

Marin County Injury Prevention Program

Department of Health and Human Services

EMS Program

With Prevention 2000 Federal Block Grant Funds

October, 2000

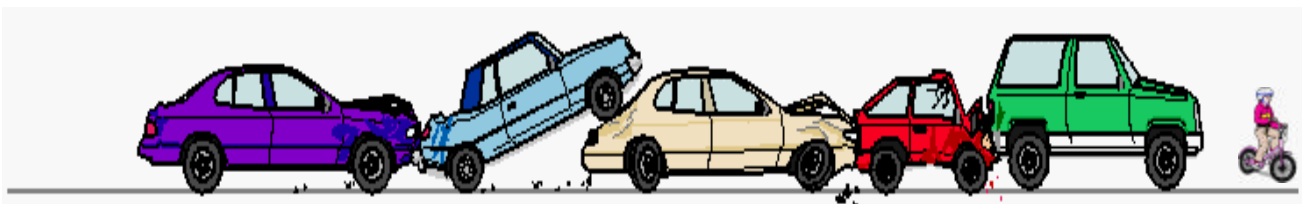


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Background

Marin County is located on a peninsula north of San Francisco, bordered on the east and south by the San Francisco Bay, on the west by the Pacific Ocean, and on the north by Sonoma County. The County encompasses 520 square miles and includes both suburban and rural areas. It is linked by bridges in the south and east to two large and culturally diverse metropolitan areas, San Francisco and Oakland, respectively.

Marin extends from the tidal flats along the ocean and bay to the 2,600-foot top of Mount Tamalpais and offers a variety of recreational pursuits. 141,400 acres are federal, state, or county parkland, county open space or water district lands devoted to recreation.

Ranching and dairy farming are common in West Marin, while industry along the 101 corridor includes movie and video production, computer software and communications equipment, printing, and the manufacture of plastic products, ceramics, candles and cheese.

There are 19 school districts, including two community college campuses and two private universities.

The 1990 census listed a population of 230,096 and projected 248,397 by the year 2000, an 8% increase. Of the total, 89% are Caucasian, with the second largest group Hispanic (5.3%), followed by Asian/Pacific Islander (3.9%). The same data projected the population over age 60 at 17.6%. In 1990, 29% of those over 60 lived in San Rafael and 25% lived in the Ross Valley/ Corte Madera area.

According to the 1990 Census, the median household income in Marin County (\$48,544) was 26% higher than the statewide average (\$35,798). This difference was even greater in 1995, at which time the U.S. Census Bureau estimated that Marin County's median household income (at \$53,266) was 31% higher than California's median household income of \$36,767.

Problem Statement

The Marin County Trauma System Plan recognized the need to develop and implement a comprehensive injury prevention program tailored to the specific needs of county residents and visitors.

The plan recognized that "...the comprehensive treatment of injured patients must include efforts to identify the reasons for the injuries that are occurring in the community and methods and educational outreach programs to prevent the occurrence of those injuries". The provision of comprehensive services to injured patients involves a number of different agencies, each providing a vital service. The Emergency Medical Services Program regulates the provision of prehospital services and has responsibility for the Trauma System; law enforcement agencies have primary jurisdiction over accidents; fire agencies provide initial medical and rescue response and paramedic transport services; hospitals provide on-line medical direction for prehospital care, Emergency Department and inpatient treatment; and rehabilitation facilities assist to return patients to the community.

Currently there is no agency or department coordinating the injury prevention programs offered by the county or by individual agencies providing the various aspects of care to injured patients. Additionally, there is no comprehensive source of injury data available.

As the lead agency responsible for coordinating the Trauma System Plan, it was logical that the EMS Program undertake a project to identify issues in injury prevention and to coordinate the development of an Injury Prevention Plan for Marin County.

Proposed Solution

With that problem statement in mind, the EMS Program applied for grant funds to provide a contractor who would develop the Injury Prevention Plan. The grant was secured and the process initiated in the late summer of 1999.

An Injury Prevention Steering Committee was formed with invitations sent to all law and fire agencies, hospitals, and county programs.

The first meeting of the Committee was held on November 14, 1999 and brainstorming identified current programs and concerns.

The group continues to meet on a regular basis, reviewing the work as it is done and providing input to the contractor and the EMS Program.

Available data sources were used to identify target injuries, to help the steering committee guide the project and to assist in development of the program.

A survey tool was designed and distributed to all Marin County Health & Human Service Programs, Fire and Police chiefs, hospitals and other outside agencies. The survey asked about programs being offered to the public, availability of the programs, and any documented changes in injury patterns. A copy of the Injury Prevention Program Survey is found in Appendix A.

Current Status

Overall, 59% of surveys distributed were returned and follow-up interviews occurred with many respondents. A list of agencies and programs providing information is included on the "Injury Prevention Program Participants list, page ii.

