

1999 HOUSE JUDICIARY

HB 1295

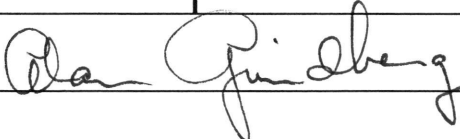
1999 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. 1295

House Judiciary Committee

Conference Committee

Hearing Date January 25, 1999

Tape Number	Side A	Side B	Meter #
1	X		0
Committee Clerk Signature 			

Minutes:

REP. ROSE: Presented prepared testimony, a copy of which is attached., and suggested amendments.

KAREN ROMIG LARSON: (Human Services) Presented written testimony, a copy of which is attached.

BOB BENNETT: (AG) Law enforcement is concerned about Section 3 of the bill. This provides an exception to the law that the crime must be committed in the officer's presence. The bill actually helps protect people from themselves.

AMY YELLOW: I am a licensed addiction counselor. Here are some common aerosol products that cause problems. There is either no warning on the can, or very, very little. This causes brain damage, and it is irreversible. Inhalant addiction cannot be treated on an outpatient basis, and most patients need extended care.

Page 2

House Judiciary Committee

Bill/Resolution Number 1295

Hearing Date January 25, 1999

LOIS YELLOW EAGLE: Presented written testimony, a copy of which is attached.

KAREN ESPELAND presented a letter to the chairman.

TOM WOODMANSEE: (ND Grocers) Presented written testimony, a copy of which is attached.

RON NESS (ND Retail Assn) Presented written testimony, a copy of which is attached.

JOY JOHNSON (GNDA) This bill will have little effect on inhalers at great cost to dealers. I have with me a bag of aerosol products that are from my home. Every young person can get these products in their home.

COMMITTEE ACTION February 2, 1999

REP HAWKEN presented proposed amendments and moved their adoption. Rep. Sveen seconded and the motion passed on a unanimous voice vote.

REP HAWKEN moved that the committee recommend that the bill DO PASS AS AMENDED.

Rep. Koppelman seconded and the motion passed on a roll call vote with 15 ayes, 0 nays and 0 absent. Rep. Hawken was assigned to carry the bill on the floor.

FISCAL NOTE

(Return original and 10 copies)

Bill/Resolution No.: _____ Amendment to: HB 1295

Requested by Legislative Council Date of Request: 2-19-99

- Please estimate the fiscal impact (in dollar amounts) of the above measure for state general or special funds, counties, cities, and school districts.

Narrative:

This bill makes intentional inhalation of volatile chemicals a Class B misdemeanor.

- State** fiscal effect in dollar amounts:

	1997-99 Biennium		1999-2001 Biennium		2001-03 Biennium	
	General Fund	Special Funds	General Fund	Special Funds	General Fund	Special Funds
Revenues:	-0-	-0-	-0-	-0-	-0-	-0-
Expenditures:	-0-	-0-	-0-	-0-	-0-	-0-

- What, if any, is the effect of this measure on the appropriation for your agency or department:

- For rest of 1997-99 biennium: -0-
- For the 1999-2001 biennium: -0-
- For the 2001-03 biennium: -0-

- County, City, and School District** fiscal effect in dollar amounts:

1997-99 Biennium			1999-2001 Biennium			2001-03 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts
	-0-			-0-			-0-	

If additional space is needed, attach a supplemental sheet.

Signed 

Typed Name Robert A. Barnett

Department State Department of Health

Phone Number 328-2392

Date Prepared: 2-23-99

FISCAL NOTE

(Return original and 10 copies)

Bill/Resolution No.: HB 1295 Amendment to: _____

Requested by Legislative Council Date of Request: 1-13-99

1. Please estimate the fiscal impact (in dollar amounts) of the above measure for state general or special funds, counties, cities, and school districts.

Narrative:

This bill requires approximately 10,000 businesses to pay a fee and register as sellers of volatile substances. The Department of Human Services shall conduct a media campaign for \$164,000 and provide grants of \$94,000 for prevention and awareness of volatile chemicals. The Department of Health shall educate and inspect the businesses on the applicability of the law and design and provide signs for posting near volatile chemical plants (approximate cost of \$258,000). The total cost of the bill is \$516,000.

2. **State** fiscal effect in dollar amounts:

	1997-99 Biennium		1999-2001 Biennium		2001-03 Biennium	
	General Fund	Special Funds	General Fund	Special Funds	General Fund	Special Funds
Revenues:	-0-	-0-	-0-	516,000	-0-	516,000
Expenditures:	-0-	-0-	-0-	516,000	-0-	516,000

3. What, if any, is the effect of this measure on the appropriation for your agency or department:

- a. For rest of 1997-99 biennium: -0-
- b. For the 1999-2001 biennium: 516,000
- c. For the 2001-03 biennium: 516,000

4. **County, City, and School District** fiscal effect in dollar amounts:

1997-99 Biennium			1999-2001 Biennium			2001-03 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts
	-0-			-0-			-0-	

If additional space is needed, attach a supplemental sheet.

Signed 

Typed Name Robert A. Barnett

Department ND Department of Health

Phone Number 328-2392

Date Prepared: 1-20-99

Date: 2/2/99
Roll Call Vote #: 1

1999 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1295

House JUDICIARY Committee

Subcommittee on _____
or
 Conference Committee

Legislative Council Amendment Number Do Pass as Amen

Action Taken _____

Motion Made By Hawken Seconded By Koppelman

Representatives	Yes	No	Representatives	Yes	No
REP. DEKREY	✓		REP. KELSH	✓	
REP. CLEARY	✓		REP. KLEMIN	✓	
REP. DELMORE	✓		REP. KOPPELMAN	✓	
REP. DISRUD	✓		REP. MAHONEY	✓	
REP. FAIRFIELD	✓		REP. MARAGOS	✓	
REP. GORDER	✓		REP. MEYER	✓	
REP. GUNTER	✓		REP. SVEEN	✓	
REP. HAWKEN	✓				

Total Yes 15 No 0

Absent 0

Floor Assignment Hawken

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1295: Judiciary Committee (Rep. DeKrey, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (15 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). HB 1295 was placed on the Sixth order on the calendar.

Page 1, line 1, remove "relating to the sale of certain volatile chemicals to minors;"

Page 1, line 3, remove "; and to provide"

Page 1, line 4, remove "a penalty"

Page 1, line 19, after "4." insert "Butane

5."

Page 1, line 20, overstrike "5." and insert immediately thereafter "6."

Page 1, line 21, overstrike "6." and insert immediately thereafter "7."

Page 1, line 22, overstrike "7." and insert immediately thereafter "8."

Page 1, line 23, overstrike "8." and insert immediately thereafter "9."

Page 1, line 24, overstrike "9." and insert immediately thereafter "10."

Page 2, line 1, overstrike "10." and insert immediately thereafter "11."

Page 2, line 2, overstrike "11." and insert immediately thereafter "12."

Page 2, line 3, overstrike "12." and insert immediately thereafter "13."

Page 2, line 4, overstrike "13." and insert immediately thereafter "14."

Page 2, line 5, overstrike "14." and insert immediately thereafter "15."

Page 2, line 6, overstrike "15." and insert immediately thereafter "16."

Page 2, line 7, overstrike "16." and insert immediately thereafter "17."

Page 2, line 8, overstrike "17." and insert immediately thereafter "18."

Page 2, line 9, overstrike "18." and insert immediately thereafter "19."

Page 2, line 10, overstrike "19." and insert immediately thereafter "20."

Page 2, line 11, overstrike "20." and insert immediately thereafter "21."

Page 2, line 12, replace "21" with "22"

Page 2, line 13, replace "22" with "23"

Page 2, line 14, replace "23" with "24"

Page 2, line 15, replace "24" with "25"

Page 2, line 16, replace "25" with "26"

Page 2, remove lines 17 through 31

Page 3, remove lines 1 through 26

Renumber accordingly

1999 SENATE JUDICIARY

HB 1295

1999 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB1295

Senate Judiciary Committee

Conference Committee

Hearing Date March 1, 1999

Tape Number	Side A	Side B	Meter #
1	x		0 - 2709
3-16-99 1	x		3000 - 4000
Committee Clerk Signature <i>Jackie Follman</i>			

Minutes:

HB1295 relates to inhalation of volatile chemicals and to arrest without a warrant; and to provide a penalty.

SENATOR STENEHJEM opened the hearing on HB1295 at 9:00 A.M.

All were present except Senator C. Nelson.

REPRESENTATIVE ROSE testified in support of HB1295. Inhalant use is on the rise. This is a gateway to harder drug use. This problem is increasing among our youth. She also proposed an amendment. Add one more chemical - fluoro-carbon.

SENATOR STENEHJEM asked why they just don't go get a warrant. The main intent was not to bring criminal charges but get these people into treatment that they need.

REPRESENTATIVE ROSE stated that this was a request by law enforcement to add to this bill.

REPRESENTATIVE CLEARY, District 49, testified in support of HB1295. We need to educate people on this subject.

BOB BENNETT, Attorney General's Office, testified in support of HB1295. He clarified the active conduct. The officer would not have to observe the actual conduct of inhaling. There has to be some way to interact quickly.

SENATOR STENEHJEM asked if the police should only be able to make an arrest if the person is under the influence, under this change they could make an arrest for activities that occurred six months ago.

BOB BENNETT stated that would apply to all the exclusions.

SENATOR LYSON asked if you don't have physical evidence, I don't see how its going to help.

BOB BENNETT stated the police officer is still going to have some evidence and probable cause.

SENATOR WATNE asked about adding fluoro-carbon, propane and gas to the bill.

BOB BENNETT stated he thinks that it could be put in, but he feels it is included under the volatile chemicals.

SENATOR STENEHJEM asked if he knew how many prosecutions there have been on this issue.

BOB BENNETT stated that he did not know but would check if this is available.

SENATOR TRAYNOR offered a proposed amendment to the bill.

DICK PECK, North Dakota Peace Officers Association, testified in support of HB1295. This would give the officers an additional tool in helping with this problem. We also support Senator Traynor's amendment.

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Senate Judiciary Committee
Bill/Resolution Number HB1295
Hearing Date March 1, 1999

NANCY SAND, NDEA, testified in support of HB1295.

SENATOR STENEHJEM CLOSED the hearing on HB1295.

MARCH 16, 1999 TAPE 1, SIDE A

SENATOR TRAYNOR proposed an amendment adding that they can be arrested in a different county.

SENATOR STENEHJEM proposed an amendment on page 3 to take out inhaling and put in being under the influence instead.

SENATOR TRAYNOR made a motion on Amendments, SENATOR WATNE seconded.

Discussion. Motion carried. 6 - 0 - 0

SENATOR WATNE proposed an additional amendment to include fluoro-carbons.

SENATOR WATNE made a motion of Further Amendments, SENATOR LYSON seconded.

Discussion. Motion carried. 6 - 0 - 0

SENATOR WATNE made a motion for DO PASS AS AMENDED, SENATOR LYSON seconded. Motion carried. 6 - 0 - 0

SENATOR LYSON will carry the bill.

PROPOSED AMENDMENTS TO ENGROSSED HOUSE BILL NO. 1295

Page 1, line 1, replace "section" with "sections 5-01-08," and after "12.1-36-06" insert a comma

Page 1, line 2, after the first "to" insert "consumption of alcohol," and after "chemicals" insert a comma

Page 1, line 3, after "warrant" insert "; and to provide a penalty"

Page 1, after line 4, insert:

"SECTION 1. AMENDMENT. Section 5-01-08 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

5-01-08. Persons under twenty-one years of age prohibited from manufacturing, purchasing, consuming, or possessing alcoholic beverages or entering licensed premises - Penalty - Exceptions - Referrals to addiction facilities - Jurisdiction. Except as permitted in this section and section 5-02-06, any person under twenty-one years of age manufacturing or attempting to manufacture alcoholic beverages, purchasing or attempting to purchase alcoholic beverages, consuming or having recently consumed alcoholic beverages other than during a religious service, being under the influence of alcoholic beverages, or being in possession of alcoholic beverages, or furnishing money to any person for such purchase, or entering any licensed premises where alcoholic beverages are being sold or displayed, except a restaurant when accompanied by a parent or legal guardian, or in accordance with section 5-02-06, or if the person is a law enforcement officer entering the premises in the performance of official duty, is guilty of a class B misdemeanor. The court may, under this section, refer the person to an outpatient addiction facility licensed by the state department of human services for evaluation and appropriate counseling or treatment. The offense of consumption occurs in the county of consumption or the county where the offender is arrested."

