ABSTRACT
This article describes the history, development, and growth of Maryland's first hospital-based trauma prevention program. It details how the creators of the program partnered with multiple community agencies to provide a much-needed service for high-risk teens. The program has grown to include a variety of prevention education programs reaching people of all ages.

KEY WORDS
Drinking and driving, High-risk teens, Injury prevention, Trauma

HISTORY
The STC at the UMMC is the Primary Adult Resource Center of the statewide Maryland Emergency Medical Services System and provides the highest echelon of care in Maryland. The STC at the UMMC specializes in complex, multisystem adult trauma and provides care to more than 7,500 patients per year. Referrals for admission come from Maryland and its surrounding states. Eighteen percent of the patients are flown in by medevac helicopter, and the remainder arrives by ambulance. Half of the patient population admitted to the STC at the UMMC are characterized as “risk takers,” and their admissions are related to alcohol and/or drug abuse, reckless driving, and violence. Trauma nurses at the STC at the UMMC developed the High Risk Adolescent Trauma Prevention Program in 1979 in response to a nursing department goal, “to prevent trauma in the state of Maryland.”

A nursing committee used the nursing process (problem identification, assessment, implementation, and evaluation) to tackle this monumental goal. Based on local, state, national, and the STC at the UMMC statistics, drinking and driving were identified as a major problem among adolescents. The statistics from 1979 documented that 30% of trauma admissions were between 11- and 20-year-olds, 75% were men, 67% were traffic crashes, and more than 60% were drug/alcohol related. Thus, the prevention focus was narrowed to teenagers who were drinking and driving. The assessment process revealed that there were no hospital-based programs for drinking and driving prevention for high-risk teens. Therefore, the STC at the UMMC nursing staff developed a program to teach adolescents about the relationship among alcohol, motor vehicle crashes, and severe injury. One of the authors was chairperson of the prevention goal. She solicited interested nurses to form a committee to brainstorm this topic. The nurses were adamant that “a picture is worth a thousand words,” and they wanted the teens to see, firsthand, what trauma looks, smells, and sounds like.

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The program development was challenging, to say the least. For example, we encountered a great deal of resistance from some of the school systems and departments of juvenile justice (DJJ). Fortunately, the director of DJJ in a nearby county agreed that there was a need for an innovative educational program and agreed to partner with us. The committee chairperson met with the DJJ director and the caseworkers and offered the workers the opportunity to experience the proposed program. Over a period of 4 months, groups of 6 DJJ caseworkers attended a 2-hour educational program at the STC at the UMMC. Once the entire group attended the chairperson and the DJJ staff met to discuss the experience. Half of the group felt that the program was "too much," whereas the other half of the group had a list of clients they thought would benefit from it. The DJJ director suggested a pilot program with that list of clients to gain the teens’ feedback.

It was a success. The clients’ postevaluations revealed that the adolescents thought the program was “authentic,” “realistic,” and “thought provoking.” When asked to rate the program as excellent, good, fair, and poor, 48% rated the program as excellent and 52% rated it as good. No one rated it as fair or poor. When asked about the impact of program participation or reexamination of existent behavior (using drugs or alcohol while driving), 89% reported yes, it will promote reexamination, 11% responded “it might,” and only one reported, “it won’t.” To quote one young participant, “this was the first time anyone treated me like an adult.” Eventually relationships with agencies such as DJJ, the office of the state’s attorney, and the county health departments were formalized.

Another concern was patient privacy. The hospital lawyer and the STC at the UMMC administrators were contacted to determine legal and ethical implications of the program. Since the UMMC is a teaching hospital, the program was given the go-ahead. Of course, patient privacy always had to be maintained, and no personal information was communicated unless the patient/family gave permission.

The nurses wanted the program to be educational and not to use “scare tactics.” They prepared the students for the tour portion of the program during the first hour in the classroom. A video, showing a patient in the critical care unit, was presented to the students. Equipment was demonstrated, and critical care sights and sounds were described. The nurses were very sensitive to the potential consequences of such a graphic experience to vulnerable teens. Two nurses presented, one nurse led the program, and the other could observe the teens and administer assistance if needed. In fact, prior to the tour, the nurses gave out tootsie rolls to increase the teens’ blood glucose level and decrease the chance of fainting. If a teen passed out and hit his or her head, incident protocol was followed.