All three hospitals in the county offer a vast array of "Wellness Programs" to the public. Novato Community Hospital and Marin General Hospital publicize class schedules in the "Health Connections" newsletter that is mailed monthly to county residents. Kaiser Permanente's class schedule is available through their Health Education Department and is published in their quarterly journal that is mailed directly to health plan members. Examples of these publications are included in Appendix C.

Many fire departments and districts offer First Aid, CPR and disaster preparedness courses, either on a set schedule or by request. Of the surveys returned from the fire departments or

districts, all provide CPR and First Aid courses to the public. A listing of published schedules for First Aid and CPR is included in Appendix B. In addition, the EMS Program coordinates provision of CPR and First-Aid classes for county employees and non-profit groups. Although not considered to be “Injury Prevention” programs, these programs are critical to increasing the overall health status in the county and the rate of survival from cardiac arrest. Participating agencies and programs are to be commended for their continual efforts in these areas.

Currently Offered Injury Prevention Programs

Project **S**tudent **A**ctivities **F**or **E**mergencies **STUDENT ACTIVITIES FOR EMERGENCIES (PROJECT S.A.F.E.)**

Program History: Project S.A.F.E. was developed by the Mountain Valley EMS agency with federal block grant funds and modified by Marin County for use in 1996-97.

The initial year was funded by block grant funds and the program has been supported by Fireman’s Fund grant money to the Marin County Office of Education and by the Department of Health & Human Services for the subsequent three years. The program utilizes volunteers from a variety of public and private agencies and has been presented to 2100-2300 students each year. Each presentation reaches 70-150 students in a two-hour period.

Target Audience: Sixth grade students in Marin County at all public and private schools.

Program Future: Although the cost of the program per student is low (\$5.00 per student), some outside funding support is needed to assure continuation of the program for additional years.

Contact Information: Troy Peterson, EMS Program, 415-499-3287 or tpeterson@marin.org.



CHILD DEATH REVIEW TEAM

Program History: As a service of the Marin Child Abuse Prevention Council, this all-volunteer team started in 1998. The team reviews all pediatric deaths within the county and depending on their findings, may make a further in-depth investigation.

Examples of their contributions are the brochure developed on Sudden Infant Death Syndrome (SIDS) and distributed to all Pediatric and Ob/Gyn offices in the county. Following the drowning of a child, buckets sold in Marin County now carry a warning label.

Contact Information: Cyndy Doherty, Marin Child Abuse Prevention Council, 415-507-9016.



CAR SEAT PROGRAM

Program History: The Department of Health & Human Services, Marin Maternity Services sponsors this program that has two specific functions. It provides low-income families with car seats for minimal or no charge and it sponsors training programs for car seat installers. This program is funded by a portion of fines collected from motorists who have been cited for not using seatbelts.

Statistics indicate that 80% of car seats are installed incorrectly and there is a nationwide move to educate the public to correctly install seats for infants, toddlers, and children. The National Highway Information Traffic Safety Association (NHTSA) has developed a program that certifies car seat installers through a four-day workshop.

These certified installers are then encouraged to participate in “fitting station” programs to inspect car seat installations and instruct adults in the proper way to secure children in their particular vehicle.

Target Audience: Families receiving financial or other types of county support and those interested in the NHTSA training program.

Program Future: The program has been staffed by a half-time person, but as of July 2000, there will be no identified staff to support this program.

Contact Information: Frima Stewart, Marin Maternity Services, 415-499-3281



PREVENTION OF FALLS AND HOME SAFETY CHECKLIST FOR SENIORS AND PEOPLE WITH DISABILITIES

Program History: Started in October 1999, this community service program is provided by the Novato Independent Elders in collaboration with the Novato Fire Protection District. It was developed in response to an increasing number of emergency calls from elderly persons who had fallen.

The Margaret Todd Senior Center offers this program quarterly and by special request. The one-hour class is usually attended by 18 to 25 participants. The brochure accompanying the class is designed to help identify potential hazards in the home and offers ideas on preventing falls. The fire department also provides free home inspections to identify potential hazards.

Target Audience: Senior Citizens

Program Future: Funding support is needed to assure continuation of this program.

Contact Information: Margaret Todd Senior Center, 415-897-7940



MARIN ABUSED WOMEN'S SERVICES (MAWS)

Program History: Founded in 1977, MAWS' direct services and support programs include emergency hotlines, housing facilities, support groups, and a men's program to teach men techniques that to stop violent and abusive behaviors. In addition, MAWS implements several model prevention programs for diverse communities that increase awareness of domestic violence and abuse and levels of response by the public and private sector.

In Marin County, a regional network is in place to respond to domestic violence incidents and acts of abuse against women and girls. Groups of volunteers form community action teams to implement prevention strategies within Marin County's public and private sectors.