ReNUMBER accordingly

Date: 3-16-99
Roll Call Vote #: 1

1999 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. HB1295

Senate Judiciary _____ Committee

Subcommittee on _____
or
 Conference Committee

Legislative Council Amendment Number _____

Action Taken Motion on Amendments

Motion Made By Senator Traynor Seconded By Senator Watne

Senators	Yes	No	Senators	Yes	No
Senator Wayne Stenehjelm	X				
Senator Darlene Watne	X				
Senator Stanley Lyson	X				
Senator John Traynor	X				
Senator Dennis Bercier	X				
Senator Caroloyne Nelson	X				

Total (Yes) 5 No 0

Absent 0

Floor Assignment _____

Date: 3-16-99
Roll Call Vote #: 2

1999 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. HB1295

Senate Judiciary Committee

Subcommittee on _____
or
 Conference Committee

Legislative Council Amendment Number _____

Action Taken Motion on Further Amendments

Motion Made By Senator Watne Seconded By Senator Lyson

Senators	Yes	No	Senators	Yes	No
Senator Wayne Stenehjem	X				
Senator Darlene Watne	X				
Senator Stanley Lyson	X				
Senator John Traynor	X				
Senator Dennis Bercier	X				
Senator Carolyn Nelson	X				

Total (Yes) 5 No 0

Absent 0

Floor Assignment _____

Date: 3-16-99
Roll Call Vote #: 3

1999 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. HB1295

Senate Judiciary Committee

Subcommittee on _____
or
 Conference Committee

Legislative Council Amendment Number _____

Action Taken Do Pass AS Amended

Motion Made By Senator Watne Seconded By Senator Lyson

Senators	Yes	No	Senators	Yes	No
Senator Wayne Stenehjem	X				
Senator Darlene Watne	X				
Senator Stanley Lyson	X				
Senator John Traynor	X				
Senator Dennis Bercier	X				
Senator Carolynn Nelson	X				

Total (Yes) 5 No 0

Absent 0

Floor Assignment Senator Lyson

REPORT OF STANDING COMMITTEE

HB 1295, as engrossed: Judiciary Committee (Sen. W. Stenehjem, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (6 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). Engrossed HB 1295 was placed on the Sixth order on the calendar.

Page 1, line 1, replace "section" with "sections 5-01-08," and after "12.1-36-06" insert a comma

Page 1, line 2, after the first "to" insert "consumption of alcohol," and after "chemicals" insert a comma

Page 1, line 3, after "warrant" insert "; and to provide a penalty"

Page 1, after line 4, insert:

"SECTION 1. AMENDMENT. Section 5-01-08 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

5-01-08. Persons under twenty-one years of age prohibited from manufacturing, purchasing, consuming, or possessing alcoholic beverages or entering licensed premises - Penalty - Exceptions - Referrals to addiction facilities - Jurisdiction. Except as permitted in this section and section 5-02-06, any person under twenty-one years of age manufacturing or attempting to manufacture alcoholic beverages, purchasing or attempting to purchase alcoholic beverages, consuming or having recently consumed alcoholic beverages other than during a religious service, being under the influence of alcoholic beverages, or being in possession of alcoholic beverages, or furnishing money to any person for such purchase, or entering any licensed premises where alcoholic beverages are being sold or displayed, except a restaurant when accompanied by a parent or legal guardian, or in accordance with section 5-02-06, or if the person is a law enforcement officer entering the premises in the performance of official duty, is guilty of a class B misdemeanor. The court may, under this section, refer the person to an outpatient addiction facility licensed by the state department of human services for evaluation and appropriate counseling or treatment. The offense of consumption occurs in the county of consumption or the county where the offender is arrested."

Page 2, after line 2, insert:

"13. Fluorocarbon."

Page 2, line 3, replace "13" with "14"

Page 2, line 4, replace "14" with "15"

Page 2, line 5, replace "15" with "16"

Page 2, line 6, replace "16" with "17"

Page 2, line 7, replace "17" with "18"

Page 2, line 8, replace "18" with "19"

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Page 2, line 12, replace "22" with "23"

Page 2, line 13, replace "23" with "24"

Page 2, line 14, replace "24" with "25"

Page 2, line 15, replace "25" with "26"

Page 2, line 16, replace "26" with "27"

Page 3, line 8, replace "inhaling" with "being under the influence of"

Renumber accordingly

1999 TESTIMONY

HB 1295

1291

House Judiciary Committee
HB 1295
Representative Wanda Rose District 32
January 25, 1999

Chairman DeKrey and members of the House Judiciary Committee.

For the record I am Wanda Rose Representative from District 32.

I would like to begin today by taking you back to 1991. In 1991 there was no law against sniffing chemicals to get high. During the 1991 legislative session HB 1133 was introduced at the request of the Attorney General's office in response to the problem of inhalant use. HB 1133 developed a list of volatile chemicals and made it a class B misdemeanor when the listed volatile chemicals were intentionally inhaled.

It has been 8 years ago since that legislation passed. Inhalant abuse continues to occur in North Dakota especially among our youth. According to the 1997 North Dakota Youth Risk Behavior Survey 23% of our 7-8th graders and 19% of our 9-12th graders used inhalants. In Bismarck, a 1998 survey of 2,245 4-6th graders found that 6.4% had used inhalants within the last two weeks. According to the National Inhalant Prevention Coalition 1 out of 5 children will abuse inhalant products before they finish high school.

Inhalants are the fourth most popular drug of choice for middle school kids after alcohol, tobacco, and marijuana. Inhalants are a gateway drug leading to other illicit drug abuse. They are the first substance young people try because they are legal, easy to get, inexpensive, and difficult to detect. Kids don't realize that anytime a person experiments with inhalants, the experience can be fatal. Within minutes the heart can stop beating. The troubling fact according to the National Inhalant Prevention Coalition is more than 9 out of 10 parents don't believe their child will ever abuse inhalants.

There are approximately 1400 available products on the market today that can be used by our youth to get a high. When used for their intended purpose are safe, but when used for the purpose of getting "high" are deadly. Heart stoppage can result without warning, even on the first try. These inhalants fall into four categories: (1)

volatile solvents which include butane, paint thinner, rubber cement, toxic markers, lighter fluid. (2) Aerosols which include hair spray, spray paints, room fragrances, computer dust off. (3) Nitrates which include butyl nitrate and are often known by the trade names of Rush, Bolt, Locker Room, and Climax. The products are sold as "room odorizers." (4) Anesthetic gases such as nitrous oxide. This product is commonly known as laughing gas used by dentists. It is sold in balloons at rock concerts and is also available in small cylinders known as whippets.

HB 1295 has been introduced to reduce access of these products to juveniles and to increase community awareness of their danger when used inappropriately. You will hear from the retailers that this imposes regulations on them and that they are not responsible for how our youth use these products and should be able to continue selling volatile chemicals to minors. I don't believe there are any of these products a minor needs immediately which cannot wait for a parent or guardian to purchase. It is true it may cause some inconvenience for adults. For example I sent my son to a local department store to purchase some black spray paint to help finish painting my campaign signs. He returned home without the paint stating he could not purchase the paint because he was not over 18. Yes, it was an inconvenience but I was pleased to learn that a local department store believes in reducing access of inhalant products to our youth and is enforcing their policy.

According to the NCSL there is approximately 15 states that prohibit the sale of volatile chemicals to minors. In the state of Texas after passing a law prohibiting the sale of volatile chemicals and collecting a registration fee they experienced a reduction of inhalant abuse by 22%.

HB 1295 does the following:

Section 1 adds butane, fluorocarbons (as amended), and nitrous oxide to the list of volatile chemicals.

Section 2 of the bill :

Decreases access to minors by prohibiting the sale or delivery of volatile chemicals as defined in section 12.1-31-06 to minors, unless the minor is delivering or accepting them as an employee. (As amended)

Requires retailers who sell to the public substance that contain volatile chemical to register with the department of health and pay a registration fee of \$50.00 per year

Requires retailers to display a sign indicating that volatile chemicals will not be sold to minors.

Require retailers to verify the purchaser's age when in question, helping to ensure that minors do not have access to these volatile substances.

The retailers have indicated to me that inhalant abuse is a top priority for them. The registration fee collected from the retailers would be one way for them to actively help promote prevention of inhalant abuse. Half of the dollars collected will be used to develop a statewide public information campaign and to provide for local program grants for the prevention and awareness of the inhalation of volatile chemicals with the other half used to ensure the posting of signs in a visible places, prohibiting sales to minors, and to help educate retail personnel.

Section 3 allows law enforcement to file charges if there is evidence of volatile chemical abuse such as paint stains on body or clothing, empty containers of volatile chemicals, chemical breath odor, drunk, dazed or dizzy appearance. The present law only allows the law enforcement to file charges if they actually see the individual using the product inappropriately.

HB 1295 is an opportunity for us to help address the use and abuse of inhalants. This bill will help save our youth. It can also have an impact on the future corrections budget. It is a well known fact that individuals who use and abuse drugs have a higher rate of incarceration. HB 1295 is for the future. It is cost saving and it is community focused and will promote active community participation.

Please give serious consideration to HB 1295 and I urge your support of HB 1295.



medcenter one

.....
January 26, 1999

Representative Wanda Rose
56th Legislative Assembly of ND
ND State Capitol
Bismarck ND 58501

Re: House Bill #1295

Dear Representative Rose:

I am writing in response to your request to testify on House Bill #1295, which is in regards to inhalant abuse and related issues. As you are aware, I am a child and adolescent psychiatrist at Medcenter One Health Systems in Bismarck, North Dakota. While I do not claim to be an expert in the area of substance abuse, I certainly have seen a number of children and teenagers in the last several years that have suffered from the effects of inhalant abuse. This has been a source of frustration for me for a number of reasons. First of all, we do not have good lab testing to document substance abuse in our patient's blood streams. The chemicals that are being inhaled do not show up in drug screens, either drawn from the blood or from urine drug screens that we typically utilize. In addition to this, there are, as you are aware, a wide variety of different chemicals that are inhaled for substance abuse purposes, making the task of identifying the offending chemical even more difficult to identify. Furthermore, patients who inhale substances often are refractory to outpatient treatment because of the intensity of their cravings and also because of the easy accessibility of many of the products of potential abuse, many of which are household types of products.

These substances are wide ranging, but include such things as fingernail polish remover, gasoline, paint thinner, spray paint (along with a number of other aerosols including aerosol vegetable oil, aerosol air fresheners, "magic markers", "white out", and a variety of other solvents). The list of potential solvents of abuse would likely be quite extensive and the list of household products containing these solvents/volatile chemicals would be undoubtedly even more extensive.

(CONTINUED)

*Medcenter One, Inc.
300 North Seventh Street
Bismarck, North Dakota 58501
Telephone 701/523-6000*



LETTER TO: Representative Wanda Rose
January 26, 1999
Page 2

I would certainly support making inhalant abuse a legal offense and I would propose that receiving treatment for inhalant abuse be part of the terms of the offending perpetrator's consequence or treatment plan. I think that it would be difficult to come up with an "all inclusive" list of potential household items of abuse, although clearly there are a number of items that are easily identifiable as potential sources of inhalant abuse that are sold over the counter in many stores. I think it may be difficult to regulate the sale of these items and it may become somewhat of a nuisance or hardship for some parties, but I would not object to the legislative assembly pursuing this matter further if it was felt that this could be adequately instituted and regulated.

In short, I would support nearly any initiative that would adequately address the issue of ongoing inhalant abuse in North Dakota and the rest of the country. I would be very much in favor of additional funding being provided to schools or public service announcements regarding the potential harmful effects of inhalant abuse on the human brain and nervous system, as I have heard from a number of adolescents that they were not aware of the potential long-term effects of ongoing inhalant abuse.

I recognize that this letter may not have addressed in detail some of the specifics that you had wished for me to address, but I hope that my comments are helpful to you as you discuss this bill during the 56th legislative assembly. I would invite you to contact me if you have any other questions or concerns regarding my comments.

Sincerely,



Robin M. Haaland, M.D.

