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MEDICAID TRAFFIC ACCIDENT INJURY CLAIMS IN MICHIGAN, 1980-1981

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<p>This is the final report of a project entitled "Analysis of Traffic Injuries in Medicaid Data." The aim of the project was to investigate the Medicaid claims data to determine the number and cost of Medicaid claims resulting from traffic accident injuries in the State of Michigan.</p> <p>The Medicaid Inpatient General Hospital Claims data from 1980 and 1981 were used to determine the number and costs of Medicaid claims resulting from traffic accidents. There were 401 such claims identified in the 1980 data and 298 in the 1981 data. These resulted in Medicaid charges of 1.1 million dollars in 1980 and one million dollars in 1981. The State of Michigan pays forty-nine percent of these costs from state tax revenues (the federal government pays the balance from federal tax revenues). The direct cost to the State of Michigan for Medicaid hospital claims was \$545,000 in 1980 and \$508,000 in 1981. The average cost per claim was \$2770 in 1980 and \$3480 in 1981, corresponding to average hospitalizations of 8.9 and 10.2 days, respectively.</p> <p>Medicaid hospital claims resulting from traffic accidents represent a very small part of Medicaid hospital expenditures, approximately 0.32 percent. Medicaid also pays only a small part of the medical costs from traffic accident injuries. Michigan's legislature, particularly through the no-fault automobile insurance law, has determined that medical costs from traffic accidents will primarily be paid from private insurance (auto or health). The intent to have the public pay for medical costs of traffic accidents through private auto or health insurance seems to have been largely accomplished.</p>			
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## 1.0 INTRODUCTION

This is the final report of a project entitled "Analysis of Traffic Injuries in Medicaid Data." The project was sponsored by the Michigan Office of Highway Safety Planning under project number MTR-81-006G. The aim of this project was to investigate the Medicaid Claims data to determine the number of Medicaid claims that resulted from traffic accidents, their resulting costs to the State of Michigan, and any specific information about them that might be useful in reducing the number and cost of such claims in the future.

This project is a sequel to an earlier study (1) that estimated state costs resulting from traffic accidents. That earlier study estimated Medicaid costs from traffic accident injuries by extrapolating the proportion of medical costs paid by Medicaid to the estimated costs of traffic accident injuries. The present effort uses Medicaid records to determine the reported amount of these state costs.

The University of Michigan's Transportation Research Institute obtained computer tapes of Medicaid claims data for 1980 and 1981 from the State of Michigan's Department of Social Services. There are a total of fifteen categories of Medicaid services, each with separate claims data (2). This report uses only the claims data from Inpatient General Hospital Services. While this is likely to be the major component of traffic accident injury claims, there would clearly be other sources, such as physician's services, and possibly skilled nursing home services. However, only the inpatient general hospital service claims data were available. These amount to approximately one-third of all Medicaid expenditures, although they amount to only about 17 percent of the number of claims.

This report uses the Medicaid Inpatient General Hospital Services Claims data to estimate the costs to the State of Michigan from traffic accident injuries resulting in hospitalization costs paid by Medicaid. In addition, the information in the claims data was used to provide information about the types of injuries and associated costs and length of hospitalization. Other relevant information about the accident

victims, such as age, sex, and whether passenger car occupant, pedestrian, etc., are summarized.

## 2.0 DATA AND METHODS

Medicaid claims data are kept separately for fifteen different types of provided medical services (2). The UMTRI was able to arrange to obtain and use the claims records for 1980 for the Inpatient General Hospital Services claims data. Later the same data for 1981 were also provided. These would appear to be of primary importance in determining the medical costs arising from traffic accidents paid from Medicaid. However, these data would not include all the traffic accident medical costs. Indeed, except for Family Planning Services, one can imagine that all of the other classifications include some medical costs from traffic accident injuries. The other claims files are very voluminous, even compared to the approximately 150,000 plus claims in the hospital data, but probably involve smaller costs.

Although attempts were made to arrange to use the data from Skilled Nursing Home Services and Intermediate Care Services, these data were unavailable. The Inpatient General Hospital Services represent about 16 percent of the number of claims but nearly one-third of all Medicaid expenditures, a total of \$352,511,023 out of \$1,071,680,997 in 1980.