Contact Information: <http://www.maws.org/mawssite/mprevention.html>



FALL PREVENTION

Program History: Started in 1998, this program was initially funded with a \$2000 grant from Kaiser Permanente, under which it continues to operate. Its primary focus is to install grab bars in homes for identified residents. The program also offers free home safety inspections by the San Rafael Fire Department to identify potential hazards.

Clients are referred by Whistlestop, law enforcement, fire departments and concerned family members and friends.

Target Audience: Senior Citizens

Program Future: To expand the program to all cities within the county and to identify those in isolated areas who are in need of assistance.

Contact Information: Whistlestop Senior Center, 415-456-9062



CHRYSLER CORPORATION

Program History: Chrysler Corporation has developed this nation-wide program designed to instruct persons on proper installation of car seats. John Irish Auto Plaza in San Rafael has one certified installer.

Appointments for inspections are available to any interested person and require about one hour.

Program Future: This program is expected to continue but only includes a single certified installer at this time.

Contact Information: Scott Mize, 415-453-7020



MARIN COUNTY BICYCLE COALITION'S Share the Road Campaign

Program History: Marin County is a haven for bicyclists. Along with this increasing sport, come increasing bicycling accidents. The Marin County Bicycle Coalition

was developed to create a safe environment for bicyclists and to promote the concept of "sharing the road".

The coalition is preparing the Marin Bicycle and Pedestrian Master Plan, which will recommend goals and programs to guide the development of bike lanes, pedestrian facilities, education and safety programs and other related improvements over the next 20 years. This document will serve as the county and towns' primary, central planning document for these types of projects. It will address the need to educate children on basic bicycle safety and the use of bicycle helmets. An additional need identified is to provide safe routes for children riding bicycles to schools. The Coalition has endorsed the "Share the Road" program and will begin a campaign this spring.

Target Audience: Residents of Marin County and those driving and bicycling in Marin County.

Program Future: Contingent on plan approval by the Board of Supervisors and grant funding of specified projects.

Contact Information: www.marincyclists.com



Y.M.C.A. SPLASH WEEK, WATER SAFETY

Program History: Each year during Spring Break, the Young Men's Christian Association (Y.M.C.A.) features "SPLASH WEEK". This program includes four 30-minute classes. Classes are held at the Marin Y.M.C.A., Dominican College, and

Hamilton Pool. Families can register for \$5.00 per child. This course teaches children pool safety, beach safety, boat safety (presented by the U.S. Coast Guard) and water park safety.

Target Audience: Marin County residents

Contact Information: Y.M.C.A., 415-492-9622

CHILD SAFETY DAY



This non-commercial, factory-suggested program was started two years ago and is held yearly at the Corte Madera Honda dealership. It is funded by Honda and staffed by volunteers from the Kiwanis Club, local Fire Departments, California Highway Patrol and county volunteers. It is a full day program featuring auto safety. Included are airbag demonstrations, child photo identification, presentations, and other demonstrations and

safety stations.

Target Audience: Marin County residents

Program Future: Local businesses and community program directors are encouraged to participate.

Contact Information: Keith Ray, 415-924-8990



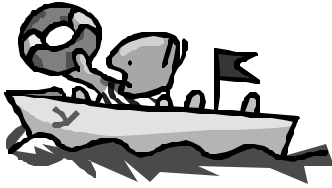
CALIFORNIA
Highway Patrol

THE CALIFORNIA HIGHWAY PATROL

The California Highway Patrol conducts and participates in numerous safety and injury prevention programs. These include Senior Driving Safety, Pedestrian and Bike Safety, and Car Seat and Seat Belt instruction. Presently they conduct "Bike Rodeos" for fourth and fifth grades, teaching bike safety and the importance of wearing helmets. At the middle school level, they are involved with project S.A.F.E. and for the high school students they participate in Sober Grad Night, Driver Education and Basic Driver Safety. These courses are offered by request and tailored for the specific audience.

Target Audience: Marin County residents and public and private schools

Contact Information: Marcus Bartholomew, 415-924-1100



MARIN POWER SQUADRON

Program History: This national organization provides numerous courses in boating and water safety, focusing on the use of life vests and fire safety issues. Multi-level classes are offered to the public by request with advanced courses available to squadron members only. The duration of the class and attendance requirements are dependent on the level of the class. Classes are taught at the Marin Power Squadron Office of Education.

Target Audience: Marin County residents

Contact Information: Peter White, 415-382-8109



55 ALIVE/ MATURE DRIVING PROGRAM

Program History: The American Association of Retired Persons' (AARP) 55 *ALIVE/MATURE* Driving Program is the nation's first and largest classroom driver improvement course specially designed for motorists age 50 and older. The eight-hour course, taught by volunteers, consists of two, four-hour sessions spanning two days, and costs \$10. The course helps drivers refine existing skills and develop safe, defensive driving techniques. AARP members and non-members alike may take the course. There are no tests.

Upon successfully completing the course, graduates of AARP 55 ALIVE may be eligible to receive a state-mandated multi-year discount on their auto insurance premiums. Since 1979, over 6 million people have completed the course.

