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Estimating From the Payer Perspective the Implementation Cost of Dating Matters®: A Comprehensive Teen Dating Violence Prevention Model

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Abstract

“Dating Matters®” is a CDC-developed comprehensive, multi-component teen dating violence (TDV) prevention model, made available to the public in 2019. A longitudinal, multi-site demonstration project found that the model significantly reduced TDV during middle school relative to an evidence-based, single-program intervention (Safe Dates; Niolon et al., 2019), when implemented across 46 middle schools in four high-risk urban areas with predominantly Black (55%) and Hispanic (28%) youth participants. Research on the costs of implementing TDV prevention strategies is limited, despite recognition within the field of prevention science that such data are critical to widespread dissemination. The current study adds to the available literature on the cost of dating violence prevention by estimating the budgetary impact from the payer perspective of implementing the comprehensive Dating Matters model, compared to Safe Dates, at four sites over four school years to inform prevention planning in communities. Total costs of implementing Dating Matters were relatively stable within sites over time but varied greatly between sites ($M = \$175,452$ per year; range = \$130,149 to \$227,604). The mean per-student cost of Dating Matters was \$145.40 but also ranged widely (\$20.66 to \$324.65) across sites and years. Variation was largely driven by staffing costs and number of students served. As expected, total and per-student costs were substantially lower at all sites for the Safe Dates program ($M = \$12,148$; range = \$2,848 to \$17,840; \$44.81 per student) compared to Dating Matters. This study provides an estimate from the payer perspective to demonstrate the budgetary impact of Dating Matters. These estimates can help inform implementation decisions and planning by potential funders, communities, and organizations as they seek to support and implement effective TDV

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Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Procedures and materials were approved by multiple IRBs, including the CDC's (Protocol #6161), and the Office of Management and Budget (OMB #0920-0941).

Informed Consent

Informed consent was obtained from all individual participants in the study.

prevention strategies. It also adds substantially to understanding of the additional costs associated with a move from single-program interventions to community-wide initiatives.

Keywords

cost; teen dating violence; dating matters; safe dates; implementation

Introduction

“Dating Matters[®]: Strategies to Promote Healthy Teen Relationships” (Dating Matters) is a comprehensive teen dating violence (TDV) prevention model developed by the Centers for Disease Control and Prevention (CDC). Dating Matters was designed with multiple prevention components that work together to address risk and protective factors across the social ecology, advancing the field beyond the school-based, individual-level approaches in use at the time of its development (Okasako-Schmucker et al., 2019; Teten Tharp et al., 2011). Dating Matters seeks to reach young adolescents in middle school before they start dating and engages multiple sectors of the community by leveraging the resources and reach of the local health department for implementation. As shown in Figure 1, the Dating Matters model includes seven core prevention components that (a) teach young people in grades 6–8 skills they need to engage in healthy relationships (b) engage parents of middle school students as sexual health and relationship educators for their children, (c) train school staff on TDV warning signs and their role in prevention, (d) reinforce healthy relationship norms through a youth communications program; and create a reinforcing environment for change at the community level through, (e) capacity-building, (f) data tracking, and (g) policy activities. Youth programs include 7 sessions each in 6th and 7th grade and 10 sessions in 8th grade and can be implemented in school or community-based settings. Parent programs include six group sessions in 6th grade, three in 7th grade, and guided at-home activities only for parents of 8th graders. Model components were designed with attention to diversity and inclusivity to increase the potential for national dissemination.¹

A longitudinal, multi-site comparative effectiveness, cluster-randomized trial compared students in middle schools implementing the Dating Matters model in 6th, 7th, and 8th grade with comparison schools in which students received an existing evidence-based TDV prevention program (Safe Dates) in 8th grade only. Notably, the Safe Dates program (Foshee et al., 2014), which was a standard-of-care at the time for TDV prevention, served as both the 8th-grade youth program in the Dating Matters condition and the only program in the comparison condition during the trial. Thus, all youth participants in the study received this program in 8th grade, providing an opportunity to assess the comparative effectiveness of the multi-component Dating Matters model above and beyond the effects of Safe Dates alone. Results from this evaluation revealed that Dating Matters was associated with significant reductions in TDV perpetration and victimization, as intended, but also a range of other adolescent risk behaviors during middle school relative to the comparison condition, including bullying, cyberbullying, peer physical violence, weapon-carrying, delinquency,

¹A detailed description of the model is available at <https://www.cdc.gov/violenceprevention/datingmatters>

substance use, sexual violence, and sexual harassment (DeGue et al., 2020; Estefan et al., 2020; Niolon et al., 2019; Vivolo-Kantor et al., 2019). The evaluation findings underscore the value of implementing comprehensive prevention approaches in which coordinated strategies address risk and protective factors at the individual, relationship, and community levels (Niolon et al., 2019).

