

A Threat to Health Equity

Weight-loss supplements are dangerous.

With **limited FDA oversight**, some dietary supplements laced with banned pharmaceuticals, steroids, and other toxic ingredients [1-4]

Annual revenue of U.S. weight-loss supplement industry = **\$2.56 billion** [5]

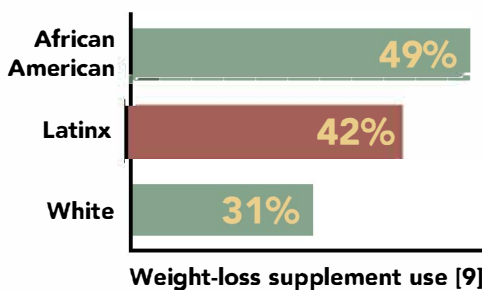
23,000 ER visits per year in U.S. due to supplements [6] – 25% of these sold for weight loss – which may result in organ failure, heart attack, stroke, and death [1-4]

According to the FDA adverse event reporting system, weight-loss supplements are **3x more likely to cause severe medical injury** than vitamins [7]

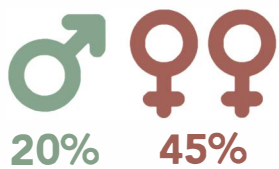
Youth who use over-the-counter (OTC) diet pills are **6x more likely to be diagnosed with an eating disorder** within 3 years than nonusers [8]

Weight-loss supplements worsen health inequities.

Among adults trying to lose weight, unacceptable inequities in lifetime use of **harmful** weight-loss supplements:

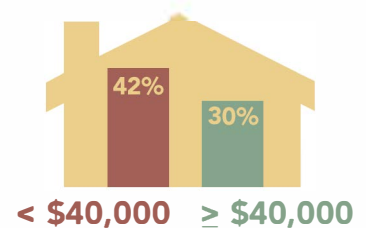


African American & Latinx adults at **higher risk** than white adults [9]

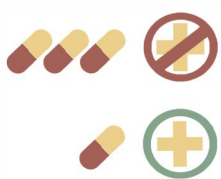
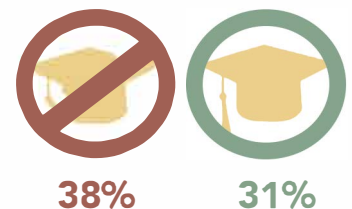


Women have **twice the risk** as men [9]

People in households with annual income **less than \$40,000** at higher risk than those with higher income [9]



People with high school education or less at **higher risk** than those with higher education [9]



Uninsured adults **3x more likely** to use harmful weight-loss supplements than insured adults [10]

Latinx teens **40% more likely** to use OTC diet pills than white teens [11]

Since the COVID-19 pandemic started, African-American adults **3x more likely** than white adults to start using weight-loss supplements [12]



Immigrants with low English proficiency at **higher risk** of not understanding FDA alerts/recalls on supplements compared to those with high English proficiency [10]

STRIPED

A PUBLIC HEALTH INCUBATOR

Strategic Training Initiative for the Prevention of Eating Disorders
Designed by Marlena Skrabak

Find out more about the dangers of weight-loss supplements and threats to health equity at:
<https://www.hsph.harvard.edu/striped/out-of-kids-hands/>

[1] Abdel-Rahman A, Anyangwe N, Caracci L, Caspar S, Danam RP, Enongene E, Erives G, Fabricant D, Gudi R, Hilmas CJ, Hines F, Howard P, Levy D, Lin Y, Moore RJ, Pfeiler E, Thurmond TS, Turujman S, Walker NJ. The safety and regulation of natural products used as foods and food ingredients. *Toxicological Sciences*. 2011;123(2):333-348.

[2] Fong TL, Klontz KC, Canas-Coto A, Caspar SJ, Durazo FA, Davern TJ 2nd, Hayashi P, Lee WM, Seeff LB. Hepatotoxicity due to Hydroxycut: A case series. *American Journal of Gastroenterology*. 2009; 105(7): 1561-1566.

[3] Grundlingh J, Dargan PI, EI-Zanfaly M, Wood DM. 2,4-Dinitrophenol (DNP): A weight loss agent with significant acute toxicity and risk of death. *Journal of Medical Toxicology*. 2011;7(3):205-212.

[4] Guyda HJ. Use of dietary supplements and hormones in adolescents: A cautionary tale. *Pediatric Child Health*. 2005;10(10):587-590.

[5] Vig H, Deshmukh R. (2020, June). Weight Loss and Weight Management Diet Market: Global Opportunity Analysis and Industry Forecast, 2021-2027. Retrieved from <https://www.alliedmarketresearch.com/weight-loss-management-diet-market>

[6] Geller AI, Shehab N, Weidle NJ, et al. Emergency department visits for adverse events related to dietary supplements. *New England Journal of Medicine*. 2015;373: 1531e40.

[7] Or F, Kim Y, Simms J, Austin SB. Taking stock of dietary supplements' harmful effects on children, adolescents, and young adults. *Journal of Adolescent Health*. 2019;65(4):455-461.

[8] Levinson JA, Sarda V, Sonnevile K, Calzo JP, Ambwani S, Austin SB. Diet pill and laxative use for weight control and subsequent incident eating disorder in U.S. young women (2001-2016). *American Journal of Public Health*. 2020;110(1):109-111.

[9] Pillitteri JL, Shiffman S, Rohay JM, Harkins AM, Burton SL, Wadden TA. Use of dietary supplements for weight loss in the United States: Results of a national survey. *Obesity (Silver Spring)*. 2008;16(4):790-796.

[10] Cohen P, Benner C, McCormick D. Use of a pharmaceutically adulterated dietary supplement, Pai You Guo, among Brazilian-born women in the United States. *Journal of General Internal Medicine*. 2012;27(1):51-56.

[11] Vitagliano JA, Beccia A, Mattei J, Cory H, Austin SB. Disproportionate Use of Over-the-counter Diet Pills Among Latinx Youth and Increased Use Over Time Among Latinx Females: Results of US National Study. *Journal of Adolescent Health*. 2022;70(6):993-996.

[12] Austin SB, Vitagliano J, Raffoul A, Sarda V, Chavarro J, Hart JE. Worsening of racial/ethnic inequities in use of over-the-counter diet pills during the COVID-19 pandemic in the United States (In preparation).