

Impact of Legislation Raising the Legal Drinking Age in Massachusetts from 18 to 20

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Abstract: On April 16, 1979, Massachusetts raised its legal drinking age from 18 to 20 years. Massachusetts was compared with New York State, exclusive of New York City and Nassau County. New York State retained an 18-year-old drinking age. Random telephone surveys with approximately 1,000 16–19 year olds in each state were undertaken prior to the law's enactment and twice at yearly intervals after the law to assess the law's impact on teenage drinking, driving after drinking, and non-fatal accident involvement. Fatal crash data reported to the US Department of Transportation by each state from April 16, 1976–April 15, 1981 were also analyzed. After the law, although the modes of procuring alcohol changed. No significant changes were observed in Massachusetts relative

to New York in the proportion of surveyed teenagers who reported that they drank or in the volume of their consumption. The proportion of teenagers who drove after drinking heavily (six or more drinks at one time) did not decline in Massachusetts relative to New York. However, the frequency that teenagers reported driving after any drinking declined significantly in Massachusetts. Frequency of teenage driving after marijuana use and non-fatal teenage accidents declined at comparable rates in both states. The numbers of teenage nighttime single vehicle fatal accidents declined more in Massachusetts than New York, in the 18–19 year age group. Overall fatal accident trends among 16–19 year olds in the two states were similar. (*Am J Public Health* 1983; 73:163–170.)

Introduction

From 1970 to 1975 at least one-half of the states, including Massachusetts, passed laws which lowered their legal drinking age.¹ When Massachusetts also lowered its drinking age from 21 to 18 years of age in 1973, lively public debate arose about whether this change increased the likelihood of teenagers being involved in fatal accidents.

Studies in other states^{2–5} lowering their drinking ages have suggested that reductions in the legal drinking age produced increases in the 18–20 year old fatal traffic accident rates. However, research results on the impact of lowering the drinking age in Massachusetts have been contradictory.^{6–9} None of these studies compared Massachusetts with control states that did not lower their drinking ages.

Between 1976 and 1981, 16 states reversed the prior

trend by raising their legal drinking ages. Massachusetts did so effective April 16, 1979.

An analysis comparing nine states which raised their legal drinking ages to states whose statutes were not changed has concluded that states which raise their drinking age can expect a 28 per cent reduction in nighttime fatal accidents among drivers targeted by such changes.¹⁰ In Massachusetts state officials reported 39 per cent fewer teenage alcohol-related fatal accidents in 1980 compared to 1978.¹¹ However, no comparison was made to a state where the drinking age was not changed. Consequently, other factors which may be responsible for declines were not considered, e.g., reduced driving because of gasoline price increases and shortages, changes in the types of vehicles driven, or enforcement of other traffic safety laws.

This paper examines the impact of raising the drinking age in Massachusetts during the initial two years after enactment.

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Methods and Materials

Data from Massachusetts are compared with those from New York State, exclusive of New York City and Nassau County. In New York State, the legal drinking age remained at 18. New York City and Nassau County were excluded

TABLE 1—Response Rates in Random Digit Dialing Telephone Surveys of Teenagers in Legal Drinking Age Study

	Massachusetts			New York		
	Before	After		Before	After	
	(1979)	(1980)	(1981)	(1979)	(1980)	(1981)
Completed Interviews (N)	1023	1006	976	984	1007	999
Response Rate (%)	80	87	84	83	82	85
Non-Interview						
Refusals (%)	9	6	7	3	3	3
Never Contacted Households (%)	8	5	3	11	12	9
Other Reasons (%)	3	2	6	3	3	3

NOTE: "Before" and "After" refer to Massachusetts raising its legal drinking age from 18 to 20 years

because of differences in urban density and age of driving licensure. At the time Massachusetts raised its legal drinking age from 18 to 20, the two states had similar laws regarding age of driving licensure and penalties for driving while intoxicated (see Appendix). Being contiguous, the two states also have roughly similar weather patterns.