Comprehensive prevention strategies are increasingly recognized as more promising for achieving population-level effects than single-component interventions for the primary prevention of violence (Basile et al., 2016; DeGue et al., 2016; Frieden, 2010; Niolon et al., 2017). While some single-component interventions have demonstrated effectiveness for preventing sexual and dating violence, effects tend to be small or short-lived (Community Preventive Services Task Force, 2018; DeGue et al., 2014; Whitaker et al., 2006). By addressing risk at multiple levels of the social ecology and in multiple contexts that affect youth (i.e., peers, school, family, and community), comprehensive approaches can build on the effects of individual or relationship-level programs to provide more opportunities to counteract risk. Interventions that build social, cultural, institutional, and physical environments that support positive, healthy behaviors may have greater efficacy in creating lasting change in individual behavior and social norms (Rothman, Bair-Merritt, & Tharp, 2015). However, implementing a comprehensive, multi-level model in the real world can be a more costly and challenging endeavor (Elliott & Mihalic, 2004; O'Connell, Boat, & Warner, 2009). Understanding both the cost and the cost-effectiveness of adding layers of prevention activities to an intervention is important for decision-makers weighing options to maximize impact with limited resources.

Little is known about the costs of implementing existing TDV prevention strategies, despite recognition within the standards of evidence for the field of prevention science that such data are critical to widespread dissemination (Flay et al., 2005). An evaluation of The Fourth R, a 21-lesson, school-based, prevention program implemented with 9th graders in Canada, calculated the cost of teacher training time (1 day), curriculum materials, and video resources needed to implement the program. The first-year implementation costs averaged CA\$700 per school, or \$16 per student (Wolfe et al., 2009). Another school-based violence prevention program, Expect Respect Support Groups, has an estimated annual cost of \$13,000 to implement 25 meetings for 20 youth, or \$650 per youth (Reidy et al., 2017). An estimate of the implementation costs of a bystander-based intervention, Green Dot, projected the cost to implement in 13 schools based on a large cluster-randomized clinical trial. Start-up costs totaled \$58,000 and included the costs of purchasing the program, training for two master trainers, consulting fees, educator coaching, travel, and supplies. Ongoing implementation costs in those 13 schools over 4 more years totaled \$1.55 million and primarily included educator salaries. The cost of adding an additional school, after start-up costs, was estimated at \$25,510, and the estimated total cost per student was \$50 (Bush et al., 2018). Finally, an estimate of the implementation cost of Safe Dates, available only on the *Blueprints for Healthy Youth Development* website, suggests that implementing the program in one school with 20 teachers, each with a class of 25 students, would cost \$8,700 for the first year, or \$17 per student, including materials, trainer travel, and on-site training for 20 (Blueprints for Healthy Youth Development, n.d.).

We can assume that implementing a comprehensive prevention model with more components that address risk and protective factors at multiple levels of the social ecology than a single-program prevention model will increase these costs, but with the potential for increased effectiveness as well. The current study provides the first available estimate of the payer-perspective cost of comprehensive TDV prevention by estimating the implementation costs of Dating Matters over a four-year, multi-site demonstration project. In addition, to provide a baseline for the cost of a standard-of-care, single-program intervention, we also estimate the cost of the evidence-based Safe Dates TDV prevention program (Foshee et al., 1998).

The Dating Matters Implementation Model

CDC conducted a multi-site demonstration project of Dating Matters with implementation over four school years (2012–2016) in four large urban areas (Alameda County, CA; Baltimore, MD; Broward County, FL; Chicago, IL) in the United States. Given a dearth of research at the time evaluating TDV prevention programs among minority youth or in high-risk, urban areas where young people often experience multiple forms of violence or trauma that could elevate their risk for TDV exposure or, implementation was conducted in 46 middle schools in neighborhoods with above-average rates of poverty and crime. Youth participants in the demonstration project were primarily Black (55%) and Hispanic (28%) (Niolon et al., 2019). CDC supported Dating Matters implementation for all four years of the demonstration project through cooperative agreements to local health departments and contracts with organizations providing training and technical assistance to sites.

Lessons learned from the demonstration project pointed to the need to modify the implementation model to reduce costs to communities and improve feasibility and sustainability (DeGue et al., under review). As such, CDC undertook a process from 2016 to 2019 to revise the Dating Matters implementation model to incorporate these lessons learned to improve its potential for adoption, implementation, and maintenance for national dissemination. The changes were directed at reducing costs and improving feasibility while also retaining the model's core content and components as evaluated. Specific modifications are detailed in DeGue et al. (under review). Key changes expected to impact implementation costs to communities included: a shift to free web-based facilitator training in lieu of a train-the-trainer model with one-week in-person trainings; creation of a Dating Matters Coach role to supplement online training and provide supervision and support; and creation of the Dating Matters Toolkit,² a comprehensive implementation guidance package delivered online that provides all of the tools, materials, and training needed to implement Dating Matters for free or at low-cost, including specific guidance on the staffing, materials, and other resources needed to carry out the Dating Matters model as designed.

The costs associated with Dating Matters implementation, as disseminated in 2019, from the perspective of a payer such as a local health department or community-based organization, fall into four primary categories: (1) staffing at the lead organization, (2) costs associated with implementing the three youth programs, (3) three-parent programs, and (4) the i2i:

²The Dating Matters Toolkit is available at <https://vetoviolence.cdc.gov/apps/dating-matters-toolkit>

What R U Looking 4? (i2i) youth communications program. It is helpful to consider these cost categories separately because of their anticipated disproportionate contributions to the total cost, and the potential that some communities may choose to implement, and budget for, only select components of Dating Matters as they build capacity to carry out the entire prevention model. Table 1 describes the staffing and program costs incurred within each category.