Another challenge included the nurses at the trauma center. In 1979, visiting hours in the critical care unit were limited to 5 minutes twice a day. Some of the critical care nurses were concerned that the teens would be in the critical care area longer than the patients’ families. Some of the original prevention committee members worked in the critical care unit and were able to persuade the resistant nurses to try something new.

After many meetings, phone calls, and library time, the program evolved as follows.

**Target Population**

High-risk adolescents who have been
- arrested for drinking and driving, or
- arrested for possession of alcohol in a moving vehicle, or
- served with an alcohol citation, and/or
- identified as high-risk and referred from the local offices of substance or juvenile services.

**Program**

Participating adolescents attended a preeducational session, developed and sponsored by the individual county making the referrals, with material specific to the needs of that county. Information provided at this time included basic knowledge about drugs and alcohol; metabolism in the body; the relationship to driving; and Maryland’s laws regarding drugs and alcohol. This occurred in a classroom at the agency and was taught by the county agency staff. For example, one county provided a 2-hour educational program over an 8-week period. The trip to the STC at the UMMC was one of those sessions. The teens were brought to the hospital in groups of 6 to 8 by DJJ or other agency staff.

At the STC at the UMMC, each participant
- completed a prequestionnaire,
- received background information on the STC at the UMMC,
- viewed selected videos depicting trauma patients,
- toured the STC at the UMMC focusing on patients (in accordance with the Health Insurance Portability and Accountability Act guidelines) involved in alcohol- or drug-related crashes (preferably teenagers if available) and spoke to trauma patients or a recovered patient,
- expressed his or her feelings about the trauma center,
- discussed his or her potential as a crash victim or perpetrator of a crash,
- discussed alternatives to driving under the influence of alcohol or drugs,
- discussed ways to prevent friends from driving after drinking/drugging, and
- completed a follow-up questionnaire.
Evaluation
The nursing team developed questionnaires, and a graduate student who completed a thesis to evaluate the program provided validation. Each participant completed pre- and postquestionnaires at the program and completed additional questionnaires at 3, 6, and 12 months after the program at the STC at the UMMC. Recidivism was tracked by the individual counties at 12 months. The posteducational session consisted of discussion of the experience at the STC at the UMMC, with the emphasis on problem solving and on exploring attitudes and behaviors. This was performed by the county.

Results
Questionnaire responses from 351 adolescents (18 years and younger) who participated in the trauma prevention program from December 1986 to July 1990 indicated significant positive changes in attitudes toward driving and drinking, riding with someone who has been drinking, and preventing a friend from driving after drinking. These positive attitude changes were still evident 12 months following participation in the program. An article was published in the Journal of Drug Education in 1991 describing the program. The program continues today but questionnaires are not presently used because the sociologist involved in the evaluation indicated that the program was effective. Recidivism for one county was tracked by the director of that county’s Bureau of Substance Abuse. “For the first decade of the program, the director said, he followed the first-time juvenile offenders from his county who participated for two years afterward; ninety-two percent did not get into trouble with the law again during that time”.

During the 1990s, admission statistics demonstrated an increase in drug use among teens. Because of that increase, the educational curriculum was expanded to include the relationship between drugs, motor vehicle crashes, and injuries. Driving at high rates of speed has since been added, in addition to other dangerous behaviors. The program content is constantly being evaluated by the nurses and is always changing with the current trends in the teens’ lives. Recent issues discussed include texting while driving, car surfing, cell phone use, drag racing, and MP3/iPod use while driving.

PROGRAM GROWTH
Students Against Destructive Decisions
Once the on-site program for the high-risk teens was running smoothly, the nurses began sharing the program with SADD (Students Against Drunk Driving, now Students Against Destructive Decisions) clubs. SADD students would travel to the STC and experience a program similar to the one for high-risk teens. The focus of the SADD class was to strengthen their commitment to SADD and utilize their leadership abilities to influence their fellow students. SADD clubs began requesting the STC nurses as guest speakers at their SADD club meetings.

