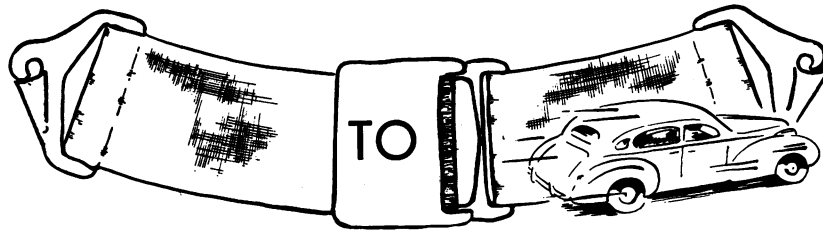


INTRODUCTION



SEAT BELTS

ALVIN R. LEONARD, M.D., M.P.H., ALBERTA W. PARKER, M.D., and BARRY MILLER, M.D.

THE HEALTH DEPARTMENT of Berkeley, Calif., has launched a pilot safety campaign based on information collected by the automotive crash injury research program at Cornell University which suggested that the use of seat belts in automobiles would reduce accident fatalities by at least 25 percent (1). The decision to launch the campaign was predicated largely upon the conclusion of John O. Moore, director of the Cornell project, who stated that "it is our opinion, based on the relatively massive evidence available, that seat belts are the most important single economically feasible device available to control trauma associated with automobile accidents throughout our Nation" (2).

Projected, the Cornell figures mean that 5,500

Dr. Leonard is director of public health for the city of Berkeley and clinical professor of public health at the University of California. Dr. Parker is assistant director of public health in Berkeley and a lecturer at the University. Dr. Miller, at the time of the project, was a resident physician in the Berkeley City Health Department on assignment from the Public Health Service.

lives could have been saved in the United States by the use of seat belts during 1957.

On the principle that safety education begins at home, a program to encourage seat belt use among staff members of the Berkeley City Health Department was instituted in November 1958 (3). Objectives of the program were:

1. To provide a demonstration to the community emphasizing that the health department considers use of seat belts to be an effective means of minimizing injury and preventing death from automobile accidents.

2. To prevent serious injury and death among health department staff members and their families.

3. To provide a pilot study which might be useful to other organizations in identifying the problems encountered in promoting such a program.

Since the staff of the Berkeley Health Department uses private cars for city business, the cost of purchase and installation of the seat belts had to be borne by the employees themselves. It was decided at the outset to seek a lower unit price through group purchase.

"Operation Seat Belt" was supported vig-

orously throughout the department. A series of monthly departmental staff meetings, attended by most employees, was devoted exclusively to installation and use of seat belts. Benefits of seat belts were presented by showing the motion picture "Impact," which was discussed by an officer of the State highway patrol. The Cornell studies were summarized by the field representative assigned to the automotive crash injury research project in the California State Department of Public Health. Employees were given detailed information concerning the value of seat belts in reducing serious injury and death. Each meeting allowed a period for questions and discussions.

To insure participation throughout the department, a seat belt committee of representatives from each group was formed. It sought by questionnaire to ascertain how many employees already had seat belts and how many would like to share in the group purchase.

Of 53 employees owning automobiles, 5 already had at least 1 seat belt installed. Forty-four had no seat belts, but were interested in acquiring them. Four had none and were not interested. There were six employees who did not own automobiles.

Reasons given for disinterest were "I can't afford them" or "I do city driving primarily and my understanding is that seat belts are useful only on the highway." The view that seat belts are of no value in the city appeared to persist despite explanations that many fatalities occur through accidents in town, which could be prevented by their use.

The California Highway Patrol tests seat belts and lists those which meet acceptable standards (4). This list was used in selecting the seat belt to be purchased. A choice of two brands was offered. Group purchase reduced the cost to the individual by approximately one-half of the retail price. (An additional saving on insurance is potentially possible, since some insurance companies grant reduced premiums in covering medical expenses and disability for car owners who use seat belts.)

