



Population-based Strategies to Reduce Alcohol-Exposed Pregnancies and Excessive Alcohol Use



Centers for Disease Control and Prevention
National Center on Birth Defects
and Developmental Disabilities

Mary Kate Weber, MPH
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Institute of Medicine Prevention Framework

Universal:

- Targets the general public or an entire population group without regard to individual risk

Selective:

- Targets individuals or an entire subgroup regardless of the degree of risk of any individuals in the group

Indicated:

- Targets high-risk individuals who are exhibiting signs or symptoms that can lead to a given condition

Institute of Medicine, 1994.



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PREVENTION OF FETAL ALCOHOL SYNDROME

IOM Model for FAS Prevention

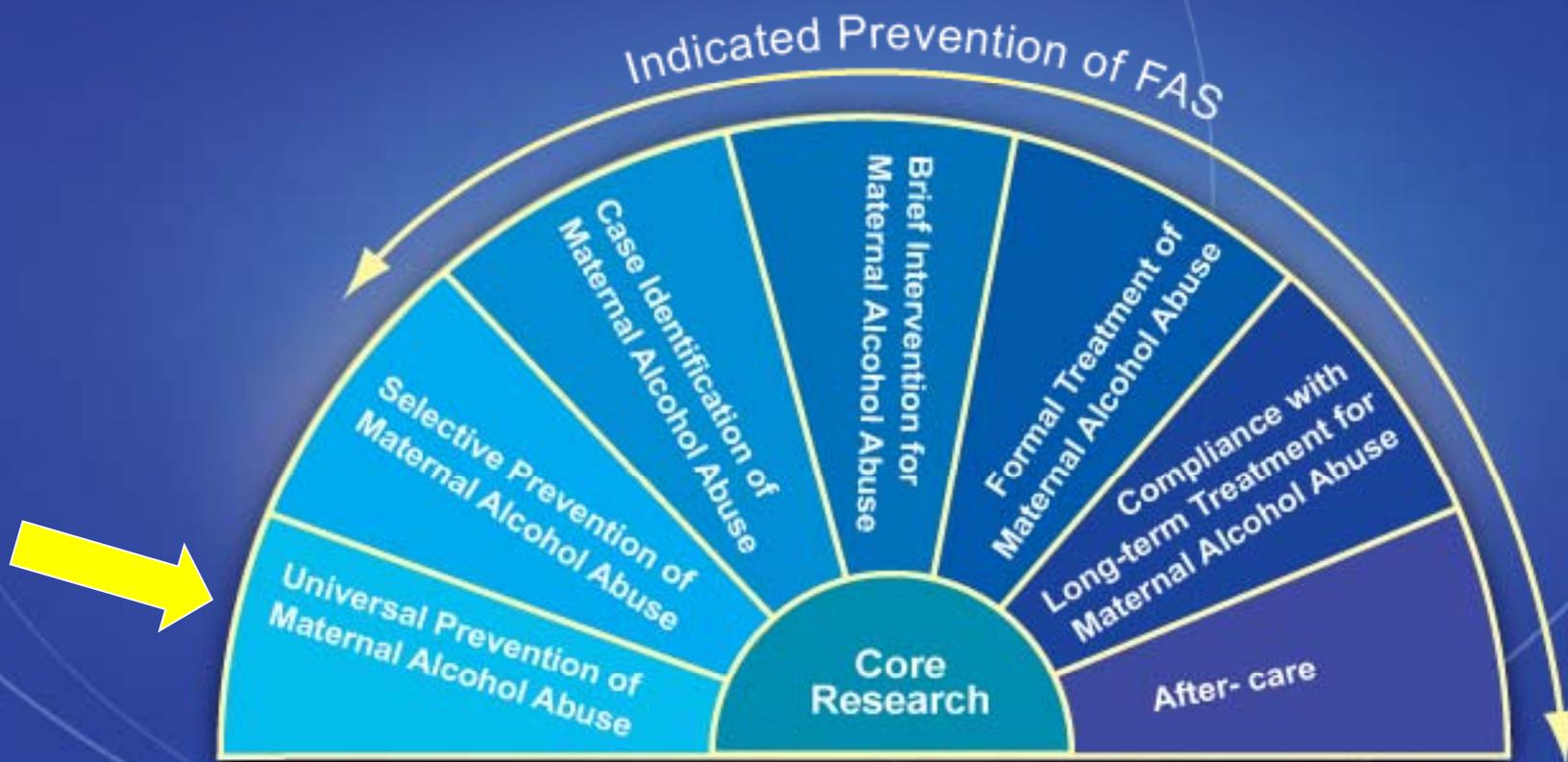


Figure 7-1 The intervention spectrum for fetal alcohol syndrome.
Adapted from Institute of Medicine. (1994)