The data utilized in this effort thus represent two years of Medicaid hospital claims data: the calendar years 1980 and 1981. The data contain a variety of information. One variable of importance is the accident variable. This variable has five coding levels, corresponding to non-accidents, two types of non-traffic accidents, traffic accidents, and a certain type of referral. In addition to this variable to identify traffic accidents, there is a three-digit diagnosis variable that represents a categorization of a more detailed diagnosis code. This three-digit diagnosis variable has a specific code (450) to identify traffic accidents. Finally, all cases use the ICD-9-CM classification scheme (International Classification of Diseases, Version 9, Clinical Modification) for both the primary and secondary diagnoses. This is a standardized coding system for classifying diseases and injuries. It includes a series of "E-Codes" (for External Cause) that identify accident victims and contain specific information about them.

For example, such a code might indicate that a person was the driver of a passenger car or a passenger on a motorcycle. Generally the external cause, if coded, would be the secondary diagnosis code.

In selecting the subset of cases that represent traffic accident claims, the following criteria were used. All cases coded traffic accident on the accident variable were included. In addition, any cases coded "450" on the three-digit diagnosis code were included. Finally, cases with an "E-Code" in either the primary or secondary diagnosis code that indicated traffic accidents (ICD-9-CM E810-E829, E929) were included. This resulted in a total of 401 cases from the 1980 data and a total of 298 cases from the 1981 data. Very few cases (only 2) were identified from the three-digit diagnosis code that were not included in the accident variable. However, a substantial number of additional cases were identified from the E-Codes (about 100 in 1980 and about 40 in 1981). Only three cases had an E-Code as the primary diagnosis.

The fact that there were substantial numbers of cases identified as traffic-related based on the E codes, which were not shown as traffic-related on the accident code, indicates that the accident code is not always accurately filled out in hospital claims submissions. Thus there may be other Medicaid hospitalization cases which are related to traffic accidents which are not identifiable in the available data.

Many of the traffic accident cases had two injury diagnoses and so did not contain the E-Code. In the total cases for two years only 160 of 699 cases had the E-Codes present. Thus, only about 23 percent of the injuries had the external cause coded. Consequently, any analysis of the information resulting from the E-Code information must be viewed with caution. It is likely that these represent a biased set of cases.

There were substantially more non-traffic accident claims in the data than traffic accident cases. In 1980 the non-traffic accident claims numbered 6202, while in 1981 there were 4709 claims resulting from non-traffic accidents.



### 3.0 RESULTS

#### 3.1 TRAFFIC ACCIDENTS

Table 3.1 summarizes the total costs for Medicaid hospitalization claims resulting from traffic accidents for 1980 and 1981. Note that two cost figures are presented. The larger, denoted "Facilities Cost," is the amount charged or billed by the hospital for the treatment provided. The smaller, denoted "Medicaid Cost," is the amount actually paid by Medicaid. Since there is a cost-containment ceiling on the amount of medical expenses that Medicaid will pay, hospitals are actually reimbursed for only a portion of their charges. In these data the Medicaid costs represent about three-fourths of the facilities costs. Of the amount allowed as a Medicaid cost, the State of Michigan's share is 49 percent, while the remainder is paid from federal (as opposed to state) tax revenues.

TABLE 3.1

Michigan Medicaid Hospitalization Costs from  
Traffic Accidents, 1980 and 1981.

Item	1980	1981
Number of cases	401	298
Facilities Cost	\$1,482,555	\$1,409,391
Medicaid Cost	\$1,111,727	\$1,036,159
Average per Claim	\$2,772	\$3,477
Cost to state	\$544,746	\$507,718
Days hospitalized		
Total person-days	3,564	2,969
Average per claim	8.9	10.2
Average cost per claim		
Medicaid	\$312	\$349
Facility	\$416	\$475

From the table it can be seen that the cost to the state of Michigan state tax revenues resulting from the hospitalization part of Medicaid claims due to traffic accident injuries has been somewhat over

half a million dollars per year. The total cost to Michigan taxpayers (in both federal and state taxes) has been slightly more than twice that: about 1.1 million dollars a year. Because of the cost containment programs limiting the amounts that Medicaid will pay, this amount has been slightly less than three-fourths of the total facilities costs. (The actual fractions were 74.9 percent in 1980 and 73.5 percent in 1981.) It should also be noted that Medicaid generally does not include claimants over 65 years of age. These persons are generally eligible for Medicare (a health insurance program funded by federal tax revenues, primarily a part of Social Security).

