Region 2 South’s Strategic Approach to Injury Prevention and Community Outreach

Introduction and Background

It is well-established that injury prevention is an essential, and therefore required component of effective trauma systems.\(^1\),\(^2\) Hence, the Region 2 South (R2S) Trauma System has developed an organized and coordinated plan for injury prevention.

A unique consideration to this plan was the development of a new statewide, regionally-based trauma system in 2013. It is acknowledged that there were multiple mature trauma and burn centers in operation long before the creation of the R2S Trauma System. Consequently, a multitude of injury prevention activities already exist within the R2S network. In fact, R2S benefits from having numerous nationally and internationally renowned injury prevention experts, resources, programs, and injury-reduction-focused research centers within its boundaries. Many of these activities are well-established, spanning several decades of existence. Hence, the overall goal of R2S’s injury prevention strategic plan is not to replace or duplicate these long-standing resources. Rather, R2S seeks to achieve the following global aims:

- Support and promote inter-agency collaboration and communication
- Document the existing injury prevention resources and activities occurring within its boundaries
- Utilize the region’s experts to further delineate R2S’s role in promoting coordinated and successful injury prevention and reduction strategies within its trauma system
- Support a research-based strategic approach to implement currently known best practices in injury prevention (e.g., use of standardized, consistent messaging; plain language for health literacy; positive messaging; avoidance of scare tactics; motivational interviewing, brief counseling/intervention, and other proven methods to facilitate behavior change; etc.)
- Facilitate regional trauma system coordination of existing injury prevention programs by assessing for potential duplication of effort, and assisting with blending or merging of activities as indicated
- Assess for areas or populations with gaps in services and resources; facilitate regional coordination to provide injury prevention coverage
- Provide reports on regional trauma data to help guide and prioritize activities
- Facilitate collaborative injury prevention research
- Promote widespread dissemination of injury research findings and assist with application in the field
- Assist in the evaluation of programs and activities
- Encourage professional development education on injury prevention, either by sharing training opportunities and/or by providing training as indicated

The operational details for R2S’s plan to coordinate injury prevention follows. It is acknowledged that this is a “living document” created for a still-developing and evolving regional trauma system. Thus, it is expected it will be revised to meet future emerging needs and goals as they are identified.

Goals and Performance Metrics

Per Regional Trauma Network (RTN) guidelines, “the RTN, in cooperation with other agencies and organizations, uses analytical tools to monitor the performance of population-based (regional) injury prevention programs.”\(^3\) An Injury Prevention Subcommittee was established in 2014 to facilitate these efforts. The R2S Injury Prevention Subcommittee is
evaluated on performance and provision of population-based injury prevention programs. Specific goals set by the committee include:

- By March of 2020, the RTN will monitor and evaluate injury prevention programs by using an annual analysis of regional injury pattern data from the trauma registry to develop coordinated and targeted injury prevention offerings. The RTN will perform bi-annual surveys of regional trauma facilities to confirm injury prevention program alignment with regional injury patterns.

- By March of 2020, the RTN will develop a written injury prevention and control plan that is aligned with regional injury patterns as determined by an annual evaluation of injury from the trauma registry in order to target injury prevention programs based on the three highest risk injuries. The RTN will bi-annually survey regional trauma facilities to evaluate the injury prevention program coordination among facilities.

- This strategic plan and its Appendices will be reviewed and updated annually by the Injury Prevention Subcommittee. At the time of review, R2S hospitals will be queried for a current list of injury prevention activities, contact person(s), and other relevant information required to update the Regional Resource Guide.

- Refer to the below Table #1 for performance indicators and metrics required by the State of Michigan based on Health Resources and Services Administration (HRSA) criteria for RTN approval.