RMH:dls
D&T: 1/26/99

WHAT ARE THE PHYSICAL AND MENTAL EFFECTS OF INHALANT USE

- Permanent Brain damage
- Short term memory loss
- Bone marrow damage
- Liver and kidney damage
- Fetal effects similar to fetal alcohol syndrome
- Bronchitis and pneumonia
- Headaches
- Bacterial and viral infections
- Muscle weakness
- Sore throats and nosebleeds
- Hearing loss

WHAT ARE THE SIGNS OF INHALANT ABUSE?

There are many emotional and physical signs of inhalant abuse. One of the most common is changes in grades, attendance or behavior at school. Other signs include:

- Personality changes- Depression, lack of motivation, irritability, hostility and paranoia, violent temper outbursts, severe mood swings, and erratic behavior changes. They may appear apathetic or belligerent and may exhibit impaired judgement.
- Paint stains on body or clothing
- Sores or pimples around the mouth or nose
- Chemical breath odor
- Drunk, dazed or dizzy appearance
- Hand tremors
- Red and tearing eyes
- Nosebleeds
- Loss of appetite, nausea, vomiting or abdominal pain

WHAT CAN I DO TO PREVENT MY CHILD FROM USING?

The best way to prevent inhalant abuse is to establish and maintain a good communication system with your children. They should be aware of the products being used. They also need to be aware of their detrimental effects. Children have said I had no idea that breathing in these products could hurt me.

WHAT SHOULD I DO IF I FIND MY CHILD USING?

Remain calm, inhalants cause an increase in heart rate. Frightening the user will even further increase the rate of the heart, which may cause the heart to stop beating. Open the window for fresh air. Contact your local medical center, mental health or drug treatment facility. Help is also available from your child school's guidance center or the employee assistance program where you are employed.

1

College of Nursing
Medcenter One Health Systems

Karen Espeland MSN, RN, CARN
323-6838

1

Emergency & Trauma Center
Medcenter One Health Systems

323-6150



ASK-A-NURSE

Medcenter One Health Systems

323-6877

1-800-526-6356

TDD 1-800-772-0226

QUESTIONS AND ANSWERS ABOUT INHALANTS

WHAT ARE INHALANTS?

Inhalants are a diverse group of chemicals that produce vapors which, when inhaled, interfere with normal functioning of the mind and body. The term "inhalants" refers to over 1400 products. These products can be found in our laundry rooms, kitchens, shops. Our children can also purchase or shoplift these items from local retailers. Unless there is a death in the community, inhalants are not something we think about. We do not want to think that our children are sniffing hair spray or some similar product.

EXAMPLES OF INHALANTS:

AIR FRESHENERS
AMYL NITRATE
BUTANE
BUTYL NITRATE
CLEANING FLUID
COOKING SPRAY
DEODORANT
GASOLINE
GLUE
HAIR SPRAY
LIGHTER FLUID
MARKERS
NAIL POLISH/ NAIL POLISH REMOVER
NITROUS OXIDE
PAINT OR SPRAY PAINT
PAINT THINNER
PROPANE
REFRIGERANT GASES
RUBBER CEMENT
SHOE GLUE
SPOT REMOVER
VARNISH

HOW DO CHILDREN INHALE?

Inhalants are usually sniffed (inhaled by nose) or huffed (inhaled by mouth), in either case the effects are similar. Most commonly, the agent is placed in a plastic bag and the fumes inhaled. A rag may be soaked in the inhalant and then the agent is sniffed from the rag. Frequently the solvent is inhaled from the container. Aerosols such as hair spray may be sprayed directly into the mouth. Gas is frequently huffed directly from the gas tank.

CHARACTERISTICS OF CHILD VULNERABLE TO START INHALING

- Low self-esteem
- Cannot talk to anyone
- Prone to take risks
- Comes from an abnormal home life
- Emotional distress

WHY ARE CHILDREN CHOOSING TO USE INHALANTS?

Easy to conceal. Abuse often takes place in public places. Small containers such as typewriter correction fluid can be passed around in classrooms. Other products can be concealed in soft drink cans.

Rapid onset of effect. A high is received within a few minutes of inhalation. The high is much faster than the high experienced by alcohol.

Quality and pattern of the high. Users describe the effects as euphoria, feeling giddy and lightheaded. Some experience a surge of creativity, others describe feeling excited in an otherwise drab environment.

Hallucinations. Some abusers of inhalants prefer hallucinations caused from inhalants to hallucinations caused by other drugs such as LSD.

Low Cost. Many solvent users are from low-income families or are children who do not have a financial means to purchase other drugs.

High can be controlled. Children inhale until they achieve the high they desire. Sometimes they get high several times a day.

Easy Availability. Inhalants are found everywhere in our homes and can easily be purchased at hardware, drug, food and discount stores. Adolescents frequently steal inhalants from retailers. In rural America, where access to shopping is not available, many resort to using gasoline.

Legality. In contrast to alcohol and the controlled substances, purchase and possession of these substances is not illegal in most areas. Inhalant abuse is very difficult to control because it involves products that are sold for legitimate purposes. Past attempts to regulate chemicals in inhalants that children abuse has not stopped children from sniffing, they merely find a new product.

WHAT RISKS ARE INVOLVED FROM USING INHALANTS?

Sudden Death. Immediate death can occur to first time user. Inhalants can interfere with breathing or produce an irregular heartbeat. It also cause heart failure. Inhalant deaths can cause suffocation, when a plastic bag is used to concentrate the fumes.

Accidents and violence. Accidents or violence can increase by behavior associated with intoxication, impairment in thinking or other problems caused by long term use of inhalants.

Suicide. Children facing a crisis with inadequate coping mechanisms have turned to inhalants as a method of committing suicide.

Burns. Due to the highly flammable nature of inhalants, burns can occur specifically if the abuser is also smoking.

Frost Bite. Many products such as freon found in fire extinguishers and whipping cream propellant cause frost bite on lips and mucous membranes when inhaled.

Addiction. Inhalants are often the first drugs used by adolescents. They are a "gateway" to other drug use, such as marijuana. Adolescents that have moved on to other drugs often start with inhalants.



Inhalants

They're right under your nose

Death from inhalant abuse can occur at any time. A user does not have to build up tolerance and increase dosage to be at risk of death: it can occur the first time an inhalant is used. Death can be the result of heart failure, suffocation due to lack of oxygen in the lungs, or depression of the central nervous system to the point that the breathing regulators in the brain shut down.

For most people, the idea of sniffing fumes doesn't sound like fun. But it is estimated that one in every three children will experiment with an inhalant.

**DRUG AWARENESS
RESOLUTION
ADOPTED ELKS NATIONAL
CONVENTION
WEDNESDAY, JULY 16, 1986**

Be it resolved, that the benevolent and protective order of ELKS, its state association and local lodges, affirm and support the concept of "No - Use message of drugs and alcohol to the nation's youth, and our opposition to the concept of "responsible use" of illicit substances. The message to our children must be "No Illicit Drugs Ever" and "No Alcohol Under The Legal Age"

Be it further resolved, that the benevolent and protective order of ELKS, its state associations and local lodges, oppose the legalization or decriminalization of the use, possession, sale, or production of psychoactive substances, including Cannabis, Cocaine, and Heroin for anything other than authorized research or scientific purposes.



DRUG AWARENESS PROGRAM

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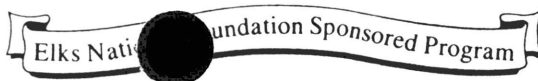
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Inhalants

What You Should Know

INHALANT
ABUSE
KIDS in DANGER



ELKS
**DRUG
AWARENESS
PROGRAM**

What You Should Know About Inhalants

"In America it is estimated that seven million people have experimented with inhalants."

*Drug Abuse Digest
Institute of Substance Abuse Research*

Inhalants are usually easily obtained ordinary household items (glue, paint, etc.). Experimenters tend to be young people ages 7 to 17. The inhalants are sold legally, are easy to purchase and are relatively inexpensive.

How does somebody "sniff?"

Inhalants are used by sniffing through the nose or "huffing"-- inhaling the fumes through the open mouth. Sniffers may spray the chemicals into a plastic bag and sniff from that. They may wet rags with the spray contents and breathe in from those. They may spray the paint or cleaner into a soda can and breathe in the fumes from that. This way they look like they're drinking from the can.

Ordinary household items

Inhalants are not typically thought of as drugs because they are not usually sold to be used as drugs. The abused substances include solvents, aerosols, some anesthetics and other chemicals. Some examples are included on the following list.

gasoline	butane
octane boosters	stain removers
freon	varnish
brake fluid	model airplane glue
charcoal starter fluid	rubber cement
felt tip pens	cleaning fluids
fingernail polish	aerosol spray paint
nail polish remover	paint thinner
hair spray	plastic wood adhesive
insecticides	frying pan coating
window cleaner	art supplies

Amyl Nitrite and Butyl Nitrite

Amyl nitrite and butyl nitrite are the two inhalants that are sold on the street illegally (amyl nitrite can be prescribed legally by a doctor for heart patients). Butyl nitrite is legally available because it is sold as a room odorizer and not as a drug. The fact that it is legal, however, is no proof that it is safe. In fact, the Consumer Product Safety Commission has labeled butyl nitrite a hazardous substance. Inhalers use butyl nitrite as a sexual stimulant, but eventually users will find they are unable to become stimulated without it.

What is a "Popper?"

Poppers, or amyl nitrite, are one of the few inhalants with medical use. Poppers are small cotton-wrapped glass tubes that contain the stimulant-like amyl nitrite. They are inhaled by patients who are having pain caused by heart disease. They are also used illicitly.

Can people become addicted to inhalants?

Users do not become physically addicted to an inhalant. However, they do become tolerant to its effects, and must continuously increase the amount they sniff to get "high." In little doses there is a very brief feeling of light-headedness. The more that is inhaled, the more the sniffer relaxes. Large amounts produce a depressed state and, finally, sleep or even coma.

How do kids get high from "White Out?"

Believe it or not, many kids think sniffing typewriter correction fluid is cool. TCE is the active ingredient in "White Out" and, when sniffed, it provides a "high" which is similar to drinking large amounts of alcohol. The "high" lasts 15 to 30 minutes and is followed by drowsiness. An overdose can cause coma or cardiac arrest, because the heart is stimulated by adrenaline and may go into fatal spasms.

How do I know if someone is experimenting with inhalants?

Watch for rapidly disappearing plastic bags, strong odors in the room and evidence of paint or glue on the face or clothing. The immediate negative effects of inhalant use lasts from 15 to 45 minutes. They include the following:

flushed face and neck	bad breath
dizziness	lack of coordination
nausea	loss of appetite
sneezing	decreased heart rate
coughing	decreased breathing rate
nosebleeds	inhibited judgment
fatigue	

What are the effects of sniffing?

Regular and prolonged use are certainly dangerous. Chronic sniffers usually end up in the hospital, in prison, or dead. There are negative effects associated with both short- and long-term use.

Short-term effects:

- losing touch with one's surroundings
- loss of self-control
- loss of balance
- psychological problems
- loss of appetite
- difficulty walking a straight line
- violent behavior
- unconsciousness
- vomiting
- death

Long-term dangers:

- tolerance
- extreme weight loss
- salt imbalance in the body
- muscle fatigue
- permanent nerve damage
- permanent brain damage
- reduced physical capabilities
- reduced mental capabilities
- kidney damage
- liver damage
- death

Inhalants

The immediate negative effects of inhalants include nausea, sneezing, coughing, nosebleeds, fatigue, lack of coordination, and loss of appetite. Solvents and aerosol sprays may also decrease the heart and respiratory rates and impair judgement. Amyl and butyl nitrite cause rapid pulse, headaches, and involuntary passing of urine and feces. Long-term use may result in hepatitis or brain damage.

Deeply inhaling the vapors, or using large amounts over a short time, may result in disorientation, violent behavior, unconsciousness, or death. High concentrations of inhalants can cause suffocation by displacing the oxygen in the lungs or by depressing the central nervous system to the point that breathing stops.

Long-term use can cause weight loss, fatigue, electrolyte imbalance, and muscle fatigue. Repeated sniffing of concentrated vapors over time can permanently damage the nervous system.

