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The Martinsburg Initiative: a collaboration between public safety, public health, and schools to address trauma and substance use

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Abstract

The Martinsburg Initiative (TMI) is a community-based model developed in Martinsburg, West Virginia that implements a comprehensive approach to adverse childhood experiences and substance use prevention and mitigation by leveraging partnerships in public health and healthcare, public safety, and education. TMI receives coordinated federal funding and technical assistance from the Centers for Disease Control and Prevention, Washington-Baltimore High Intensity Drug Trafficking Agency, and the National Association of County and City Health Officials to integrate evidence-based and promising strategies. It advances such strategies by translating them for implementation within the community, evaluating the reach and potential impact of the model, and by engaging key stakeholders. Preliminary results describing program reach and short-term outcomes collected for a subset of the interventions during implementation are presented. The model uses touchpoints across multiple community sectors in the city of Martinsburg to break the cycle of trauma and substance use across the lifespan.

Introduction

Adverse childhood experiences (ACEs) are potentially traumatic events that occur in childhood and are risk factors for various negative health outcomes including substance use disorder.[1] Almost two-thirds of adults in the United States surveyed by the Behavioral Risk Factor Surveillance System (BRFSS) in 23 states, from 2011–2014 reported at least

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one ACE, and nearly one-fourth reported three or more ACEs. In West Virginia during 2019 and 2020, 24.9% of children had experienced one ACE in their lifetime, and 24.6% had experienced two or more, including 13.2% of children who had lived with someone with an alcohol or drug problem.[2] ACE exposure increases the likelihood of substance use during adolescence and adulthood, including marijuana and cocaine use[3], as well as overdose among adults with opioid use disorder.[4] In 2020 West Virginia experienced the highest overdose death rate per 100,000 population in the country.[5], Preliminary data shows that Berkeley County, which includes Martinsburg, West Virginia, had the eighth highest overdose-related death rate per 100,000 population, accounting for the third highest overdose death count in the state.[6] In order to address these public health burdens compounded by the relationship between ACEs and substance use, in collaboration with the National Association of City and County Health Officials, the Centers for Disease Control and Prevention and the High Intensity Drug Trafficking Agency have funded The Martinsburg Initiative since 2017.

CDC's ACEs prevention resource highlights the best available evidence for programs, policies, and practices[1] that prevent ACEs and address harmful outcomes. The Martinsburg Initiative (TMI)'s programmatic efforts focus on four of six strategies identified in the resource: 1) promote social norms that protect against violence and adversity; 2) teach prosocial skills; 3) connect youth to caring adults and activities; and 4) intervene to lessen immediate and long-term harms. TMI works to address ACEs as an upstream risk factor for substance use and overdose while simultaneously building resilience in and offering treatment for adults and parents who use drugs.

This article describes TMI's community-based model for substance use and ACEs prevention through the lens of CDC's ACEs prevention resource. This promising model reflects the collaborations that focus on preventing trauma and substance use among children, early intervention or referral to treatment for those with identified trauma or risky substance use, and on mitigating negative consequences for those with extensive trauma or substance use disorders. Preliminary results are included for a subset of the interventions and include the reach of all programs implemented.

Methods

TMI implements programs across the lifespan and addresses four of the ACEs prevention strategies. To *promote protective social norms*, Martinsburg Police officers and Martinsburg schools teachers and staff have been trained in trauma-informed approaches designed to improve understanding of the physical and psychological impact of ACEs, trauma, and abuse and to enhance their work with students and families.[7,8]. TMI developed an instrument based on the Healthy Environments and Response to Trauma in Schools[9] tools to measure teachers' knowledge and their perceptions about student engagement before and after trauma-informed training, and offers a certification in trauma-informed teaching that requires multiple courses, observations, and implementation of the techniques. Martinsburg Police officers who receive training on trauma-informed approaches to law enforcement complete the Attitudes Related to Trauma-Informed Care (ARTIC) scale[10] that measures changes in perceptions of and attitudes towards a trauma-informed approach.

