

The New England Inhalant Abuse Prevention Coalition¹

Executive Summary

Statement of the Problem

Inhalant abuse is a serious, but often overlooked substance abuse problem among children and teens. Inhalant abuse is the intentional breathing in of gases and vapors from common household, shop, school, and office products with the intent of getting 'high.' The potential for abuse is widespread, with more than 1,000 readily available products that may be used as inhalants. Typical inhalants include gasoline, paints, nail polish, nail polish remover, Freon (from air conditioners), propane and butane (from lighter, lighter refills, and barbeques), solvent-based markers and glues, and any product in an aerosol can (hairspray, deodorant, computer gas duster, air freshener, WD-40, car starter spray).

Inhalants are particularly insidious because of the damage they do to the children who use them:

- Inhalants are poisons or toxins, damaging the kidneys, lungs, bone marrow, and liver. They are particularly neurotoxic, literally dissolving brain tissue, and chronic use can cause permanent loss of memory and reasoning ability, hearing loss, and problems with coordination.
- They are addictive. Several studies have shown that early use of inhalants is linked to later abuse of opiates—more so than for any other drug.
- The products used as inhalants are also fire and explosive hazards, and can cause car accidents since use of inhalants can impair judgment and coordination.
- Finally, inhalants are deadly, and can kill on the very first use, making *any* experimentation a high-risk activity. In the United Kingdom, 33% of deaths were to first time users (2000-2004 average).

Several aspects of inhalant abuse make it especially attractive to children:

- Adults are generally not aware of the problem and so use can easily be hidden.
- Inhalants do not show up in urine screens and use is hard to detect.
- Inhalants are short acting and so use can be fit into children's' schedules (over lunch periods, on the school bus, after school but before parents come home), and the dose can be repeated to maintain the "high."
- Children can easily obtain inhalants in their environment at no cost or purchase them from local stores—there are no 'dealers' to deal with.
- Some children like the 'trippy' high and enjoy the hallucinations inhalants can produce.

Because inhalants can be obtained easily and legally, even by minors, education is a major deterrent to inhalant abuse. Yet inhalant abuse is very nearly a silent epidemic. Abuse prevention typically focuses on higher-profile substances, such as illegal drugs and alcohol. Parents, educators, and even law enforcement officers and youth-serving professionals remain alarmingly unaware of the scope and seriousness of the problem among children. Inhalant abuse is not on the adult radar screen--parents don't talk about it with their children, pediatricians often don't look for signs of abuse, and many school administrators don't believe they have a problem in their schools. Even counselors, mental health professionals, and substance abuse experts often are unaware of the damage that can be done through misuse of prevention information.

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At the same time, many of the materials that are currently being used with the intent of deterring inhalant abuse, in reality, are serving as “how-to” guides to the children with whom they are used. All too often children are using common household products after learning about them from a drug education program, finding them readily accessible in the environment, and then using them “under the noses” of parents and youth-serving professionals.

Over the past fifteen years, the community of international inhalant abuse prevention experts has reached consensus about ‘best practice’ for inhalant abuse prevention. Out of this we have developed the “**Inhalant Prevention Pyramid** (see graphic below).” It suggests avoiding messages about inhalants that explain what products are inhalants, how to use them, and that they can produce a ‘high.’ Instead, it is suggested that prevention messages should stress the fact that inhalants are poisons, pollutants, and fire and explosion hazards and that they are safe when used as directed but dangerous when used otherwise. “Resources” are materials like pamphlets and videos that contain those messages. “Strategies” are methods of diffusing those resources and messages into society.



The goal of this project was to replace out-dated approaches to inhalant abuse prevention with innovative methods based on a consensus of experts. This was accomplished by ‘diffusing’ those innovative approaches into the existing youth-serving/youth socializing/drug prevention system (very broadly defined) so that children and adults understand the dangers of inhalants and ways of preventing it. A model of inhalant abuse messages, resources, and strategies was developed. By using the leading-edge “diffusion of innovation” approach, we worked to build sustainable capacity within each state that can efficiently and effectively deliver the right messages to right population with the right results.

