

The Impact of School-Based Health Intervention Programs (SBHIPs) on Mental and Physical Health Risks Among Urban Youth in the U.S.

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Introduction



Urban adolescents in the U.S. experience significant health disparities, including higher rates of substance use, mental illness, and sexually transmitted infections compared to their suburban peers (CDC, 2025; Nature, 2024). These risks are compounded for youth from low-income families and communities of color, who face additional barriers related to poverty, unstable housing, and limited access to health services (JAMA Pediatrics, 2023).

School-based health intervention programs (SBHIPs) address these challenges by embedding care directly into schools, reducing barriers like cost and transportation. SBHIPs provide immunizations, counseling, and nutrition education, while promoting health literacy—essential for navigating and applying health information (CDC, n.d.). This systematic review evaluates the effectiveness of SBHIPs in improving health outcomes for urban youth and identifies evidence-based strategies for implementation and sustainability.

Using Nutbeam’s (2008) framework and models like the Health Belief Model and Social Cognitive Theory, this paper evaluates how SBHIPs empower youth, reduce disparities, and drive systemic change.

Methodology

This research evaluates School-Based Health Intervention Programs (SBHIPs) through a mixed-methods approach, guided by three theoretical frameworks, and based on a systematic review of 42 peer-reviewed studies (2010–2025) involving over 18,500 adolescents across 24 U.S. states.

1. Knowledge Building: Nutbeam's Health Literacy Framework

- Functional literacy (basic health comprehension)
- Interactive literacy (communication and self-efficacy)
- Critical literacy (empowerment and advocacy)

2. Skill Building: Health Belief Model & Social Cognitive Theory

- Analyzed how SBHIPs shift adolescents’ perceptions of health risks and benefits, and promote behavioral change via modeling, reinforcement, and self-regulation.

3. Environmental Support:

- Evaluated how SBHIPs foster supportive school environments through peer education, cultural responsiveness, and community engagement.



Data Sources & Analysis:

- Included studies: school-based interventions in urban adolescent populations with measurable health literacy or health behavior outcomes.
- Excluded studies: non-school-based, rural-only, or adult-focused.
- Findings were organized by theme: health literacy, substance use, sexual health, mental health, and physical health.
- Quantitative and qualitative results were synthesized and triangulated to identify consistent trends and intervention impact.
- Reported effect sizes and outcomes were summarized where available.

Results: Key Findings

Health Literacy

- **Functional literacy:**
 - Programs that combine classroom education with tech (e.g., SMS reminders) improved medication adherence by 25%
 - Boosted health information comprehension among urban youth
- **Interactive literacy:**
 - Skills-based interventions improved decision-making and communication
 - Linked to ↑ preventive care utilization
- **Critical literacy:**
 - Advocacy and system navigation programs increased pediatric checkups and family engagement in care

Substance Abuse Prevention

- Key Programs & Outcomes:
 - TND (Towards No Drug Abuse):
 - ↓ 27% in cigarette use
 - ↓ 22% marijuana use
 - ↓ 25–26% hard drug use (1-year follow-up)
 - LST (Life Skills Training):
 - ↓ tobacco, alcohol, and illicit drug use by up to 80%
 - ↓ multiple drug use by up to 66%, lasting up to 12 years
- Best Practices:
 - Multi-level programs combining skills training, school connectedness, and parent engagement show the strongest results

Sexual Health Education

- ↓ 30–50% teen pregnancies (Teen Outreach Program)
- ↑ contraceptive use and delayed sexual initiation
- Greatest impact when culturally tailored and interactive

Mental Health Services

- 97% of U.S. public schools offer mental health services, but only 48% meet full student needs
- SBHIPs with integrated providers → ↑ early identification, ↓ suspensions, ↑ academic performance
- Students in SBHCs more likely to receive:
 - 20% more likely to receive regular check-ups (known as well-child visits) compared to those not in the programs.
 - Preventive services and grade promotion
- Telehealth expands access and reduces stigma, especially in underserved communities