The number of claims dropped substantially in 1981 compared to 1980, but the cost per claim increased, so that the total expenditure remained nearly the same. The average length of hospitalization increased by slightly over one day. The average cost per day hospitalized increased by about 14 percent, while the amount actually paid by Medicaid increased by about 12 percent.

The exact reasons for the dramatic drop in the number of Medicaid hospital claims resulting from traffic accidents are not known. The reduction is somewhat surprising, coming at a time when the general economic situation in Michigan was worsening. There appear to be at least three factors that may have contributed to the decrease in the number of Medicaid claims resulting from traffic accidents. First, there was a general decrease in the number of traffic accidents, and of injury accidents in particular, in Michigan from 1980 to 1981. Table 3.2, abstracted from Michigan Traffic Accident Facts 1981 (3), presents the relevant information.

As the data in Table 3.2 show, the number of police-reported accidents decreased by 3.7 percent from 1980 to 1981, while the number of injury accidents decreased by 5.6 percent. There was a 10.4 percent reduction in the number of persons killed in traffic accidents, while there was a reduction of 5.9 percent in the number of persons injured. While these are important reductions, they do not seem large enough to explain the (25.7 percent) reduction in the number of Medicaid claims resulting from traffic accident injuries from 401 to 298.

TABLE 3.2

## Michigan Traffic Accidents, 1980-1981

Accident Type	1980	1981	% Change
Personal Injury	96,763	91,388	-5.55%
All Accidents	314,594	302,831	-3.74%
Persons Killed	1,774	1,589	-10.43%
Persons Injured	144,972	136,455	-5.87%
Total Killed or Injured	146,746	138,044	-5.93%

SOURCE: Michigan Traffic Accident Facts 1981.

Medicaid is the medical cost payer of last resort. Other sources of payment for medical expenses must be exhausted or be unavailable before a person qualifies for Medicaid. In particular these sources include personal hospitalization or accident insurance, automobile insurance, personal resources exceeding a certain amount, and other programs, such as Medicare for eligible persons over 65. The State of Michigan's no-fault auto insurance law is designed to provide insurance coverage for essentially all medical expenses for injuries sustained in traffic accidents. There is neither a time limit nor an amount limit on the payment of medical expenses. With few exceptions, persons injured in traffic accidents should have their medical expenses covered by the no-fault automobile insurance. The exceptions are persons operating motor vehicles illegally (e.g., stolen cars), or without the insurance coverage made mandatory by the no-fault law. Occasional other exceptions could occur, involving out-of-state cars, or pedestrians injured by hit-and-run or uninsured motorists, if the pedestrians did not own cars or were not members of a family with an insured car.

For several years, persons have been able to renew vehicle registrations and purchase license plates by mail. Beginning in March, 1982, persons renewing registrations by mail were required to include

certificates of insurance or their registrations were refused and returned. Prior to that time, insurance certificates were requested, but registrations were not actually refused without them. Prior to the period when the certificates of insurance were requested, motorists merely had to sign a statement certifying that they had the required insurance. These progressively more stringent checks on the required insurance may have resulted in increased compliance with the mandatory insurance provisions of no-fault and so reduced the eligibility of claimants for Medicaid. However, the compliance with no-fault among motorists registering vehicles by mail is estimated to be very high--about 99 percent--so the possible contribution of this factor to the reduction in Medicaid claims is open to question.

A factor that may be the most important source of the reduction is in the administration of the Medicaid program itself. According to Tom McCusker of the Department of Social Services, a more detailed attempt to identify availability of other insurance, particularly auto insurance, was made in 1981 than in 1980. In part this resulted from continuing pressure for cost containment in Medicaid programs. Some internal evidence from the claims data is available for this factor. Substantially fewer cases were identified from the E-Codes in 1981 that did not have the accident variable coded as traffic accident than were identified in 1980. In the 1980 data, such additional cases amounted to 25 percent of the total (an additional 102 cases), while in 1981, they represented less than 15 percent of the cases.