Effective Prevention Messages Messages are ideas that accurately portray inhalant abuse. Based on an international consensus of ‘best practices’, we developed three simple lists that contain the ideas that we wanted to diffuse throughout our youth serving community:

Key Messages for Children

- Inhalants are poisons, toxins, pollutants, and fire hazards
- Products are designed for a specific purpose
- Follow directions and warnings on the label
- These products are dangerous when used in unintended ways
- They contain poisons, toxic chemicals and gases
- They are created from petroleum, that is, “crude oil”
- They pollute

- They were never intended to go inside your body
- They are a fire and explosion danger

Key Messages to Avoid

Best practices in inhalant prevention prescribes avoiding creating a “how to” primer for experimenters and substance abusers. Whenever discussing or teaching about inhalants, adults should avoid talking about:

- Inhalants as a drug (unless you are targeting a group comprising inhalant abusers or children already knowledgeable about inhalants). Instead, we point out that the feeling that people get is the result of the toxic effect of the gases and vapors. Most importantly, we try to form a strong association between household products and their potential to be poisons, pollutants and fire hazards when misused. So when a child sees a product, they think “safe use” and not, “Here’s a drug—here’s something that can change my mood.” Thus we sought to diffuse ideas that would inoculate children against inhalant abuse.
- Euphoric effects. Avoid talking about the “high.” Children, especially in the peak inhalant abusing years of middle school, are very curious about what the drug effect or “high” is and feels like.
- What products can be abused.
- How to abuse these products. We never demonstrate how products can be huffed, bagged, or sprayed directly into the mouth. And we avoid using those terms with children because they indirectly indicate that the product has a drug-like effect as well as suggesting how to use them.

Key Messages for Adults

- More than 1,000 everyday products, including cleaning, office and art supplies, solvents, gases and shop chemicals, have the potential to be abused as inhalants.
- Inhalants are actually poisons, pollutants, toxins and fire and explosion hazards. They are made of crude oil and were never meant to be inhaled.
- These products are safe when used as directed, but when vapors are concentrated and breathed in, they can become dangerous and deadly.
- There is no safe level of inhalant use. In a UK study, 33% of deaths were due to first time inhalant use.
- Therefore, no use should be tolerated, and any use should be followed up by a professional alcohol and drug assessment and education about the dangers of inhalant abuse.
- Inhalants can be addictive, both psychologically and physically. There are roughly as many inhalant abusers and addicts as heroin abusers and addicts in this country (2003 data, NSDUH).
- Inhalants can cause permanent damage to the nervous system, lungs, liver and kidneys.
- More children are using inhalants than adults think—and at earlier ages. Nationally, nearly one out of four 6th and 8th graders has intentionally inhaled products to get high.
- Because of all these reasons, inhalant abuse should be on your radar. Be alert for the signs of inhalant abuse: suspicious use of products, chemical odors, rash around the mouth and nose, weight loss, paraphernalia (plastic bags, empty containers, and smelly rags).

Resources form the second element of our model. Resources are materials that contain the messages that we want to diffuse. They take the form of videos, pamphlets, curricula, and other media. We identified three types of resources that were appropriate for different targets:

Resources Targeting Children

- Virginia Department of Education Inhalant Prevention Resource Guide (K-12 Curricula, Free)

- “Danger! Toxic Chemicals” Video (From Hazelton. We purchased copies and distributed them to all the state task forces and teams, and RADAR prevention libraries in New England, where they are free to be borrowed.)
- “Inhalants Poison Your Body” (Pamphlet, Middle School to early High School, free to duplicate; permission required to edit, Massachusetts Department of Public Health Inhalant Abuse Task Force)

Resources Targeting Parents and Youth-Serving Professionals

- Massachusetts Department of Public Health Inhalant Abuse Task Force Handout Set (free to duplicate; permission required to edit, MA DPH)
- Parents web training at www.inhalantabusetraining.org. Developed by the New England Inhalant Abuse Prevention Coalition and the Massachusetts Inhalant Abuse Task Force, this web site provides a short training session for parents, targeting residents of each of the New England states. Each state web site has statistics and resources specific to that state. (There is also a national version and one for Kentucky and Virginia.)
- “National Institute for Drug Abuse, Research Report: Inhalant Abuse” (free from National Clearinghouse for Alcohol and Drug Information (NCADI))
- “Center for Substance Abuse Treatment, Substance Abuse Treatment Advisory, Volume 3, Issue 1: Inhalants” (free from NCADI)

