

Research Report Summary



Charles Jennissen, MD, and Gerene Denning, PhD 6/30/17

Community-Based Education and Public Awareness for All-Terrain Vehicle (ATV) and Side-by-Side (SxS) Safety to Reduce Roadway Deaths and Injuries

Preventing Roadway Deaths and Injuries from Off-Road Vehicle Crashes

Background: ATVs and SxSs are designed for off-road use only. Vehicle design, lack of operator training, and other factors, like roadway speeds, all contribute to the risk of a crash. In fact, more than half of all ATV and SxS

fatalities occur on public roads. ATV crashes on the road also result in more serious injuries than those off the road. Knowledge about the risks involved is limited among riders and the general public.



A high center of gravity, off-road vehicle tires and lack of a rear differential make ATVs and SxSs more dangerous to operate on the road than off. Roadway speeds further contribute to the risk of a crash.

Project Goal: SAFER-SIM funding was used to build upon our educational and public awareness programs that include a focus on reducing crashes of off-road vehicles on roadways. Our activities include a school-based safety program, professional conferences,

community outreach events, and creation of resources for preventing ATV and SxS related deaths and injuries. Engineering and technology, including simulation, for injury prevention and roadway safety are an important part of our program.

Our Program



Safety Tips for ATV Riders (STARs) is a school-based safety program for 12-15-year-olds. Sessions include discussions about helmet use and demonstrations with our mobile ATV simulator.



Our simulator is also used at our professional and community outreach events.

STARs Program

Safety Tips for ATV Riders (STARs) is a school-based safety program that centers around 10 tips, one of the central ones being “Don’t Ride on the Road.”¹ To date, we have provided the program to over 15,000

students from more than 50 schools. Three-fourths of the students surveyed had ridden on an ATV, and more than 8 in 10 riders reported taking them on public roads (Figure 1).² The program has been shown to successfully

“There exists a significant gap in knowledge and awareness about ongoing deaths and injuries from ATV and SxS crashes, roadway crashes being among the most serious and deadly. We use multi-disciplinary approaches to address this knowledge gap among users and other stakeholders in injury prevention.”

Figure 1. Student ATV rider responses to “Have you ever ridden an ATV on a public road?”



increase short-term knowledge.¹ In preliminary 1-year follow-up studies matching schools and grades, we also found significant knowledge retention and a decrease in the proportion of students reporting roadway riding since participating in the program (60% vs. 46% at follow-up, $p < 0.001$). We will continue to measure both the short-term and long-term impact of the program on safety knowledge and riding behaviors. SxS safety was recently added to our STARs program.

Professional and Community Outreach

Presentations about preventing ATV and SxS roadway crashes have been given at local, state, regional, national, and international conferences. Safety presentations and outreach events include the Iowa state FFA conference and the Iowa-Illinois Farm Progress Show (FPS). Surveys of adult FPS attendees found that over 90% had

ridden on an ATV and that 73% of users had ridden on public roads.³

Building on Success

SAFER-SIM has funded the purchase of interactive demonstration equipment and software and other educational and public awareness materials for our programs (Figure 2). Support by SAFER-SIM and others has also contributed to a successful grant application to the Iowa Department of Transportation (IDOT). This DOT funding will be used to increase knowledge and awareness of roadway safety issues involving off-road vehicles among the state’s county engineers, law enforcement officers, and emergency medical services (EMS) providers.

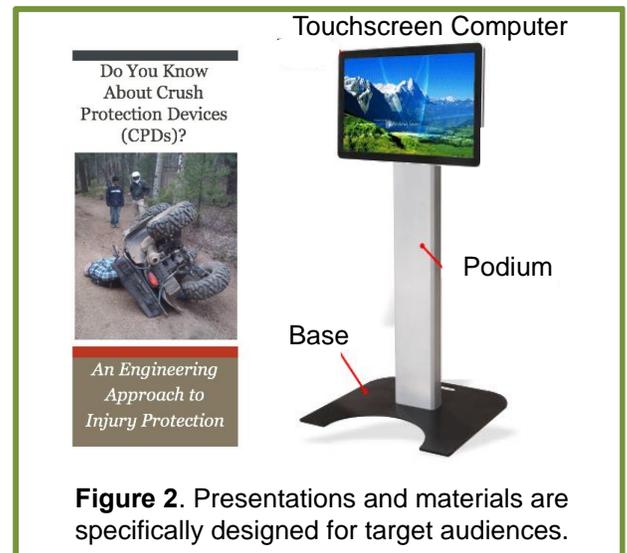


Figure 2. Presentations and materials are specifically designed for target audiences.

References

1. Jennissen, C., Peck, J., Wetjen, K., Hoogerwerf, P., Harland, K. and Denning, G. The Safety Tips for ATV Riders (STARs) programme: short-term impact of a school-based educational intervention, *Inj Prev*, 2015, 21(3):166-172.
2. Jennissen, C., Harland, K., Wetjen, K., Peck, J., Hoogerwerf, P. and Denning, G. A school-based study of adolescent all-terrain vehicle exposure, safety behaviors, and crash experience, *Ann Fam Med*, 2014, 12(4):310-316.
3. Jennissen, C. A., Harland, K. K., Wetjen, K., Hoogerwerf, P., O'Donnell, L. and Denning, G. M. All-terrain vehicle safety knowledge, riding behaviors and crash experience of Farm Progress Show attendees, *J Safety Res*, 2017, 60:71-78.