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**Netflix’s ‘Bandersnatch’ Inspires UAMS Researchers’
Opioid Misuse Game for Adolescents**

LITTLE ROCK — Alison Oliveto, Ph.D., and Ronald Thompson Jr., Ph.D., know that kids love video games. The University of Arkansas for Medical Sciences (UAMS) researchers also know that kids don’t love out-of-touch literature about the dangers of drugs. So, they decided to present the repercussions of prescription drug misuse in an interactive video game format.

Oliveto, Thompson and their team recently published a [paper](#) in the *Games for Health Journal* about the initial promise of their game-based opioid misuse prevention intervention: SafeUse.

The name, a working title, comes from the idea of creating a *safe* environment for teens to *use* prescription opioids that were not necessarily prescribed for them, so that they experience the consequences of opioid misuse virtually without being in any *actual* danger themselves. Choices also include various strategies to refuse prescription opioid use, and opioid facts pop up during scenarios to inform players and dispel myths about prescription opioid use.

Oliveto is a professor, vice chair for Research and director of the Center for Addiction Research in the UAMS College of Medicine Department of Psychiatry. Thompson is an assistant professor in the Department of Psychiatry, Center for Health Services Research and Center for Addiction Research.

SafeUse is a game-based video app that teens can download on their smartphones. It was developed in collaboration with Little Rock Games, an Arkansas-based independent game studio. As for how the researchers decided to try the video game approach, Oliveto said that she became interested in a “choose-your-own-adventure” style simulator after playing through the *Black Mirror: Bandersnatch* interactive movie on Netflix with her daughter.

“She just wanted to keep trying different choices to see where the story would go. It drove me a little crazy, but I thought ‘Wow, kids love this stuff.’”

The danger associated with opioids is very real. Adolescents are misusing prescription opioids at an alarmingly increasing rate. According to a 2021 study published in the *Journal of the American Medical Association*, the proportion of prescription opioid misusers was 50% higher among adolescents than their parents. The study sampled 15,200 parents and children and found that prescription opioid use doubled from 9.7% at age 12 to 19.5% at age 17, and misuse quintupled from 1.2% to 5.5%.

In their blog for National Drugs and Alcohol Fact Week in March, the federal Substance Abuse and Mental Health Services Administration (SAMHSA) noted that research-backed prevention strategies were of paramount importance to combat adolescent drug and alcohol abuse. "We can draw inspiration from prevention professionals, community-based organizations and others across the country who, with the support of SAMHSA and other federal agencies, use creative, evidenced-based strategies to put prevention first," the blog stated.

It doesn't get much more creative than a video game to help kids test out different scenarios and learn strategies for avoiding prescription drugs that go beyond the tired and ineffective "just say no" line of defense.

SafeUse follows the "visual novel" formula of games, a genre of role-playing games that is popular among adolescents. Users navigate the social world of a teenager and must respond to contextual dialogue choices where each choice leads down a different path. Dialogue is presented through a phone text interface designed to appeal to adolescents.

As part of the UAMS study, 14 adolescents played through SafeUse for a week, then provided feedback in focus groups to determine its acceptability and usefulness as both an intervention and awareness-raising tool. Overall, participants enjoyed the game and were receptive to the characters, graphics and approach. Those that played the game said they "would like to play more game modules" and "liked playing through the decisions." Participants reported increased confidence to refuse opioids and a decreased likelihood of accepting opioids from someone they knew. Findings suggest that SafeUse has strong educational application value to adolescents and is worthy of further development and research.

"We want SafeUse to engage and motivate adolescents, but ultimately we want it to modify their behavior," Thompson said. "We're hoping to change their intentions, their knowledge and their attitudes about prescription opioids. Most interventions try to help people stop using opioids. Our hope is that this educational tool will keep adolescents from ever starting in the first place."

Other UAMS co-authors on the study are:

- Patricia Wright, Ph.D., RN, assistant professor (retired), College of Nursing
- [Nihit Kumar](#), M.D., assistant professor, College of Medicine Department of Psychiatry
- [Srinivasa Gokarakonda](#), M.D., assistant professor, College of Medicine Department of Psychiatry
- Ian Fischer-Laycock, M.A., research associate, College of Medicine Department of Psychiatry

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UAMS is the state's only health sciences university, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; a hospital; a main campus in Little Rock; a Northwest Arkansas regional campus in Fayetteville; a statewide network of regional campuses; and seven institutes: the Winthrop P. Rockefeller Cancer Institute, Jackson T. Stephens Spine & Neurosciences Institute, Harvey & Bernice Jones Eye Institute, Psychiatric Research Institute, Donald W. Reynolds Institute on Aging, Translational Research Institute and Institute for Digital Health & Innovation. UAMS includes UAMS Health, a statewide health system that encompasses all of UAMS' clinical enterprise. UAMS is the only adult Level 1 trauma center in the state. *U.S. News & World Report* recognized UAMS Medical Center as a Best Hospital for 2021-22; ranked its ear, nose and throat program among the top 50 nationwide for the third year; and named five areas as high performing — colon cancer surgery, diabetes, hip replacement, knee replacement and stroke. UAMS has 3,047 students, 873 medical residents and fellows, and six dental residents. It is the state's largest public employer with more than 11,000 employees, including 1,200 physicians who provide care to patients at UAMS, its regional campuses, Arkansas Children's, the VA Medical Center and Baptist Health. Visit www.uams.edu or www.uamshealth.com. Find us on [Facebook](#), [Twitter](#), [YouTube](#) or [Instagram](#).

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