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Police officers visit kindergarten through fifth grade classrooms in Martinsburg city schools twice a year to incorporate the learned approaches. The officers support the teacher by reading to the class, and by reinforcing the content presented by the teacher. The visits are intended to positively shape children's relationships with police officers while in a safe, familiar environment—their classroom.

TMI *teaches prosocial skills across the lifespan* through interventions focused on children and parents. Its social workers teach social-emotional learning in the classroom through *Too Good for Drugs*, an evidence-based program[11] that also provides tools to assess changes in confidence about goal setting, communication, and knowledge about drugs and alcohol.

Nurturing Parenting (NP) is an evidence-based program designed as a trauma-informed intervention that teaches and builds supportive family-centered parenting skills and decreases child maltreatment.[12] TMI implements NP for parents involved with the justice system and administers the Adult Adolescent Parenting Inventory (AAPI 2.1)[13] which measures parental attitudes across five domains and reflects abusive parenting attitudes to parents who complete all sessions.

TMI-supported after school programs, including music, yoga and homework support are offered to students in grades K–5 and provide access to *caring adults and activities* in safe and stable environments after school. The mentoring program pairs children in grades K–12 with trained, background-screened, caring adults with whom they interact weekly for at least a year, increasing the number of supportive adults in the mentees' lives.

Several of the TMI-supported activities help people who have experienced substance use or ACEs by *intervening to lessen immediate and long-term harms*. This includes the Handle with Care (HwC) program that was designed to provide additional support for children who are present during a law enforcement encounter and have been exposed to trauma or violence. The school principal is notified to "handle the child with care" after such an encounter and a warm handoff is provided to facilitate earlier interventions for those students.[14]

TMI social workers provide in-home visits and coordinated wraparound services for Martinsburg City School students. The Strengths and Difficulties Questionnaire (SDQ)[15] and the Child and Youth Resilience Measurement (CYRM)[16] are administered to assess the resilience of families that receive home visits. TMI also provides screening, brief interventions, and referral to treatment (SBIRT) for community members in the local emergency department. A TMI-supported care coordinator links those identified by SBIRT to treatment, potentially decreasing the effects of trauma and substance use for families.

The data presented in this paper represent preliminary results related to activities implemented from December 2019 through December 2021. Data for a subset of the interventions on short-term outcomes were analyzed using two-tailed t-tests and effect sizes were calculated using Cohen's d statistic. More time is needed to evaluate the intermediate and long-term outcomes of many of TMI's elements. The results presented reflect the impacts on knowledge and attitudes when available and the reach of the intervention when other potential impacts have not yet been measured. Schools in Martinsburg were impacted

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by the COVID-19 pandemic similarly to others across the United States. Instruction was virtual at times from March 2020 through December 2020 and the number of visitors, including police officers, was restricted to decrease COVID-19 transmission. The reach of each activity implemented by TMI can be found in Figure 1.

Results

Analysis of the interventions designed to *promote protective social norms* included the examination of knowledge and attitudes about trauma after trainings provided by TMI. A subset of the teachers (n=31, 28 female, 3 male, 83.9% Caucasian, 3.2% African American, 3.2% multi-racial, 9.7% Hispanic) earned a certification from TMI in trauma-informed teaching; this subset consistently reported significant increases in knowledge, use of the skills they learned (mean change from 14.0 to 22.7, p<0.001, d=2.3), and in student engagement (mean change from 14.4 to 17.0, p<0.001, d=0.93) after becoming trauma certified. Police officers' ARTIC scores changed after the training (n=22, 91.5% male, 8.5% female, 94.9% Caucasian, 5.1% African American, 1.7% multi-racial, mean change from 4.76 to 5.13, p<0.05, d=0.55), indicating that they have more positive attitudes towards working with people who have or are experiencing trauma.