Type	Slang Terms	What does it look like?	How is it used?
Anesthetics (Nitrous Oxide)	Laughing gas, Whippets	Propellant for whipped cream in aerosol can, Small 8-gram metal cylinder sold with a balloon or pipe	Sniffed, Inhaled
Nitrites (Amyl Nitrite)	poppers	Clear yellowish liquid in ampules	Sniffed, Inhaled
(Butyl Nitrite)	Rush, Bolt, Locker Room	Packaged in small bottles	Sniffed, Inhaled
Volatile Solvents	Sniffing, Glue Sniffing, Huffing	Containers of cleaning fluid, gasoline, model airplane glue, paint thinner, vegetable spray, hair spray, deodorants, spray paint, liquid paper, rubber cement	Sniffed, Inhaled



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Connecticut Clearinghouse, 334 Farmington Avenue Plainville, CT 06062 800-232-4424 /

STATE INHALANT LEGISLATION

NOTE: The following information was compiled by the National Conference on State Legislatures and may not be a complete report on legislative efforts.

* indicates state which provides a fine, jail time or treatment option for violation of inhalant laws

State	Law Prohibits	Substances Prohibited	Fine	Jail	Treatment
Arizona	sale, transfer, or offer to sell to minor	vapor releasing substance containing toxic substance	*	*	
California	sale, distribution, dispensation, possession to minor	toluene, materials containing toluene, nitrous oxide	*	*	
Colorado	inhaling certain compounds for intoxication	general prohibition of inhalable compounds			
Connecticut	sale, distribution to minor	nitrous oxide, including "whippet kits"	*		
Georgia	general inhalants; also prosecutes inhalants under DUI law	general prohibition of inhalable compounds	*	*	
Florida	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds			
Hawaii	knowingly selling toluol or inhalable compounds to minors	liquid/chemical containing toluol, inhalable substances			
Idaho	possession by minors or use of inhalant for intoxicification	aerosol spray, other inhalant	*	*	
Illinois	knowingly sell, offer or deliver to minor	liquid/chemical containing toluol, inhalable substances			
Iowa	sale, distribution or use for the purpose of intoxicification	nitrous oxide	*	*	
Kentucky	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds			

Louisiana	prohibits sale or transfer of possession to minor	model glue, inhalable toluene substances	*	*	
New Mexico	sale to minors; inhaling or possessing for intoxicification	model glue, aerosol spray, & chemicals for intoxicification	*	*	*
Maine	inhaling toxic vapors for effect; sale or distribution for purpose of intoxicification to minor	general prohibition of inhalable compounds	*		*
Maryland	distribution, instruction to minor; sale or distribution to minor	drugs/noxious substances, including butyl nitrite & butane	*	*	
Massachusetts	retailers must require ID for sale and maintain register of minors which is available for police inspection; inhalants are required to have noxious deterrents against intoxicification	glue or cement	*	*	
Michigan	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds			
Minnesota	sale to minors; use and possession for intoxicification; businesses must post signs stating it is illegal to sell butane/butane lighters to minors	general inhalable compounds, butane/butane lighters			
Mississippi	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds			
Nebraska	inhaling certain compounds for intoxicification; retailers must maintain registry of sale	general inhalable compounds			
New Hampshire	inhaling certain compounds for intoxicification	toxic vapors, not including anesthesia			*
New Jersey	sell or offer to sell to minors	product containing chlorofluorocarbon that is used in refrigerant			

Nevada	sale or offer to give to minors	aerosol paint, glue, cement containing toluene	*	
North Carolina	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		
North Dakota	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		
Ohio	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		
Oklahoma	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		
Oregon	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		
Pennsylvania	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds; butane/canisters		
Rhode Island	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		
South Carolina	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		
South Dakota	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		
Tennessee	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		
Texas	possess, sell or buy; businesses required to post warning signage & pay license fees designated for prevention fund	abusable volatile chemicals	*	*
Utah	inhaling certain compounds for intoxicification	general prohibition of inhalable compounds		

Vermont


inhaling fumes for effect

certain hazardous inhalants, glues *

Virginia

inhaling certain compounds for intoxicification

general prohibition of inhalable compounds

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TESTIMONY
HB1295
HOUSE JUDICIARY COMMITTEE
DUANE DEKREY, CHAIRMAN
JANUARY 25, 1999

Mr. Chairman and Members of the Judiciary Committee: I am Karen Romig Larson, Director of the Division of Mental Health and Substance Abuse Services of the Department of Human Services. I appear today to offer information pertinent to HB 1295.

Inhalant abuse has been a growing problem for a number of years among our young people, throughout the country and in North Dakota. It presents unique challenges as we attempt to address prevention and treatment for persons who have been caught in the cycle of inhalant abuse. I will not belabor the devastating physical and mental effects; that will be addressed by others. What I will attempt to explain is the need to examine multiple components necessary to adequately educate and prevent the use of inhalants.

1. Education: The unique approach to educating parents, youth, and merchants about the dangers and response to inhalant abuse rests in the very commonplace nature of most inhaled products. Most of these products are available in our homes and in many retail businesses. The majority of us do not even consider the potential danger of these products because they are such a part of our everyday lives. Merchants must be educated about product placement and reasons to be suspicious of youth purchases of these products. Parent must become intimately aware of early warning signs and the dangers presented by using these products. Youth need to be educated from a very early age about avoiding dangerous household products. A very real challenge when educating young people about inhalants is to avoid an approach that becomes a teaching of how to use the inhalants.

2. **Accessibility:** As mentioned before, many of the products used for inhalant abuse are extremely easy to obtain. We don't think of them as potentially dangerous drugs. Recommended strategy for general alcohol, tobacco, and drug abuse prevention includes either laws and/or education to assure a reduced accessibility of the products of potential abuse. This strategy has been used for many years as a component of preventing alcohol and tobacco use. Reducing accessibility for products used for inhalant abuse is a challenging one, but absolutely necessary. Without that piece of the prevention puzzle in place, efforts to reduce the harm and, indeed, to prevent the death of even one young person will be significantly diluted.

I have often commented, in the nearly 20 years I have worked in the substance abuse field, that prevention is not merely a curriculum in a classroom. When a public health problem (and inhalant abuse certainly qualifies as one) presents, the efforts to address that problem must be comprehensive and include education, law enforcement, reduced accessibility, and social and public policy change. I present this information today as an explanation for the multiple approaches defined in HB 1295.

Thank you for the opportunity to appear before you. I will be happy to respond to questions.

Inhalants: The Instant, But Deadly High

Karen E. Espeland

There is an alarming increase in the number of children and adolescents inhaling chemicals for euphoric purposes. This trend merits serious concern, as abuse of inhalants can cause cardiac arrest, asphyxiation, and accidents. Substances such as gas, butane, and lighter fluid are highly toxic and destroy organs, and in some cases, inhalants have caused death on the first use. Pediatric nurses are in a key position to identify abusers and educate parents and children about these potentially fatal chemicals.

Inhalants have been called "the cocaine of the 1990s." They are deadly, addictive, and very commonly abused by children and adolescents. These substances are different from other drugs in that they are not sold illegally on street corners, parking lots and malls. They are available in the kitchens, shops, bathrooms, laundry rooms, and garages of our homes. Children use them for the express purpose of obtaining a high. They are considered "Gateway Drugs"—users take them for awhile and then progress to other drugs. Inhalant use is highest among minorities and where poverty and lack of opportunity exists. Schwarz (1989) states that inhalant abuse probably occurs most often among adolescent males, especially Hispanics and Native American youth. However, there is an increase in inhalant abuse in middle class families.

According to a survey conducted for the National Institute of Drug Abuse by the University of Michigan (Johnston, O'Malley, & Backman, in press) (see Figure 1) inhalant abuse is rapidly increasing in our country. In 1995, 21.6% of 8th graders in the United States reported using inhalants at least once in their lives. In 1991, this same study found that 17.6% of 8th graders had used inhalants. Inhalants are most commonly used by adolescents in their early teens, with usage dropping off as students grow older. Data from this same study reports that while 6.1% of 8th

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This column shares new ideas, new policies, new understandings behind diseases and interventions, new resources, new issues, and new roles for the pediatric nurse. For more information, contact Janice Selekman, DNSc, RN; Section Editor; Pediatric Nursing; East Holly Avenue Box 56; Pitman, NJ 08071-0056; (609) 256-2300 or FAX (609) 256-2345.

graders reported using inhalants within the past 30 days, only 3.2% of seniors reported using in the past 30 days.

Characteristics of a Child Prone to Using Inhalants

Parents frequently deny the possibility that their child has used inhalants and may fail to provide guidance or discipline. Children without support systems and positive coping mechanisms frequently look to inhalants as a method of escaping their problems. Such youths usually have the following characteristics:

Dysfunctional home. Frequently one or both parents use alcohol or other drugs.

Emotional stress. Sometimes a crisis has recently occurred in the family such as a divorce.

Low self-esteem. These individuals usually have a low opinion of themselves and are vulnerable to peer pressure. When asked, they frequently state that they cannot talk to anyone or they have no one available to talk to them.

Risk takers. These youths are more apt to want to experiment even though they may have heard of the detrimental effects; they do not believe the effects apply to them.

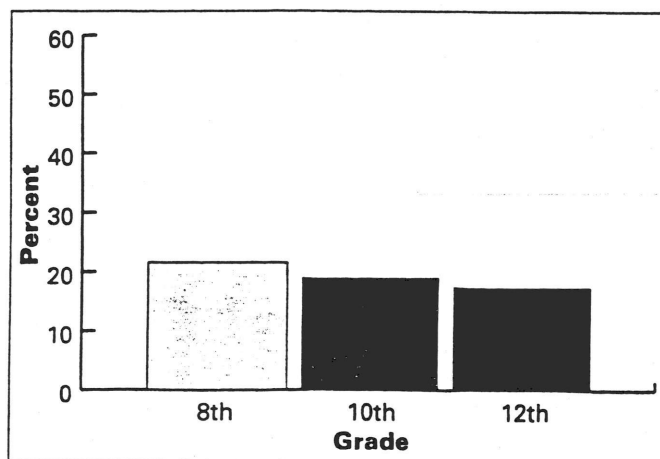
Why Are Our Children Using Inhalants?

Adults have difficulty understanding the appeal of inhalants to our youth. Young people have found that these products are easy to carry and conceal. Inhalants are frequently used in the classroom without other students and teachers knowing. Cohen (1977) has identified some typical reasons for inhalant abuse that are still applicable today. These include:

Quality and pattern of high. Children enjoy the euphoria they experience from inhaling. They also enjoy the excitement, giddiness and creativity.

Rapid onset of effect. Children and adolescents like instant gratification. A high can be obtained within a matter

Figure 1. Use of Inhalants in Lifetime



of minutes because inhalants are rapidly absorbed through the lungs; therefore effects are almost as rapid as an intravenous dose.

Low cost and easily available. These products can be obtained around the home or shoplifted from retailers. Some youths use these products in stores without purchasing the product.

Legality. Laws do not forbid the carrying of inhalants by children and adolescents. Some states also do not have laws that prohibit inhalation of these substances in public settings.

Products Used in Inhalant Abuse

There are approximately 1400 available products youths inhale to get a high. These inhalants fall into four categories: volatile solvents, aerosols, nitrates and anesthetic gases.

- Volatile solvents – butane, gas, goop (a product used to resole shoes), paint, kerosene, gun cleaning solvents, nail polish and nail polish remover, rubber cement, paint thinner, model glue, varnish, toxic markers, lighter fluid and propane.
- Aerosols – hair spray, spray paints, spray deodorants, fabric protector, room fragrances, and computer dust off. Other pressurized propellant containers are often misused and asthma inhalers such as proventil have frequently been abused. They, like other aerosols, contain fluorocarbons which produce a euphoric effect.
- Nitrates – inhalant nitrates include butyl nitrate and are often known by the trade names Rush, Bolt, Locker Room, and Climax. The products are sold as “room odorizers.” Amyl nitrate, packaged in capsules known as “Poppers” or “Snappers” were originally used as medication for heart patients.
- Anesthetic gases (such as Nitrous Oxide) – this product is commonly called “laughing gas” used by dentists. It is sold in balloons at rock concerts and is also available in small cylinders known as “whippets.”

Methods of Inhalation

Abusers use several different inhaling techniques called “Huffing, Sniffing, Bagging and Spraying.” Huffing involves inhaling vapors from a cloth soaked in a volatile substance which is then held over the mouth and nose. Sniffing implies inhaling vapors from an open container. Sometimes a substance such as glue is heated in a frying pan. Other times a small confined area such as a closet or automobile is filled with vapors such as butane. Bagging refers to placing the volatile substance into a plastic bag which is then held over the mouth and nose. Spraying implies spraying an aerosol directly into the mouth. Individuals who choose this latter method are referred to as “Spray Heads.” In addition, balloons and a cracker are sometimes used with nitrous oxide and other gases. The cracker is used to obtain the nitrous oxide from the container which is then placed in the balloon and inhaled.