The data in Table 3.2 may also be used to place the traffic injuries paid through Medicaid in perspective to the total number of such injuries in the state. In 1980, there were 401 Medicaid hospital claims out of a total of 146,746 persons injured in traffic accidents statewide. This represents a rate of 2.7 Medicaid hospital claims per thousand traffic accident injuries. In 1981 a total of 298 Medicaid claims out of 138,044 persons injured represents a rate of 2.2 Medicaid claims per thousand traffic accident injuries. Of course the great majority of traffic accident injuries do not require hospitalization, but still it is apparent that only a very small proportion of hospitalized traffic injuries result in a Medicaid claim. Evidently the

legislature's intent to provide insurance coverage through no-fault or hospitalization insurance rather than Medicaid has largely been successful. It is of interest to note that the hospital claims resulting from traffic accidents represent a very tiny fraction of either the total number of Medicaid hospital claims or the total dollar amount of Medicaid hospital claims. For example, the 1980 traffic injury claims in Medicaid represent only 0.26 percent of the number of hospital claims, and only 0.32 percent of the dollars spent on such claims.

The average age of the claimants was very similar in the two years, 29.4 in 1980 and 29.0 in 1981. Of more interest is the detailed age distribution of claimants in the two years. Table 3.3 provides information on the number, total cost, average cost, and average length of stay for several age groups. The age groups were defined to correspond to groups of particular interest. For example, the youngest group consists of those children subject to the child restraint law. Another group of interest is the persons aged 18 to 20, because of their relationship to the changes in the legal drinking age (from 21 to 18 in 1972 and back to 21 in 1979). Persons over age 65 would generally be eligible for Medicare; consequently, Medicaid expenses for this group would only reflect charges not covered by Medicare that were in excess of what the individuals could pay.

The age distributions for 1980 and 1981 seem rather similar. The child restraint law appears to apply to about five percent of the claims. It is to be hoped that the increased use of child restraints in 1982 resulting from the law will reduce the number and severity of child injuries. However, given the small number of such claims in the Medicaid data (19 and 12 in 1980 and 1981, respectively), it is unlikely that much effect will be observed in the Medicaid claims.

Only 160 out of the two-year total of 699 Medicaid traffic accident claims had the second diagnosis variable used for the E-code. Table 3.4 shows the data arranged by the last digit of the E-code which identifies the victim by type of vehicle, whether driver, passenger, pedestrian, etc. These data must be viewed with caution because of the possible biases in their selection. Table 3.4 shows the distribution of these

TABLE 3.3

## Traffic Accident Injury Claims in Medicaid by Age

Age	Number		% of Cases		Total Cost (\$)		Average Cost (\$)		Average Length of Stay (Day)	
	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981
0-3	19	12	5.7	4.0	45,638	15,635	2402	1303	7.3	5.0
4-15	54	57	16.4	19.1	113,238	190,180	2097	3336	5.8	9.0
16-17	14	18	4.2	6.0	14,588	38,192	1042	2122	7.9	9.9
18-20	42	45	12.7	15.1	729,402	131,460	3081	2921	10.1	10.1
21-23	53	29	16.1	9.7	169,282	103,350	3194	3564	11.1	11.3
24-34	86	88	26.1	29.5	222,396	350,590	2586	3984	8.0	11.3
35-44	35	24	10.6	8.1	109,095	81,024	3117	3376	9.4	6.9
45-54	15	12	4.5	4.0	22,530	116,450	1502	9705	7.1	22.1
55-64	8	6	2.4	2.0	3,448	6,546	431	1091	5.8	8.8
65+	4	7	1.2	2.3	740	2,732	185	390	4.3	6.8

160 cases among the several categories, the average cost per claim for each, the average length of hospitalization, and the average age.

Of the 23 percent of the total cases which contain this information that indicates the type of accident, only 30 percent involve occupants of passenger cars. An additional nine percent are motorcyclists. Bicyclists account for 25 percent of the cases, while pedestrians represent 16 percent. The unspecified category contains 19 percent of these cases. If only the 130 cases with identification of the type of accident are considered, passenger car occupants account for 37 percent of the cases, motorcyclists for 11 percent, pedestrians for 20 percent, and bicyclists for 31 percent of the claims. Presumably bicyclists and pedestrians were struck by a motor vehicle, probably a passenger car.