Examples of Prevention Strategies based on the IOM FAS Framework

■ Universal

- Alcoholic beverage warning labels, Surgeon General's warnings, point of purchase signage, health communication campaigns

■ Selective

- Screening all pregnant women for alcohol use and providing brief interventions for those at risk of alcohol-exposed pregnancy

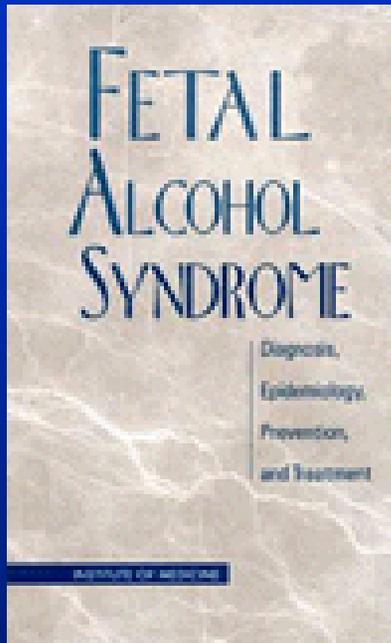
■ Indicated

- Target women at highest risk for having a child with an FASD; strategies include alcohol treatment and measures to prevent pregnancy



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Universal Strategies to Prevent FAS



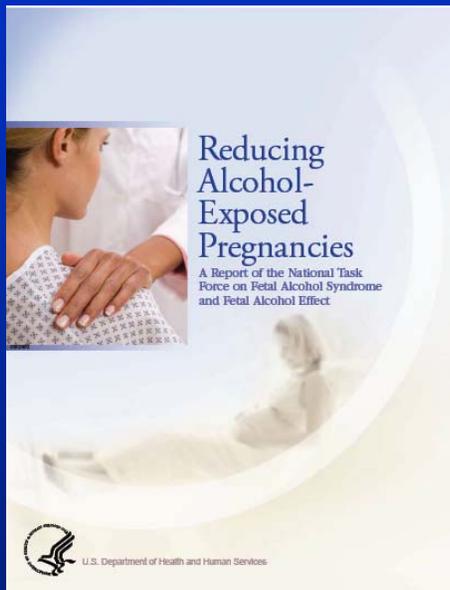
Institute of Medicine Report on Fetal Alcohol Syndrome (1996) recommendation:

- *“...although data are insufficient regarding the effectiveness of universal prevention interventions, such interventions should be continued to raise awareness about the risks of FAS, ARBD, and ARND.”*



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Universal Strategies to Reduce Alcohol-Exposed Pregnancies



Task Force Report on Reducing Alcohol Exposed Pregnancies (2009):

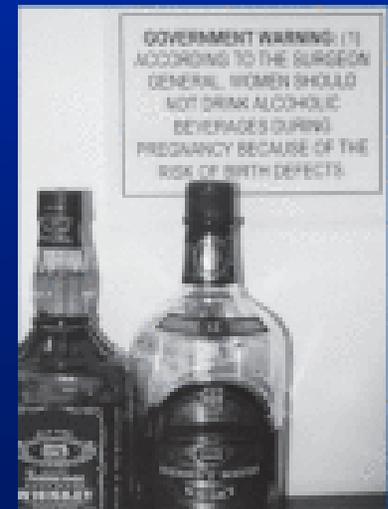
- Concurred with the 1996 IOM report in terms of limited effectiveness but recommended the following:
 - *“Expand and test methodological approaches for assessing the effects of universal strategies on alcohol use patterns and reproductive health outcomes of childbearing-aged women.*
 - *Promote the implementation of effective population-based interventions for reducing alcohol-related harms in the general population, including women of childbearing age.”*