The school-based youth programs can be implemented by teachers, other school staff (e.g., counselors), or by health educators based in the community. Parent programs can be carried out by health department staff or other community-based health educators using space provided in-kind by a school or partner organization. Although each staff position is described in Table 1 as a separate cost across categories, it is possible for one person to fulfill multiple roles (e.g., Parent and Youth Program Facilitator; Prevention Lead and Policy Lead). Training is required for Dating Matters Coaches, Youth Program Facilitators, and Parent Program Facilitators; it is available free online from CDC in the Dating Matters Toolkit and requires 10 or fewer hours to complete. The Toolkit website also provides free access to the tools and guidance needed to implement a one-hour training for educators and the capacity-building, indicator data tracking, and policy components of the Dating Matters model.

Current Study: Estimating the Cost of Dating Matters and Safe Dates Implementation

To inform implementation decisions and planning by potential funders, communities, and organizations, the current article estimates the cost of implementing the Dating Matters comprehensive prevention model from a payer perspective, using cost and implementation data from the 2011 to 2016 demonstration project adjusted to reflect the implementation model disseminated in 2019. We applied a payer perspective for analysis in the current study, as opposed to a societal perspective that includes costs borne by CDC or society at large. Thus, costs that were incurred by CDC in the demonstration project or that are borne by society but not the funder are not included. For example, while CDC incurred costs associated with in-person facilitator training during the demonstration project, training costs are not included in the current cost estimate as this training is now available in a free online format (DeGue et al., under review). Also, while there is a cost to society for the time associated with implementation by teachers, this cost would not directly impact the budget of the funding organization or agency and thus was not included in this analysis for sites who utilized school staff as Youth Program Facilitators.

We also estimate the cost of implementing Safe Dates alone to better understand the added costs associated with a comprehensive prevention model, including seven programs and four additional prevention components delivered to youth, parents, and schools across three years of middle school, relative to a standard-of-care evidence-based program delivered to youth in 8th grade only. Although not the focus of this study, an estimate of the cost of Safe Dates as implemented in the demonstration project provides a useful baseline for understanding the relative cost of Dating Matters and, with no published cost estimates for this widely disseminated program available, adds important information to the literature as well for communities interested in implementing this program.

Site-level analyses and estimates over time (years 1–4 of implementation) provide additional information about the variation in potential costs dependent on different factors (cost of staffing, participants served, implementer type, etc.). In addition to informing implementation planning within communities, this cost analysis lays the groundwork for future analyses needed to understand the additional costs posed by the comprehensive prevention model, relative to existing TDV programs.

Methods

We estimated the cost of implementing Dating Matters and Safe Dates at each of the four sites in years 1 to 4 based on data provided by local public health departments and two contractors funded by CDC to assist with implementation during the demonstration project, as well as the known or estimated cost of program materials in 2019. The numbers of youth and parent participants used in calculations were derived from implementation data from the demonstration project. Salary estimates were derived from data provided by site and year during the demonstration project for the same or comparable roles. Percent full-time equivalent (FTE; assuming 40-hour work week) represents the estimated number of hours per week, on average, that the role is needed, assuming that all components of the model are implemented in one community. Assumptions about the percent FTE required for each staff role are drawn from Dating Matters implementation guidance for the current model and reflect estimates by the model developers of the percent time needed to carry out each role, as intended, in one community with 10 average-sized middle schools participating (CDC, 2019). Self-print material costs were estimated at a rate of \$.04 per page in Black/White or \$.10 per page in color.

Dating Matters

The total estimated implementation costs of Dating Matters from the payer perspective consist of four components: Staff at the Lead Organization, Youth Programs, Parent Programs, and i2i youth communications program.

Staff at the lead organization.—Staffing costs include a Prevention Lead (1.0 FTE), Policy Lead (.1 FTE), and Indicators Data and Tracking Lead (.1 FTE) estimated based on the salary of a lead role at the local health department in the demonstration project, and a Dating Matters Coach (.5 FTE) based on a similar master trainer role utilized during the demonstration project but eliminated in the current implementation model.

Youth programs—Youth program implementation costs include a Youth Program Facilitator salary (1.0 FTE) and program materials. The FTE estimate for the Youth Program Facilitator assumes that one facilitator working full-time (or part-time equivalents) is needed to implement the 6th-to 8th-grade youth programs per 10 middle schools; however, the actual percent effort needed will vary by the number of classrooms, scheduling logistics, and time of year (e.g., school year vs. summer). Salary estimates are based on the reported annual salary of Youth Program Facilitators in the demonstration project. Required program material costs (refer to Table 2) are based on the current estimated costs to order or self-

print. Material costs were obtained by multiplying the unit costs of materials by the numbers of participants, including students, facilitators, and coaches, respectively.

