

Confronting the Burden of Injuries - JHSPH OpenCourseWare

Self-Study Survey 8

Reading: [Mann RE. The effects of introducing or lowering legal per se blood alcohol limits for driving: an international review. *Accid Anal Prev* 2001;33:569-83](#)

1. How would you describe the intervention(s) under evaluation?
2. The outcome(s) under evaluation were:
 - a. Number of drivers less than 21 with BAC above the legal level.
 - b. Number of single crashes at night.
 - c. Number of drivers with BAC above legal level on the road.
 - d. Number of drivers with BAC above legal level in crashes.
 - e. Percent of alcohol-involved fatal drivers in crashes (regardless of BAC level).
 - f. All the above.
 - g. b, c, d, and e.
 - h. Most of the variables listed above and some others.
3. The outcome(s) variables were continuous variables, such as numbers or percents
 - a. True
 - b. False
4. The analysis conducted were:
 - a. Comparisons of proportions before and after implementation of the laws.
 - b. Comparisons of proportions before and after but with control states or countries where no laws were implemented.
 - c. Comparisons of proportions before and after while controlling for other possible confounders, such as economic trends, alcohol consumption in the population, or crashes.
 - d. Comparisons of proportions over time.
 - e. Comparisons of proportions over time while controlling for other possible confounders, such as economic trends, alcohol consumption in the population, or crashes.
 - f. All the above.
 - g. All the above and more.
5. The most sophisticated analysis are the most recent ones.
 - a. True
 - b. False
6. After some 80 evaluations in nine different countries, how would you judge the quality of the evidence regarding the effectiveness of these laws?

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Answer Key

1. Example of an acceptable answer: Although all the reviewed papers center around implementation or the lowering of existing, per se, BAC levels, the fact is that not all the "interventions" are equivalent. The implemented BAC levels varied from setting to setting (e.g., 100 mg %, 50 mg %), the amount of lowering varied (e.g., 20 mg % in most U.S. states, 30 mg % in most other settings). The level of divulgation of the laws and the level of their enforcement varied as well as the penalties associated with not complying. Also, the time of implementation and the follow up varied, not only in terms of when the evaluation took place (the amount of time after implementation), but also in terms of when the implementations took place. Changes in economic, social, and safety variables can also influence the effect of the laws. In summary, one must be cautious in investigating the nature of the intervention under evaluation in order to better understand and interpret the findings and its application to the situation of your interest.
2. h - The number and type of variables used in these studies varies from study to study. The choice of variable(s) is, at times, determined by the policy question that you are trying to address. At times, it is simply a reflection of prior evaluations and a "sense" of continuity.
3. a
4. g - A quick glance at Tables 2 and 3 indicates that there are at least five different alternatives. However, the most prevalent (and least appropriate) analysis is that of a pre-post comparison, with no controls and a short-term follow up.
5. b - A very interesting analysis was published in 1974. And not so sophisticated papers keep "popping up."
6. Example of an acceptable answer: It is somewhat frustrating to discover that after such a high level of intense scrutiny, we are still left with so many unanswered questions on the effect of this measure. And it raises more questions regarding what would occur if we so exhaustively analyzed the effectiveness of other injury interventions. In this regard, one must always look for consistent evidence from study to study, and not rely solely on any one study.