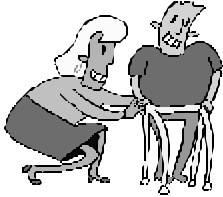
The course covers the following topics:

- Vision and hearing changes
- Effects of medications
- Reaction time changes
- Left turns and other right-of-way situations
- New laws and their affect
- Hazardous driving situations

In Marin County, classes are held monthly at Whistlestop (San Rafael) and every three months at the Margaret Todd Senior Center (Novato), Goldennaires (San Rafael) and the Corte Madera Community Center. Class size is limited to 30 students.

Target Audience: Residents over the age of 50 years

Contact Information: Frank Varlas, 707-763-0482



CORTE MADERA COMMUNITY FOUNDATION

Program History: Started in 1996, this program is funded by private grants and memorials. Its primary purpose is to assist senior citizens who are in need of services that they cannot afford such as taxi scripts and installation of grab bars.

Target Audience: Citizens of the Town of Corte Madera

Contact Information: Harry Schriebman, 415-924-2688

OSHA Mandated Injury and Illness Prevention Program

California's Occupational Safety & Health Authority (OSHA) standards require that all employers establish an Injury and Illness Prevention Program.

Effective July 1, 1991, the revised Title 8 requires California employers to "establish, implement and maintain an effective Injury and Illness Program". The elements of the Program must be in writing and must include a number of specified components.

Many employers have extensive injury prevention programs designed to meet the specific needs of their employees. In the preparation of this plan, the State Compensation Insurance Fund Guide, supplied by the Builder's Association, was reviewed and is recommended as an example.

Sources of Injury Data

The Injury Prevention Program Survey sought to identify sources of data being utilized by agencies offering prevention programs. Five sources of data were identified, all with limitations. They are as follows:

MARIN COUNTY ELECTRONIC PREHOSPITAL INFORMATION SYSTEM

Source of Data: This database includes patient care records for patients treated in the Marin County Prehospital setting in response to a request for assistance (9-1-1 call). Data is entered by the paramedics providing care and by the hospitals that receive those patients.

Availability: Summary data is published each March for the previous calendar year, monthly reports are generated for providers and ad hoc reports are available on request. Annual reports are posted on the EMS website (ems.marin.org).

Access to information: Contact Jay Myhre, 415-499-5015 or Jmyhre@marin.org.

Limitations: This database contains the most current information available, but only includes information on patients who are seen by prehospital personnel and/or those transported by ambulance to a hospital emergency department.

CALIFORNIA DEPARTMENT OF HEALTH SERVICES (C.H.S.)

Source of Data: This database comes from the California Department of Health Services (CHS), Death Statistical Master file. The information in this file is obtained from death certificates registered in California each year. The dataset is used to describe persons who die because of an injury (that is, whose death certificate includes an external injury cause of death).

Availability: Information is published yearly for the previous year.

Access: Contact the California Department of Health Services, Injury Surveillance and Epidemiology Section, 916-323-3642.

Limitations: This information excludes non-California residents (i.e. not all deaths from injury occurring in Marin would be listed). Cases with unknown age, injuries due to medical misadventure, post-operative complications and adverse effects of drugs, medicinal, and biologic substances are also excluded.

CALIFORNIA OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT (OSHDP)

Source of Data: Nonfatal injury data comes from the California Office of Statewide Health Planning and Development (OSHDP) Hospital Discharge Dataset. This dataset contains information reported for all patients discharged from non-federal acute care hospitals in California. It is used to describe the injuries of persons who are hospitalized because of injury.

Cases represent the first hospitalization for the injury in question. Repeat visits for the same injury are not included, so there are no duplications. If a person is hospitalized for separate injuries in the same year, each instance of injury and hospitalization will be recorded.

Availability: Information is published for the previous year.

Access: Contact the California Department of Health Services, Injury Surveillance and Epidemiology Section, 916-323-3642.

Limitations: The tables exclude non-California residents, cases with unknown age, and injuries due to medical misadventure, post-operative complications and adverse effects of drug, medicinal and biologic substances. The tables also exclude injured persons who die during their hospital stay (these cases will be reflected in the CHS database), newborns with an injury code before discharge and hospitalization indicated as “place of injury” as the principle cause of injuries.

STATEWIDE-INTEGRATED TRAFFIC REPORTING SYSTEM (SWITRS)

Source of data: The SWITRS database includes traffic related information collected from law enforcement agencies and includes patient information along with a multitude of other information. There are 86 tables of traffic collision statistics broken down by area of occurrence.

Availability: Published for the previous year.

Access: Website <http://www.chp.ca.gov/html/publications.html>

Limitations: This database includes only traffic related accidents and only those accidents in which a law enforcement agency makes a report.