Parent programs.—Parent program implementation costs include Parent Program Facilitators' salaries (.5 FTE) and program materials. The FTE estimate for the Parent Program Facilitators assumes that two facilitators working .25 FTE each (i.e., 10 hours per week, on average) are needed to implement the 6th–8th-grade parent programs. The FTE estimate for the parent program facilitator assumes five parent-training groups (6th and 7th grade) run per year, with two part-time facilitators responsible for recruitment, retention, and implementation. The actual percent effort required depends on success in parent recruitment and retention efforts and the number of groups conducted. Salary estimates are based on the reported annual salary of parent program facilitators in the demonstration project. Required program material costs (refer to Table 2) are based on the current estimated costs to order or self-print. Material costs were obtained by multiplying the unit costs of materials by the numbers of participants, including parents, facilitators, and coaches, respectively. For the Families for Safe Dates program (8th grade) that is included in Dating Matters but not in the standard-of-care comparison Safe Dates, print materials are mailed home to families and we assumed that all parents of 8th graders would be invited to participate and that 40% would consent to have program materials mailed to them, based on the rate of participation (37%) observed in the original Families for Safe Dates evaluation (Foshee et al., 2012). Thus, the cost of these materials per family was multiplied by 40% of the 8th-grade participants in the Dating Matters condition for each site and year.

i2i youth communications program: i2i youth communications program implementation costs include an i2i Program Facilitator's salary (.25 FTE), Brand Ambassadors' stipends, and program materials. The FTE estimate for the i2i program facilitator assumes that one facilitator working .25 FTE (i.e., 10 hours per week, on average) is needed to implement the i2i youth communications program, including carrying out three i2i events per year and supervising three to five brand ambassadors. The actual percent effort required depends on success of event recruitment and number of events planned. Salary estimates are based on the reported annual salary of i2i program facilitators in the demonstration project. Brand ambassador stipend costs were estimated by multiplying the recommended stipend level (\$500 per year) by the number of ambassadors. Required program material costs (refer to Table 2) are based on the current estimated costs to order or self-print. Material costs were obtained by multiplying the unit costs of materials by the number of facilitators.

After calculating the costs of all individual components, we summed them to get total cost of all programs and then divided total cost by the number of students to get average cost of the model per student. For all individual components, we also calculated their percentages of total cost of all model components.

Safe Dates

Safe Dates implementation costs³ include a Youth Program Facilitator's salary (.33 FTE), the cost of Safe Dates curricula, and printing program materials. The FTE estimate for the Youth Program Facilitator assumes that one facilitator working .33 FTE (i.e., about 13 hours

per week, on average) is needed to implement Safe Dates in 8th grade in 10 middle schools. However, the actual percent effort needed will vary by the number of classrooms, scheduling logistics, and time of year (e.g., school year vs. summer). Salary estimates are based on the reported annual salary of Youth Program Facilitators in the demonstration project. Required program material costs (refer to Table 3) are based on the current estimated costs to order or self-print.

Results

Across all sites and years, the grand mean of total cost of Dating Matters implementation per year was \$175,452. Within sites, total implementation costs were relatively stable across years 1–4; however, there was significant variability between sites, as shown in Table 2. The 4-year mean of total cost per year ranged from \$212,740 at Site 1 to \$135,107 at Site 3. Site 2 had a 4-year mean of total cost of \$191,898, and Site 4 \$162,066. Substantially lower total costs at Site 3 were due primarily to the use of school staff (e.g., teachers) for youth program implementation, eliminating the cost of a Youth Program Facilitator’s salary. Overall, differences in total costs among the four sites were largely attributable to variation in the cost of staffing.

The average costs of Dating Matters per student across all sites and years had a grand mean of \$145.40; however, the average costs per student varied greatly by site and year, as shown in Table 2. The 4-year means of average costs per student for Sites 1–4 were \$134.25, \$279.51, \$25.39, and \$142.47, respectively. Site 2 had the highest average cost per student in year 1 (\$324.65), while Site 3 in year 4 had the lowest average cost (\$20.66), less than one-fifteenth of Site 2. Lower per-student costs at Site 3 were attributable to it having the lowest total cost overall and serving the largest number of youth among the four sites. The fluctuations in average per-student costs within sites over time were also noteworthy: Site 1, Site 2, and Site 4 displayed a U-shaped pattern, while Site 3 trended downward. These fluctuations in average costs were mainly explained by changes in the number of students served. From year 1 to year 2, for example, all four sites saw a large increase in the number of students participating in Dating Matters, and as a result, average costs per student dropped by 27–45% across sites.

Among all model components in Dating Matters, staffing at the lead organization accounted for the largest percentage of total costs, generally above 50%. The youth programs made up the second-largest percentage of total costs, more than 20% in all sites except Site 3, where it was less than 8% of the total because there was no cost of a Youth Program Facilitator. The parent programs accounted for 5 to 16% of the total costs across sites, with the lowest percent costs in Site 4. The i2i youth communications program formed the third-largest percentage of total costs for Sites 3 and 4 and the fourth for Sites 1 and 2 (refer to Table 2).