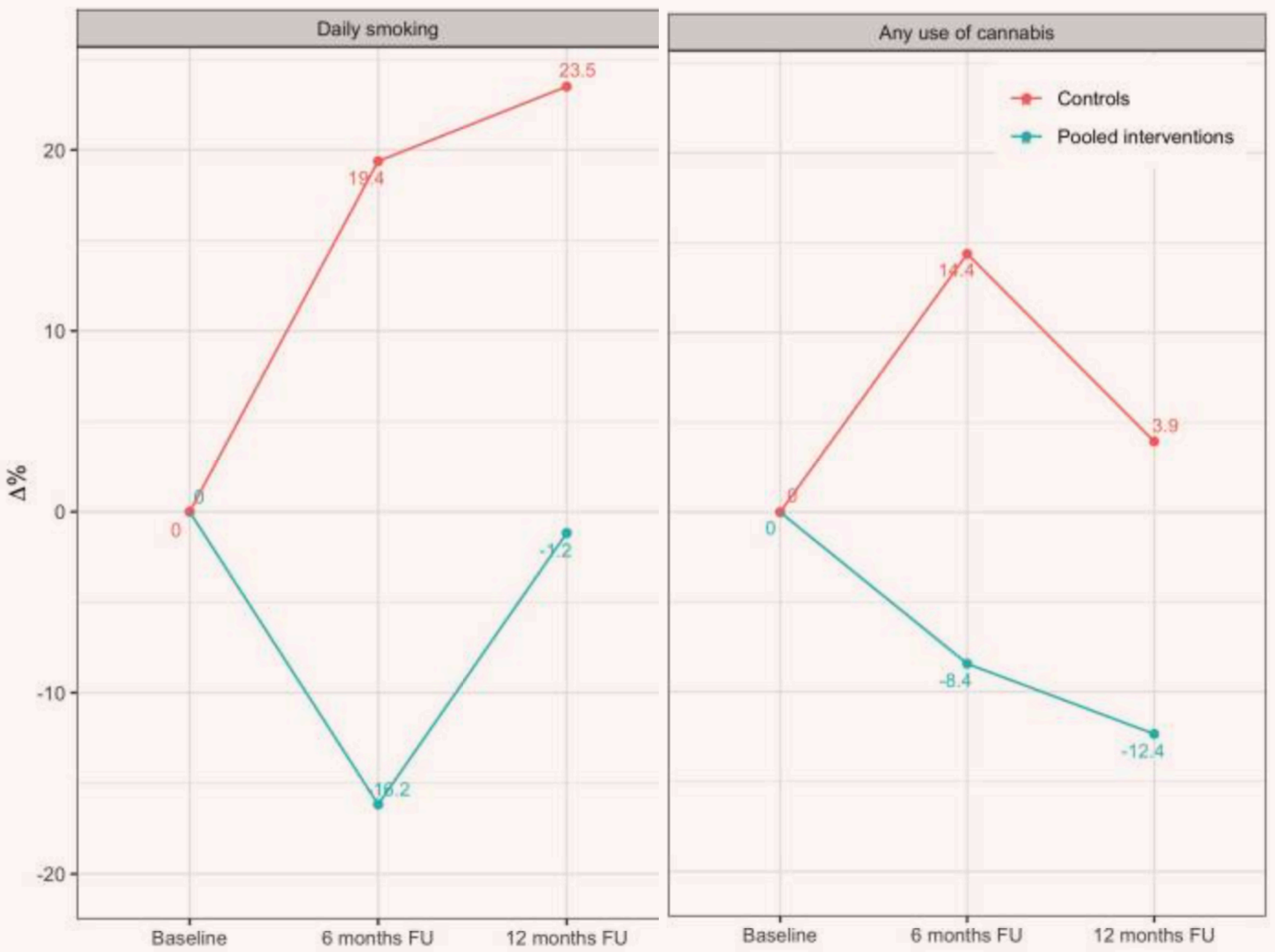
Physical Health Promotion

- Programs increased daily activity, improved fitness, and supported obesity prevention
- BMI improvement:
 - averaging about a quarter-point lower than those not in the programs.
- Use of virtual fitness apps and parent involvement boosts long-term adherence and health behavior