Installations were handled by individual garages; this was not included in the group purchase price of the seat belts. Variations of make and model of car tend to command price differences for installation. All installations

National Seat Belt Campaign

During the last year the Public Health Service joined forces with the National Safety Council and the American Medical Association in a campaign to educate the American public as to the value of automobile safety belts and to encourage the widespread use of this device.

Research has established that at least 5,000 lives could be saved annually if occupants were not thrown from motor vehicles when accidents occur, and the severity of injuries experienced in motor vehicle accidents is lessened when occupants are restrained by safety belts.

Each of the three national organizations cooperating in this campaign is making every effort to use its own machinery and resources to the utmost in attaining the goal of universal acceptance of safety belts as a "standard" feature of the American automobile.

The Accident Prevention Branch of the Public Health Service has worked with State and local health departments in implementing this project, and has aided in the development of many local campaigns. All public health workers may be proud of the enthusiasm and energy displayed by communities such as Berkeley, Calif., in encouraging the use of seat belts.—DR. PAUL V. JOLIET, *chief, Accident Prevention Branch, Public Health Service.*

followed instructions of the manufacturers, and the belts were secured to the frame if possible.

Additional resistance to the installation of seat belts, which had not emerged in the preliminary survey of interest, was expressed by several staff members at the time of actual purchase. First mentioned was the cost. Then, some of the women staff members were concerned lest the belts possibly wrinkle their clothing. Other staff members stated that their work in the field necessitated many stops and starts and the repeated fastening and unfastening of seat belts would be a nuisance and a waste of time.

Fear of death resulting from being trapped inside an automobile in an accident involving fire or water caused some anxiety and uncertainty also. In this connection, it is noted that

some newspaper reports of accidents in which wearers of seat belts were drowned or burned were misinterpreted to mean that the seat belts had been the cause of the accidents. Even though various facts and figures were cited to show that in the vast majority of motor vehicle accidents water and fire are not important factors, it was difficult to allay some of these apprehensions.

During the months following, other objections to seat belts came to the attention of the health department's committee from sources outside the department. Some of these were: "Good drivers don't need seat belts." "Drivers using seat belts have a false sense of security and become overconfident." "Seat belts have a negative psychological effect on safe driving." Objections such as these may arise within any group undertaking a seat belt program. Approximate answers to these and other objections are offered in the literature available (5). In most instances where resistance was encountered or fear expressed, a well-informed committee member discussed the issue with the individual concerned. This personal approach worked well.

"Operation Seat Belt" was a completely voluntary program. No administrative pressure was applied. Installation of the seat belts was accomplished efficiently with little if any loss of staff time.

As a direct result, 106 seat belts were purchased by 38 employees. Two other employees who had not had seat belts at the time of the preliminary survey purchased them independently. Including the 5 employees who already had seat belts, 45 of the 53 employees who own automobiles, or 85 percent of the potential, now have seat belts in their cars. Among the eight who do not, several have indicated that they may acquire them.

Following these events in the health department, a similar program was conducted by employees of the public school system. An initial goal of this program was the sale of 100 seat belts to teachers. However, this was far exceeded in a short time; more than 450 seat belts were purchased by teachers. Students in the adult driver training program purchased an additional 206.

The Berkeley police department, which also makes use of personally owned cars for city business, is encouraging officers to equip their cars with seat belts. Currently, about 50 percent of the members of the department have seat belts in their automobiles.

The health department is strongly recommending to the city government that it have seat belts installed as standard equipment on all city owned vehicles in order to achieve reduction in death, injury, disability, man-days lost from work, and possibly, a saving in insurance premiums.

The example of these official agencies has had its expected influence in the community (6). For example, a large retail consumers' cooperative is now conducting a campaign for the sale and installation of seat belts among its members.