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Alcoholic Beverage Warning Labels

- Alcoholic Beverage Warning Label Act 1988
- Studies on the impact of the warning label on alcohol use:
 - A significant number of people reported seeing the warning labels; some effects on alcohol use on light drinkers but not heavy drinkers
 - Overall, exposure to the label does not reduce alcohol use but has increased awareness in some groups



Point-of-Purchase Warning Posters

- Typically posted in bars, liquor stores and restaurants
- While posters alone have not been shown to change alcohol-related behaviors, they
 - Can raise awareness of health and safety risks associated with drinking and pregnancy
 - Reinforce the beverage warning label
- Use this strategy in combination with others
- Resource: *Mandatory Point-of-Purchase Messaging on Alcohol and Pregnancy* (2008)



Kentucky



Georgia

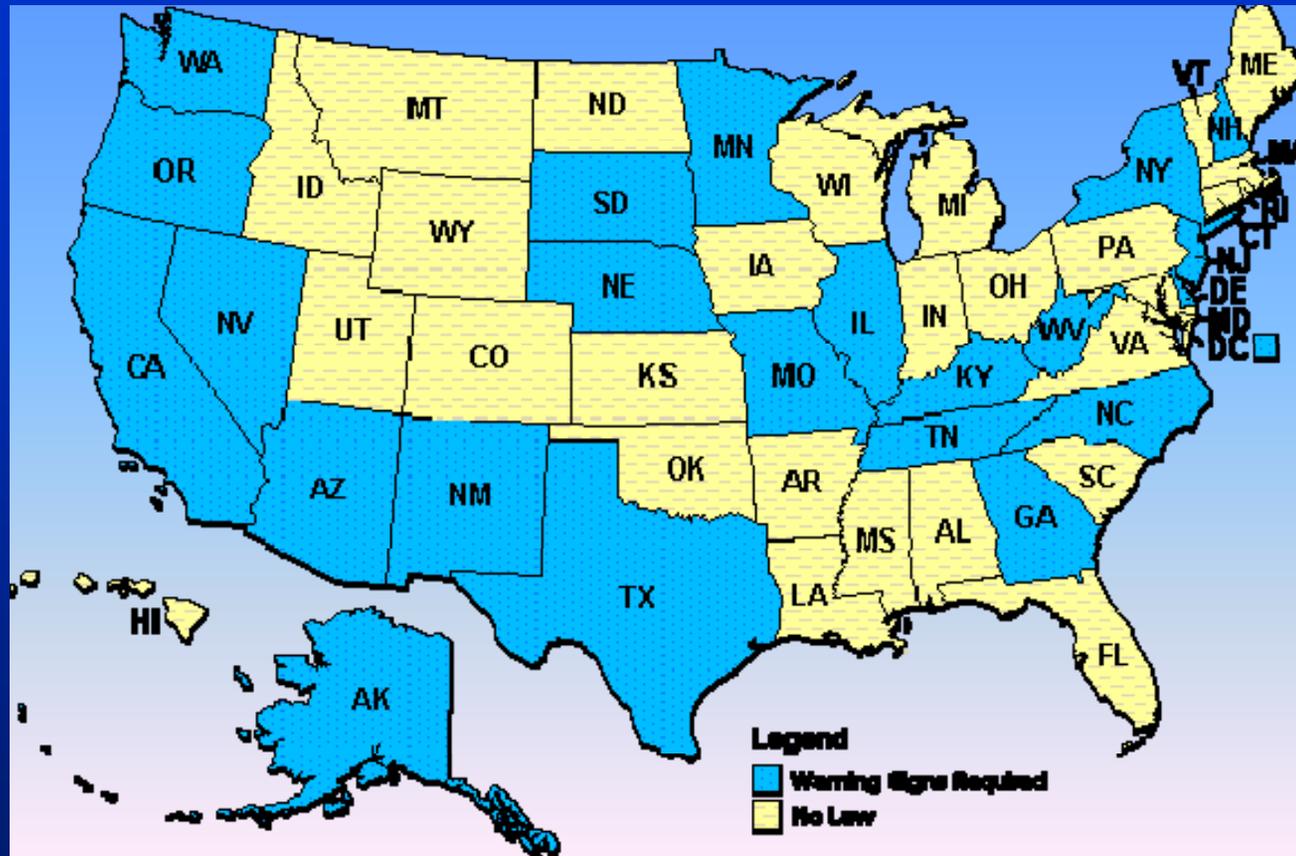


Washington



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Alcohol and Pregnancy: Mandatory Warning Signs as of January 1, 2009



