

PLENARY SESSION 2
Alcohol in nightlife: use, abuse and controls

Evaluating the impact of alcohol policies: two examples

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It is important to evaluate policy intervention in order to increase knowledge about what works and what doesn't work. Time series analysis of official statistics is often a feasible approach in this context. There are two basic designs: (1) Simple before-after design: Is there a change in the outcome when comparing pre- and post-intervention periods? The drawback of this design is that there is no control of other factors that may change at the same time as the intervention. A preferable approach is thus (2) Before-after design with control area. Two examples of this approach are presented: (a) Intervention to prevent alcohol-related violence in bars in Stockholm, Sweden. The evaluation indicated a decrease in violence of 20%. (b) Saturday opening of alcohol retail shops in Sweden. The evaluation indicated an increase in alcohol sales of 4%. The examples highlight certain methodological problems, e.g., that the intervention may have unexpected effects also in the control area.

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Evaluating the impact of alcohol policy interventions: three examples

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- **Did the intervention have any effect? E.g. did the server training reduce bar violence?**
- **Method: analyze time series data that measure the target, e.g. violence rates.**

3 designs:

- 1. Before-after design**
- 2. Experiment- and control area**
- 3. Experiment in 2 phases**

- **Simple before-after design often used**
- **Drawback: no control of other factors that may change at the same time as the intervention**
- **E.g. driving among young people decreased after 1990 due to recession**
- **Remedy: control variables**

2. Design with experiment- and control area

Example:

Intervention to prevent alcohol-related violence in bars in Stockholm, Sweden

Intervention

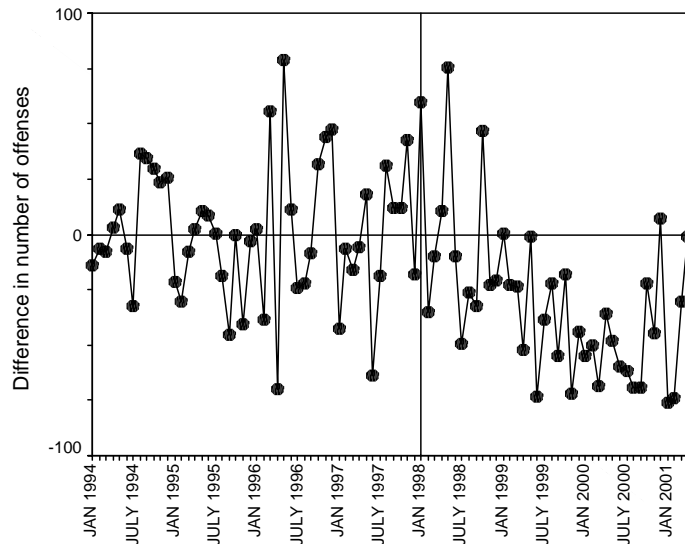
In 1998 an intervention program was launched to prevent alcohol-related violence in bars in Stockholm. The intervention included:

- **Responsible server training: a 2-day course targeting servers, doormen and restaurant owners.**
- **Stricter enforcement of existing alcohol laws: eg. notification letters due to overserving.**
- **This study evaluated the impact of the intervention on police-reported night-time violence.**

Design

- **The intervention was run in City January 1998 – May 2001**
- **A neighboring district was control area**
- **Outcome measure: police-reported night-time violence for the period January 1994 - June 2003 for each district**

Result: difference between experiment and control area



Conclusion

- The graph indicates a gradual intervention effect in City
- By statistical analysis of the time series data one gets an estimate of the intervention effect and if it's statistically significant
- The decrease in violence was estimated at 20% (statistically significant)

Advantage of design with control area:

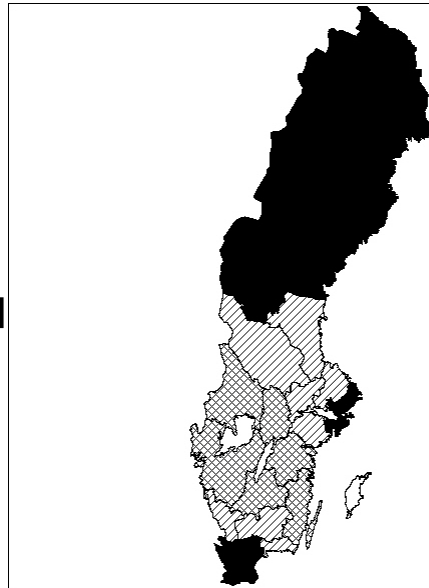
- **Control for disturbing effects**

3. Experiment in 2 phases

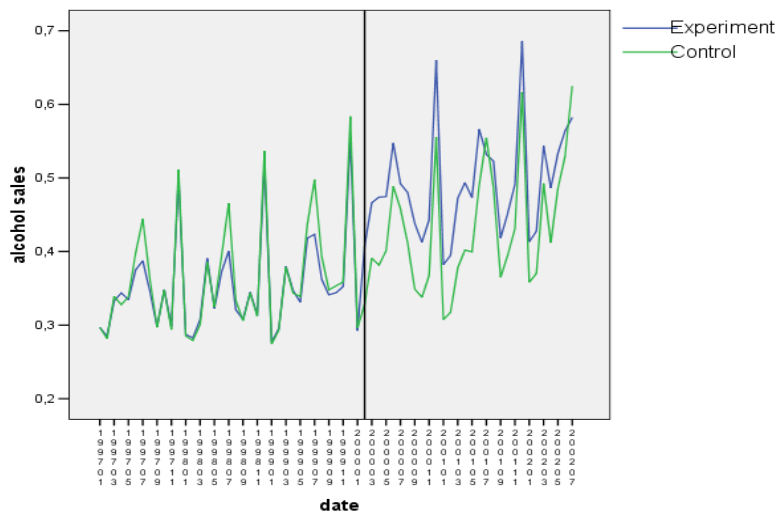
Example: Saturday opening of alcohol shops

- **Before February 2000 alcohol retail shops in Sweden were closed on Saturdays**
- **Experiment: in February 2000 alcohol retail shops opened on Saturdays in part of Sweden**
- **Experiment in 2 phases**

**Phase 1: February 2000- June 2001:
Saturday opening of alcohol retail shops in experimental areas (black). Closed in control areas (cross-hatched) and border areas (cross-striped)**



Evaluation of Phase 1 showed 4% increase in alcohol sales



Research questions

- **Is the effect of Phase 1 real or due to a confounder?**
- **Is the effect of Phase 1 typical: that is, is Phase 1 = Phase 2?**

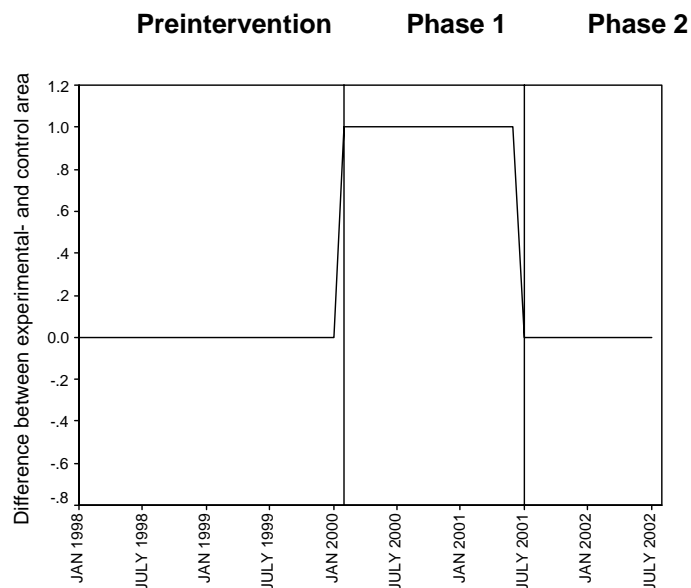
Design

- **Phase 2 can be seen as another experiment to test results from Phase 1**
- **If the effect of 4% is true, difference between experiment- and control area should disappear after the extension**
- **Pre-intervention data: January 1995 through January 2000**
- **Phase 1: February 2000 through June 2001**
- **Phase 2: July 2001 through July 2002**