An anonymous random digit dialing telephone survey of approximately 1,000 16–19 years olds was conducted in Massachusetts prior to enactment of the law on April 16, 1979. Teenagers were asked about their personal characteristics, drinking practices, procurement of alcohol, use of psychoactive drugs, driving after drinking, and non-fatal accident involvement. A similar survey was conducted in Upstate New York during April and May of 1979. Twice at

yearly intervals following the law, these surveys were repeated in each state using the same sampling approach. Interviews were attempted with all eligible teenagers in each household contacted. Table 1 indicates response rates in the six surveys. The demographic characteristics and driving practices of respondents in each state were remarkably similar before and after passage of the law (Table 2).

The survey samples were large enough that there would be only a 1 in 100 chance of failing to detect a 10 per cent post law reduction in the numbers of Massachusetts teenagers who drove after drinking and only a 1 in 5 chance of failing to detect a statewide reduction of 4 non-fatal accidents per 100 drivers in Massachusetts relative to New York.

Log-linear analysis was used on the survey data to test

TABLE 2—Comparison of Respondent Demographic Characteristics in Massachusetts and New York Surveys 1979–1981

Demographics	Massachusetts			New York		
	Before	After		Before	After	
	(1979) (N = 1023)	(1980) (N = 1006)	(1981) (N = 976)	(1979) (N = 984)	(1980) (N = 1007)	(1981) (N = 999)
	%	%	%	%	%	%
Age 16	25	27	28	31	32	30
17	30	29	31	29	26	26
18	23	25	22	23	22	23
19	21	19	19	17	20	21
Sex—Male	52	51	49	48	51	51
Student	81	79	82	81	78	83
Licensed	81	78	79	81	78	79
Married	3	3	1	2	2	2
Drove Last Year						
Car	87	85	86	87	84	85
Truck	19	23	20	30	30	30
Motorcycle	18	19	17	21	20	19
Miles Driven						
None	17	20	18	17	20	20
100	36	30	35	34	31	34
100–500	29	33	33	32	33	29
500+	19	17	14	17	16	16
Condition of Car						
Poor–Fair	18	20	15	19	19	19

TABLE 3—Teenage Reported Drinking and Alcohol Procurement, Legal Drinking Age Study

	Massachusetts			New York		
	Before	After		Before	After	
	(1979) (N = 1023)	(1980) (N = 1006)	(1981) (N = 976)	(1979) (N = 984)	(1980) (N = 1007)	(1981) (N = 999)
Average Drinks Daily	%	%	%	%	%	%
None	7	10	7	9	9	9
.01– .99	59	61	64	61	63	62
1–1.99	10	10	8	11	10	9
2–2.99	13	10	11	10	10	10
3–3.99	4	4	4	4	3	4
4–4.99	2	2	2	2	2	2
5+	5	4	5	4	4	4
Where Most Often Obtains Alcohol						
Liquor Store/Grocery*	44	31	27	31	29	30
Bars-Clubs-Restaurants*	19	7	6	23	22	22
Home‡	7	12	11	12	11	11
Others Buy*	21	39	43	19	23	20
Parties-Friends' Homes	9	10	12	15	15	16
Drank Last Month 5+ Times						
Parties‡	15	13	18	11	12	11
Car	18	17	16	14	16	14
Bar*	21	9	7	20	18	20
For those who drank in past year						
Bought liquor last month*	50	30	24	43	40	43
Has Fake ID	7	6	7	8	7	8
Never Asked Age at Liquor Store/Attempted to Purchase Liquor	27	35	35	33	32	28

*p < .01

‡p < .05

(Testing the hypothesis that reductions were greater in Massachusetts than New York after the law.)

whether the law had any impact on the dependent variables in Tables 3, 4, and 5. The analysis compares Massachusetts to New York with respect to changes in the dependent variable, say driving after drinking, from the pre-law survey

to the post-law surveys, adjusting for possible initial differences between the states on the dependent variable. Relations are cited as significant if p < .05.