Inhalant Intoxication

Inhalant intoxication can develop within 5 minutes and will subside in approximately 1 1/2 hours. The DSM IV (see Table 1) notes the diagnostic criteria for inhalant intoxication. Acute central nervous system manifestations include euphoria accompanied with feelings of grandiosity and increased awareness, understanding and insight (American Psychiatric Association, 1994). Inhalers experience a distortion of space and visual perception; common statements include “the walls are closing in” or the “the sky is falling.”

Some youths use inhalants specifically for their hallucinogenic effect. A popular practice is for groups of users to

Table 1. Diagnostic Criteria for 292.89 Inhalant Intoxication

- Recent intentional use or short-term, high-dose exposure to volatile inhalants (excluding anesthetic gases and short-acting vasodilators).
- Clinically significant maladaptive behavioral or psychological changes (for example, belligerence, assaultiveness, apathy, impaired judgment, impaired social or occupational functioning) that developed during, or shortly after, use of or exposure to volatile inhalants.
- Two (or more) of the following signs, developing during, or shortly after, inhalant use or exposure:
 - dizziness
 - nystagmus
 - incoordination
 - slurred speech
 - unsteady gait
 - lethargy
 - depressed reflexes
 - psychomotor retardation
 - tremor
 - generalized muscle weakness
 - blurred vision or diplopia
 - stupor or coma
 - euphoria
- The symptoms are not due to a general medical condition and are not better accounted for by another mental disorder.

Note: From American Psychiatric Association. (1994). *American psychiatric association, diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

inhale together and then compare their hallucinations. They describe such sensations as “seeing vivid colors,” “being surrounded by fire,” or “hearing sirens.”

Tolerance - Dependence - Withdrawal

If a user inhales these substances continually and increases the amounts, they will develop a tolerance. This means that they will have to use the inhalants more frequently and in greater volume to get the desired effects. Physical dependence can also result – if a user tries to quit they will experience withdrawal. Characteristics of withdrawal include headaches, chills and abdominal cramps. Withdrawal may progress to delirium tremens, although the latter is uncommon and in some patients may represent concomitant addiction to other classes of drugs (Dinwiddie, 1994).

Death from Inhalants

Death from inhalants can occur in several different ways. Some of the most common forms are:

Sudden death. Sudden death is caused by cardiac arrhythmia. Sometimes this happens the first time the child

or teenager uses inhalants. Central nervous system depression associated with high doses may lead to respiratory arrest or depressed airway protective reflexes resulting in aspiration, that may compromise airway and breathing (Henretig, 1996).

Suicide. A frequently used method of inhalation is for the abuser to place a plastic bag over the head or wrap the body in plastic with the inhalant enclosed. The inhaler passes out from the inhalant and suffocates to death (Espeland, 1995).

Injury. Under the influence of inhalants, youths feel invulnerable. For example, some have tried to swim across a river, fly off a building, or run in front of a train.

Suffocation. The act of bagging may result in asphyxia, as the partial pressure of the volatile solvent displaces oxygen at a critical level (Linden, 1990).

Burns. The highly inflammable nature of inhalants leads to burns. Youths also frequently smoke in conjunction with inhaling.

Assessment For Inhalant Use

Initial assessment is carried out most frequently in an outpatient setting. Users frequently seek medical services for a manifestation of their inhalant abuse, such as epistaxis, frostbite or influenza type symptoms.

Completing a history may be difficult and frequently information needs to be gathered over a period of time. This is necessary to distinguish between manifestations that are due to intoxication versus long-term complications (Espeland, 1993). Information to be included addresses last usage, drug of choice, tolerance, perception of control, patterns of use, physical affects of usage, social concerns, mental health concerns and knowledge of the drug (see Table 2).

Collaborative Information

It is important to obtain the following additional information from the parent or guardian:

Changes in behavior or attendance at school. Teachers will frequently report a change in grades or conduct in the classroom.

Arrests for substance abuse offense. These children and adolescents frequently display deviant, disruptive or delinquent behavior.

Personality changes. Teachers, parents and other individuals significant in users lives report violent temper outbursts, severe mood swings, depression, lack of motivation, belligerence, irritability, apathy, hostility, and paranoia.

Manifestations of Recent Use

The nurse must be cognizant of physical indicators. Residue from paint, glue, or other substances may be noted on the clothes, hands, and face - especially around the nose. Vision may be impaired. Abusers report blurred and double vision with a sensitivity to light. The nurse may note nystagmus and red and tearing eyes. The youth may report alterations in smell, a runny nose and nose bleeds. A chemical smell on the breath plus a rash or pimple around the mouth may be noted (caused from the abrasive effect of chemical on the skin). Feelings of numbness and tingling may also be reported. One mother said that the first symptom she noted in her child was anorexia. This is sometimes accompanied by nausea and vomiting.

Physical Findings

Fornazzari (1988) has identified specific bodily systems and laboratory values affected by the abuse of inhalants. Identified abnormalities of the respiratory system include bronchitis and pneumonia. Cardiovascular abnormalities

include cardiomyopathy, arrhythmia, and sudden death syndrome. Hematuria and proteinuria can indicate renal failure. Inhaling gas can cause neuropathy. Additional abnormalities, such as anemia, leukopenia, and electrolyte imbalance can be identified from laboratory findings.

Fornazzari (1988) further notes manifestations of cerebellar dysfunction including gait impairment with poor coordination in the standing position, heel-shin and finger-nose abnormalities, and postural and intentional "dynamic" tremor. Cognitive impairment has also been demonstrated in neuropsychological testing. Computerized tomography substantiates a correlation between cognitive impairment, poor coordination, and tremor in studies of cerebral and cerebellar atrophy.

Frostbite can occur to the lips and mouth. Elliot (1991) reported second degree frostbite from an aerosol propellant used for spray painting.

Implications for Pediatric Nurses

The high incidence of inhalant abuse warrants assessment of the pediatric population. Pediatric nurses' priority must be on early identification. Inhalants are very addictive. It is essential that children who are using inhalants be identified and referred to a mental health setting or drug treatment facility for an evaluation.

Abusers need acceptance and understanding from health care professionals. Management of an acutely intoxicated or comatose young person includes assessment and stabilization of the cardiopulmonary systems with emergency measures. It also must be noted that the inhalants cause myocardial sensitization resulting in precipitation of arrhythmias. A complete blood count and chemistry panel is recommended to ascertain detrimental effects to other systems. The length of intoxication cannot be shortened; however administration of oxygen may be helpful. Clients need a calm environment during the period of detoxication.

Although inhalants are not detected on a routine drug screen, this test is recommended to rule out other drugs. A specific drug screen to confirm inhalant abuse is available at some medical centers, but is considerably more expensive than a routine drug screen.

Public Education

Pediatric nurses need to be leaders in informing parents, teachers, and the community of the hazards of inhalant abuse. Pamphlets should be available to parents in all pediatric settings, including emergency rooms.

Information for Parents and Guardians

The greatest danger to children and adolescents is the denial by their parents/guardians that inhalant abuse is occurring. Parents may believe that using inhalants is something that happens to other people's children, not their own. Parents need to know that inhaling is not limited to children from dysfunctional, minority or lower socio-economic homes. Inhalant abuse is affecting a cross-section of American youth. Pediatric nurses need to take a leadership role in educating parents/guardians.

Frequently Asked Questions and Responses

1. What can I do to prevent my child from using?
 - Keep lines of communication open.
 - Teach your children positive coping skills.
 - Be knowledgeable about the problem.
 - Be alert for usage in your child and his/her peers.
 - Educate your child; discuss products being used and detrimental effects.
2. What should I do if I find my child using?

Table 2. Inhalant Assessment

NAME: _____

DATE OF ASSESSMENT: _____

Do you live in a ___ rural or ___ urban area?

Ethnic background: _____

Age _____

Age at which you started using inhalants _____

Last use of inhalants (date): _____

How often do you use inhalants? _____

Were you intoxicated? _____

_____ several times a day _____ once per week

What did you use? _____

_____ 2 or more times/week _____ several times/month

1. If you use every day, what inhalant would you choose?

- | | | |
|--|--|---|
| <input type="checkbox"/> Butane | <input type="checkbox"/> Lighter fluid | <input type="checkbox"/> Paint thinner |
| <input type="checkbox"/> Cooking spray | <input type="checkbox"/> Correction fluid | <input type="checkbox"/> Rubber cement |
| <input type="checkbox"/> Gasoline | <input type="checkbox"/> Markers | <input type="checkbox"/> Spot remover |
| <input type="checkbox"/> Glue | <input type="checkbox"/> Nail polish/remover | <input type="checkbox"/> Other (specify): _____ |
| <input type="checkbox"/> Duster | <input type="checkbox"/> Paint/spray paint | _____ |

2. How much of EACH of the following products does it take to get a buzz?

- | | | |
|--|--|---|
| <input type="checkbox"/> Butane | <input type="checkbox"/> Lighter fluid | <input type="checkbox"/> Paint thinner |
| <input type="checkbox"/> Cooking spray | <input type="checkbox"/> Correction fluid | <input type="checkbox"/> Rubber cement |
| <input type="checkbox"/> Gasoline | <input type="checkbox"/> Markers | <input type="checkbox"/> Spot remover |
| <input type="checkbox"/> Glue | <input type="checkbox"/> Nail polish/remover | <input type="checkbox"/> Other (specify): _____ |
| <input type="checkbox"/> Duster | <input type="checkbox"/> Paint/spray paint | _____ |

3. Do you prefer to huff (sniff) until you get a buzz or until you pass out? _____

4. Is it difficult to stop huffing (sniffing) once you start? _____

5. When you feel angry, lonely, depressed, are you more likely to want to use? _____

6. Which of the following problems have you experienced?

- | | | |
|---|---|---|
| <input type="checkbox"/> Intolerance to light | <input type="checkbox"/> Cough | <input type="checkbox"/> Numb or tingling hands |
| <input type="checkbox"/> Blurred or double vision | <input type="checkbox"/> Abdominal pain | <input type="checkbox"/> Burns |
| <input type="checkbox"/> Altered smell | <input type="checkbox"/> Lack of appetite | <input type="checkbox"/> Hallucinations |
| <input type="checkbox"/> Tearing or red eyes | <input type="checkbox"/> Nausea/vomiting | <input type="checkbox"/> Blackouts |
| <input type="checkbox"/> Nosebleeds | <input type="checkbox"/> Loss of weight | <input type="checkbox"/> Difficulty concentrating |
| <input type="checkbox"/> Frostbite | <input type="checkbox"/> Leg cramps | <input type="checkbox"/> Anxiety |
| <input type="checkbox"/> Rash around mouth | <input type="checkbox"/> Shaking | <input type="checkbox"/> Mood swings |
| <input type="checkbox"/> Ringing in ears | <input type="checkbox"/> Weakness | <input type="checkbox"/> Depression |
| <input type="checkbox"/> Sore throat | <input type="checkbox"/> Unsteady gait | <input type="checkbox"/> Paranoia |

Social Concerns:

7. Has your job or school been affected by using inhalants? _____

8. Has your family been concerned? _____

9. Do you have past/present legal problems? _____

Mental Health:

10. Previous psychiatric care/current psychiatric care? _____

11. Previous suicidal ideations/plan? _____

12. Current suicidal ideations/plan? _____

13. Actual suicide attempts in past (date/method)? _____

14. Have you ever received medical attention or been involved in accidents due to inhalant abuse? _____

15. What do you know about your inhalant of choice? _____

- Remain calm. Frequently, parents' first response is to verbally reprimand their child. It is essential that parents know that this can cause arrhythmia and cardiac arrest.
- If nonresponsive, call 911.
- Open the window for fresh air.
- Contact Mental Health Agency or Drug Treatment Center for an evaluation.
- Contact the Guidance Center at their school.

Increasing abuse of inhalants is a frightening problem. Although it is often a transient phase of drug experimentation, inhaling may lead to addiction or other drug usage. Because a first-time use can result in death, such experimentation should never be considered a phase. We need to educate parents and start talking to our children, stressing to them not to breathe in anything other than air. Recently, after a friend's death from inhalants, one adolescent said that he did not realize the possible consequences of using such substances.

Inhalant abuse must not remain an invisible problem. Pediatric nurses need to play an integral role in identification, prevention and education.