As expected, the total cost and average cost per student of implementing Safe Dates (8th grade only) were substantially lower at all sites compared to the Dating Matters

³Only the Safe Dates youth program, and not the Families for Safe Dates parent program, was implemented in the standard-of-care comparison condition. The Families for Safe Dates program is included in the cost estimate for the Dating Matters comprehensive prevention model only.

comprehensive model, as shown in Table 3. Across all sites and years, the grand mean of total cost of Safe Dates implementation per year was \$12,148 (range = \$2,848 to \$17,840), or \$44.81 per student. Average costs per student in Sites 1–4 in Safe Dates had 4-year means of \$38.14, \$100.09, \$1.54, and \$39.48, respectively. As noted above, lower costs in Site 3 were due to the use of teacher-facilitators rather than paid health educators from the community, eliminating the Youth Program Facilitator’s salary.

Discussion

Our estimation indicates that total cost of Dating Matters implementation varied greatly across sites but remained relatively stable over time. The differences in total cost across sites were largely attributable to variations in the cost of staffing at the lead organization and for the youth and parent programs. In contrast to the total cost, the average cost of Dating Matters implementation per student varied greatly both by site and year. These cost differences per student between sites and across years were mainly due to the number of students served, with implementation costs per student going down as more students were served. Notably, there were implementation challenges across sites in year 1 that resulted in lower numbers of participants compared to later years and, thus, higher per-student costs. Several schools dropped out in year 1 prior to implementation; these schools were replaced in year 2. Also, Site 3 had exceptionally large schools and was unable to achieve full implementation in year 1; a decision was made to begin with partial implementation in a randomly selected subset of classrooms while building capacity for year 2 implementation. These challenges are described in more detail before (Niolon et al., 2016). The estimation of total and average costs of Dating Matters implementation provides communities with a cost model to estimate their needs when implementing Dating Matters or for other similar comprehensive prevention programs.

Similar to other prevention programs, staffing costs accounted for the majority of the total cost of Dating Matters. For example, the total program costs for Expect Respect Support Groups were primarily expended on facilitator salaries (Reidy et al., 2017) and Green Dot costs were primarily from staffing-related costs that included training, travel, coaching, and salaries (Bush et al., 2018). It is possible that some staffing costs could decrease over time as activities become integrated into the organizations’ work and staff requires less time for training, supervision, and coordination with sites (e.g., scheduling, partnership building). Although we did not see this in the current study and in fact, some relatively small increases in total costs were seen in year 4, this might have been an artifact of the research funding, which required stable staffing levels. The increases appear to be driven by modest salary increases for staff at some sites in the final project year.

The average cost of Safe Dates implementation, as estimated here, is not directly comparable to a prior estimate provided for Safe Dates (refer to <https://www.blueprintsprograms.org/programs/safe-dates/>) which suggested an annual cost of \$8,700 per school or \$17 per student, assuming 500 students and included materials and on-site training provided by the program publisher. In contrast, the current study estimates varied substantially by site with an average annual cost of \$12,148, or \$44.81 per student, for 10–12 schools serving between 1946 and 1968 students per year. In three sites, these

costs included the salaries of community-based program facilitators which greatly increased the per site and per-student estimates. In Site 3, where teachers facilitated the program with no additional staffing costs, the program cost was much lower (\$2,848 per site; \$1.54 per student). However, the current estimate did not include the cost of the optional, on-site training offered by the program publisher. Thus, the current estimate for Safe Dates adds to the literature on the implementation costs of this widely implemented program under multiple staffing and implementation scenarios.

A key finding from this study was that total and average costs were substantially lower in Site 3 where the youth programs were delivered by school staff—primarily teachers, thus eliminating the added cost of Youth Program Facilitators. In addition to cost savings, using teacher-facilitators is likely to reduce (or nearly eliminate) turnover in facilitators during the school year and may be beneficial in that teachers possess strong classroom management skills and have existing relationships with their students. However, this practice of relying on teachers to facilitate prevention programming risks over-burdening educators who are already facing other time and resource constraints. Integrating Dating Matters youth programs into an existing, relevant curriculum (e.g., health class) may result in substantial cost savings and minimize the additional burden to teachers.

Overall, compared with the Dating Matters comprehensive model, Safe Dates (8th grade) had much lower total cost and average cost per student for all sites and years. Dating Matters is understandably more expensive to implement than Safe Dates, as it is a multi-component prevention model that includes seven programs and four additional community-level prevention activities as opposed to a single program. Although rigorous research on their relative effectiveness remains limited, comprehensive strategies are increasingly supported as a means of achieving population-level effects for the primary prevention of violence due to the time-limited or small effects often seen in the field for single-program interventions (Basile et al., 2016; DeGue et al., 2016; Frieden, 2010; Niolon et al., 2017). Indeed, Dating Matters has demonstrated significant relative reductions in TDV outcomes above and beyond the effects of Safe Dates alone in a racially diverse sample of youth in high-risk, urban areas (Niolon et al., 2019). As Dating Matters is adopted by more communities, more innovative efforts are called for to further reduce costs while retaining or improving effectiveness (DeGue et al., under review).