In addition, data from the US Department of Transport-

TABLE 4—Respondents Who Drive After Drinking or Drug Use in the Last Month, Legal Drinking Age Study

	Massachusetts			New York		
	Before	After		Before	After	
	(1979) (N = 843)	(1980) (N = 809)	(1981) (N = 795)	(1979) (N = 817)	(1980) (N = 799)	(1981) (N = 791)
Drove After	%	%	%	%	%	%
Any Drinking*	51	42	40	39	39	41
Drinking 6+ drinks at one time**	11	12	11	8	8	10
Smoking Marijuana	29	25	21	20	18	16
Drinking and Smoking Marijuana	18	15	12	13	11	10
Using Other Psychoactive Drugs	6	6	4	3	4	4
Drinking and Using Other Psychoactive Drugs	4	4	3	2	3	3

*p < .01

**refers to the most recent occasion teenagers drove after drinking.

TABLE 5—Non-Fatal Accident Rates per 100 Drivers in Past Year

Drove in Past Year	Massachusetts			New York		
	Before	After		Before	After	
	(1979) (N = 898)	(1980) (N = 862)	(1981) (N = 852)	(1979) (N = 859)	(1980) (N = 858)	(1981) (N = 845)
	%	%	%	%	%	%
Total Number of Accidents per 100 drivers	23.9	25.0	17.7	16.9	14.6	11.9
Accidents with Serious Injury (Person saw MD)	3.7	2.1	2.6	3.1	2.9	1.8
Damage to the driver's vehicle \$100+	17.0	15.6	12.0	10.7	9.2	8.4
Respondent Drank Before Accident	4.0	3.9	3.3	2.8	4.0	1.6
Respondent at Fault	8.0	9.5	7.3	7.6	6.5	4.6

tation's National Fatal Accident Reporting System were compared in Massachusetts and Upstate New York. Several years of data were evaluated to rule out chance fluctuation in the yearly number of accidents as a reason for any observed differences in accident trends between states after the law. Trends in teenage fatal accidents were examined from April 1976–April 1981 (three years before and two years after the law). In multiple car crashes, the age of the youngest driver was the unit of analysis. The numbers of accidents in each state among drivers age 20 and above were also considered to control for factors in each state other than the legal drinking age change which might be influencing accident trends. Single vehicle nighttime accidents were examined as a separate outcome because they are highly associated with alcohol involvement.*¹³

Given the Massachusetts annual average of 84 16–19 year old single vehicle nighttime fatal crashes during the three years preceding the law, it would take a 25 per cent greater reduction of such teenage accidents in Massachusetts relative to New York over the two years after the law in order to attribute the reduction to the new law (at $p < .05$). For overall teenage fatal accidents with a three-year annual pre-law average of 201 accidents per year, a 15 per cent reduction in Massachusetts relative to New York would be needed to achieve such statistical significance (at $p < .05$).

*Unlike New York, Massachusetts law does not require that blood alcohol levels be ascertained on all surviving drivers in fatal accidents. Massachusetts police indicated that whether a driver had been drinking prior to a fatal accident is not consistently ascertained. This precluded examining alcohol involvement in fatal accidents as an outcome measure. Single vehicle nighttime accidents have been recommended as a surrogate measure for accidents in which alcohol is involved because the recording of such accidents is not subject to the potential confounding biases of alcohol involvement reporting. However, it should be noted that the measure has low sensitivity. While nearly two-thirds of single vehicle nighttime fatal accidents involve alcohol, many alcohol-involved fatal accidents are not single vehicle nighttime accidents. In both Massachusetts and New York, even among fatal accidents where alcohol involvement was ascertained less than half were single vehicle nighttime accidents.

To assess law enforcement practices and problems, interviews were conducted between September 1980 and July 1981 with over 50 Massachusetts police officers representing all levels of command in urban, rural, and suburban jurisdictions, the state police, and the Metropolitan District Commission (a regional force). Inspectors from the Registry of Motor Vehicles, and from the Massachusetts Alcohol Beverages Control Commission (ABCC) were also interviewed. Along with local licensing boards and police and fire departments, the State ABCC oversees the licensing and sales of liquor in Massachusetts. Interviewers were not aware of the study results. The officers were questioned about their enforcement practices preceding and following the drinking age change. In addition, arrest data for alcohol offenses from the Uniform Crime Reporting system of the US Department of Justice were evaluated for two years preceding and the year following the law, the only complete years of data available from both states.