TABLE 3.4

## Medicaid Claims by Type of Involvement

	Number		Average of Medicaid Cost (\$)		Average Length of Stay (\$)		Average Age (Year)	
	1980	1981			1980	1981	1980	1981
			1980	1981				
Driver	5	17	1397	1714	9.0	7.7	30.4	22.6
Passenger	12	14	1875	1251	6.6	8.3	23.4	21.2
Motorcycle	8	6	1199	1590	5.4	4.0	20.0	22.8
Pedestrian	10	16	10,090	2210	16.2	6.3	26.6	14.9
Bicycle	11	29	813	2241	2.2	8.8	11.5	19.0
Other (Unknown)	21	11	8634	7800	21.1	12.0	23.8	23.1
Total	67	93	4930	2631	11.8	8.2	22.2	19.9

The distribution of Medicaid claims among passengers, motorcyclists, pedestrians, and bicyclists differs from the corresponding distribution in all Michigan traffic accidents. Passenger cars hitting other passenger cars, trucks, buses, fixed objects, etc., account for 79 percent of the vehicles in traffic accidents. Motorcycles represent only 1.34 percent of the vehicles in accidents. Pedestrians were struck by vehicles in 1.47 percent of the accidents, while pedalcyclists (primarily bicyclists) were struck by vehicles in 1.42 percent of the accidents (3). Comparing these figures to the figures from the Medicaid claims, occupants of passenger cars are under-represented in the Medicaid claims data reporting type of accident, while pedestrians, bicyclists, and motorcyclists are over-represented.

This over-representation is to be expected for a number of reasons. Occupants of passenger cars are much better protected in a crash than are motorcyclists, bicyclists, or pedestrians. In fact, while many

TABLE 3.5

## Medicaid Claims by Traffic Unit

Traffic Unit	Number	Percent of Total	Percent Identified
Auto Driver	22	13.8%	37%
Auto Passenger	26	16.3%	
Motorcycle	14	8.8%	11%
Pedestrian	26	13.8%	20%
Bicycle	40	25.0%	31%
Other (& Unknown)	30	18.8%	
Total	160		

reported passenger car accidents do not result in personal injury, almost all reported motorcycle, bicycle, and pedestrian accidents do. Owners of passenger cars are required by Michigan's no-fault law to carry insurance, which would pay for any medical expenses resulting from injury in traffic accidents (except for rare exceptions discussed previously), but pedestrians and bicyclists have no insurance requirements. Their injuries would have to be covered by the motorist's insurance, leading to the possibility that they would not be covered if the motorist was not identified.

Motorcyclists have been exempted from certain provisions of the no fault insurance law (5). While many motorcyclists do carry insurance, not all do. This combination of less complete coverage, coupled with higher chance of serious injury in a crash, has resulted in motorcyclists appearing in the Medicaid claims data in a higher proportion than they appear in the accident data. In fact, the proportion of E-code Medicaid claims resulting from motorcycle accidents is 8.2 times the proportion of accidents involving motorcycles.



Table 3.6 INJURY DIAGNOSES IN MEDICAID TRAFFIC CLAIMS

Diagnosis	Number	Mean Facility Cost (\$)	Mean Medicaid Cost (\$)	Mean Length of Stay (Days)
Fractures	-	-	-	-
Vault of Skull	18	7212	6058	12.1
Base of Skull	4	11,697	10,344	17.8
Face	25	2610	2236	5.8
Vertebral Col	19	2427	2046	7.9
Ribs, Sternum, Larnyx, Trachea	14	4413	2721	9.5
Pelvis	17	2133	1806	7.9
Arm	-	-	-	-
Humerus	9	7263	1324	16.8
Radius and ulna	13	4564	3573	15.6
Misc	3	1810	1209	3.7
Leg	-	-	-	-
Neck of femur	7	15,215	12,232	27.2
Femur	35	8006	6100	26.3
Tibia and Fibula	47	6314	3656	9.7
Misc.	28	3018	2524	7.9
Other and Multiple	12	2948	2404	7.9
Dislocations	8	7286	5819	14.5
Sprain of knee	1	5461	4041	8.0
Sprain of back	22	1212	704	5.2
Other Musculoskeletal	6	1620	1410	4.5
Concussion	68	1743	1385	4.7
Intracranial injury	50	6841	5475	14.6
Internal Injury thoracic	4	3099	2427	7.8
Internal Injury	16	15,183	10,441	17.2
Laceration of eye	3	1264	1075	3.0
Other laceration of head and neck	30	4008	3020	6.0
Other laceration	23	4264	3362	7.7
Other superficial injury	80	998	783	3.4
Traumatic complications	29	4695	3649	7.7

The entries in Table 3.6 give the most common primary injury diagnoses in the Medicaid hospital claims data. In addition to the name of the diagnosis, the combined number of cases for the two years 1980 and 1981 combined is given as are the mean facility cost, the mean cost paid by Medicaid, and the mean length of hospitalization. There were many more individual diagnoses, generally with only one or two cases. The ones detailed in Table 3.6 represent about 80 percent of the cases. Injuries to the head and face are the most common, representing nearly a quarter of the injuries (23.6 percent). Injuries to the leg represent an additional 17 percent of the cases, while arm injuries are 8.4 percent.