Limitations

This study is subject to several limitations. First, the cost estimation from the payer perspective was mainly based on the demonstration project that was implemented in four sites; when Dating Matters is implemented in other places, differences in major cost components such as staffing costs and the number of students served are expected. Second, the Dating Matters Toolkit was developed after the demonstration project to provide comprehensive implementation guidance to communities to reduce the costs of implementation (e.g., eliminating in-person training expenses). While the current study estimated implementation costs for future communities utilizing the Toolkit, we did so using staffing costs and participant estimates from the demonstration project. These cost estimates may be inflated compared to the cost of future implementation with the Dating Matters

toolkit. Further, the estimates assumed a percent FTE required for each staff role based on implementation guidance for the model. However, these estimates are conservative and intended to reflect the potential time involved in implementation in a community with 10 average-sized schools participating; they may overestimate the staffing required for smaller schools or communities. Finally, data for some variables such as the number of participants in the 8th-grade parent program, Families for Safe Dates, were not consistently collected and therefore had to be estimated.

Conclusions

Information about the cost of implementation has been identified as a critical component of an evidence-based prevention model ready for widespread dissemination (Flay et al., 2005). Of the available TDV prevention programs to date, few have provided cost estimates for implementation. As more communities seek to implement effective TDV prevention strategies, the current cost estimation can help inform implementation decisions and budget planning by potential funders, communities, and organizations. Further, as one of the first studies in the field of violence prevention to estimate the cost, or budget impact, of a multi-level, multi-component violence prevention strategy, this cost estimate adds substantially to understanding additional costs associated with a move from single-program interventions to community-wide initiatives. Future research could inform our understanding of the relative cost-effectiveness of comprehensive prevention models, like Dating Matters, and cost estimates provide a first step towards that work. Additionally, identifying the primary reasons for cost variation between sites and years provides communities insight on potential cost fluctuations over the 4-year period, and opportunities to reduce total and per-student costs such as using teachers as facilitators and including more youth participants to maximize the resource investments and prevention benefits. Thus, the current study helps not only address gaps in understanding of the costs of prevention generally but also helps guide communities in their capacity assessment and implementation decisions for comprehensive prevention specifically.

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Sarah DeGue, PhD, is a senior health scientist in CDC's Division of Violence Prevention. Dr. DeGue's primary research interests concern perpetrators and victims of interpersonal violence, with an emphasis on sexual violence. At CDC, her work has focused on the development and evaluation of strategies to prevent sexual and teen dating violence perpetration. She also leads CDC's Dating Matters® Initiative.

Vi D. Le, MPH, is a behavioral scientist in CDC's Division of Violence Prevention. She has over 8 years of experience in conducting behavioral research of public health issues including: planning, directing, designing, and implementing violence prevention research, conducting program evaluation, providing technical assistance on teen dating violence and youth violence prevention programs, and providing subject matter expertise in teen dating violence and other adolescent risk behaviors.

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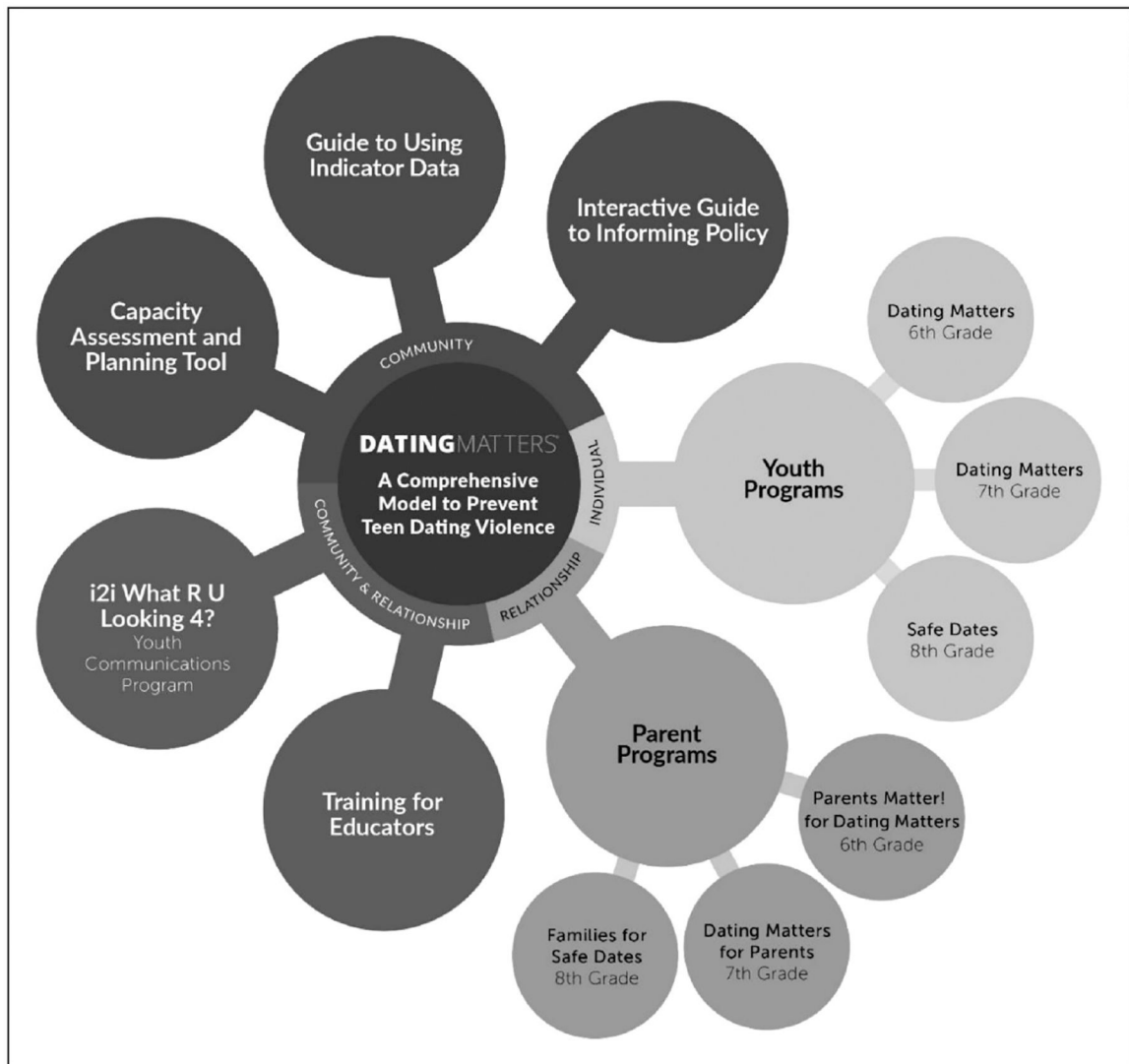