Results

Teenage Survey

After the law, the frequency of teenage drinking in bars and clubs and the percentage of teenagers reporting they most often obtained their alcohol in liquor stores and groceries dropped in Massachusetts compared to New York (Table 3). Nevertheless, nearly 40 per cent of the Massachusetts teenagers surveyed after the law reported that they attempted to purchase alcohol (not shown in Table). One-third of those attempting to purchase liquor indicated they were never asked for age identification. Five per cent of those who tried to purchase alcohol said they were stopped by the police at least once. None of the respondents in the Massachusetts sample who tried to purchase alcohol the first year after the law were arrested for that offense and 2 per cent were arrested during the second year.

During the two years after the law, the proportion of Massachusetts teenagers who had someone else purchase alcohol for them or who most often obtained alcohol from their homes nearly doubled. Fifty-nine per cent of Massa-

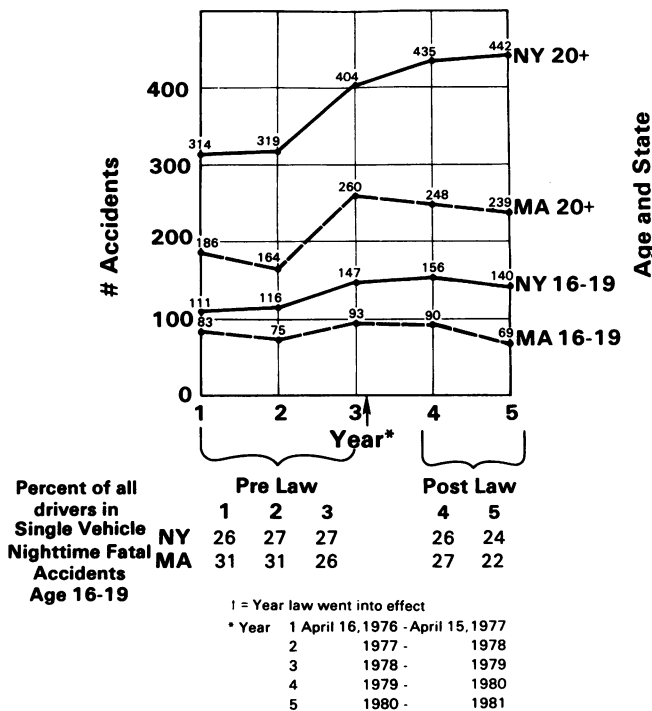


FIGURE 1—Single Vehicle Nighttime Fatal Accidents According to Age of Driver, State, and Year

chusetts teenagers said someone had purchased liquor for them in the previous month; two-thirds of these purchasers were over age 20 (not shown in Table).

The average daily consumption of alcohol in the 16–19 year old age group during the two years after the law did not decline in Massachusetts compared to New York. Nor did teenagers report shifts to the use of other psychoactive drugs. Consistent with trends nationwide, both states experienced significant reductions in the use of marijuana (not shown in Table).

Table 4 indicates the proportion of respondents who drove after drinking, psychoactive drug use, or drinking and drug use in combination during the month preceding the interview. After the law, the proportion of teenagers who reported driving after drinking heavily (six or more drinks) did not decline in either state. However, the frequency that teenagers reported they drove after any drinking declined significantly more in Massachusetts. Both states experienced comparable declines in the percentages of teenagers who drove after marijuana use.

In both states, the incidence of non-fatal accidents reported by 16–19 year old drivers dropped after the law (Table 5).^{*} The decrease was not significantly greater in Massachusetts compared to Upstate New York.

Prior to the enactment of the law, some legislators indicated doubts about whether the law would reduce drink-

^{*}Rates of accidents reported by respondents who drove motor vehicles during the year preceding the surveys exceeded the rates calculated from Registry of Motor Vehicle data per licensed teenage driver in each state. Neither Massachusetts nor New York require all non-fatal accidents to be reported to the police or registry.

ing and accidents among 18 and 19 years olds who had previously been entitled to drink. However, they anticipated that 16 and 17 years olds would find alcohol even more difficult to obtain because they would become even further removed from the legal drinking age. Analyses of survey data on drinking, driving after drinking, and non-fatal accidents did not identify a significantly greater impact of the law on 16 and 17 year olds compared to 18 and 19 year olds. (Data available on request from the authors)

Fatal Accidents

Analyses which focused on teenage single vehicle nighttime fatal accidents (Figure 1) revealed a 5 per cent drop in such accidents in Massachusetts during the two years after the law compared to the preceding three years. In New York, such accidents rose 19 per cent after the law. It should be noted that single vehicle nighttime fatal accidents among drivers above age 20 also rose at a 7 per cent higher rate in New York than in Massachusetts after the law even though it is unlikely that non-teenage drivers in single vehicle accidents would be affected by the drinking age change.

