reviewed journal articles by study number

The publications cited below are the lead articles for the respective research study. Many of these studies have multiple publications. All publications related to each study are provided in the full length version of the MST Research at a Glance document, which can be found online at www.mstservices.com/mst-whitepapers

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CHARLESTON
4 Carriage Lane
Suite 102
Charleston, SC 29407

ATLANTA 3490 Piedmont Rd NE Suite 304 Atlanta, GA 30305 SAN FRANCISCO 1100 Moraga Way Suite 202 Moraga, CA 94556