Finally, **strategies** are systems of using resources to deliver messages to targeted audiences. Some key examples of these are:

- Web-based outreach. Sometimes a brochure is not enough information for a parent, and paper brochures are expensive to reproduce and distribute. However, a short, engaging web-based training provides a way to reach parents inexpensively and at their convenience. It is also easy to promote through e-mails, links and word of mouth. It can be customized and updated at low cost. Our parent’s web training has been very successful in reaching parents, and the feedback from parents has been excellent.
- Public education campaigns. The goal of public education campaigns is to change public perception of inhalant abuse. They are often a good place to start because they can reach many people, especially a large range of youth-serving professional and parents, by engaging media through press releases, media events, reporting, and guest columns. Moreover, this can be accomplished very inexpensively. Parents are an especially difficult group to reach these days because they no longer attend parent-school organizations. Another value of public education campaigns is to find friends who can help in the diffusion process by championing inhalant abuse prevention in the communication networks and organizations in which they participate.
 - “National Inhalant and Poison Awareness Week Campaign Local Coordinator’s Kit” from the National Inhalant Prevention Coalition. The kit contains everything a local or state group needs to mount a community education campaign that can include mass media, retailers, and parents.
 - Partnership for a Drug Free America Media Campaigns
- Trainings, ranging from one hour to one day in length, were directed to a wide variety of youth-serving professionals. These trainings included an overview of inhalant abuse—what is abuse, who is abusing it, how it is abused, and the effects of abuse. The second half of the training would be tailored to the specific audience. For example, trainings for school personnel might cover classroom, purchasing, and school policy issues, while assessment and intervention issues might be more appropriate for student assistance programs, physicians and nurses.
- Updating materials. The prevention infrastructure is not just about communicating—it is also about a body of materials that do not necessarily reflect best practices in inhalant abuse pre-

vention. An important strategy was finding the people in the prevention system who were responsible for the materials and engaging them in learning about inhalant abuse and reviewing, updating and screening their materials.

Description of the Target Population

This project's primary target was the regional prevention infrastructure—broadly defined. First, there were statewide and local prevention services managers and practitioners, and youth-serving professionals in the six New England states (Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine). Beyond these professionals, of course, are parents and guardians themselves. Each of these groups has the opportunity to deliver powerful messages about the dangers of inhalant abuse to parents, children and youth that they have contact with.

In addition to individuals, this effort also targeted the region's material prevention infrastructure. This included reviewing the content of state clearinghouses, web sites, and prevention libraries, and recommending ways to insert effective inhalant deterrent messages into the existing structural elements. Finally, the project created new structural elements that would persist beyond the life of the grant, including web-based trainings (www.inhalantprevention.org and www.inhalantabusetraining.org), an inhalant prevention newsgroup, state task force and team structures, training kits and PowerPoint presentations.

Our ultimate audience, of course, is the youth who are at risk of using inhalants. Although this project provided no direct service to youth, we provided knowledge, resources and strategies to the people who do work with or supervise youth directly. A successful project will strengthen the ability and effectiveness of the many and varied practitioners to deliver messages that “stick.”

Level of Inhalant Use

Generally speaking, first use of inhalants, is sometime between 11 and 12 years of age. Inhalants are the third most popular drug in middle school, after alcohol and cigarettes. In high school, inhalants are typically the fourth most popular drug after alcohol, cigarettes, and marijuana. Inhalant abuse can begin as early as third grade, peaks around eighth or ninth grade, and then gradually tapers off through high school.

The 2001 National Household Survey on Drug Abuse showed that New England had some of the highest rates of inhalant abuse in the country. Pockets of much higher use exist but are masked by statewide averages. When we isolate and examine respondents with selected demographics and risk factors, such as grade, ethnicity/race, rural and suburban locations, low school performance, etc., the use for those groups is substantially higher. State and locally directed prevention efforts are able to deliver specific, focused prevention programming on these “hot spots” of inhalant use.