Three separate statistical procedures tested whether these teenage accident trends in Massachusetts were significantly different from the trends in New York. The accident totals for each age group and each year were fitted to a log-linear model using the methods of Bishop, Fienberg and Holland.¹⁵ The data were also fitted to a regular analysis of variance model with log number of accidents as the dependent variable and age group, year, and state as factors. Finally, the data were fitted to an analysis of covariance model with log number of accidents in Massachusetts as the dependent variable and log number of accidents in New York as an independent variable. The teenage single vehicle nighttime fatal accident changes in Massachusetts relative to New York did not achieve statistical significance when tested using log linear analysis ($p > .1$) but were significant when tested by analysis of variance and covariance ($p < .05$).

Analyses were repeated separately for 18 to 19 year olds and for 16 to 17 year olds. Among 18 to 19 year olds in Massachusetts, single vehicle nighttime crashes dropped 15 per cent after the law, whereas in New York they rose 16 per cent ($p < .05$ based on analysis of variance and covariance). However, after the law such accidents among 16 to 17 year olds in both states actually rose by 20 per cent–30 per cent. (Data are available upon request from the authors.)

Figure 2 shows the total numbers of fatal accidents in Massachusetts and New York according to the age of the youngest driver. In both states, teenage accident totals were the highest during the last year before the law. When the average of teenage fatal accidents during the three years preceding the law was compared to the average of the two years following the law, Massachusetts dropped 1 per cent while New York rose 5 per cent. The three methods of statistical analysis indicated no significant difference between the two states in the overall teenage fatal accident trends. The results were the same when 16–17 year olds and 18–19 year olds were analyzed separately.

To control for possible confounding effects which might

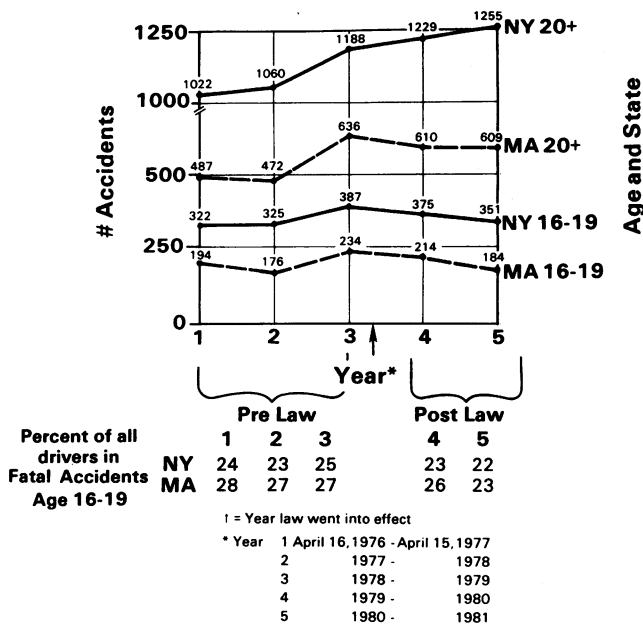


FIGURE 2—Fatal Accidents According to the Age of the Youngest Driver, State, and Year

be produced by Massachusetts teenagers crossing the border into New York in search of alcohol and then having accidents in New York, the analyses were repeated for 16–19 year olds excluding all New York and Massachusetts counties along their common border. Since less than 2 per cent teenage fatal accidents in those border counties involved drivers from the neighboring state, there was still no significant difference between overall teenage fatal accident trends in Massachusetts and New York.