### TABLE 1: HRSA Rule Indicators and Scores

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<th>Rule HRSA#</th>
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| 325.13 2(3)(c) (ii)(A) 306.2 | The RTN is active within the region in the monitoring and evaluation of regional injury prevention activities and programs.                                                                                      | 0. Not known.  
1. The RTN does not actively participate in the monitoring and evaluation of injury prevention activities and programs in the region.  
2. The RTN does some minimal monitoring and evaluation of injury prevention activities and programs in the region.  
3. The RTN monitors and evaluates injury prevention activities and programs in the region.  
4. The RTN is an active participant in injury prevention programs in the region, including the evaluation of program effectiveness.  
5. The RTN is integrated with injury prevention activities and programs in the region. Outreach efforts are well coordinated and duplication of effort is avoided. Ongoing evaluation is routine and data are used to make program improvements. |
| 325.13 2(3)(c) (ii)(A) 203.5 | The RTN has developed a written injury prevention plan. The injury prevention plan is data driven and targeted programs are developed based upon high injury risk areas. Specific goals with measurable objectives are incorporated into the injury prevention plan. | 0. Not known.  
1. There is no written plan for coordinated injury prevention programs within the region.  
2. Although the RTN has a written injury prevention and control plan, it is not fully implemented. There are multiple injury prevention programs within the region that may compete with one another, or conflict with the goals of the regional trauma system, or both.  
3. There is a written plan for coordinated injury prevention programs within the region that is linked to the regional trauma system plan, and that has goals and time-measurable objectives.  
4. The regional injury prevention and control plan is being implemented in accordance with established objectives, timelines and the region is collecting data.  
5. The injury prevention plan is being implemented in accordance with established timelines. Data concerning the effectiveness of the injury prevention programs are being collected and are used to validate, evaluate, and modify the program. |

As the R2S Trauma System evolves, additional goals and performance metrics will be incorporated into this injury prevention strategic plan. The scope of these goals may cover items such as:

- **Regional Projects**: Timelines, goals, SMART objectives, and relevant strategic plan details for any future regionally coordinated injury prevention projects.

- **Regional Injury Data Reports**: Specific process for compiling and disseminating regional injury data reports acquired from the State Trauma Registry. For example:
Providing reports on leading causes of injury admissions and deaths, patient demographics, location of injury, etc.

Analyzing data for risk factors, patterns, at-risk populations, emerging trends, etc.

Utilizing the reports to prioritize coordinated regional prevention activities, such as a combined multi-center event, dissemination of educational materials, training workshop, media messaging/public service announcements, legislative advocacy, etc.

For more details, see Section 1 (page 13) of the ACS Assessment Guide: https://www.facs.org/~/media/files/quality%20programs/trauma/tsepc/pdfs/regionaltraumasytems.ashx

Definitions of Injury Prevention and Activities

R2S Trauma System endorses and supports a comprehensive evidence-based approach to injury prevention. Effective injury control is multi-tiered and relies on a combination of intervention strategies that incorporate the principals of:

- **Primary Prevention:** Preventing an injury from occurring or eliminating injury.
  - Examples of primary prevention in R2S: Community-based educational programs on older adult fall prevention, pedestrian safety, burn prevention and fire safety, distracted driving prevention, etc. [Refer to Appendix A for a more complete list of specific programs and resources.]

- **Secondary Prevention:** Intervening during and immediately after injury to mitigate damage, minimize severity, and diminish effect.
  - Examples of secondary prevention in R2S: Use of safety equipment such as helmets and child safety seats; public education on initial first aid, CPR, and/or other limb and life-saving actions; rapid EMS response; appropriate severity-based transfer to and treatment at trauma/burn centers; etc. [Refer to Appendix A for a more complete list of specific programs and resources.]

- **Tertiary Prevention:** Improving or optimizing long-term outcomes following injury.
  - Examples of tertiary prevention in R2S: Rehabilitation, survivor and family support groups, school/work reintegration programs, return to play guidelines following concussions, etc. [These specific activities are not tracked and documented in the Regional Resource Guide. Please contact the injury prevention liaison or trauma program manager at R2S hospitals to request more information on the availability of tertiary prevention programs and resources.]