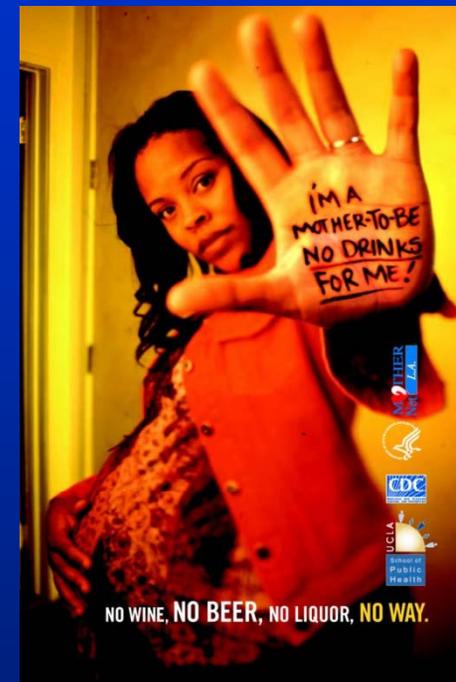
NIAAA Alcohol Policy Information System, 2009
<http://www.alcoholpolicy.niaaa.nih.gov>



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Communication Campaigns

- Increase knowledge and awareness about a health issue
- Can complement or promote FASD prevention efforts
- Rarely result in behavior change
- Can be costly; however, new media offers opportunities for creativity
- Careful planning is needed
- Evaluation is critical but is often not done



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Universal Strategies to Prevent FASDs

Are they effective?

- Currently, there is insufficient evidence to indicate that these strategies are effective in reducing AEPs or FASDs; however, they
 - Are important strategies for increasing public awareness and political will
 - Help raise the visibility of fetal alcohol spectrum disorders as a public health concern
 - Complement a comprehensive approach to FASD prevention
- More research is needed to explore the effects of these kinds of strategies



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Population-based Interventions to Reduce Excessive Alcohol Use

- What is the Guide to Community Preventive Services?
- Community Guide Alcohol Reviews
 - Limiting Alcohol Outlet Density
 - Increasing Alcohol Taxes
 - Enhanced Enforcement of Laws Prohibiting Sales to Minors



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What is the Community Guide?

- A resource of evidence-based recommendations for public health policy and practice
 - Based on systematic reviews of all available research
 - Developed by a team: Community Guide staff at CDC, in collaboration with federal and nonfederal experts in research, practice, and policy
- Has assessed the effectiveness of over 210 public health interventions in 18 topic areas and settings
- CDC provides scientific and administrative support to the Task Force on Community Preventive Services



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Task Force on Community Preventive Services

- Independent, nonfederal, volunteer body of experts in public health and prevention research, practice and policy, appointed by the CDC Director to:
 - Prioritize topics for systematic review
 - Oversee systematic reviews done for the Community Guide
 - Develop evidence-based recommendations on the basis of the systematic review results
 - Identify areas in need of further research



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Examples of Community Guide Topics

- **Risk Behaviors**

- **Excessive Alcohol Use**
- Poor Nutrition
- Inadequate Physical Activity
- Tobacco Use
- Unhealthy Sexual Behaviors

- **Settings**

- Worksites
- Schools
- Communities
- Health Care

- **Specific Conditions**

- Asthma
- Birth Defects
- Cancer
- Diabetes
- Mental Health/Mental Illness
- Motor Vehicle-Related Injuries
- Obesity
- Oral Health
- Vaccine-Preventable Disease
- Violence



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Why Does the Community Guide Address Excessive Alcohol Use?