The evidence-based interventions implemented by TMI that *teach prosocial skills across the lifespan* include *Too Good for Drugs* and Nurturing Parent. The third grade students who participated in the *Too Good for Drugs* program showed a significant increase (n=77, mean change from 52% to 68%, p<.01, d=0.8) in knowledge about the effects of drugs and alcohol. Parents who participated in the Nurturing Parent program and completed the AAPI 2.1[13] showed significant improvement (n=19, 12 female, 7 male, 89.5% Caucasian, 5.3% African American, 5.3% Hispanic, p<0.05) in two of the five constructs tested. Specifically, in the domain of parental empathy towards children, the mean changed from 5.1 to 6.2 (p=0.03, d=0.36) and in the domain of parent and child roles the mean changed from 6.1 to 7.3 (p=0.008, d=0.53).

The interventions supported by TMI that *intervene to lessen immediate and long-term harms* involve support of students by social workers and behavioral health providers. After 12 months of home visits, the SDQ score improved significantly (p<0.05, d=0.71) (mean change from 15.7 to 11.2; n=20) and the CYRM improved, although not significantly (d=0.45), indicating an improvement in resiliency amongst the students. The students that received TMI services were 64% male, 36% female, 66.6% Caucasian, 16% African American, 16.7% multi-racial and 0.7% Hispanic.

Discussion and Conclusions

In light of the worsening drug overdose epidemic, communities are struggling to find new promising solutions and there is an urgent need to address "upstream" factors that increase risk, such as ACEs and health inequities.[17] TMI's innovation is not only the combination of partners, but the dedication to trauma-informed care across the social ecology and across the prevention spectrum. Preliminary results support the importance of (1) training and commitment across sectors to provide consistent wraparound services to prevent ACEs

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and lessen their effects[18]; (2) unconventional touchpoints with public safety can create opportunities to change perspectives in community about substance use (3) at least some components of this approach appear promising and may be helpful in other communities.

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References

1. Preventing Adverse Childhood Experiences: Leveraging the Best Available Evidence (Centers for Disease Control and Prevention.) (2019).
2. Child and Adolescent Health Measurement Initiative. 2019–2020 National Survey of Children's Health (NSCH) data query. Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). Accessed January 10, 2022. www.childhealthdata.org
3. Scheidell JD, Quinn K, McGorray SP, et al. Childhood traumatic experiences and the association with marijuana and cocaine use in adolescence through adulthood. Addiction. 2018;113(1):44–56. [PubMed: 28645136]
4. Stein MD, Conti MT, Kenney S, et al. Adverse childhood experience effects on opioid use initiation, injection drug use, and overdose among persons with opioid use disorder. Drug Alcohol Depend. 2017;179:325–329. [PubMed: 28841495]
5. 2019 Drug Overdose Death Rates. Accessed January 14, 2022. https://www.cdc.gov/drugoverdose/deaths/2019.html
6. Office of Drug Control Policy Data Dashboard. West Virginia Department of Health & Human Resources. Accessed January 10, 2022. https://dhhr.wv.gov/office-of-drug-control-policy/datadashboard/Pages/default.aspx
7. Dudley RG. Childhood Trauma and Its Effects: Implications for Police. U.S. Department of Justice, National Institute of Justice. https://www.ojp.gov/pdffiles1/nij/248686.pdf
8. Jones DJ. Pandemic policing: Highlighting the need for trauma-informed services during and beyond the COVID-19 crisis. Journal of Community Safety and Well-Being. 2020;5(2):69–72.
9. Joyce S Dorado MM, McArthur Laura, Leibovitz Talia. Healthy Environments and Response to Traumain Schools (HEARTS): A Whole-School, Multi-level, Prevention and Intervention Program for Creating Trauma-Informed, Safe and Supportive Schools. School Mental Health. 2016;8:163–176. doi:DOI 10.1007/s12310-016-9177-0
10. Baker CN, Brown SM, Wilcox PD, Overstreet S, Arora P. Development and psychometric evaluation of the attitudes related to trauma-informed care (ARTIC) scale. School Mental Health. 2016;8(1):61–76.
11. Substance Use Prevention. Accessed January 14, 2022. https://toogoodprograms.org/collections/too-good-for-drugs
12. Bavolek SJ. Assessing and treating high-risk parenting attitudes. Early Child Development and Care. 1989/01/01 1989;42(1):99–112. doi:10.1080/0300443890420107
13. Bavolek S, Keene R. AAPI online development handbook: The Adult-Adolescent Parenting Inventory (AAPI-2) assessing high-risk parenting attitudes and behaviors. Park City, UT: Family Development Resources. 2005;
14. Justice WVCfCs. Handle With Care. Accessed January 12, 2022 http://www.handlewithcarewv.org/handle-with-care.php
15. Goodman R, Meltzer H, Bailey V. The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version. European child & adolescent psychiatry. 1998;7(3):125–130. [PubMed: 9826298]