Theoretical Underpinnings

Focus group research that was the basis of the Massachusetts Inhalant Abuse Task Force strategic plan indicated that prevention efforts are hamstrung by lack of information and outright misinformation about inhalant abuse and how to prevent it. Parents and youth-serving professionals know little of the scope of the problem, ‘best practices’ prevention strategies, or resources, and therefore are not able to be effective in addressing inhalant abuse among youth. In addition, the highest rates of abuse appear to be in rural and suburban areas, and so the primary targets are spread out or isolated geographically. Finally, use is higher among several distinct subgroups (that are only visible to local youth serving professionals) than among the youth population at large and so focused, locally driven prevention activities may be most effective.

This combination of factors argues for the use of the “diffusion of innovation” approach to help those working within existing systems to deliver effective messages about the dangers of inhalants. The “diffusion of innovation” model was developed by Everett M. Rogers (*Diffusion Of Innovations*, 1993, fifth edition) to describe how new ideas and technologies are spread through society. Diffusion of innovation is “the process by which an innovation is communicated through certain channels over time among members of a social system” (Rogers, 1995).

The research on diffusion of innovation describes how innovations diffuse through society over time through a series of types of adopters:

- **Innovators** are risk-takers who see the benefit of an innovation and launch it.
- **Early adopters** are often opinion leaders in their local social systems – those to whom people go before adopting a new idea. They are role models and are respected by their peers.
- The **Early Majority** population is deliberate and careful in adopting innovation.
- The **Late Majority** population is skeptical of change and waits until an innovation is thoroughly tested before slowly adopting it, sometimes only as a result of peer pressure.
- **Laggards** are the last to adopt an innovation and may be somewhat isolated and traditional.

Often after significant effort in the early stages of diffusion, enough people have adopted the innovation that it starts to have a life of its own and the innovation seems to “take off.” This is called the “tipping point,” where the process of diffusion becomes self-sustaining, eventually reaching into the “Late Majority” and even “Laggard” populations to become widespread and ingrained in the culture. The model also suggests characteristics of an innovation that make it more likely to be adopted. **The diffusion of innovation model was used to diffuse ‘best practices’ in inhalant abuse prevention throughout the New England prevention infrastructure.**

Brief Description of the Infrastructure Development

From the beginning, our emphasis was to help create lasting changes in existing systems in the six New England states using a “diffusion of innovation” approach. The grant activities focused on strengthening and enhancing the existing prevention infrastructures in each state, and using key policy and thought leaders to help develop ongoing mechanisms in each state that would persist beyond the life of the grant. Our goal was to help each state reach the “tipping point” so that the process of diffusing inhalant prevention best practices would become self-sustaining. We took several steps to accomplish this:

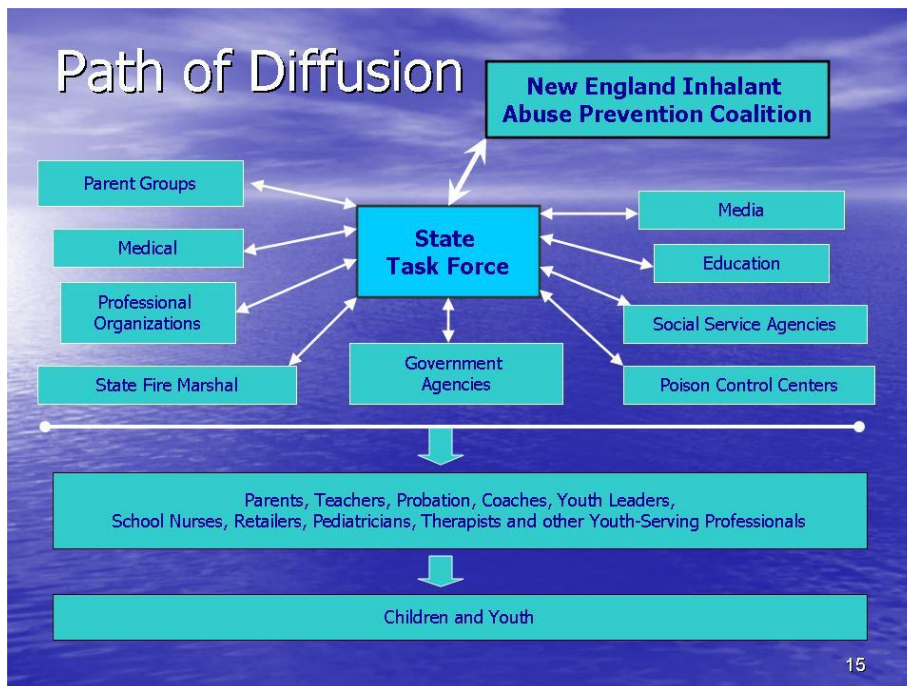
- We got buy-in from state government (state prevention directors).
- We established a collaborative Inhalant Prevention Coalition Workgroup.
- We worked with the state prevention directors to set up statewide inhalant task forces or teams.
- We worked to insert new, more effective messages into existing networks of youth-serving professionals and parents.
- We encouraged broad-based participation.
- We supported the state task forces and teams in institutionalizing their efforts.