Fractures are the most frequent type of hospitalized injury, represented by 239 cases or 34 percent of all injuries. Sprains, strains, and dislocations occurred in 43 cases or six percent. There were 68 concussions, nearly 10 percent of the total, and 50 other intracranial injuries (seven percent). Lacerations, particularly of the head, face, and neck, were frequent, accounting for 56 cases or eight percent. There were 80 cases or slightly over 11 percent reported as other superficial injuries. Despite calling these superficial, they averaged 3.4 days of hospitalization.

In the 1980 claims data, 59 percent of the claimants were male, while in the 1981 data, only 47 percent of the claimants were listed as male. This is an unusually large change. No specific explanation is available. However, if there was a more extensive effort in 1981 to identify persons for whom medical expenses could be covered by other insurance sources, this might explain the difference. Males might be more likely to be the registered owners of automobiles and so to have no-fault insurance. Likewise, males might be more likely to have hospitalization and/or medical insurance through employers. Consequently, the reduction in the proportion of male claimants seems consistent with an increased effort to find other sources for medical expenses.

In 1980 28 percent of the claimants were black. In 1981 this proportion was 27 percent, virtually identical. Table 3.7 presents the average Medicaid claim, average length of stay, and average age of the

claimants by race and sex, for the two years, 1980 and 1981. The average cost follows the average length of stay. However, both show different patterns in the two years. In 1980, white males have the highest average claim, and black males the lowest, while in 1981, black males had the highest average claim. The overall average claim cost increased in 1981, but the patterns also changed considerably. In 1980, the average age of the claimants was quite similar in the four groups, except for black males, who were about seven years younger than the others. In 1981, white males and black females averaged about 23 years old, while white females were somewhat older, about 29 years of age, and again, the black males were considerably younger, only about 17 years of age. The average cost per day is also presented. White females consistently averaged lower cost per day than any other group. In fact, they showed a small decrease from 1980 to 1981, quite different from the other patterns. White males and black females showed slight increases in cost per day, while black males showed a large increase (\$148) in cost per day.

The Medicaid claims were expressed as a fraction of the population for each county in Michigan as well as for the state as a whole. Table 3.8 presents these rates by county. The numbers reported in the table are rates of Medicaid traffic accident claims per ten thousand population (1980 census). Statewide there were 0.43 Medicaid claims resulting from traffic accidents in 1980 and 0.32 such claims per ten thousand population in 1981. Most of the county rates are based on only one or two claims. Only for the largest few counties are the numbers large enough to be of any significance. Very small deviations from the state-wide average are found, except for Oakland County, which appears to have a somewhat lower than average rate.

Average costs and average length of stay were also calculated by county, but are not presented. Neither showed any significant differences. Overall, there appear to be few if any significant differences by county. The only differences that are present in the data seem to be explained by the differences in the county populations.

TABLE 3.7

Average Cost, Stay, Age, and Cost Per Day by Race and Sex

Sex	1980		1981	
	White	Black	White	Black
Medicaid Cost (\$)				
Males	3279	1863	3994	5898
Females	2143	2343	1878	4417
Length of Stay (Days)				
Males	10.5	5.9	11.9	12.7
Females	8.0	6.5	7.5	11.5
Age (Years)				
Males	24.5	18.3	23.0	17.3
Females	25.6	26.0	29.1	23.4
Cost Per Day (\$)				
Males	312	316	336	464
Females	268	360	250	384