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16. Jefferies P, McGarrigle L, Ungar M. The CYRM-R: a rasch-validated revision of the child and youth resilience measure. Journal of Evidence-Based Social Work. 2019;16(1):70–92.
17. Drug Overdose Deaths in the U.S. Up 30% in 2020 Updated July 14, 2021. Accessed January 10, 2022, https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2021/20210714.htm
18. Ko SJ, Ford JD, Kassam-Adams N, et al. Creating trauma-informed systems: Child welfare, education, first responders, health care, juvenile justice. Professional psychology: Research and practice. 2008;39(4):396.

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Implications for policy and practice

TMI suggests that:

- Implementing broad prevention strategies based on the best available evidence such as promoting protective social norms, teaching prosocial skills, connecting youth to caring adults, and intervening to lessen immediate and long-term harms can affect ACEs in a community. These strategies can be harnessed to develop community-based efforts that reduce trauma, risky substance use, and drug overdose[1].
- Prevention goals across the spectrum—from early intervention to risk mitigation—can be addressed by using a flexible set of evidence-based and promising strategies that meet any given community's needs.
- Multisector collaborations between public health, public safety, education, and healthcare are not only innovative, but they are feasible to implement when strong leadership, existing partnerships, clear goals, and a funding source are present.
- The model shows promising preliminary evaluation results for a subset of the interventions, particularly its reach into the community of interest; teacher-reported better student engagement; improved resiliency amongst the populations served; and a significant improvement in self-reported parenting skills.

Research is needed to:

- Rigorously and comprehensively evaluate the outputs and outcomes of the combined elements of the model in Martinsburg and other communities over a longer follow up time frame.
- Determine which program elements are considered "essential" to key outputs and outcomes.

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		Age (Grade level)			Adults	
ACE Prevention Strategy[4]	Sector	5-11 (Kindergarten through 5th grade)		12-18 (6th through 12th grade)	18+	
Promote protective social norms	Health + Education				Educators who have earned a Trauma-informed certification	
	Health + Public Safety				Police officers who participated in trauma and ACEs awareness training	
	Public Safety + Education	Police classroom visits				
Teach prosocial skills across the lifespan	Health + Education	Students who completed *Too Good for Drugs*		Students who completed *Too Good for Drugs*		
	Health + Public Safety				Parents involved with the justice system who participated in *Nurturing Parenting*	
Provide access to caring adults and activities	Health + Education	Mentees in school-based mentoring program	Students participating in after school programs	Mentees in school-based mentoring program	Mentors trained for school mentoring program	
Intervene to lessen immediate and long-term harms	Health	Families supported by home visiting program with social worker			Patients screened by SBIRT in Emergency Department	Patients screened through SBIRT who received referrals to treatment
	Health + Education	Students referred to behavioral health support in schools	Students supported by social workers in schools	Students referred to behavioral health support in schools		
	Public Safety + Education + Health	*Handle with Care*© notifications and referrals		Students referred to TMI by the School Resource Officer		

Key: Reach 0-50 51-150 151-500 > 500

Figure 1.
TMI Program Activities and Reach, December 2019–December 2021