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Identifying the Manifestations of Inhalant Abuse

ABSTRACT

Inhalants are frequently the first mood-altering drugs used by children. They are popular because of peer influences, low cost, availability, and rapid mood-elevation effects. Inhalants cause a fleeting sense of well being, but users frequently are also affected psychologically and physically. Substances such as gasoline and paint thinners are highly toxic and destroy major organs. Inhalant abuse of inhalants can cause cardiac arrest, asphyxiation, and accidents. This article focuses on the clinical manifestation of inhalants, altered lab values, the specific agents used, and their effects on the various organs. Health care professionals are in a key position to identify inhalant abusers when clients are seeking treatment for medical problems caused by inhalants. If health care professionals are cognizant of the manifestations of inhalant abuse, they can save a client's life.

It is estimated that about nine million Americans have experimented with inhalants. A national survey conducted in 1993 reports that among eighth graders, more than one in every six (17%) have used inhalants and 5% say they have used

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in the past month [5]. Older teenagers tend to advance to other illicit drugs.

Sociocultural Factors

Inhalant abuse can be seen in any age group; however, children and adolescents are the most vulnerable. Inhalant use is highest where poverty and lack of opportunity exists. Inhalant users are more likely to come from families that are unstable and dysfunctional, or where one or both parents are alcoholic. They have peers that are also users and frequently abuse inhalants with their peers. Inhalant users frequently have trouble in school, may have emotional problems, be involved in criminal activity, and have limited parental supervision. Dealing on their own with the problems of growing up, children and adolescents look to inhalants as a coping mechanism.

Clues to abuse are chemical odors on the breath and clothes, stained skin or clothing, and reports of empty solvent containers in their possession. Sniffing aerosols and other chemical products is attractive because it offers teens a cheap way to obtain a euphoric or "high" feeling.

There are many different chemicals in these products that can result in toxic effects or death. These products are found in the home or can be purchased at most neighborhood stores, making them easily accessible. Concerned health care profes-

TABLE 1
Examples of Inhalants

Air fresheners
Amyl nitrate
Butane
Butyl nitrate
Cleaning fluid
Cooking spray
Deodorant
Gasoline
Glue
Hair spray
Lighter fluid
Markers
Nail polish/nail polish remover
Nitrous oxide
Paint or spray paint
Paint thinner
Propane
Refrigerant gases
Rubber cement
Shoe glue
Spot remover
Varnish

sionals can intervene before long-term effects result. The health care provider needs to obtain a history and a physical and psychosocial assessment, then refer the client for appropriate treatment.

Assessment

History

The quality and quantity of data elicited will depend on the practitioner's sensitivity to the client. The practitioner's communication style is adapted to specific circumstances. If the client is intoxicated, the interview may have to be conducted after detoxification. Symptoms of intoxication usually subside 1-1.5 hr after inhalation; this can help distinguish between manifestations due to intoxication versus long-term complications.

A complete history should be obtained, along with client's use of inhalants and

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other chemicals. The medical history should be thorough and include childhood diseases, acute or chronic infections, history of injuries, and hospitalizations. Depending on the age of the client, some of the data may need to be obtained from a caregiver or from past medical records.

Accidents/Violence

Accidents and violence are potentiated by behavior associated with intoxication, cognitive impairment, or other problems resulting from long-term use in inhalants.

Failed suicide attempts should also be evaluated to determine the client's abuse of inhalants. A frequently utilized method is for the abuser to place a plastic bag over the head or wrap the body in plastic with the inhalant enclosed. The inhaler passes out from the inhalant and then suffocates to death.

Psychological Assessment

A psychological assessment should also be obtained. Psychological manifestations during the time of intoxication include, but are not limited to, delirium, mental confusion, impaired perception, impaired cognitive skills, psychomotor clumsiness, emotional disinhibition, dreamy reverie, euphoria, partial or total amnesia, and pseudo-hallucination [3]. Effects of long-term abuse may include difficulty in concentration, anxiety, depression, apathy, lack of motivation, mood swings, irritability, depression, hostility, paranoia, and severe brain damage [3].

Intoxication produces sensations of exhilaration, warmth, and lightheadedness accompanied by loss of both motivation and social inhibitions. Users feel detached from reality and often experience visual hallucinations.

Personality changes include depression, lack of motivation, irritability-hostility, and paranoia. Violent temper outbursts, severe mood swings, and erratic behavior changes are also signals to note and observe. Patients may appear apathetic or belligerent and may exhibit impaired judgment.

Physical Assessment

Objective data are collected systematically during the physical examination to supplement and validate the client's subjective data. The practitioner's ability to perceive the client in a holistic manner is enhanced when both subjective and objective data are evaluated together.

Neurologic. The neurological assessment needs to begin with an assessment for intoxication versus long-term neurological problems.

Physical manifestations of intoxication include dizziness, nystagmus, incoordination, slurred speech, unsteady gait, lethargy, depressed reflexes, psychomotor retardation, tremor, generalized muscle weakness, blurred vision or diplopia, stupor or coma, and euphoria [1].

Long-term complications may be minor or may be permanent impairment of brain functioning (causing dementia). Neurological systems of these teens can include an altered state of consciousness, orientation, memory or intellectual functioning. Clients who use heavily over a short period of time complain of headaches. Industrial and household chemicals act as CNS depressants. The

client may experience initial sensations of drunkenness, dizziness, and exhilaration. The symptoms progress to disorientation, sedation, and analgesia. Visual and auditory hallucinations and delusions can occur as can stupor and unconsciousness [8].

Manifestations of cerebellar dysfunction include gait impairment with poor coordination in the standing position, heel-shin and finger-nose abnormalities, and postural and intentional "dynamic" tremor. Cognitive impairment has also been demonstrated in neuropsychological testing. Computerized tomography substantiates a correlation between cognitive impairment, poor coordination, and tremor in studies of cerebral and cerebellar atrophy [4].

Tingling and numbness in hands and feet may indicate peripheral neuropathy.

Gastrointestinal. Chronic abuse should be suspected if the client presents with loss of weight or anorexia. Nausea, vomiting, and abdominal cramps may be present in the intoxicated client.

Follow-up studies of chronic inhalant abusers has revealed impaired liver function. The transaminase, prothrombin time, and partial thromboplastin time are affected while these individuals are under the effect of a solvent [4]. After 2 weeks of discontinuation of the inhalant in chronic users, tests show a definite improvement.

Cardiovascular. Sudden death from ventricular fibrillation tends to occur most frequently in the naive, first-time abuser. This is attributed to a combination of factors, including cardiotoxicity and depressant respiratory properties of the highly concentrated solvents, plus the psychoactive properties that make the young user agitated, restless, hyperactive, and prone to this tragic syndrome [5].

Respiratory. The respiratory system is sensitive to the effects of inhalants. A variety of respiratory conditions is seen, including bronchitis, pneumonia, bacterial and viral infections, and other infections. Initial symptoms might include a sore throat, cough, and runny nose. These are probably the most frequently observed manifestations of inhalant abuse. Inhalants cause a constriction of the bronchi, which is particularly critical for asthmatics. Pneumothorax can develop when gas is inhaled under pressure directly from a large tank [8]. Aspiration during intoxication may also lead to pulmonary failure. This may occur due to aspiration of gastric contents or direct aspiration of gasoline or other liquids into the lungs.

Kidney—Fluid and Electrolyte. Proximal and distal renal tubular acidosis has been noted in persons inhaling solvents where toluene (found in glue and rubber cement) is a component. Electrolytes, bicarbonate, potassium, and ammonia are excreted with little control through the distal tubule [4].

Musculoskeletal. Toluene will cause muscle weakness. Muscle weakness is attributed to low levels of serum potassium and serum phosphorus and high levels of CPK [6].

Oral. Often the inhalant is placed in a plastic bag and fumes are either inhaled by mouth ("huffed"), causing

sores in the mouth, or "sniffed," causing chronic nose-bleed and sores in the nose. Another method is to soak a rag with the mixture and then stick the rag in the mouth and inhale. A simple but more toxic approach is to spray the substance directly into the oral cavity. The health care professional needs to also assess for "glue sniffer's rash," a rash around the mouth caused from the irritation of the inhalant on the skin while huffing. The freezing of lips and mouth can occur when the substance is inhaled directly from the cylinder.

Eye and Ear: The eyes are also affected in inhalant usage. Manifestations include bloodshot eyes, nystagmus, blurred vision, diplopia, and photophobia. Reports indicate that the nitrous oxide abuser's special sense may become distorted and eventually lost altogether, with hearing the last to go [8]. Abnormal visual or auditory evoked potentials have been found in children with significant abuse of inhalants [9].

Hematologic. Bone marrow depression is a complication of inhalant abuse. Toxic effects include leukopenia, anemia, thrombocytopenia, leukemia, and hemolysis [2,7].

Intervention

Inhalant users are often also addicted to other drugs. A drug screen is recommended along with a complete blood count and chemistry panel.

Treatment of acute and chronic toxicity from inhalants is largely symptomatic. The toxic effects of inhalants are frequently reversible with abstinence.

There is no treatment to shorten the length of intoxication, but exposure to fresh air or administration of oxygen may be helpful. Clients should be kept in a calm, warm, supportive environment. Noise, light, or other unnecessary stimuli should be avoided.

Clients need empathetic health care professionals who are committed to helping them receive appropriate treatment. The client should be referred for an evaluation at an addiction center in their community. It is recommended that young abusers be kept two weeks in a detoxification center prior to being placed in any type of

long-term treatment program. This is necessary for the brain to be rid of the effects of the inhalant [4].

Prevention of inhalant abuse is the ultimate goal. This needs to be a community effort. Health care professionals need to take the leadership role in providing educational programs to parents, teachers, caregivers, and children.

Conclusion

It is important that practitioners be aware of the manifestations of inhalant abuse. There is no single manifestation that provides conclusive evidence of inhalant abuse. However, a thorough and complete assessment can provide clues from early identification of the inhalant abuser. The assessment should include information about the client's inhalant abuse, as well as physiological, psychological, and behavioral signs and symptoms that indicate inhalant abuse. The practitioner's early identification of abuse and referral to addiction treatment may save an inhalant abuser's life.

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INHALANT ABUSE:

Assessment Guidelines

By Karen Espeland, MSN, RN, CD

A 15-year-old from a middle-class family in New York whose grades have been dropping. . . a 12-year-old in Oregon whose parents recently divorced. . . an 8-year-old growing up on a reservation in the Midwest. What do these individuals have in common? They all employed the same means of coping with their problems—inhalants.

Abuse of inhalants is steadily increasing. Nonabusers have difficulty comprehending the appeal of inhalants to abusers. Cohen (1977) has identified some typical reasons for inhalant abuse:

- Rapid onset of effect. A high is received within a few minutes of inhalation—much quicker than an alcohol-

induced high.

- Quality and pattern of the high. Abusers describe effects such as euphoria, giddiness, and lightheadedness. Some abusers experience a surge of creativity; others describe feelings of excitement.

- Low cost. Many solvent abusers have limited income or are children who do not have the financial means to purchase other drugs.

- Easy availability. Inhalants are readily found in homes and can be purchased at various stores. Adolescents may steal inhalants from retailers. Many resort to abusing gasoline.

- Legality. Purchase and possession of these substances are not restricted or illegal in most areas.

Kerner (1988) notes that the abuse of inhalants, particularly by the young, has been a health problem throughout the world. Many countries have reported increasing levels of inhalant abuse.

Inhalants have been used throughout history to alter consciousness. Although abused by people of all ages, Schwartz

(1989) states that inhalant abuse probably occurs most often among adolescent males, especially Hispanics and Native Americans. Johnston, O'Malley, and Backman (1987) found 18.6% of high school seniors nationwide had gotten high on inhalants at least once, and 2.8% abused inhalant chemicals at least monthly. Beauvais and Oetting (1988) found that 3% of youths between ages 9 and 12 abused inhalants on a continual basis. Their research suggests that there may be significant inhalant experimentation by children younger than age 12.