Injury prevention also consists of implementing a coordinated comprehensive strategy to include interventions targeting the “Five E’s”:

- **Education:** Providing educational materials, classes, brochures, information via media venues, etc. to increase awareness and motivate behavior change.
- **Engineering:** Modifying the environment or installing equipment such as safety gates, helmets, seatbelts, sprinklers, smoke alarms, etc.
- **Enforcement:** Instituting mandatory codes, laws, regulations, standards; monitoring for compliance; advocating for specific legislative and/or regulatory changes to improve safety.
- **Economic Incentives:** Implementing financial incentives to motivate behavior change; financial incentives can be positive (coupons or discounts for buying car seats, helmets, or smoke alarms) or negative (fees, fines, or penalties for not complying with safety standards).
- **Emergency Response:** When injuries do occur, implementing an effective emergency or disaster response (e.g., EMS providers, fire departments, law enforcement, emergency medical care) helps to mitigate the severity and maximize positive outcomes.

The R2S Trauma System promotes high-quality, scientifically-based best practice approaches to injury prevention. Hence, it furthers expands the Five E model by also recommending additional “E’s”:

- **Evidence, Evaluation, and Evolution:** Collecting data, conducting research, analyzing results, evaluating outcomes, and utilizing evidence to further advance prevention efforts.
**Scope of Injury Prevention Plan Activities, Resources, and Expertise**

R2S Trauma System’s strategic plan for injury prevention employs all of the above listed principal processes. A basic tenet in operationalizing the plan is utilization of a multifaceted, comprehensive approach that encompasses a broad scope of prevention and safety-focused efforts, such as: community education, awareness, professional training, media outreach, data collection and analysis, epidemiology, evaluation, research, publications, product safety guideline development, regulations or code enforcement, and advocacy or expert testimony to support legislative action.

The plan also embodies the esprit de corps that injury prevention is a “team sport.” In other words, the plan utilizes multi-agency collaboration and multi-disciplinary participation to address the complex components of prevention. The R2S Trauma System is fortunate to have world-class experts and leaders in injury prevention within its network. R2S is comprised of members from a variety of disciplines (e.g., nurses, physicians, EMS providers, public health, educators/teachers, epidemiologists, researchers, etc.). In addition to their own hospitals and agencies, R2S members are affiliated with a multitude of professional organizations [see Table #2]. This directly promotes expansion of injury prevention collaboration not only across the region, but the state, country, and globally. Hence, the R2S injury prevention plan capitalizes on the wealth of these existing prevention-focused resources in the region.

**Using Regional Injury Epidemiology Data to Target Priorities in Injury Prevention**

According to the American College of Surgeons regional trauma system guidelines, “the descriptive epidemiology of injury among the whole jurisdictional population (geographic area served) within a trauma system should be studied and reported...[and] enables the identification of priorities for directing better allocation of resources, the nature and distribution of injury prevention activities, financing of the system, and health policy initiatives.”¹ In 2013, R2S compiled and reported initial summary data on injury-related fatalities and hospitalizations in the region.⁵ Based on injury incidence frequency, the following mechanisms were identified as top priorities for injury prevention: motor vehicle crashes, homicide, and falls.

It is clear that there are an abundance of injury and epidemiological data available throughout R2S, such as data from: individual trauma/burn center registries, state trauma registry, Centers for Disease Control (CDC), state police, hospital discharges, medical examiner, etc. However, it is currently “fragmented” in the sense that it is not being compiled specifically as a regional resource for prevention planning. Therefore, there is exigency to establish a coordinated plan for regional injury data compilation, reporting and comparison. A more in-depth analysis of data is also needed to determine if there are unique populations (ages, gender, occupations, cultural, geographical, etc.) who are at greater risk, underserved, and/or have special considerations for prevention in the region. As regional coordination evolves, R2S’s ongoing plan for data reporting will be specifically outlined in the “Goals and Performance Metrics” section.

**Assessment of Injury Prevention Activities, Programs, and Resources**

To meet the above stated performance indicators and metrics (see “Goals and Performance Metrics”), the R2S Injury Prevention Subcommittee has collected and compiled a list of existing injury prevention programs within its boundaries. This Regional Injury Prevention Resource Guide appears in Appendix A. It is noted that within R2S, injury prevention programs are being coordinated by either individual trauma/burn centers, community organizations, and/or state agencies. Several of the programs being offered were developed by national organizations or the federal government. The guide can be utilized by hospitals, agencies, community health programs, and interested others to locate injury prevention education available in the R2S area. It will be updated per the frequency defined in the “Goals and Performance Metrics” section.