### 3.2 NON-TRAFFIC ACCIDENTS IN MEDICAID CLAIMS

While the main interest and focus of the effort is on the traffic accidents and their costs, it is of some importance to mention the additional hospital claims for non-traffic accidental injuries. Table 3.9 summarizes the total number of hospital claims, facility cost, medicaid cost, and days hospitalized for the two years 1980 and 1981. For the two years combined, there were a total of 10,911 non-traffic accidental injuries resulting in payment of Medicaid hospital claims. The total amount paid as a result of these accidental injuries was \$17,382,759. Of this, the State of Michigan paid 49 percent, or an average of \$4,258,776 per year. This average of four and a quarter million dollars per year for Medicaid payment for hospitalized

TABLE 3.8

Medicaid Claims per 10,000 Population (1980 Census)

County	1980	1981
Alcona	1.03	3.08
Alger	0	1.08
Allegan	0.12	0.24
Alpena	2.17	1.55
Antrim	0	0
Arenac	0.68	1.36
Baraga	1.18	0
Barry	0.87	0.66
Bay	0.33	0.33
Benzil	1.78	1.78
Berrien	0.06	1.12
Branch	0.50	1.49
Calhoun	0.71	0.49
Cass	0	0.40
Charlevoix	1.00	0
Cheboygan	0.48	0
Chippewa	0	0
Clare	0	0
Clinton	0.54	0.18
Crawford	0	1.06
Delta	0.77	0.26
Dickinson	0.79	0.39
Eaton	0.45	0.11
Emmet	0.43	0
Genesee	0.49	0.51
Gladwin	0	0.50
Gogebic	1.02	0.51
Grand Traverse	0.36	0.18
Gratiot	1.24	0.99
Hillsdale	0.48	0.24
Houghton	0	0.26
Huron	0.27	0
Ingham	0.33	0.40
Ionia	0.58	0.19
Iosco	0.35	0
Iron	0.73	1.47
Isabella	0.18	0.55
Jackson	0.07	0.07
Kalamazoo	0.99	0
Kalkaska	0	0
Kent	0.04	0.02
Keweenaw	0	0
Lake	0	0
Lapeer	0.14	0
Leelanaw	1.43	0

County	1980	1981
Lenawee	0	0.67
Livingston	0.80	0.20
Luce	0	0
Mackinac	0	0
Macomb	0.27	0.23
Manistee	1.74	0.43
Marquette	0	0.27
Mason	1.52	1.14
Mecosta	0.54	0.54
Menominee	1.53	0
Midland	0.14	0
Missaukee	0	2.00
Monroe	1.14	1.04
Montcalm	0.84	0.42
Montmorency	0	0
Muskegon	0.19	0.13
Newaygo	0	0.57
Oakland	0.06	1.16
Oceana	0.45	0
Ogemaw	0.61	0.61
Ontonagon	2.03	1.01
Osceola	1.06	0
Oscoda	0	2.92
Otsego	0	0
Ottawa	0.19	0.13
Presque Isle	0.07	1.40
Roscommon	1.22	0.61
Saginaw	0.39	0.26
St. Clair	0.29	0.36
St. Joseph	0.18	0.36
Sanilac	1.23	1.23
Schoolcraft	1.17	2.33
Shiawassee	0.14	0.14
Tuscola	0.35	0.18
Van Buren	0.45	0.15
Washtenaw	0	0.33
Wayne	0.45	0.38
Wexford	0.40	0
State	0.433	0.322

accidental injuries is a substantial amount. It suggests that the state might well consider other safety programs in addition to those in the traffic safety area.

TABLE 3.9

## Medicaid Hospitalization Costs of Other Accidents in Michigan

Source	1980	1981
Number of claims	6202	4709
Facility cost		
Total	\$15,465,927	\$12,972,824
Mean	\$2,494	\$2,755
Medicaid cost		
Total	\$9,361,919	\$8,020,840
Mean	\$1,510	\$1,703
Person Days		
Total	44,417	33,189
Mean Stay	7.16	7.32





#### 4.0 CONCLUSIONS

The annual cost to the State of Michigan for Medicaid payments for hospital expenses incurred by victims of traffic accidents was found to be approximately half a million dollars. The claims for all inpatient general hospital services such as these represented about one-third of all Medicaid expenditures. If the hospital expenses for traffic accident victims have the same relationship to total expenditures as in the general Medicaid data, then the total cost to the State of Michigan for Medicaid payments for medical expenses of traffic accident victims would be about three times the cost of the hospitalizations, or about \$1,500,000 annually. This represents the state's 49 percent share of total Medicaid costs. Of course if there are many other traffic-related cases which are not identified in the claims data, then these total estimate may still be low.