CALIFORNIA HIGHWAY PATROL TRAFFIC COLLISION STATISTICS, MARIN COUNTY

Source of Data: These statistics reflect information collected by the California Highway Patrol (CHP) only for Marin County according to defined patrol areas. Information from other law enforcement agencies is not included.

Availability: 1997 and 1998 data were reviewed for the purpose of this report. 1999 data is expected to be available late summer or fall of 2000. It is useful in pinpointing the location of vehicle accidents.

Access: CHP Information Services, 415-924-1100

The data reports on which the analysis in this report is based are included in Appendix E.

Limitations of Data Sources

In reviewing the available sources of data, some information seems conspicuous by its absence. There is currently no source of information about injured patients who seek treatment, not having used an ambulance or been in contact with law enforcement, and who are not hospitalized as the result of their injuries. Although Emergency Department visits are recorded, no Marin County hospital currently generates any type of report using this information.

Licensed care facilities record client injuries, particularly falls, to the Department of Health Services. Outcomes are related to violation of safety standards and the county ombudsman monitors safety issues. Injury Prevention Programs are tailored to address specific issues in a particular setting.

Accidents occurring on public or private school grounds or school-sponsored athletic events are not required to be nor are they reported to a single source and are not tracked.

Target Injuries for Marin County

A review of the Marin Prehospital Data, the OSHPD (non fatal) data and the CHS (fatal) data shows that falls are universally the most frequent cause of injury.

Falls as Source of Injury

Source of Data	1997	1998	1999
Marin Prehospital Data System	1380 (33%)*	1519 (38%)*	1595 (42%)*
OSHPD (nonfatal)	796 (55%)	876 (53%)	NYA**
CHS (fatal)	10 (9%)	10 (12%)	NYA**

* Represents number and % of all injuries

** Not Yet Available

Falls are also the single largest category of injury and, in 1997, accounted for 9% and in 1998, 12% of deaths from injury. Most falls occur in two age groups, although the youngest of those varies from year to year. Consistently, those over 65 or 70 (dependent on the report) have the highest rate of injury from falls.

Falls is the first category of injury targeted by this plan.

Motor vehicle accidents constitute the second largest category of injury cause. Motor vehicle accidents include all injury occurring in conjunction with the use of motor vehicles—automobiles, motorcycles, motorized scooters or bicycles and pedestrian/vehicle incidents. It does not include bicycles.

Motor Vehicle Accidents as Source of Injury

Source of Data	1997	1998	1999
Marin Prehospital Data System	996 (24%)*	1197 (31%)*	1205 (31%)*
OSHPD (nonfatal)	123 (8%)	157 (9%)	NYA**
CHS (fatal)	17 (16%)	16 (19%)	NYA
SWITRS Injured	1943	1435	NYA
SWITRS Killed	14	11	
Local CHP (fatal only)	8	11	NYA

* Represents number and % of all injuries ** Not Yet Available

The age groups most affected are as follows:

Motor Vehicle Accidents by Age Groups

Source of Data	1997	1998	1999
Marin Prehospital Data System	age 21-40 406 (41%) age 41-55 229 (23%)	age 21-40 447 (37%) age 41-55 267 (22%)	age 21-40 459 (38%) age 41-55 295 (24%)
OSHPD (nonfatal)	age 21-44 50 (41%) age 45-64 30 (24%)	age 21-44 55 (35%) age 45-64 46 (29%)	NYA
SWITRS	Age Not Available	Age Not Available	Age Not Available
CHS (fatal)	age 21-44 10 (59%) age 16-20 3 (18%)	age 21-44 5 (31%) age 65+ 5 (31%)	NYA

Motor vehicle accidents is the second target injury of this plan.

Bicycle related incidents account for another large group of injuries. The incidence of bicycle related injury is as follows:

Bicycle Accidents as Source of Injury

Source of Data	1997	1998	1999
Marin Prehospital Data System	274 (7%)	272 (7%)	219 (6%)
OSHPD (nonfatal)	43 (3%)	31 (2%)	NYA
CHS (fatal)	0	0	-
SWITRS Injured	183	162	NYA
SWITRS Killed	0	0	

It should be noted that, although CHS data is not available for 1999, there were two fatal incidents involving bicyclists and that OSHPD and CHS data only capture patients who are hospitalized or who die as the results of their accident. Marin County data only includes patients for whom an ambulance was requested.

Although the number of bicycle injuries recorded in the Marin Prehospital Database seems relatively small, it is 9% higher than the number of bicycle injuries recorded in San Diego County, an area with eleven times the population of Marin.

Bicycle injuries are the third target injury chosen.

Domestic violence has been identified as an area of major concern in the Marin County community. A countywide task force has been formed to evaluate the issue of domestic violence and to develop strategies to decrease its incidence. In reviewing available data related to injury, there is no clear identification of cases of domestic violence, although OSHPD and CHS data separate injury according to intent (intentional, unintentional, or undetermined).