A primary purpose of the R2S Regional Injury Prevention Resource Guide is to assess whether existing programs match the injuries identified as top priorities for prevention intervention. As the Resource Guide demonstrates, there are numerous educational programs throughout R2S that address motor vehicle safety and fall prevention.
Additional Strategies to Injury Prevention: Research and Advocacy

As previously highlighted, educational programs (such as those outlined in the Appendix A) are one method of injury prevention. There are numerous additional comprehensive injury prevention strategies occurring throughout R2S, including: research, engineering advances, advocacy, and legislation/enforcement initiatives. More specifically, R2S is fortunate to have within its boundaries:

- Multiple universities that actively conduct research: Concordia University, Eastern Michigan University, Madonna University, University of Detroit Mercy, University of Michigan, and Wayne State University
- Fourteen pediatric and adult Level I/II/III trauma centers and verified burn centers, many of which conduct or support injury research
- One (of only ten in the country) CDC-funded Injury Control Research Centers: [www.injurycenter.umich.edu](http://www.injurycenter.umich.edu)
- Federally-funded centers of research excellence focused on transportation safety, motor vehicle crash prevention, engineering design, and advocacy for policy and legislative changes:
  - University of Michigan Transportation Research Institute (UMTRI) and Center for the Management of Information for Safe and Sustainable Transportation (CMISST): [www.cmisst.org](http://www.cmisst.org) and [www.umtri.umich.edu](http://www.umtri.umich.edu)
- One (of only ten in the country) clinical trials sites for the National Institutes of Health/National Institute on Aging funded STRIDE Study (Strategies to Reduce Injuries and Develop Confidence in Elders) focused on fall prevention: [http://www.stride-study.org/](http://www.stride-study.org/)

Summary and Conclusion

R2S Trauma System benefits from a wealth of pre-existing and well-established resources, experts, initiatives, and programs dedicated to comprehensive injury prevention and control. This is a hugely positive asset. But it also presents some unique operational challenges, such as how to improve regional-wide coordination without duplicating efforts or adding unnecessary and labor-intensive layers of process. Ongoing discussion will be held, to further delineate R2S’s specific role in facilitating coordination of the multitude of injury prevention activities in the area. As well as how to best promote proven successful injury reduction strategies within R2S. As the relatively new regional trauma system evolves, this Injury Prevention Strategic Plan will be revised to document progress and communicate future decisions.

References


Originating Author:
Karla Klas, BSN, RN, CCRP

Contributing Authors:
Region 2 South Injury Prevention Committee
Dwana Bass, MSN, RN
Beth Fasbinder, BSN, RN, CEN
Sarah Hickey BSN, RN, BS
Beverley Leone, BSA, RN, EMT-P, TCRN
Lynn McConnell, MSN, RN
TABLE 2: R2S Members’ Network of Professional Organization Affiliations with Injury Prevention Activities