- 3rd leading cause of preventable death in the United States
- Approximately 5% of the total population drinks heavily and 15% of the population engages in binge drinking
- People aged 12-20 years drink 11% of all alcohol consumed in the U.S.
 - More than 90% of this alcohol is consumed in the form of binge drinks



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Task Force Findings—Alcohol Reviews

Interventions Directed Toward the General Population	
<input checked="" type="checkbox"/> Regulation of alcohol outlet density	Recommended based on sufficient evidence
Privatization of retail sales	Insufficient Evidence
Maintaining limits on days of sale	Recommended based on strong evidence
Maintaining limits on hours of sale	Recommended
<input checked="" type="checkbox"/> Increasing alcohol taxes	Recommended based on strong evidence
Enhanced enforcement of overservice laws	Recommended
Dram shop liability	Recommended
Interventions Directed Toward Underage Drinkers	
<input checked="" type="checkbox"/> Enhanced enforcement of laws prohibiting sales to minors	Recommended based on sufficient evidence

www.thecommunityguide.org/alcohol/index.html



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Limiting Alcohol Outlet Density



- Greater alcohol outlet density has been associated with increased alcohol consumption and alcohol-related harms
- Alcohol outlet density
 - An alcohol outlet is a place where alcohol may be legally sold for the buyer to drink there (on-premises) or elsewhere (off-premise)
 - Density refers to the number of alcohol outlets in a given area
 - Typically controlled by states via licensing and zoning
- Regulations can reduce or limit the increase of alcohol outlet density

Limiting Alcohol Outlet Density: Results

- No studies exist that directly examined the effects of local interventions to limit alcohol outlet density
- Several types of studies did consistently indicate that alcohol outlet density was associated with excessive alcohol consumption and related harms
 - Changes in alcohol outlet density over time
 - Retail privatization
 - Bans on alcohol use
 - Licensing policy changes

Campbell CA, et al., Am J Prev Med 2009;37(6):556-569.



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Limiting Alcohol Outlet Density: Recommendation

The Task Force for Community Preventive Services recommends the use of regulatory authority (e.g., through licensing and zoning) to limit alcohol outlet density on the basis of sufficient evidence of a positive association between outlet density and excessive alcohol consumption and related harms.

Campbell CA, et al., Am J Prev Med 2009;37(6):556-569.



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Increasing Alcohol Taxes

- Alcohol excise taxes effect the price of alcohol and are intended to reduce alcohol-related harms, raise revenue, or both
- Implemented at the state and federal level
- Taxes vary depending on type of alcohol (beer, wine, spirits)
- Based on amount of beverage purchased (not on sales price), so effects can erode over time due to inflation if not adjusted regularly

Increasing Alcohol Taxes: Results

- 73 studies reviewed
 - Looked at relationship between either tax rates or total price on measures related to excessive alcohol consumption and its related harms
 - Effects of price on alcohol consumption or other outcomes are defined as the expected % change in the outcome when the price increases by 1% (price elasticity)
- Strong evidence of intervention effectiveness

Elder RW, et al. Am J Prev Med, 2010.



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Increasing Alcohol Taxes: Results

- Alcohol price and per capita consumption: price elasticity
 - Price elasticity for total alcohol consumption:
-0.77
 - Thus, increasing the price of alcohol by 10% would reduce alcohol consumption by 7%
 - Public health effects are expected to be proportional to the size of the tax increase

Elder RW, et al. Am J Prev Med, 2010.



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Increasing Alcohol Taxes: Results

- Higher alcohol price or taxes were consistently related to:
 - Fewer motor vehicle crashes and deaths
 - Less alcohol-impaired driving
 - Less mortality from liver cirrhosis
 - Less all-cause mortality
- Effects also shown for measures of violence, STDs, and alcohol dependence

Elder RW, et al. Am J Prev Med, 2010.



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Increasing Alcohol Taxes: Recommendation

The Task Force for Community Preventive Services recommends increasing the unit price of alcohol by raising taxes based on strong evidence of effectiveness for reducing excessive alcohol consumption and related harms. Public health effects are expected to be proportional to the size of the tax increase.

Elder RW, et al. Am J Prev Med, 2010.