Marin County data is presented by type of injury (gunshot, stabbing, assault, etc.) and can be further refined for “intent” through individual case review.

Marin County data for 1999 was reviewed in the following manner. Of roughly 600 incidents with cause of injury listed as gunshot wound, stabbing, or other mechanism of injury (other assault or other mechanism—blunt, penetrating or not specified) over 25% were clearly intentionally (but not self) inflicted. This translates to roughly 150 instances of documented deliberate interpersonal violence. The ability to label these instances as involving domestic violence is not so easily differentiated. In addition, literature on the subject of domestic violence estimates that a significant percentage is reported as accidental injury. OSHPD data (nonfatal injury) includes a category indicating intentional assault. In 1997, this category included 30 individuals in Marin County. Intentionally self-inflicted injuries (116 instances) and injuries in which the intent of injury is undetermined (4 instances) are separately presented. DHS data (fatal injuries) contains the same categories and identified 4 homicides and 13 instances in which the intent of injury was undetermined.

The incidence of domestic violence is poorly documented, severely limiting the ability to adequately follow trends. Additionally, there is evidence that intentional interpersonal violence is vastly underreported. Therefore, this project chooses interpersonal violence as the fourth target injury source.

Using the Marin County database, these four categories of injury account for 74% of injuries for 1998 (assuming 25% of mechanisms previously discussed are added) and 84% of injuries for 1999. According to OSHPD data (1997), these injuries account for 68% of hospitalized injuries. DHS (1997) shows 29% of deaths due to one of the four target injuries. The impact of decreasing injuries in these four categories can be expected to result in substantially less hospital days and fewer deaths.

The data reports on which the preceding analysis is based are included in Appendix E.

Age and Distribution of Target Injuries

When attempting to determine if there are specific areas of the county in which injuries occur, one looks to the Marin County Prehospital database and to the SWITRS and local CHP data.

Falls, according to the Marin County Database, have the following incidence of occurrence:

Distribution of Falls

Marin County Database	1998	1999
Novato Fire Protection District	23%	22%
San Rafael Fire Department Area	27%	29%
Greater Ross Valley Area	23%	23%
Southern Marin	22%	20%
West Marin	5%	6%

For both years, and in all areas of the county, these falls were most prevalent in the over 64-age group.

OSHPD data reflects an age breakdown for falls and shows that in 1997, 73% occurred in persons over 65 years of age. Total falls occurred most often in the same age group (70%).

Motor vehicle accidents, the second target injury, occur as follows (includes motor vehicle, motorcycle, and pedestrians vs. vehicle accidents):

Distribution of Motor Vehicle Accidents

Marin County Database	1998	1999
Novato Fire Protection District	22%	20%
San Rafael Fire Department Area	33%	31%
Greater Ross Valley Area	16%	15%
Southern Marin	20%	19%
West Marin	9%	15%

For both years, and in all areas of the county, the age group most often affected was the 21-44 year old group.

SWITRS data show the general location of motor accidents as follows:

Location of Motor Vehicle Accidents

SWITRS Database	Fatal Ped.	Fatal MVA	Fatal MVA Marin CHP	Fatal Ped.	Fatal MVA	Fatal MVA Marin CHP
	1997			1998		
City Roadways	4	3	0	3	3	0
Unincorporated Highways	0	2	0	0	4	5
Unincorporated County Roads	0	3	0	1	2	6
Total	4	8	8	4	9	11

Ped. = Pedestrian MVA = Motor Vehicle Accident

The discrepancy between SWITRS motor vehicle deaths and Marin CHP motor vehicle deaths (9 vs. 11 in 1998) is unexplained. Local CHP data also describes the occurrence of vehicle accidents by patrol beat (location). In 1997 & 1998 the area from Tiburon to the 580 exit of highway 101 had the most collisions with the least occurring on the Golden Gate Bridge. Collisions on the bridge doubled from 1997 to 1998.

The Marin Prehospital Data System found the frequency of pedestrian/vehicle accidents more predominate in the 41-55 year old age group in 1997 (12% more than in the 21-40 group), in the 21-40 age group in 1998 (31% more than in the 41-55 age group) and in the 21-40 age group in 1999 (33% more than in the 41-55 age group.)

All fatal accidents are reported by the California Highway Patrol to the Marin County Department of Public Works and are investigated to determine if road conditions may have contributed to the accident. This includes pedestrian and motor vehicle accidents. All accident reports are reviewed annually.

Bicycle accidents occurred as follows:

Distribution of Bicycle Accidents

Marin County Database	1998	1999
Novato Fire Protection District	9%	11%
San Rafael Fire Department Area	20%	18%
Greater Ross Valley Area	25%	21%
Southern Marin	39%	44%
West Marin	8%	7%

The predominate age group is consistently the 21-44 year old group except for the Novato area in 1998, when 5-12 year olds had an equal incidence of injury.