Community
As the STC at the UMMC nurses interacted in the community, their participation at other events was requested. More relationships were built and strengthened. High schools requested schoolwide assemblies for prom season and holiday time. High school health teachers requested the nurse’s presence as an adjunct to the alcohol and drug unit. Schools and other community groups requested displays about shock trauma and drinking and driving crashes for health fairs. Fire departments often requested the display for safety day events.

A few of the nurses joined local and statewide committees to influence legislation and education regarding underage drinking and driving while intoxicated (DWI). These committees were sponsored by the Maryland State Highway Association, county health departments, and other agencies.

Not only is community outreach an educational opportunity, but the nurses also become public relations representatives for the STC at the UMMC. Community members are always visiting the display to say “thank you for what you do,” or to talk about a shock trauma experience that a friend or family member had. It is a privilege to be a part of it.

Adult DWI classes
As part of the program evaluation the teens were asked, “who else would benefit from this program?” The majority of the responses indicated that adults would learn from the experience. Subsequent to this, DWI offenders were mandated by the court system to attend an educational program designed for adult DWI offenders. The curriculum includes a discussion about the process of admission to shock trauma and common equipment used. The adults viewed a video, produced by the STC at the UMMC and the Maryland Institute for Emergency Medical Services System, media department, which featured 4 victims of drunk driving. It highlighted the physical, emotional, and financial impacts of this behavior. The adult participants toured the STC at the UMMC and returned to the classroom to listen to a recovered patient’s experience. The recovered patient was the drunk driver in a severe car crash and the adults really identified with her. Together, they discussed alternative behaviors to drinking and driving. The class was truly an eye-opener for these adults, and the class usually ended with applause for the recovered patient and a “thank you” for the nurses.

This program was held monthly on a Saturday morning. An average of 35 DWI offenders attended the 2½-hour class. Today the class continues and is staffed by...
4 registered nurses and 1 recovered patient. A fee of is charged, which supports the prevention programs.

Recovered patients

As noted above, another addition to the program has been more involvement of recovered patients and their family members. This addition has been beneficial to the teenagers, adult DWI offenders, and the patients and their families. For example, a mother of a young recovered patient with a traumatic brain injury asked whether her daughter could work with the trauma prevention nurses. After a short time of involvement, the mother commented that this program had saved her daughter’s life. It improved her self-esteem and gave her a purpose and a way to give back. Another example would be a 16-year-old high school student, who was critically injured in a DWI car crash and was medevaced to the STC at the UMMC. Sixteen months later, this young man completed his high school senior year internship with the staff at the STC at the UMMC. Since then he has shared his story with the teens at the High Risk Adolescent Trauma Prevention Program and at high school assemblies and youth groups. When asked why he volunteers, he said,

I do this so that no one has to go through what I had to go through. This is easily the most painful event of my young life, but I do this for them! I am lucky! I was lucky to recover to the point where I can walk and talk and form coherent thoughts. I feel that it is my duty and privilege to share my experiences so they do not make the same mistakes I did. The ones that are determined to take risks will, but the ones who are on the fence are the kids that I want to save. What I want to communicate is that it only takes once and their life could be over. I think this prevention program is very valuable to save lives and keep them in tact. I do this for them! The best medicine is prevention.

In addition, his mother said,

Having my son participate in the prevention program is very important to me. We saw so many families going through what we were going through during the various stages of his recovery that were not blessed with the same outcome as our son. This program reaches out to the kids on their level, they see a kid just like them telling his story and hopefully it hits home.

The recovered patient participation began with volunteers. Now, every effort is made to pay the recovered patients for their time and effort. Most are very happy to “give back” to the trauma center.