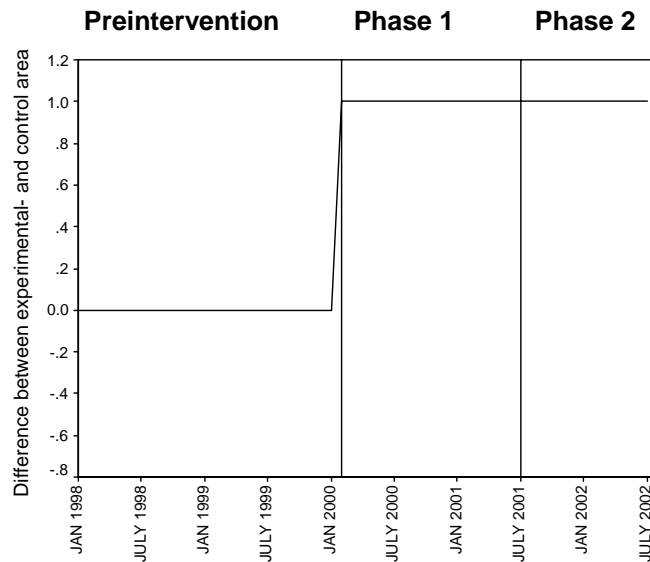
Outcome measures

- alcohol sales
- assaults
- drunk driving

A : The Saturday effect is the same in both experimental and control regions



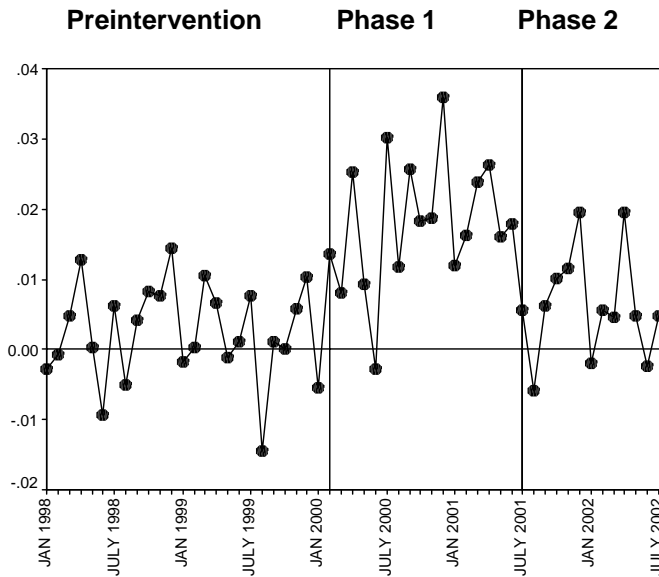
B: The increase observed in the experimental region is due to confounding



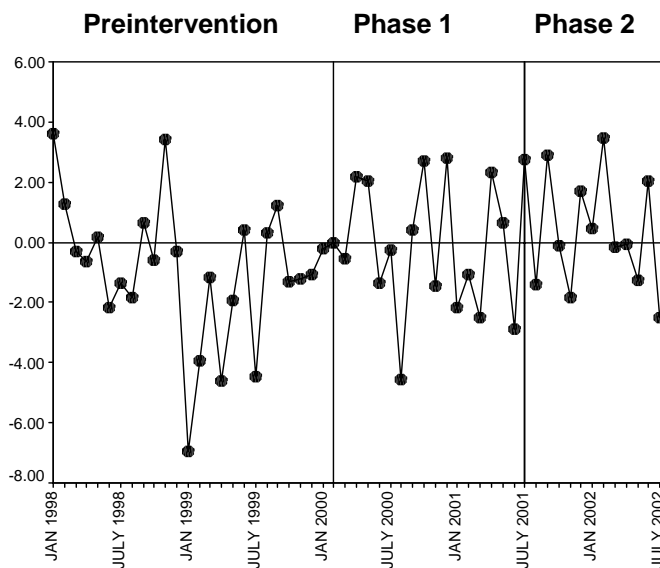
Results

- **Alcohol sales: Phase 1: +4%**
Phase 2: +4%
- **Drunk driving: Phase 1: +12%**
Phase 2: +0%
- **Assaults: Phase 1: +0%**
Phase 2: +0%