Adult abusers of inhalants usually have a long history of drug and alcohol abuse, with inhalants as their substance of choice. They may abuse inhalants for several hours daily. A habitual paint sniffer who was 12 weeks pregnant was convicted of jeopardizing the health of her unborn child and was sentenced to 9 months in a correctional center (Bismarck Tribune, 1992). She had been convicted of inhaling volatile chemicals 12 times in 11 months, and was even arrested twice on the same day. Her

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TABLE
Classes and Examples of Inhalants

Volatile Solvents	Aerosols	Anesthetics	Volatile Nitrates
Gasoline	Hair spray	Ether	Amyl nitrate
Goop	Spray paints	Chloroform	Street names:
Lighter fluid	Spray deodorants	Nitrous oxide	Poppers
Paint	Frying pan lubricants	Street names:	Snappers
Kerosene		Laughing gas	Butyl nitrate
Gun cleaning solvents		Whippets	Street names:
Cleaning fluids		Buzz bomb	Rush
Nail polish/nail polish remover			Bolt
Rubber cement			Locker room
Paint thinner			Bullet
Model glue			Climax
Varnish			
White Out			
Spot remover			

inhalant of choice was gold spray paint. She had been found sniffing in a variety of locations—from unoccupied cars to alleys (Bismarck Tribune 1991).

Classes of Inhalants

There are four basic classes of inhalants (Table):

- Volatile solvents, which are found in various fuels and paints. This class of inhalant was popularized by the glue sniffers of the 1960s. One of the most popular inhalants today is “Goop,” a product used to resole shoes.
- Aerosols, which are readily available in virtually every household.
- Anesthetics such as nitrous oxide (used as a propellant in whipped cream).
- Volatile nitrates, including amyl nitrate, which are prescribed for heart patients; and butyl nitrate, which is found in air fresheners. Nitrates are also sold as aphrodisiacs in adult bookstores and through mail order catalogs.

Techniques of Abuse

Inhalants are sniffed or “huffed” (inhaled by mouth), with similar effects. Often the agent is placed in a plastic bag and the fumes are inhaled. Sometimes a rag is soaked in the inhalant and then the agent is huffed from the rag. Frequently the solvent is inhaled from the container. Gas is frequently huffed directly from the gas

tank. Students also huff from the gas jets in school science laboratories.

Blum (1984) notes that most solvent abusers will seek isolated areas where the obvious odor of the solvent will be undetected. Whether alone or in a small group, the abusers may use abandoned buildings, garages, roof tops, basements, school lavatories, or locker rooms. Abusers also attempt to conceal usage in public facilities. “White out,” or butyl nitrate, can be easily concealed and passed around in the classroom; paint thinner can be concealed in a soft-drink can.

Sudden Sniffing Death

Anderson, MacNair, and Ramsey (1985) conducted a survey of 282 deaths from inhalants in Great Britain between 1971-1983. The substances abused included cleaning agents (31%), glues (27%), gas fuels (24%), and aerosol sprays (17%). Seventy-two percent of the deaths occurred in people under the age of 20. Ninety-five of those who died were male. Fifty-one percent of the deaths were caused by the direct toxic effects of the inhalants, and the remaining deaths were caused by indirect effects. The indirect causes of death included plastic bag asphyxiation (21%), inhalation of stomach contents (18%), and trauma as a result of accidents while abusing (11%).

Morton (1987) suggests that a num-

ber of solvents cause ventricular fibrillation. Solvents can also depress the ability of the heart muscle to contract, resulting in decreased cardiac output.

Assessing Clients for Inhalant Abuse

Clients may be encountered in a variety of settings, including schools, clinics, psychiatric or addiction counseling environments, emergency rooms, and throughout the acute care setting. Sometimes they are referred to health care professionals by social service agencies or the legal system.

Signs and Symptoms of Inhalant Intoxication.

Kerner (1988) notes volatile solvents and aerosols contain numerous components that have proven toxic, including acetones, benzene, petroleum hydrocarbons, toluene, dichloro- and trichloro-fluoromethanes, and ketones. The DSM-III-R (1987) identifies the essential features of intoxication as maladaptive behavioral changes, and characteristic physical signs following recent abuse of an inhalant. The intoxicated appears disheveled, confused and disoriented. The maladaptive behavioral changes may include belligerence, assaultiveness, apathy, impaired judgment, and impaired social or occupational functioning. Physical signs may include dizziness, nystagmus, slurred speech, unsteady gait, lethargy, depressed reflexes, tremor, blurred vision or diplopia, stu-

por or coma, and euphoria (Figure). High acute doses or chronic heavy abuse of inhalants may induce characteristic neurologic signs such as incoordination, generalized muscle weakness, and psychomotor retardation.

Intoxication onset is rapid, often within five minutes. Symptoms subside within 1 1/2 hours of inhalation. However, McHugh (1987) reports that 15 to 20 breaths of gasoline is sufficient to inebriate for 5 to 6 hours. There is not an antidote that exists to shorten the period of intoxication, but exposure to fresh air or administration of oxygen may be helpful.

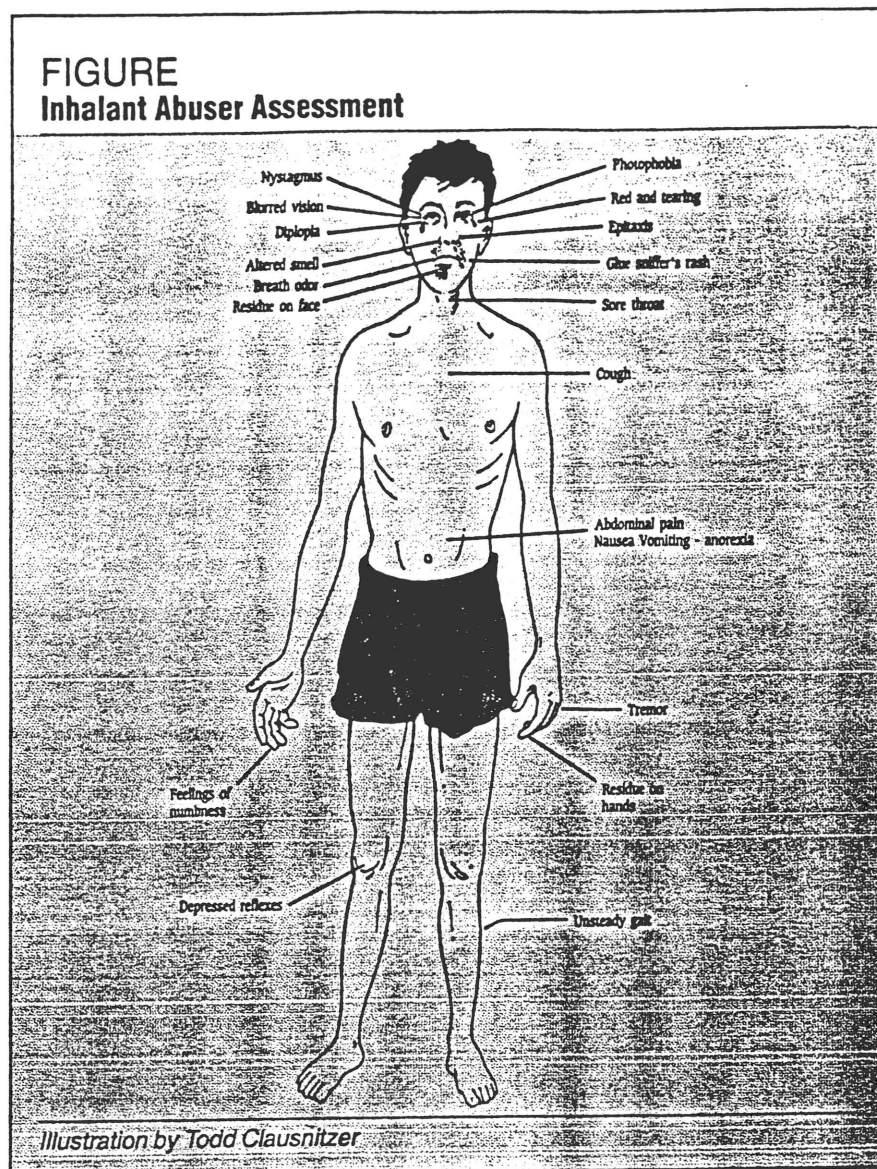
Abuser History. Completing a history may be difficult and frequently must be carried out over a period of time. This is necessary to distinguish between manifestations that are due to intoxication versus long-term complications. Begin by assessing the client's general orientation. Information must be collected on the inhalant abused; the manner, duration, and frequency of abuse; and the use of other chemicals—such as alcohol—in addition to the inhalant. Sample questions include:

- "Have you ever passed out from sniffing?"
- "Have you experienced hallucinations?"
- "Do you notice a decrease in your ability to concentrate?"

Medical history must include a review of systems that ask questions that pertain to effects of inhalants, childhood diseases, acute or chronic infections (including STDs), and a history of injuries. Clients under the influence of chemicals often do not take precautions to protect themselves from sexually transmitted disease. The client should be requested to sign a release for past medical information.

Physical Assessment. The nurse should gather assessment data on initial contact with the inhaler. This information should be conveyed to the physician, who will complete a physical exam including a neurological assessment to rule out cerebellar and cerebral impairment.

Fornazzari (1988) has identified specific systems and laboratory values affected by the abuse of solvents. Identified abnormalities of the respiratory



system include bronchitis and pneumonia. Cardiovascular abnormalities include cardiomyopathy, arrhythmia and sudden death syndrome. Hematuria and proteinuria can indicate renal failure. Inhaling gasoline can cause neuropathy. Additional abnormalities—such as anemia, leukopenia, acid-base deviations, and electrolyte imbalances—can be identified from laboratory findings.

Psychological Assessment. A psychological assessment should also be obtained. Manifestations noted during the time of intoxication include, but are not limited to, delirium, mental confusion, impaired perception, impaired cognitive skills, psycho-motor clumsiness,

emotional disinhibition, dreamy reverie, euphoria, partial or total amnesia, and pseudo-hallucinations. Effects of long-term abuse may include difficulty concentrating, anxiety, depression, apathy, lack of motivation, mood swings, irritability, depression, hostility, paranoia, and severe brain damage. Assessment of the environment in which the client lives, family assessment, and resources in the community will provide data for the treatment plan.

Implications for Nursing

Early Identification and Referral. Nurses need to be cognizant of inhalant toxicity and be able to assess clients who

Inhalant Abuse KEY POINTS

Inhalant Abuse: Assessment Guidelines. Espeland, K. *Journal of Psychosocial Nursing and Mental Health Services* 1993; 31(3):11-14.

1. Inhalant abusers may be encountered in a variety of settings, including schools, clinics, psychiatric or addiction counseling environments, emergency rooms, and throughout the health care setting.
2. Nursing's priority must be early identification of the abuser through thorough, careful assessment.
3. Abusers need acceptance, understanding, and a commitment to helping them receive appropriate treatment.
4. Nurses need to take the leadership in assessing clients, in educating health care professionals and the public, and in promoting legislation to prevent minors from obtaining inhalants.

present with symptoms of inhalant abuse and refer to appropriate sources. Inhalant abuse has serious consequences. Nursing's priority must be to focus on early identification. Although there is no single manifestation that provides inclusive evidence of inhalant abuse, a thorough and thoughtful assessment can provide early identification of the inhalant abuser—a client who appears with runny eyes and a cough may be misdiagnosed as having a flu virus. The nurse's assessment should begin at the time of initial contact with the client. She must begin this assessment with an accepting, matter-of-fact, nonthreatening approach. Clients need acceptance, understanding, and a commitment to helping them receive appropriate treatment. They also need consistent guidance in dealing with life events contributing to the inhalant problem, and support as they start their recovery. Clients should be referred to addiction treatment centers in their communities. Fornazzari (1988) recommends that young abusers be kept at least two weeks in a detoxification center prior to being placed in any type of behavioral adjustment or long-term treatment program.

Prevention and Education. Prevention of inhalant abuse is the goal. This

must involve the entire community—health care professionals, teachers, parents, law enforcement, and retailers. As a team they can develop programs and strive to decrease inhalant abuse in the community. The health consequences of inhalant abuse are in many instances life-threatening. Clients and their significant others need education regarding these health consequences. Educational programs are available in most communities; the nurse needs to know what programs and resources are available in the local area.

Legislation. Inhalants should be made less accessible in stores so that minors cannot easily obtain them. Legislation banning the sale of inhalants to minors has been passed by some states; nurses need to promote such legislation.

Texas had a lockup law that forbade the display of spray paint products, but the measure was replaced in the wake of merchant protests that it was hurting sales (Estrada, 1990). In 1987, a compromise bill was passed that mandated the posting of signs warning against inhalant abuse, required the payment of a \$25 fee from merchants selling paint products, and made it a third-degree felony to sell glue and paints to minors.