CHS data show 47% of fatal bicycle accidents in 1997 occurred in the 21-44 age group. There were no bicycle deaths in 1997 and none in 1998.

Both fatal bicycle accidents in 1999 occurred in rural West Marin, a very popular biking area with few designated bicycle routes.

Demographics related to the occurrence of interpersonal violence are not available, but are expected to be more detailed as trauma registry data is collected.

General Recommendations

1. Selected injury prevention programs should be presented to a defined target audience consistently and at regular intervals over time.

The goal of any injury prevention program is to decrease the incidence of injury. To accomplish and measure that decrease, a planned and consistent presentation strategy is indicated. For example, if the goal is to decrease bicycle injury in the 8-year-old age group, the presentations may effect change best if they are made to all third grade students each year, rather than at a centralized safety fair held twice during the year.

As the Injury Prevention Program becomes more established and the Trauma System Plan completes the implementation phase, it is expected that a stronger, more active program will develop. The Level III trauma center, in concert with regional Level I and Level II centers will assume a leadership role in injury prevention.

2. Effective injury prevention will require a number of public and private partnerships and substantial commitment from involved agencies and programs.

Serious injury prevention efforts require dedicated personnel and dedicated funding. Agencies and programs with commitment to injury prevention should reflect that commitment in their budget and staffing plans and must work closely together to maximize available funds, personnel, and program impact. County programs, schools, hospitals, fire agencies, law enforcement agencies, private businesses and coalitions of individuals concerned with specific issues must all work together to maximize the impact of a limited amount of time and money.

3. For the purpose of establishing and maintaining a countywide Injury Prevention Plan, the Department of Health and Human Services, County of Marin should identify one full time individual with responsibility for coordinating prevention efforts and providing necessary resources (see item # 4 for funding discussions).

Despite the desire of multiple agencies and programs to participate in organized injury prevention, each is able to deal only with their particular jurisdiction and target group. Programs (such as the fall prevention efforts) are available only in specific jurisdictions. The scope of presentations is further limited by specific agency resources or personnel availability. Central coordination efforts could decrease these barriers and encourage the active involvement of additional agencies and programs.

4. Creative efforts to fund injury prevention programs and on-going staff is needed to assure viability of any Injury Prevention Plan.
 - a. The Department of Health and Human Services should identify currently funded injury prevention efforts (such as the car safety seat program) and consolidate those funding resources in a single budget center.
 - b. Private and public agencies could “subscribe” to the Injury Prevention Plan, contributing a set amount of funds in exchange for the coordination of presentations throughout the year. The subscription fee would be dependent on the number and complexity of the program(s) presented and the programs would relate to one of the identified target injuries.
 - c. Grant funding would be sought to support the program. The National Highway & Transportation Safety Association, for instance, funds presentations of NHTSA developed and other injury prevention efforts.

Consolidation of current program funding for injury prevention within the Health and Human Services Department will provide an initial base that can be augmented with grant funding and/or subscription. The ability to plan in advance for program presentations (i.e. a 1–2 year plan) will re-enforce the ability to approach injury prevention in a consistent manner. Since presentations depend, for the most part, on volunteer participation, the ability to plan ahead maximizes participation and the ability to do frequent and multiple presentations with the involvement of public agencies.

5. An on-going countywide Injury Prevention Steering Committee should be established with representation from community groups, coalitions, and commissions concerned with injury prevention. The purpose of this committee would be to monitor injury prevention activities and data, update the Injury Prevention Plan and advise the Injury Prevention Coordinator.

6. Develop a program component that will do the following:
 - a. Disseminate injury prevention information to target groups not reached by specific program presentations.
 - b. Publicize the goals of the Injury Prevention Plan, creating a public awareness that will increase participation in injury prevention presentations and increase funding for the program.

Target-Specific Recommendations

1. Falls
 - a. Expand current fall prevention programs in Novato and San Rafael to include all areas of Marin County.
 - b. Integrate fall prevention referrals with hospital Emergency Room Departments and inpatient discharge planning processes.
 - c. Consider implementation of the “Accidents Aren’t” program, an accident prevention program developed by the EMS Authority administered through fire departments.
 - d. Establish a formal countywide survey form and referral process for at risk seniors.
2. Motor Vehicle accidents
 - a. Create an overall plan for motor vehicle safety education that targets all age groups concentrating on, but not limited to the school setting.
 1. Car seat safety
 2. Project S.A.F.E. (6th grade students)
 3. Every 15 Minutes (High School students), a National Highway Traffic Safety Administration program stressing safe driving behaviors.
 4. 55 Alive/Mature Driving

Although the most frequent motor vehicle injuries occur in the 21 – 55 age group, it is expected that early education will affect adult behaviors and that as the population in Marin shifts to older adults the early education will demonstrate results.