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Enhanced Enforcement of Laws Prohibiting Sales to Minors: Interventions



- Interventions that initiate or increase the frequency of retailer compliance checks for laws against the sale of alcohol to minors
- Typically done through “sting operations” using youthful-looking decoy trying to buy alcohol
- Can also include warnings to retailers against sales to minors (through mass media or letters)



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Enhanced Enforcement of Laws Prohibiting Sales to Minors: Results

- 8 studies evaluated % of purchase attempts by decoys that resulted in sales; overall 42% reduction in attempts for enhanced enforcement programs
- Too few studies to assess the relationship between enhanced enforcement and underage drinking
- Enhanced enforcement programs were effective:
 - In on-premises (e.g., bars) and off-premises (e.g., liquor stores) establishments
 - In rural and urban communities
 - Among different ethnic and socioeconomic groups



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Enhanced Enforcement of Laws Prohibiting Sales to Minors: Recommendation

The Task Force for Community Preventive Services recommends enhanced enforcement of laws prohibiting sale of alcohol to minors, on the basis of sufficient evidence of effectiveness in limiting underage alcohol purchases. Further research will be required to assess the degree to which these changes in retailer behavior affect underage drinking.

Task Force for Community Preventive Services, June 2006
www.thecommunityguide.org/alcohol/lawsprohibitingsales.html



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Summary

- Universal strategies play an important role in increasing public awareness about FASDs and are part of a comprehensive approach to prevent FASDs.
- More research is needed on the effectiveness of universal strategies to prevent FASDs.
- There are effective population-based strategies to reduce excessive alcohol use and alcohol-related harms in the general population.
- The challenges we face both in preventing FASDs and in reducing excessive alcohol use cannot be addressed by one system or one group; it takes a multi-level, multi-system approach to prevent FASDs and excessive alcohol use in the general population.



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Questions for Discussion

- What are your experiences in promoting population-based strategies to prevent FASDs or excessive alcohol use in general?
- What are the benefits to our efforts in promoting universal alcohol policy strategies to reduce excessive alcohol consumption in the general population?
- What types of resources would you need in order to support and promote population-based strategies to prevent FASDs and excessive alcohol use?



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Related Resources

- National Organization on Fetal Alcohol Syndrome
 - www.nofas.org
- Center for Science in the Public Interest
 - www.cspi.org
- Alcohol Policy Information System (APIS)
 - www.alcoholpolicy.niaaa.nih.gov
- SAMHSA's FASD Center for Excellence
 - www.fasdcenter.samhsa.gov
- The Guide to Community Preventive Services
 - www.thecommunityguide.org/alcohol/index.html
- CDC's Alcohol and Public Health Website
 - www.cdc.gov/alcohol



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Reducing risks for mental disorders: frontiers for preventive intervention research/Committee on Prevention of Mental Disorders, Division of Biobehavioral Sciences and Mental Disorders, Institute of Medicine; Patricia J. Mrazek and Robert J. Haggerty, editors. National Academy of Sciences, 1994.

Stratton KR, Howe C, Battaglia F, editors. Fetal alcohol syndrome: Diagnosis, epidemiology, prevention, and treatment. Washington, DC: National Academy Press; 1996.

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Center for Science in the Public Interest. State Action Guide: Mandatory Point-of-Purchase Messaging on Alcohol and Pregnancy. Washington, DC 2008.
http://www.cspinet.org/new/pdf/state_action_guide.pdf.



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Making Health Communication Programs Work: A Planner's Guide: *A publication from the National Cancer Institute* (also called the Pink Book), a revision of the original 1989 guide offering planning steps for health communications programs.

<http://www.cancer.gov/pinkbook>.

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Elder RW, Lawrence B, Ferguson A, Naimi TS, Brewer RD, Chattopadhyay SK, Toomey TL, Fielding JE, Task Force on Community Preventive Services. The effectiveness of tax policy interventions for reducing excessive alcohol consumption and related harms. *Am J Prev Med* 2010; 38(2):217-29.

Task Force for Community Preventive Services, Enhanced enforcement of laws prohibiting sales to minors, www.thecommunityguide.org/alcohol/lawsprohibitingsales.html, June 2006.



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Contact Information:

Mary Kate Weber, MPH
Email: muw1@cdc.gov

CDC FASD Website:
www.cdc.gov/fasd



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