Summary

It is important that nurses have full access to information that would help them identify inhalant abuse. Nurses need to take the leadership in assessing clients, in educating health care professionals and the public, and in promoting legislation to prevent minors from obtaining inhalants.

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CHEMICALS FOUND IN INHALANTS



AEROSOLS	HARMFUL CHEMICAL
Paint Sprays	butane; propane (U.S.); fluorocarbon; hydrocarbons; toluene
Hair Sprays	butane; propane (U.S.); fluorocarbon
Deodorants - Air Freshener	butane; propane (U.S.); fluorocarbon
Analgesic Spray	fluorocarbon
Asthma Spray	fluorocarbon

ANESTHETICS	HARMFUL CHEMICAL
Gaseous	nitrous oxide
Liquid	halothane; enflurane
Local	ethyl chloride

CLEANING AGENTS	HARMFUL CHEMICAL
Dry Cleaning	tetrachloroethylene, trichloroethane
Spot removers	tetrachloroethylene, trichloroethane
Degreasers	tetrachloroethylene, trichloroethane; trichloroethylene

SOLVENTS	HARMFUL CHEMICAL
Polish remover	acetone
Paint remover	toluene; methylene chloride; methanol
Paint thinners	toluene; methylene chloride; methanol
Correction Fluid	toluene; methylene chloride; methanol
Fuel Gas	butane
Lighter	butane; isopropane
Fire extinguisher	bromochlorodifluoromethane

FOOD PRODUCTS	HARMFUL CHEMICAL
Whipped Cream	nitrous oxide
Whippets	nitrous oxide

NITRITE ROOM ODORIZERS	HARMFUL CHEMICAL
Locker room, Rush, Poppers, Bolt, Climax	(iso) amyl nitrite; (iso)butyl nitrite; (iso) propyl nitrite;butyl nitrite

 **HOME PAGE**

1997 North Dakota Youth Risk Behavior

“Health risk behaviors, which contribute to the leading causes of death, injury and social problems among youth and adults, often are established during youth, extend into adulthood, and are interrelated.”

MMWR, Aug. 14, 1998

Tobacco

Alcohol and Drug Use

Drinking & Driving

Dietary

Physical Activity

Body Image

Suicide

Violence

Seat Belts

Sexually Transmitted Diseases

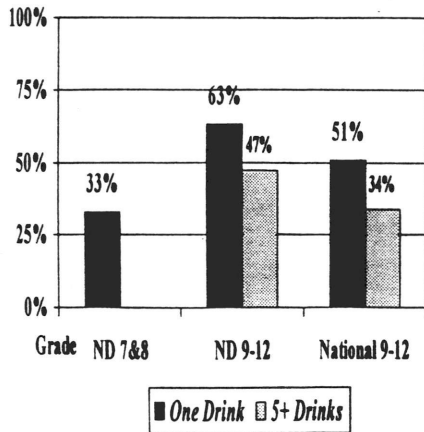
Sexual Behavior

HIV/AIDS

Alcohol Use

In 1997, 30 percent of North Dakota sampled 7&8 grade students and 20 percent of 9-12 grade students reported they had never consumed alcohol.

Alcohol use during 30 days prior to the survey:



Drinking and Driving

Percentage of students who rode with a driver who had been drinking alcohol or drove after drinking alcohol during the 30 days prior to the survey :

	Rode with a driver who had been drinking	Drove after drinking
7th Grade	46%	--
8th Grade	56%	--
9th Grade	47%	22%
10th Grade	53%	34%
11th Grade	61%	44%
12th Grade	66%	53%
ND Sample 9-12	56%	37%
National 9-12	37%	17%

The percentage of North Dakota 9-12 grade students who drink and drive is higher than in any other state.

In 1997, 10 percent of North Dakota sampled 9-12 grade students reported they had gotten into trouble with the police within the past year because of drinking.

Other Drugs

Students reported using the following substances at some time in their lives:

	ND 7&8	ND 9-12	National 9-12
Used a needle to inject drugs	3%	2%	2%
Took steroids	4%	3%	3%
Tried cocaine	5%	5%	7%
Used other illegal drugs (heroin, PCP, LSD)	--%	9%	17%
Inhaled any substance to get high	23%	19%	16%

“Annual use of any illicit drug by students who are warned ‘a lot’ by their parents is lower (26%) than students who ‘never’ get parental warnings (37%).” ²

Marijuana Use

Eight-six percent of 7&8 grade and 75 percent of North Dakota sampled 9-12 grade students have never tried marijuana; this compares to 53 percent nationally.

Percentage who smoked marijuana during past 30 days:

ND 7&8 grade	9%
ND 9-12 grade	14%
National 9-12	26%

“When young people come to see a drug as more dangerous, or more disapproved by their peers, they are less likely to use it.” ¹

In 1997, 21 percent of the North Dakota sampled 9-12 grade students had been offered, sold or given illegal drugs on school property during the preceding 12 months.

Alcohol and Drug Use

Dietary

Physical Activity

Drinking & Driving

Body Image

Suicide

Violence

Seat Belts

Good morning M _____ Chair _____
and members of the committee. My name
is Lois White Earpe and I am providing
testimony supporting HB 1295. As a
parent, I can say I have dealt with the
issue of inhalant abuse, also known as
'huffing'. I have a son who became
addicted to huffing when he was 13 1/2 yrs.
old. He huffed everything from glue to wood
cement to spray paint. Anything to get that
quick high. It was very easy for him to
walk into a store, any store, and purchase
whatever he needed to get high. No questions
asked by the store clerks, managers or owners.
Huffing causes brain damage and some-
times death. The heart can stop and death
will occur instantly. My son is lucky,
I'm pretty sure he is still here today, because
he could have died anytime he huffed,
especially with his heart defect. There
have been young people in the Bismarck/
Mandan area, and where I live, who
have died ~~at~~ from huffing. Some parents
may not even know what huffing is, yet
their child could be in the basement, garage
or out with friends getting high off a can
of spray paint. There are many people out there

who need to be educated on the dangers
of inhalants. Being addicted to
inhalants is not much different than
being addicted to alcohol or drugs.

As for my son, he went to the only
inhalant Abuse Treatment Center in
the United States ~~and received help~~

The Treatment Center helped him
realize that popping ~~several~~
~~pieces of metal~~ because is very dangerous.

Today, he is in the ninth grade and
is learning disabled but doing well.

The road he is on is tough but he is
doing the best he can.

If there are no questions, I'd like
to thank you for this opportunity.

→ He is in Special Education and always
will be, until he finishes school.

1295

Chairman DeKrey and Members of the Committee:

For the record, I'm testifying on my own behalf. I teach Mental Health Nursing and am a past Director of Nursing at a Drug and Alcohol Rehabilitation Center.

Inhalants have been called the cocaine of the 90's. They are deadly, addictive, and very popular. They are different from other drugs in that they are not sold illegally on street corners and parking lots. These products are sold in our convenience, department, discount, and grocery stores.

Popular products used by our youth are air fresheners, hair spray, nitrous oxide, spray paints, computer dust off, and butane.

In 1997, the North Dakota Youth Risk Behavior survey found that 23% of our 7-8 graders and 19% of our 9-12 graders had used inhalants. In Bismarck, a 1998 survey of 2,245 4-6 graders found that 6.4% had used inhalants within the last two weeks.

Abusers use different inhaling techniques called "huffing, sniffing, bagging, and spraying." In all these techniques, the substance is breathed directly into the lungs.

Abusers of inhalants experience a rapid mood elevation and a fleeting sense of well-being and euphoria. Although this is the feeling they want, they experience personality changes, including anxiety, apathy, depression, hallucinations, hostility, irritability, paranoia, severe brain damage, and death. Youth can die the **first time** they use.

Inhalants cause impaired judgement. Youth have been known to walk in front of trains or jump off buildings. They have also committed suicide.

Changes in behavior or attendance at school and trouble with the law are also frequently reported. Inhalant abuse can cause permanent damage to many organs in the body including the brain, nerves, heart, lungs, kidney, and gastro-intestinal system. Inhalant abuse is not a phase. It is a **deadly addiction**. The following are citations from newspapers in our state:

◆ Sept. '98 - Devils Lake "A 16-year-old boy died over the weekend after inhaling fumes from an aerosol can of air freshener."

◆ Nov. '96 - Bismarck "The death of a Bismarck teenager was accidental and due to a cardiac arrhythmia caused by inhaling butane."

We need legislation making it illegal for anyone under 18 to purchase inhalants. We must hinder access of these deadly products to our youth.

Education is a key component of this bill. Our youth and parents both need to be aware of the consequences of using inhalants. I have given many presentations to parents. At each presentation I have heard parents state that they were totally unaware that children in our area were using inhalants. Research has found that children whose parents have discussed with them the consequences of drugs are 50% less likely to use. We need to provide education for parents so they in turn can talk to their children.

Education is also essential for our youth. After speaking at one our local high schools, I was approached by one of our youth who was using Nitrous Oxide. He was purchasing this locally as "Whippets". He said he was totally unaware that Nitrous Oxide could harm him. Our youth need to be told about the dangers of inhalants.

The greatest danger to the youth of North Dakota is the denial that inhalant abuse is occurring across our state. Again prevention is the goal. This involves the entire community, health care professionals, teachers, parents, law enforcement, retailers, and legislators. Inhalants need to be made less available to our youth.

I would appreciate your support of this very important issue.

Karen Espeland MSN RN CARN
Associate Professor
Medcenter One College of Nursing



North Dakota Grocers Association

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JUDICIARY TESTIMONY
TOM WOODMANSEE
ND GROCERS ASSN

H.B. #1295

Our association strongly opposes H.B. #1295 as legislation that might have good intent, but is totally unnecessary and would put undo burden on retailers who are simply selling legal products.

PAGE 2 - SECTION 2 - LINE's 18-19

We do not need to face a Class a B misdemeanor charge (note: there does not appear to be a penalty for the person attempting to purchase these products.

PAGE 2 Sections 2 - Lines 25-27

We Do NOT need another license (We have enough) Question: Does this language mean that ever checkout person must be licensed?

PAGE 3 - Lines 9-10

This means more inspection by Health Department...we have enough.

PAGE 3 - Lines 13-17

This will require our retailers to post more signs. (We do so now for tobacco products & S.B 2270 - County of Origin) may require more...where does it end?

Products such as hair sprays, personal care products , car care products and whipped cream are designed to be used lawfully by those who follow the total instructions.

Is this a retailer problem or a parent problem.

We urge your DO NOT Pass on H.B. 1295.



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**HB1295
HOUSE JUDICIARY
CHAIRMAN DEKREY**

Mr. Chairman and members of the committee my name is Ron Ness, I am the President of the North Dakota Retail Association. I appear before you today in opposition of HB1295.

Retailers recognize that inhalant abuse among minors is a serious issue, however, HB1295 is not the answer. We adamantly oppose placing criminal penalties on retailers who sell products that are designed to be used safely by consumers. The products covered under this bill are used regularly and safely by the majority customers under age 18. The list of products that could not be sold to anyone under 18 years of age includes: **Whipping cream, hair spray, paint products, polish remover, correction fluid, room odorizers, deodorants, spot removers, butane lighters, propane, car care products, and many others.**

This bill if passed would require the following:

- A \$50.00 licensing fee by 10,000 -12,000 retailers selling legal products.
- Including retailers, grocers, convenience stores, barbers, beauticians, home businesses (Mary Kay, Amway, and others).
- Penalty for selling legal products to minors - class B misdemeanor.
- A sign must be posted by each product that contains specific substances.
- Health Department would have to inspect each business selling products.
- Retailers would have to refuse sale of legal products to minors or be subject to penalties up to \$1,000.00 and thirty days in jail.

Retailers have been active in the initiatives to curb inhalant abuse. Some retailers have taken steps to train the employees to monitor sales of certain products to minors. Other retailers are participating in the Partnership for a Drug Free America. They have strongly supported (financially & through participation) the efforts to educate our youth on the dangers of misusing legal products. In fact, the Partnership For Drug Free America recently recognized retailers for their assistance in public awareness programs that led to a decrease in inhalant abuse since 1995. Alaska recently devoted school time to this issue in an effort to increase awareness.

Mr. Chairman members of the committee placing this burden on ND businesses is not going to solve the problem. Education, not more government regulation, is the answer. We urge a do not pass recommendation from the committee on HB1295. I would be happy to answer any questions.