Police and Enforcement of the Law

Arrest data and interviews with law enforcement officers in Massachusetts suggest possible explanations for these modest effects. Although most officers supported the new law, inspection of uniform crime reports (UCR) revealed that the frequency with which teenagers were arrested for driving under the influence did not significantly change in Massachusetts during the first year after the law compared to the previous two years. In New York, driving under the influence arrests for teenagers showed a steady increase over time throughout the study.

Predictably during the first year after the law when it became illegal for not just 16 and 17 year olds, but also 18 and 19 year olds to purchase alcohol in Massachusetts, arrests in that state among 16–19 year olds for all other alcohol-related offenses such as illegal purchase, possession, or public intoxication rose over 150 per cent. However, the intensity of enforcement varied widely from community to community. In 1980, the Massachusetts communities with over 100,000 inhabitants, recorded fewer than 10 arrests per every 1,000 teenage residents whereas more than 20 arrests

per 1,000 teenagers were recorded in the rest of the state.

The police interviews revealed that in some jurisdictions the police actively patrolled areas near liquor outlets and arrested observed violators of the law. In many other communities, however, officers used the law primarily in response to neighborhood complaints about public drinking by teenagers. Charges were not uniformly levied against teenage offenders. Often the teenagers' alcohol was either confiscated by the police for later disposal or disposed of while the violators watched. Frequently, violators were sent or taken home by the police with a warning only, or brought to police stations to be met by parents but not arrested. Arrests were generally reserved for known repeat violators, those who engaged in other law violations while drinking, teenagers who were abusive or uncooperative, or persons the police wished to arrest on other charges but lacked sufficient evidence to arrest.

The reasons most often cited for the variability in enforcement of the law among communities across the state was the lack of personnel and competing priorities, particularly in some high crime inner-city jurisdictions. Moreover, many officers did not perceive teenage purchasing of alcohol or drinking per se as a sufficiently serious crime to stigmatize juveniles by putting an arrest on their records. Parenthetically, several officers said they had behaved the same way when they were teenagers.

Finally, there were sometimes political deterrents to uniform enforcement. In at least one community, systematic enforcement of the law was abandoned and a special enforcement group was dissolved in response to complaints from other police officers, and town officials, whose children were arrested.

Enforcement of the law focusing on the sellers was minimal and sporadic. The year the law went into effect, the ABCC had only 24 inspectors to patrol the more than 12,000 liquor outlets statewide. Only three inspectors operated at night. Random checks of liquor outlets at night were discontinued during 1979 and inspections were made only in response to complaints (usually filed by competing liquor outlets or neighbors). The frequency of license revocations by the state did not increase after the law. Licenses were suspended only after a pattern of violations had been identified. Even then, a standard ABCC compromise procedure enabled the violating liquor outlets to remain open if 15 per cent of their daily profits were paid to the state during what would have been the suspension period.

Discussion

Several features of our study should be considered in interpreting these results. First, the study examined the first two years following enactment of the law. During this time period, the 18 and 19 year old age groups who had previously been allowed to drink had that privilege revoked. One could hypothesize that the previous drinking habits of this group would be resistant to change. Data from subsequent years may indicate whether people who were never allowed to drink will be more strongly affected by the law as they enter into the 18–20 year old age groups.

Second, one must be cautious about reports of drinking and psychoactive substance use based on survey self-reports. However, consistencies between the survey data and the accident data favor the validity of the survey results. To illustrate, according to the surveys, both Massachusetts and New York teenagers drove less frequently after drinking and after marijuana use during the two years after compared to the year before the law. Predictably, both states experienced declines in teenage single vehicle nighttime fatal accidents and overall fatal accidents during that period. Also, when Massachusetts and New York were compared, both the survey data and the accident data identified greater declines in Massachusetts on only some of these outcomes.

Third, whenever the null hypothesis is confirmed the likelihood of a type II error must be considered. Power calculations indicate that there is only a 13 per cent chance of failing to identify a 15 per cent reduction in the likelihood of overall teenage fatal accidents in Massachusetts relative to New York using a .05 level test. These calculations are based on the availability of two complete years of post-law fatal teenage accident data. Moreover, our current survey samples are sufficiently large that we have even greater confidence that there was no reduction in overall teenage drinking and non-fatal accidents in Massachusetts compared to New York after the law.