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<thead>
<tr>
<th>American Academy of Emergency Medicine</th>
<th>Midwestern Injury Prevention Alliance</th>
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<tr>
<td>American Academy of Pediatrics</td>
<td>Michigan Fire Inspectors Society</td>
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<tr>
<td>American Association for the Surgery of Trauma</td>
<td>Michigan Trauma Coalition</td>
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<tr>
<td>American Burn Association</td>
<td>National Association of State EMS Officials</td>
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<tr>
<td>American College of Emergency Physicians</td>
<td>National Fire Protection Association</td>
</tr>
<tr>
<td>American College of Surgeons, Committee on Trauma</td>
<td>National Highway Traffic Safety Administration</td>
</tr>
<tr>
<td>American Red Cross</td>
<td>National Institutes of Health, National Institute on Aging</td>
</tr>
<tr>
<td>American Trauma Society</td>
<td>National Rural Health Association</td>
</tr>
<tr>
<td>Centers for Disease Control and Prevention and its Injury Centers</td>
<td>Office of Rural Health Policy</td>
</tr>
<tr>
<td>Department of Defense</td>
<td>Prosecuting Attorneys Association of Michigan, Child Abuse Services</td>
</tr>
<tr>
<td>Department of Homeland Security</td>
<td>Safe Kids Worldwide</td>
</tr>
<tr>
<td>Eastern Association for the Surgery of Trauma</td>
<td>Safe States Alliance</td>
</tr>
<tr>
<td>Emergency Medical Services for Children</td>
<td>Society for Advancement of Violence and Injury Research</td>
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<tr>
<td>Emergency Nurses Association</td>
<td>Society of Trauma Nurses</td>
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<tr>
<td>Federation of Burn Foundations</td>
<td>ThinkFirst National Injury Prevention Foundation</td>
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<tr>
<td>International Association of Fire Fighters</td>
<td>United States Fire Administration</td>
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<tr>
<td>International Center for Automotive Medicine</td>
<td>UMTRI - University of Michigan Transportation Research Institute</td>
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<td>Michigan Arson Prevention Committee</td>
<td>Michigan Department of Health and Human Services</td>
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APPENDIX A: R2S REGIONAL INJURY PREVENTION RESOURCE GUIDE

(Available injury prevention education and outreach activities/programs provided by trauma centers in Region 2S)

- Babysitters Training
- Bicycle & Helmet Safety
- Boaters Safety
- Burn Prevention, Fire Safety, and Youth Firesetting Prevention & Intervention
- Child Safety Seat Clinics
- Distracted Driving
- Farm Safety
- Gun Safety
- Hunters Safety
- Pet Safety
- Preventing Youth Athletic Injuries & Overheating
- Pedestrian Safety
- Older Adult Fall Prevention and Senior Lifestyle & Injury Prevention
- ThinkFirst Injury Prevention
- Water Safety
APPENDIX B: INJURY PREVENTION ONLINE RESOURCE LIST

General Resource Guides and Toolkits for Injury Prevention

- American Association for the Surgery of Trauma and Harborview Injury Prevention and Research Center: A Community Guide to Injury Prevention and Ten Steps for Developing an Injury Prevention Program
  www.aast.org/Library/TraumaPrevention/InjuryPreventionGuide.aspx

- American College of Surgeons Committee on Trauma Injury Prevention
  www.facs.org/quality-programs/trauma/ipc
  www.facs.org/~media/files/quality%20programs/trauma/injuryprevent.ashx
  www.facs.org/~media/files/quality%20programs/trauma/tsepc/pdfs/regionaltraumasytems.ashx

- Centers for Disease Control and Prevention: National Action Plan for Child Injury Prevention
  www.cdc.gov/safechild/nap/

- Children’s Safety Network: Resource Guides
  www.childrenssafetynetwork.org/resource-guides

- Examples of State Strategic Plans for Injury Prevention

- Safe States Alliance: Building Safer States Core Components of State Public Health Injury and Violence Prevention Programs and the State of the States Reports
  www.safestates.org/?page=SOTS
  www.safestates.org/?page=BuildingSaferStates


- Vision 20/20: Community Risk Assessment and Community Risk Reduction Planning Guides