Special event—3D

Program growth continued as the prevention nurses partnered with a local county office of substance abuse, the Maryland Automobile Association of America, and other local agencies to sponsor a 3D (drunk and drugged driving) educational event. The event was also sponsored by the University Recreation and Fitness Center at the University of Maryland, Baltimore campus, to include the students as well as the campus, hospital staff, and the general public. Highlights of the program included an alcohol-free “mix-off” competition among local bartenders, demonstration of the fatal vision goggles, educational displays, and food prepared by a local culinary school. A panel of celebrity judges selected the best nonalcoholic drink, and the winning bartender was rewarded with a prize basket. It was a fun, party-like way to spread an important message. This has become an annual event every December for the past 6 years on the University of Maryland, Baltimore campus. This 3D event could easily be replicated on any college campus.

Nurses

This program has had a positive effect on the STC nursing staff. At times, caring for sick, young patients is overwhelming, difficult, and sad. This program has allowed the staff to be proactive in preventing future traumatic injuries. The nurses recount real-life stories of young patients who have made poor decisions. This allows the staff to interact with teenagers and gives them the opportunity to make a positive impact. The nurses have often said that it made a bad day a good day when the teens “got it.” In the past, many nurses used their paid nonclinical time to staff the program. A few nurses indicated that they stayed on the job 1 year longer than they had planned because of the opportunity to be associated with the prevention program. This was discovered during exit interviews.

An unexpected bonus from the trauma prevention programs was the recruitment of student nurses. Recently the prevention office was contacted by a former teenager who attended the prevention program. She said that her experience at the STC was one she never forgot. Through the program, her eyes were opened to the dangers of drinking and driving, and she became interested in nursing. She recently graduated from nursing school. Along those lines, the SADD advisor from a local school indicated in a recent e-mail that many of her students have gone into health fields because of the prevention program interaction with her students.

Staffing

Staffing a program such as this required ingenuity, flexibility, and administrative support. At the program’s inception, the goal chairperson was responsible for all aspects of the program. This person worked in the nursing outreach component of the trauma center, and for the first 5 years, she was the only consistent nurse. A pool of 18 nurses oriented to the program would sign up to work as their schedules allowed. Around 1984, when grant
Funding was obtained, a second nurse was hired for 4 to 8 hours per week. Presently, 2 registered nurses staff the prevention office. Each nurse works a flexible 50%. Wednesdays and Thursdays are reserved for on-site programs, and the remaining time is spent in the community. This includes evening and weekend hours. A group of 6 nurses, experienced with the program, provide coverage as needed.

Funding
Every program costs money, and from day 1, this was a huge concern. Once the program was formalized, the chairperson began searching for grant funding. In 1982, the staff, at both trauma and DJJ, felt that if the teen had to pay a fee, he or she may get more out of the class. With the individual counties’ approval, the STC at the UMMC charged the individual teen a small registration fee. In the following 19 years, grant money from the State Highway Administration, the Department of Health and Mental Hygiene, and county block grants supported the program in addition to program fees and community donations. The University of Maryland Medical System Foundation is now assisting with seeking monetary support. Recently, the Maryland Automobile Association donated money toward the program, and a few small private foundations assisted with financial support.

Future Plans
Prevention today is more challenging than ever. Some say it takes a village to raise a child; the prevention nurses think it takes committed, out-of-the-box thinking by a community of adults to keep our teens safe. As mentioned before, the University of Maryland Medical System Foundation is very involved with fund raising for this program. In fact, a member of the Shock Trauma Board of Visitors, who has observed the program, has committed to assist with future expansion. With his creative thinking and strong belief in our prevention efforts, the nurses are planning to offer an additional program to all private and public schools in Maryland. This program is focused on dangerous driving activities, such as speeding, texting, and talking on the phone in addition to alcohol and/or drug use while driving. Attendance is required for 10th graders and 1 parent/guardian. Permission to drive or park on campus is dependent on completion of the class. Private schools can require parent participation, but this may be difficult to implement in the public schools. The development of a program for middle school is also being considered. Presently, the nurses are partnering with the SADD club in a local middle school.

SUMMARY
As a team, the STC at the UMMC is working to prevent trauma in the state of Maryland. This article is a highlight of a program that is changing lives. The nursing goal of long ago still holds true even today, as the STC staff work hard to keep Maryland safe through educating its citizens. This has been a learning adventure shared by the nursing staff of the STC at the UMMC. Together, the staff has created a program that continues to develop and change with the needs of the community.

REFERENCES