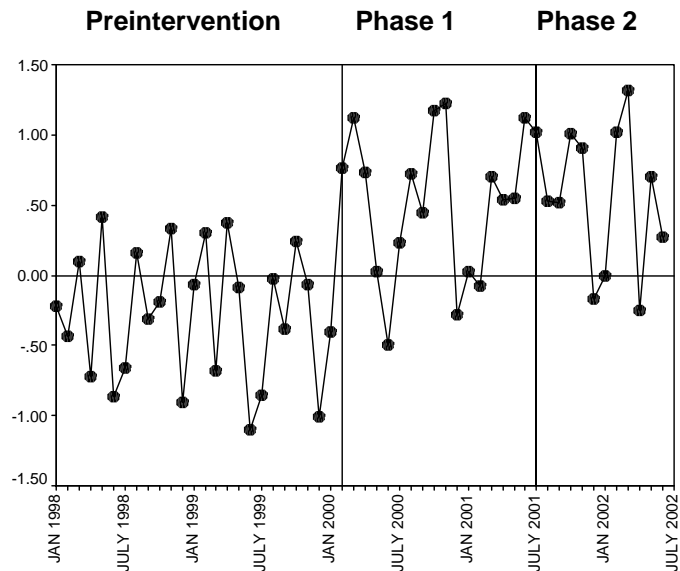
Alcohol sales: difference between experiment- and control area



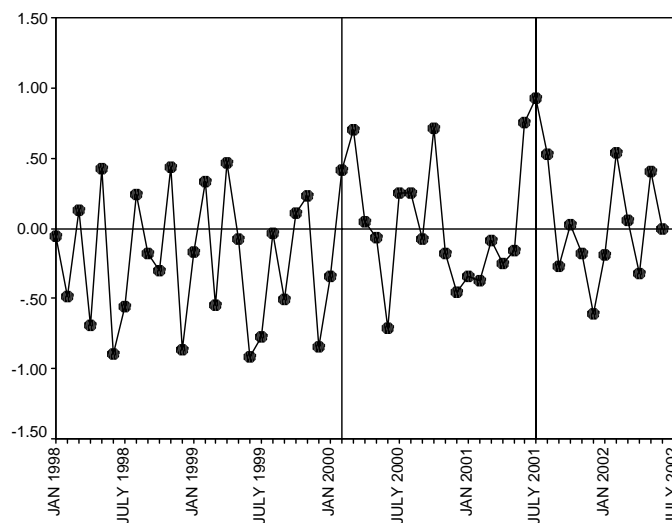
Assaults: difference between experiment- and control area



Drunk driving: difference between experiment- and control area



Drunk driving Saturdays 2 PM - Sundays 2 PM: difference between experiment- and control area



Example 3: Conclusions

- **Saturday opening increased consumption but not harm**
- **The study exposed weaknesses of experiment- control area design: the intervention affected how police controlled drunk driving → risk of biased results**

General conclusions

- **Evaluations are important for increasing knowledge: what works, what doesn't work?**
- **Official statistics is often a useful basis for evaluations**
- **Go for design with control area**
- **Careful selection of outcome indicators and control area**
- **Beware of disturbing factors**

References

- **Norström, T. (1997) Assessment of the impact of the 0.02% BAC-limit in Sweden. *Studies on Crime & Crime Prevention*, 6: 245-258.**
- **Wallin, E., Norström, T. & Andréasson, S. (2003) Alcohol prevention targeting licensed premises: a study of effects on violence. *Journal of Studies on Alcohol*, 64: 270-277.**
- **Norström, T. & Skog, O.-J. (2005) Saturday opening of alcohol retail shops in Sweden: an experiment in two phases. *Addiction*, 100: 767-776.**

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