Online Injury Prevention Resources and Materials

- AARP Driving and Home Safety: www.aarp.org
- American Association of Poison Control Centers (AAPCC): www.aapcc.org
- American Burn Association (ABA): www.ameriburn.org
- American Trauma Society: www.amtrauma.org
• AT&T It Can Wait:  www.itcanwait.com/home#
• Brain Injury Association of America (BIAA):  www.biausa.org
• Bridgestone Teens Drive Smart:  www.teensdrivesmart.com
• Centers for Disease Control and Prevention (CDC):  www.cdc.gov and it’s funded (current or previous) injury control research centers:
  o Columbia University Center for Injury Epidemiology and Prevention:  www.cuinjuryresearch.org
  o Harborview Injury Prevention and Research Center:  http://depts.washington.edu/hiprc/
  o Johns Hopkins Center for Injury Research and Policy:  www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-injury-research-and-policy
  o Mount Sinai Injury Control Research Center:  http://icahn.mssm.edu/research/brain-injury/about/funding/cdc
  o Nationwide Children’s Hospital Research Institute Center for Injury Research and Policy:  www.nationwidechildrens.org/injury-research-and-policy
  o University of Iowa Injury Prevention Research Center:  www.public-health.uiowa.edu/iprc
  o University of North Carolina Injury Prevention Research Center:  http://iprc.unc.edu
  o University of Michigan Injury Center:  www.injurycenter.umich.edu
  o University of Pennsylvania Penn Injury Science Center:  http://www.uphs.upenn.edu/pisc/index.html
  o University of Rochester Center for the Study and Prevention of Suicide:  https://www.urmc.rochester.edu/psychiatry/csps.aspx
  o West Virginia University Injury Control Research Center:  http://publichealth.hsc.wvu.edu/icrc/
• Child Abuse Prevention Association (CAPA):  http://capacares.org/
• Children’s Hospital Association:  www.childrenshospitals.org
• Child Welfare Information Gateway:  www.childwelfare.gov
• Childhelp:  www.childhelp.org
• Children’s Safety Network (CSN):  www.childrensafetynetwork.org
• Ford Driving Skills for Life:  www.drivingskillsforlife.com
• Injury Free Coalition for Kids:  www.injuryfree.org
• Insurance Company Sponsored Education and Programs:
  o Allstate:  www.allstate.com/about/safe-driving.aspx
  o Liberty Mutual Research Institute:  www.libertymutualgroup.com/about-lm/research-institute/research-institute
  o State Farm:  https://www.statefarm.com/about-us/community
• Kids Health:  http://kidshealth.org
• Kid Smartz:  www.kidsmartz.org
• Maine Health A Matter of Balance:  www.mainehealth.org/mob
• Michigan Department of Health and Human Services (MDHHS) Injury Prevention Division:  www.michigan.gov/mdch/0,1607,7-132-54783_54879---,00.html
• Michigan State Police (MSP) Crime Prevention, Safety & Police Services:  www.michigan.gov/msp/0,4643,7-123-72297_64773_33018---,00.html
• Mothers Against Drunk Driving (MADD):  www.madd.org
• National Association of Area Agencies on Aging (N4a):  www.n4a.org
• National Center on Shaken Baby Syndrome and Period of Purple Crying:  www.dontshake.org and www.purplecrying.info
• National Coalition for Safer Roads and Stop Red Light Running:  http://stopredlightrunning.com/
• National Committee for the Prevention of Elder Abuse:  www.preventelderabuse.org
• National Council on Aging:  www.ncoa.org
• National Council on Patient Information and Education and the Center for Improving Medication Management: www.learnabouttxsafety.org
• National Fire Safety Council: www.nfsc.org
• National Institute on Alcohol Abuse and Alcoholism (NIAAA): www.niaaa.nih.gov
• National Institute of Child Health and Human Development (NICHD) Safe to Sleep: www.nichd.nih.gov/sts/Pages/default.aspx
• National Organization for Youth Safety (NOYS): www.noys.org
• National Safety Council (NSC): www.nsc.org/Pages/Home.aspx
• National Scald Prevention Campaign: http://fl ashsplash.org/
• Safe Kids Worldwide: www.safekids.org
• ThinkFirst National Injury Prevention Foundation: www.thinkfirst.org
• Toyota and Cincinnati Children’s Buckle Up for Life: http://buckleupforlife.org/
• United States Fire Administration: www.usfa.fema.gov
• Vision 20/20: http://strategicfire.org/
• World Health Organization: www.who.int/en/

Injury Prevention Programs and Resources by Topical Area

• Brain Injury and Rehabilitation
• Concussions
• Child Passenger Safety
• Bus Safety
• Driver Safety
• Dog Bites
• Falls
• Burn and Fire Safety
• Poison Control
• Helmet Safety
• Home Safety
• Playground Injuries
• Poisoning
• Safe Sleep for Infants
• Older Adult Related Injury Prevention
• Sports Safety
• Suicide
• Traffic Safety
• Water Safety Programs