Figure 1. Components of the “Dating Matters[®] Comprehensive Teen Dating Violence Prevention Model.”

Note. “Dating Matters[®]” is a comprehensive teen dating violence prevention model developed by the Centers for Disease Control and Prevention (CDC).

Table 1.**Four Categories of Dating Matters[®] Implementation Costs and Components.**

Staff at lead organization	
Prevention Lead	Oversees implementation of the entire Dating Matters model at the community level
Dating Matters Coach	Trains, supervises, and supports facilitators of the youth and parent programs
Indicators data Collection and Tracking Lead	Identifies and tracks indicator data to inform and track the impacts of teen dating violence prevention activities
Policy Lead	Inventories relevant local policies and educates stakeholders to inform policy change
Youth programs	
Youth Program Facilitator	Delivers the Dating Matters youth programs to 6th, 7th, and 8th graders
6th and 7th-grade program materials	Available for free from CDC, in print or self-print downloads
8th-grade program materials	Available for purchase from the program publisher in electronic format for self-printing
Parent programs	
Parent program facilitator	Delivers Dating Matters parent programs to parents of 6th, 7th, and 8th graders
6th and 7th-grade program materials	Available for free from CDC, in print or self-print downloads
8th-grade program materials	Available for purchase in print from a non-profit CDC partner, and incur postage costs if mailed to families
Youth communications program	
Youth communications program facilitator	Oversee implementation of the Dating Matters youth communications program, <i>i2i: What R U Looking 4?</i> [®] ; train and supervise i2i brand ambassadors
Brand ambassadors	High school youth who receive a stipend for completing training and leading community events and communication activities (e.g., social media) to reinforce messages about healthy relationships with “near peers” in middle school
Required program materials	Available for free from CDC, in print or self-print downloads
Optional program materials	Available as electronic files for professional printing
Event space	Needed for 3 program events per year; maybe available in-kind from a community partner

Note. “Dating Matters[®]” is a comprehensive teen dating violence prevention model developed by the Centers for Disease Control and Prevention (CDC).

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	Site 1				Site 2				Site 3				Site 4			
	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4
Safe Dates (8th grade) curricula	\$245	\$0	\$0	\$0	\$245	\$0	\$0	\$0	\$245	\$0	\$0	\$0	\$245	\$0	\$0	\$0
Safe Dates (8th grade) student handouts	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7
Safe Dates (8th grade) student handouts facilitator guide	\$1,062	\$1,383	\$1,362	\$1,113	\$531	\$579	\$530	\$497	\$3,036	\$5,243	\$5,388	\$5,208	\$683	\$1,082	\$1,047	\$905
Cost of Youth Programs	\$47,277	\$47,793	\$47,597	\$47,290	\$56,156	\$56,315	\$46,084	\$55,955	\$5,322	\$9,698	\$9,974	\$9,664	\$36,554	\$37,041	\$37,084	\$36,720
Percentage of total cost of all programs	22.7%	22.9%	23.1%	20.8%	28.9%	28.9%	26.4%	27.5%	4.1%	7.0%	7.2%	7.3%	22.2%	23.8%	23.8%	21.3%
Parent program																
Parent Program Facilitator (CPE)	\$17,500	\$17,500	\$22,500	\$27,500	\$27,500	\$27,500	\$22,500	\$22,500	\$12,500	\$12,500	\$12,500	\$7,500	\$12,500	\$7,500	\$7,500	\$7,500
Printed materials for parents of 6th-grade students	\$34	\$67	\$155	\$92	\$63	\$101	\$92	\$113	\$34	\$160	\$290	\$307	\$67	\$50	\$76	\$88
Printed materials for parents of 7th-grade students	\$47	\$73	\$151	\$83	\$42	\$135	\$114	\$73	\$78	\$135	\$395	\$364	\$21	\$26	\$57	\$104
6th- and 7th-grade printed materials for a facilitator	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33
6th- and 7th-grade printed materials for a facilitator	\$66	\$66	\$66	\$66	\$66	\$66	\$66	\$66	\$66	\$66	\$66	\$66	\$66	\$66	\$66	\$66
"Families for Safe Dates" (8th Grade) printed materials	\$850	\$1,106	\$1,090	\$890	\$425	\$463	\$424	\$397	\$2,429	\$4,194	\$4,310	\$3,855	\$546	\$865	\$838	\$724
Postage for "Families for Safe Dates" materials	\$850	\$1,106	\$1,090	\$890	\$425	\$463	\$424	\$397	\$2,429	\$4,194	\$4,310	\$3,855	\$546	\$865	\$838	\$724
Cost of parent programs	\$19,378	\$19,950	\$25,084	\$29,555	\$28,553	\$28,760	\$23,652	\$23,579	\$17,568	\$21,281	\$21,904	\$15,979	\$13,778	\$9,404	\$9,406	\$9,238