Line Graph: Substance Use Drops in Schools with Health Intervention Programs

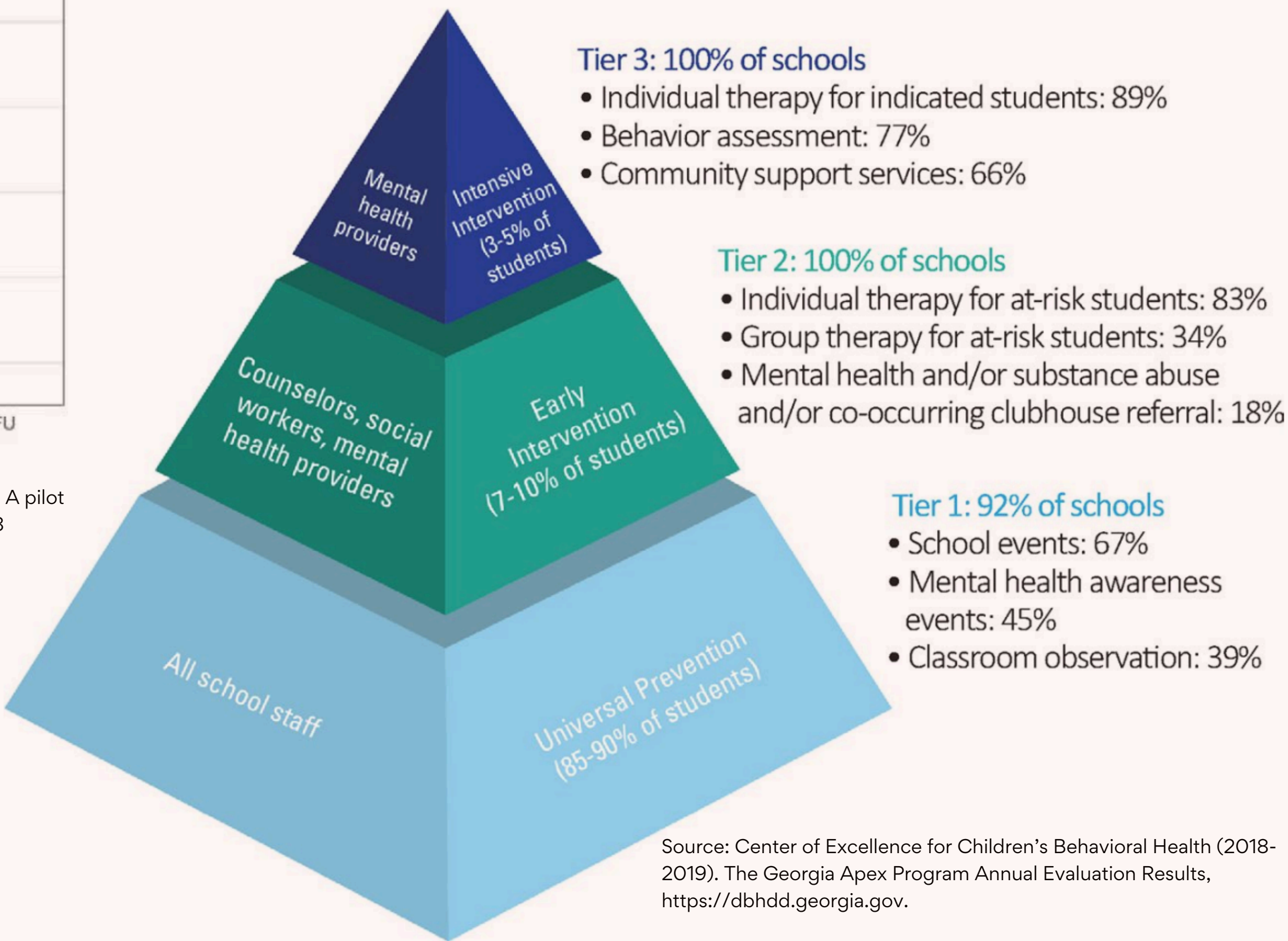
Figure 1 & 2 Illustrates the changes in substance abuse prevalence among high schools that either participated in an SBHIP (blue) or did not, serving as the control group (red). Following the intervention, the blue trend shows a clear decline, while the red trend exhibits a significant spike.



Alarcó-Rosales, R., Sánchez-SanSegundo, M., Ferrer-Cascales, R., Albaladejo-Blázquez, N., Lordan, O., & Zaragoza-Martí, A. (2021). Effects of a school-based intervention for preventing substance use among adolescents at risk of academic failure: A pilot study of the reasoning and Rehabilitation V2 program. *Healthcare*, 9(11), 1488. <https://doi.org/10.3390/healthcare9111488>

Pyramid: Levels of School-Based Intervention From Prevention to Intensive Support

Figure 3 A three-tiered model of school-based mental health interventions, illustrating how services ranging from universal prevention to intensive therapy are integrated across all schools to support student well-being—core to the goals of SBHIPs in reducing health disparities among vulnerable youth.



Conclusion

- SBHIPs are transformative tools in reducing adolescent health disparities, especially when grounded in robust health literacy frameworks.
- **SBHIPs are especially effective in reducing health disparities among Black, Hispanic, and immigrant youth when offered through culturally tailored services as it reduces access barriers.**
- Programs that develop functional, interactive, and critical literacy enable adolescents to not only understand health information but to navigate systems and advocate for themselves.
- With innovative models, strategic policy alignment, and ethical safeguards, SBHIPs can become scalable, sustainable mechanisms for equity.
- Scaling these programs requires addressing persistent **barriers such as funding gaps, workforce shortages, and accessibility challenges.**

Connection to IHA’s Mission

Our research aligns with IHA’s mission and the 2025 Health Literacy Conference theme by offering actionable, community-based strategies to address social determinants of health (SDOH) through school-based health intervention programs (SBHIPs).

Recommendations

- Assess student and family health literacy using culturally relevant tools.
- Partner with local organizations and insurers to expand telehealth and in-person services.
- Scale up SBHIPs with a focus on equity and sustainability.
- Embed culturally tailored health education for LGBTQ+, Black, and immigrant youth.
- Advocate for Medicaid expansion and long-term SBHIP funding.

References:
1. Dadaczynski K, et al. (2021). Promoting Navigation Health Literacy at the Intersection of Schools and Communities. *Front Public Health*.
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