































demonstrated evidence of program impacts across multiple studies. Instead, most of the current evidence base consists of single small-scale “efficacy trials” (Flay et al. 2005) conducted in closely managed settings, often by the program developers. These efficacy studies are important for establishing initial evidence of program impacts, but to determine whether the impacts generalize to broader populations and more real-world conditions, they must be followed by subsequent effectiveness or replication studies, ideally conducted independently of the program developer.

Research from outside the field of teen pregnancy and STI prevention finds that efficacy trials typically produce larger impacts than when programs are “scaled up” as in effectiveness or replication studies. For example, a recent review article of early intervention programs for crime and delinquency prevention suggests that program impacts may be “discounted” by up to 50 percent when programs are implemented on a very large scale (Welsh et al. 2010). For the literature on teen pregnancy and STI prevention programs, these findings give warning that the existing evidence in support of some program models may weaken as the research literature expands.

#### *Need for Research on High-Risk Populations*

There is also a need for more research on specific populations at high risk for teen pregnancies or STIs, most notably the large and growing U.S. Latino population. Latino youth currently have the highest teen birth rate of all major racial/ethnic groups in the United States—49.4 births per 1,000 teens ages 15 to 19, compared with the national average of 31.3 per 1,000 teens (Hamilton et al. 2012). Yet this review found that less than a quarter of the relevant impact studies conducted to date had predominately Latino research samples. Only two program models designed specifically for use with Latino youth have found evidence of a statistically significant program impact on sexual risk behaviors (Lesser et al. 2009; Villarruel et al. 2006), and one of these programs is used only with teen parents. Five other programs with evidence of effectiveness were evaluated with predominately Latino research samples (Coyle et al. 2004; Coyle et al. 2006; Koniak-Griffin et al. 2003; Rotheram-Borus et al. 2003, 2004; Tortolero et al. 2009), but the programs themselves were not culturally tailored specifically for Latinos.

There is also little evidence for smaller but high-risk groups such as pregnant or parenting teens, youth living in foster care, and American Indian and Alaska Natives. Only two studies included in the review focused specifically on pregnant and parenting teens (Koniak-Griffin et al. 2003; Lesser et al. 2009), one examined youth in foster care (Kerr et al. 2009), and none focused specifically on American Indians and Alaska Natives. All of these groups are at above-average risk of teen pregnancy (Bilaver and Courtney 2006; Klerman 2004; Suellentrop and Hunter 2009) and thus merit the attention of future research.

#### *Need for Improved Research Quality and Reporting*

In addressing these gaps, studies also must strive for improved research quality and reporting standards. More than half the studies considered for this review did not pass the bar for study design and execution. Three common problems that led to a downgrade in study rating were high rates of sample attrition in randomized trials, poorly matched comparison groups in quasi-experimental studies, and the use of a cluster design with only one cluster assigned to each

research group. Some studies failed to report a complete description of the study design and execution. The median sample size was 447, which may be too small to detect substantively meaningful program effects (Kirby 2007).

Other common problems that did not factor directly into our review but represent key areas for improvement were failure to properly adjust statistical significance tests for multiple hypothesis testing or the use of a clustered study design, insufficient reporting of consent rates and the timing of consent in randomized trials, and a heavy reliance on subgroup estimates to demonstrate evidence of program effects (Donner and Klar 2004; Schochet 2009). Studies also failed to consistently report effect size information. More than one-third of all statistically significant impact estimates were lacking necessary information to calculate an effect size. All of these issues can be addressed through more careful execution of the evaluation study and more complete reporting of future research studies.

### *Summary and Conclusions*

Like any field of research, the evidence base on teen pregnancy and STI prevention programs has both strengths and weaknesses. Key strengths are the large number of randomized controlled trials, the common use of multiple follow-up surveys, and attention to a broad range of program models delivered in diverse settings. Main weaknesses are the current lack of replication studies, the need for more research on Latinos and other high-risk populations, and a general need for improved research quality and reporting.

Addressing these gaps is important not only to advance the research literature but also to inform future policy initiatives and programming decisions. Efforts like the new federal TPP program and PREP reflect a growing emphasis on the use of research evidence in policy and programming decisions (Haskins and Baron 2011). Both within and outside the federal government, funding decisions are increasingly conditioned on available evidence of program effectiveness. Such reliance on evidence has the potential to maximize the effectiveness of new policy initiatives and make the best use of scarce public resources. But evidence-based policies and programs are only as strong as the supporting research evidence. In addition to the need for rigorous program impact studies, there is also a need for research on program implementation, measures of fidelity, identification of core components, and acceptable adaptations. Such a strong and expanding research literature is necessary to ensure that evidence-based approaches to teen pregnancy prevention make a positive difference in the lives of youth.



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