This figure is substantially lower than the cost estimated previously (1). The earlier report estimated the annual cost to the State of Michigan for Medicaid payments for traffic accident victims to be \$8,900,000 with a range of from \$3,100,000 to \$21,800,000. The earlier figure was based on an estimation of the total cost for medical expenses in Michigan resulting from traffic accidents and an assumption that the traffic accident proportion of Medicaid costs was about the same as the traffic accident proportion of total medical costs in Michigan. The current study used actual reported claims (in the inpatient general hospital claims file of Medicaid) to determine reported costs of injuries resulting from traffic accidents. These reported costs were slightly more than \$500,000 annually. Even if this figure is multiplied by three to extrapolate from inpatient general hospital claims to total Medicaid expenditures, the resulting figure of \$1,500,000 would only be about half of the previous lower limit on the estimate. This does not mean, of course, that the medical costs of traffic accidents are any less, merely that state tax revenues in the form of Medicaid payments are used to a lesser extent than previously estimated to pay for these costs.

The major reason for this difference, i.e., for the smaller amount of cost to the State of Michigan from Medicaid costs resulting from

traffic accidents than previously estimated, seems to be explained by the provisions of Michigan's mandatory "no-fault" automobile insurance law. The comprehensiveness of the coverage both in terms of complete coverage for medical expenses and in terms of the inclusion of nearly all persons injured in traffic accidents, seems to eliminate most of the utilization of Medicaid as a means of payment of medical expenses for accident victims. The scope of the coverage mandated by the legislation seems intended to provide for payment of all medical expenses resulting from traffic accidents. There are few cases when the automobile insurance does not apply (5). Primarily the situation of non-coverage occurs when the driver or owner of the car does not have the mandatory coverage, in violation of the law. A few other possibilities for non-coverage exist. For example, the driver of a stolen vehicle is not covered. Cars from out of state may not be insured, or might not have the same coverage if the insurance is with a company that has not certified compliance with Michigan's law. With the extensive coverage, and with the provision that the insurance is to pay for all of the medical expenses without either a dollar limit or a time limit, it is somewhat surprising that there were even as many Medicaid claims resulting from traffic accidents as were found.

Probably the major source of the Medicaid claims resulting from traffic accident injuries results from failure to comply with the provisions of the no-fault insurance law. The excess claim rate for motorcyclists as opposed to the rates for passenger car occupants suggests that broadening the coverage to include motorcycles in all provisions of the law might be useful. Additional excess Medicaid claim rates were also found for bicyclists and pedestrians, two groups that would not necessarily be covered by the no-fault insurance law provisions except through the insurance of the driver of the motor vehicle with which they collided. There seems no obvious method to increase coverage of bicyclists and pedestrians by the insurance.

A lower number of Medicaid hospital claims was found in 1981 than in 1980. This seems to have resulted from the combination of a number of factors. There was a generally lower accident rate in 1981 statewide. In addition, there has been a continual effort by the

Michigan Department of State to more stringently police the mandatory insurance provisions through more careful checking of insurance coverage when vehicle registrations are renewed. In addition, the Department of Social Services has been increasingly diligent at identifying other insurance coverage for persons filing Medicaid claims.

It seems apparent that the legislature has intended that the medical costs of traffic accidents should be borne by the public through individual premiums for either automobile or medical insurance and not through use of public tax revenues through payments such as Medicaid claims. This intent seems largely to have been realized. The extent to which this has been accomplished in other states would depend on the mandatory provisions of their insurance laws and the completeness of the coverage required. It seems likely that the Medicaid costs resulting from traffic accidents might be larger in other states with less comprehensive automobile insurance requirements.

In Michigan, traffic accident claims were a very small fraction of Medicaid hospital claims costs. The number of Medicaid hospital claims resulting from traffic accidents was a very small fraction of the number of traffic injuries. It is noteworthy that a much larger Medicaid hospitalization cost was incurred from accidental injuries that resulted from accidents other than traffic. This cost amounted to about \$9,500,000 in 1980 and about \$8,100,000 in 1981. The state's 49 percent share would thus be about \$4,500,000 annually. These other accidents represent a substantial cost to the state, which do not appear to be readily addressed through insurance requirements. They present the potential for some cost savings through safety programs.