3. Bicycle accidents

- a. Create an overall plan for bicycle safety that targets all age groups concentrating on, but not limited to the school setting. Program suggestions include the following:
 - 1) Share the Road campaign
 - 2) Bicycle Rodeos (1st & 2nd grades)
 - 3) Project S.A.F.E.
- 4) Interpersonal Violence
 - a. Continue inter agency coordination efforts aimed toward community awareness, comprehensive data collection, and reporting responsibilities.
 - b. Expand awareness programs in schools focusing on earlier intervention and education.
 - c. Identify high-risk areas.

Resources Available

The following is a list of Injury Prevention Programs available for use. Contact information is provided.

California Kids' Plate Program. This program accrues revenues from the sale of specialized Kids' Plates motor vehicle license plates. It supports three significant child safety issues in California: 25% for childhood unintentional injury prevention; 25% for the prevention of child abuse; and 50% for child care licensing and inspection activities.

Contact: Sara Woo or Tina Zenzola 916-594-3691

National Safe Kids. The National SAFE KIDS Campaign's mission is to prevent the number one killer of children- unintentional injury. By working at a national level through grassroots coalitions, education is provided to adults and children, safety devices provided to families in need, and are passed or strengthened to empower families and communities to protect children ages 14 and under. It is sponsored by many well-known national companies, including the founding company sponsor, Johnson & Johnson.

Contact: 1301 Pennsylvania Ave.
Washington, D.C. 2004-1707
202-662-0600

Accidents Aren't. This program is designed to introduce prehospital care providers to the concepts of injury control. It focuses on three main questions: What caused this accident to happen; was this a preventable injury; and what is the role of the prehospital care provider in preventing such injuries?

Contact: Emergency Medical Services Agency
225 W. 37th Ave.
San Mateo, Ca. 94403

You Can Do It, A Community Guide to Injury Prevention. This guide is presented by the Harborview Injury Prevention and Research Center and is a step-by-step guide for development and implementation of an injury prevention program. The guide can be obtained by contacting the center at <http://depts.washington.edu/hiprc>.

The following program materials are available through the National Highway Traffic Safety Administration (NHTSA).

NHTSA Media & Marketing Division
NTS-21
400 Seventh St. SW
Washington, DC 20590

Every 15 Minutes. This emotionally charged program is an event designed to dramatize to a teenage audience, the potentially dangerous consequences of drinking alcohol. This powerful program challenges high school students to think about drinking, personal safety, and the responsibility for making mature decisions when lives are involved. The event includes the participation of Police and Fire Departments, High School Staff, Local Hospitals, and a wide cross section of the community at-large. The program's name was derived from the fact that every fifteen minutes someone in the United States dies in an alcohol-related traffic collision.

Ride like a Pro; Community Coordinator's Handbook. This handbook is a complete guide to holding community-based events that use sports celebrities to promote the use of bicycle helmets and safe cycling practices. It includes information on scheduling, obtaining equipment, identifying and recruiting celebrities, securing funding, and implementing and evaluating an event.

Pedestrian Safety Toolkit. Includes a variety of resources that state and community pedestrian safety coordinators and advocates can use to develop pedestrian safety initiatives. It is organized by target group and contains brochures and reports, a user's guide, a resource manual, a compilation of pedestrian safety videos, and an interactive CD-ROM.

Bicycle Safety Resource Guide. This guide helps bicycle safety professionals match countermeasures with bicycle safety problems that exist in their communities. It contains a matrix of 40 safety problems for each of 15 implementer groups (e.g. law enforcement or highway safety advocates) and suggests appropriate countermeasures.

Zero Tolerance Means Zero Chances Peer-to-Peer Action Kit. This kit assist high schools in planning activities to reduce the drinking and driving associated with high school graduations and spring proms. The kit includes a program brochure, a media guide, a resource guide, fact sheets, camera-ready artwork, and public education flyers. The campaign, part of NHTSA's You Drink & Drive. You Lose, is designed to reduce alcohol-related motor vehicle injures.

Appendix is not included with this copy. To request it, contact the Marin County EMS Office.

APPENDIX

- A. Injury Prevention Program Survey
- B. CPR/First Aid Listing
- C. Wellness/Health Education Programs
 - 1. Marin General Hospital
 - 2. Kaiser San Rafael
- D. Current Program Information
 - 1. Project S.A.F.E.
 - 2. Prevention of Falls and Home Safety Checklist
 - 3. Marin County Bicycle Coalition
 - 4. Y.M.C.A Splash Week
 - 5. Marin Power Squadron
- E. Data Reports
 - 1. Emergency Medical Services Annual Report: Mechanism of Injury Reports 1997, 1998 and 1999
 - 2. OSHPD Data, Non- Fatal Injuries by Age in Marin County, 1997, 1998
 - 3. CHS Data, Fatal Injuries by Age in Marin County, 1997, 1998
 - 4. SWITRS Report 1997, 1998
 - 5. CHP Fatal Collision Report, 1998
 - 6. CHP Collision Statistics, 1997, 1998