The results suggest that raising the drinking age reduced single vehicle nighttime but not overall fatal accidents in Massachusetts relative to New York among 18 and 19 year olds. We did not detect an impact on 16 and 17 year olds.

The state's law provides a symbolic statement to teenagers that its citizens disapprove of their drinking, and fears the accidents they may cause when they drive after drinking. The study results prompt us to ask whether the law could have had a greater impact among all Massachusetts teenagers if enforcement efforts were more consistent in all communities and if greater attention were paid to preventing the common practices of non-teenagers purchasing alcohol for teenagers or liquor outlets not requiring age identification? Without sufficient resources and coordination of enforcement efforts, those police who actively strive to enforce the law in one community may find their efforts negated by minimal enforcement in the next. Under these circumstances, will 16-19 year olds be offered an opportunity at a young age to learn that at least some laws can be violated or circumvented with little risk of apprehension, conviction, or punishment?

It is ironic that comparably high rates of fatal accidents have been consistently reported among persons in their early twenties, a group whose drinking privileges were not revoked. Moreover, because 18 and 19 year olds are involved in only a small fraction of alcohol-related accidents, even if the change in the legal drinking age had a greater impact on this age group, the tragedy of automobile injuries and fatalities caused by adults as well as 16 and 17 year olds who drink and drive would remain substantially unaltered.

Lack of community resources and variable willingness to enforce laws focused on teenagers raise questions about whether alternative strategies such as increased enforcement of the drunk driving and traffic safety laws aimed at all

drivers, or requirements for safer cars and improved road design would yield greater reductions in nonfatal and fatal accidents both among teenagers and non-teenagers.

The results of this study and others^{10,17,18} suggest that raising the legal drinking age may hold some promise of accident reductions. However, the impact of those legal changes may be diluted without intensive, publicly supported, coordinated enforcement efforts in all communities.

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APPENDIX

Comparison of Relevant Statutory Provisions in Massachusetts and New York* as of April 16, 1979

	Massachusetts	New York
Legal Drinking Age	20	18
Legal Driving Age	16	16
Penalty-selling or giving alcohol to minors	\$200 fine and/or 6 mos in prison	Up to \$500 fine and/or 3 months in prison
Penalty-minor buying alcohol (includes fraudulent ID)	\$300 fine	Mandatory probation no more than 1 year, fine up to \$10
Blood alcohol content proving intoxication	.10	.10
Driving deemed consent to blood alcohol test	Yes	Yes
Refusal to consent to blood alcohol test	Loss of license for 90 days. Refusal not admissible in court proceedings	6 mos revocation; if under 21 revocation for 6 mos or until 21, whichever is longer. Evidence of refusal is admissible in court proceedings
Penalty-driving while intoxicated	Fine of \$35-\$100 and/or 2 wks-2 yrs in prison	Fine up to \$500 and/or up to 1 year in prison
License revocation for driving while intoxicated	First offense—mandatory revocation at least 1 yr, Second offense—in 6 yrs, 5 yrs revocation. If a death results, at least 10 yrs revocation	First offense—mandatory revocation at least 6 mos, second offense or when personal injury results mandatory permanent revocation
Possibility of legally driving while in alcoholic rehabilitation	Yes, judge may continue case, dismiss charges after successful completion	May be given "conditional" license for limited purposes and time; may apply for a "restricted use" license if necessary for employment
Liquor dealer's license may be suspended or revoked for sale to minors	Yes	Yes

*Excluding Nasau County and New York City.

National Symposium on Genetic Disorders and Birth Defects

A National Symposium entitled "Genetic Disorders and Birth Defects in Families and Society: Toward Interdisciplinary Understanding" will be held April 25-26, 1983 at the Baltimore Hyatt-Regency. The symposium is sponsored by the Division of Medical Genetics and the Department of Social Work, Johns Hopkins Medical Institutions and supported by the March of Dimes Birth Defects Foundation, the Genetic Diseases Services Branch, Office of Maternal and Child Health, and the Mead-Johnson Company.

The purpose of this symposium is to heighten sensitivity to psychological and social implications of genetic disorders and birth defects as they affect individuals, families, and society.

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