Discussion

The current epidemic of traffic accidents should be viewed within the concept of preventive medicine. Man's perception of preventive medicine is dependent on the period of time and the geographic location in which he lives. It is also dependent upon his culture or subculture, since different cultures exhibit wide variations in their concepts of ability to control the obvious threats to health and life.

In the development of preventive measures, there are essentially three stages: the stage when there is no scientific knowledge available, the stage when there is scientific knowledge available but it is not being applied by a significant number of the population, and the stage when there is scientific knowledge which is being effectively applied.

Until recent years we were in the first stage in respect to poliomyelitis. Today we are still in this first stage of not having the scientific means of preventing deaths from such diseases as cancer of the pancreas, most cases of leukemia, multiple sclerosis, and many others. Historically, our forebears were in this helpless situation with high maternal and infant mortality rates and high death rates from the various plagues.

The primitive reaction to such situations is either the adoption of a completely fatalistic

attitude, with the hope that the threat will not strike, or the use of various mechanisms prevalent in the culture, such as magic incantations, the use of symbolic objects, or other equally noneffective rituals to ward off the danger. Such attitudes and actions, although of dubious value, are not inappropriate to the first stage when there is really no effective measure for dealing with the hazard.

Such behavior, however, is entirely inappropriate when a society is in the second stage, when there is knowledge which is not being effectively applied. This is the situation in which we find ourselves today in regard to automobile accidents. We are both the perpetrators and the victims of a cultural lag. A scientifically proved preventive measure is not being applied, with a resultant needless loss of thousands of lives, and the needless occurrence of tens of thousands of disabilities. The psychological attitude of fatalism and the acceptance of a feeling of helplessness in automobile accidents contributes to the death toll and reinforces the attitude of fatalism, creating a vicious cycle. This cycle must be broken.

If there were 5,500 needless deaths annually from poliomyelitis, public health workers would take action immediately. If not, the American public would fast lose confidence in public health, and rightly so. When motor vehicle accidents are reviewed, however, it becomes quite apparent that not only the average person driving his car along the Nation's highways and freeways, but we who are specialists in the prevention of disability and disease seem to share the fatalistic approach to this common hazard to health and life. By our inaction, we have shown surprising apathy and lethargy in setting an example of effective leadership in preventive medicine. An inescapable responsibility of public health is to provide leadership in the community in moving from stage two to stage three.

Summary

Experience in Berkeley indicates that a local health agency is in an excellent position to set the pace for the community leaders in encouraging the use of automobile seat belts as a protection to automobile passengers and drivers. The use of seat belts is only one aspect of an extremely complex safety process. Safety is a total community responsibility, including the responsibility of the automobile designer, manufacturer, and vendor. Highway injuries and sequelae affect all segments of society. In a drive to achieve primary as well as secondary prevention, a health service works with other agencies such as police and fire departments, safety councils, county medical societies, community hospitals and emergency facilities, the schools and their driver training courses, and trade or manufacturing associations. Their combined efforts are needed to exert effective influence toward safe driving and toward the use of devices which will minimize and reduce death and disability on the streets and roads.

REFERENCES

- (1) Tourin, B.: Ejection and automobile fatalities. *Pub. Health Rep.* 73: 381-391, May 1958.
- (2) Moore, J. O.: Testimony before Special Subcommittee on Traffic Safety of the House Committee on Interstate and Foreign Commerce, August 8, 1956. *In* Hearings before a Subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, 84th Cong., 2d. sess., Washington, D.C., U.S. Government Printing Office, 1957, p. 200.
- (3) Miller, B., et al.: Operation seat belt. *California Health* 17: 1-5, July 1, 1959.
- (4) Department of California Highway Patrol: Approved seat belts. *Lamps & Devices Bull.* No. 155, April 1958.
- (5) National Safety Council: Are seat belts good or bad? *Traffic Safety*, July 1957, reprint.
- (6) *Vista-Berkeley Daily Gazette*, June 6, 1959, pp. 1-2.