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	Site 1				Site 2				Site 3				Site 4			
	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4
Percentage of total cost of all programs	9.3%	9.5%	12.2%	13.0%	14.7%	14.8%	13.6%	11.6%	13.5%	15.4%	15.7%	12.0%	8.4%	6.0%	6.0%	5.4%
i2i youth communication program	\$11,250	\$11,250	\$13,750	\$13,750	\$13,750	\$13,750	\$8,750	\$11,250	\$11,250	\$11,250	\$11,250	\$11,250	\$11,250	\$11,250	\$11,250	\$11,250
i2i youth communication program	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
Program facilitator materials	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9
Cost for i2i youth communication program	\$13,759	\$13,759	\$16,259	\$16,259	\$16,259	\$16,259	\$11,259	\$13,759	\$13,759	\$13,759	\$13,759	\$13,759	\$13,759	\$13,759	\$13,759	\$13,759
Percentage of total cost of all programs	6.6%	6.6%	7.9%	7.1%	8.4%	8.3%	6.5%	6.8%	10.6%	10.0%	9.9%	10.4%	8.4%	8.8%	8.8%	8.0%
Total cost for all programs	\$2,07,914	\$2,09,002	\$2,06,440	\$2,27,604	\$1,94,468	\$1,94,834	\$1,74,495	\$2,03,793	\$1,30,149	\$1,38,238	\$1,39,138	\$1,32,902	\$1,64,591	\$1,55,704	\$1,55,750	\$1,72,217
Mean of total cost of all programs	\$212,740				\$191,898				\$135,107				\$162,066			
Number of students	1346	1853	1723	1518	599	868	714	628	3376	6456	6641	6434	864	1351	1381	1138
Average cost of all programs per student	\$154.47	\$112.79	\$119.81	\$149.94	\$324.65	\$224.46	\$244.39	\$324.51	\$38.55	\$21.41	\$20.95	\$20.66	\$190.50	\$115.25	\$112.78	\$151.33
Mean of average cost of all programs per student	\$134.25				\$279.51				\$25.39				\$142.47			

Notes. Dating Matters® is a comprehensive teen dating violence prevention model developed by the Centers for Disease Control and Prevention (CDC).

The costs of a Youth Program Facilitator at Site 3 over Years 1–4 were 0 because school staff, primarily teachers, delivered youth programs for free

Table 3. Costs of Implementing Safe Dates in Four Urban Areas in the United States Over Four School Years, 2012–2016.

	Site 1				Site 2				Site 3				Site 4			
	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4	Year 1	Year 2	Year 3	Year 4
Youth program																
Youth Program Facilitator (0.33 FTE)	\$15,000	\$15,000	\$15,000	\$15,000	\$18,333	\$18,333	\$15,000	\$18,333	\$0	\$0	\$0	\$0	\$11,667	\$11,667	\$11,667	\$11,667
Safe Dates (8th grade) curricula	\$245	\$0	\$0	\$0	\$245	\$0	\$0	\$0	\$245	\$0	\$0	\$0	\$245	\$0	\$0	\$0
Safe Dates (8th grade) printed facilitator guide	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7
Safe Dates (8th grade) printed student handouts	\$624	\$684	\$702	\$501	\$311	\$219	\$282	\$278	\$2,387	\$2,952	\$2,910	\$2,874	\$392	\$455	\$600	\$455
Total cost of Safe Dates	\$15,876	\$15,691	\$15,709	\$15,508	\$18,895	\$18,559	\$15,289	\$18,617	\$2,638	\$2,959	\$2,917	\$2,881	\$12,310	\$12,128	\$12,274	\$12,128
Mean of total cost of Safe Dates	\$15,696				\$17,840				\$2,848				\$12,210			
Number of students	416	456	468	334	207	146	188	185	1591	1968	1940	1916	261	303	400	303
Average cost of Safe Dates per student	\$38.16	\$34.41	\$33.57	\$46.43	\$91.28	\$127.11	\$81.32	\$100.63	\$1.66	\$1.50	\$1.50	\$1.50	\$47.16	\$40.03	\$30.68	\$40.03
Mean of average cost of safe dates per student	\$38.14				\$100.09				\$1.54				\$39.48			

Notes. Safe Dates is an existing evidence-based teen dating violence prevention program used in the 8th grade only. The costs of a Youth Program Facilitator at Site 3 over Years 1–4 were 0 because school staff, primarily teachers, delivered youth programs for free.