Implementation

The overall project goal was to create lasting changes in existing prevention systems in New England, changes that would reduce inhalant abuse by encouraging and supporting each state to incorporate best practices in inhalant prevention into existing substance abuse prevention networks and infrastructure. The project was designed around the “diffusion of innovation” model to transmit and integrate innovative best practices in inhalant abuse prevention. It was carried out in three phases:

1. Organizing and mobilizing the states
2. Supporting state efforts
3. Spreading the message at the state and local level

The activities in the **first phase** of the project served to “prime the pump,” that is, to raise awareness of, and engage new interest in a problem that was a “silent epidemic.” In this phase, we engaged the states and helped them mobilize their own prevention networks by asking the state prevention directors to establish inhalant abuse task forces or teams in each state (except for Massachusetts, which already had a long-standing task force) and by initiating a New England Inhalant Abuse Prevention Coalition Workgroup to serve as an advisory board for the project. We worked with the states to identify and recruit the early adopters and champions who would spearhead the efforts within each state to diffuse best practices inhalant abuse prevention messages. During this phase, the Project Director used an introductory inhalant abuse prevention training to raise awareness of the issue in order to motivate and recruit key prevention professionals. We also staged a one-day Inhalant Prevention Summit for the New England region to further raise awareness and recruit members to state task forces and teams.



The goal the **second phase** of the project was to develop the competency of each state task force or team so that they had the skills and the resources to diffuse best practices into their state’s prevention infrastructure. The Coalition hosted a one-day training, “Preventing Inhalant Abuse: Cultivating In-State Experts,” as well as providing technical assistance and templates for materials and local presentations, all intended to create experts in each state.

In the **final phase**, the state task forces and teams concentrated on diffusing the best practices into the youth-serving system. Coalition staff worked with the state task forces and teams to provide technical assistance, training, information, and materials to assist them in diffusing best practice in inhalant prevention out to a variety of constituencies within their extended networks. We also hosted a three-day regional planning retreat to focus the state efforts for the final year of the grant and beyond.

Project Outcomes

By the third year of the project, each of the six New England states were engaging in numerous and diverse inhalant prevention activities that were self motivated and initiated. At the same time, there were considerable differences between states in the scale and scope of such activities. They operated in two modes: a relatively opportunistic manner, looking for open doors and 'friends' continually seeking new opportunities to disseminate inhalant information and materials, and responding quickly when opportunities arose. They also operate by means of longer-term strategic planning, using research and anecdotal information to target hot spots, and consensus-building.

By the end of the three-year grant period, each state had an established a task force or team focused on inhalant abuse prevention. They successfully carried out a wide variety of activities aimed at "spreading the message" about "best practices" in inhalant abuse to many different traditional and non-traditional prevention constituencies. These activities variously included study reports, media campaigns, trainings, web sites, printed materials and PowerPoint presentations. Coalition staff had trained 1,790 youth-serving professionals and the task forces and teams had trained an additional 7,726 during 170 trainings (a conservative estimate). An inhalant abuse prevention newsgroup was formed and continues to be active among the prevention leaders in the states and nationally, and the Coalition launched an educational website for parents (www.InhalantAbuseTraining.org) and a resource website for prevention workers (www.inhalantprevention.org). The grant was successful in impacting the region's prevention infrastructure and diffusing "best practices" throughout the prevention infrastructure using the state task forces and teams and ultimately reducing inhalant abuse. **According to the National Survey on Drug Abuse and Health, the New England region experienced a 27% drop in lifetime inhalant abuse among 12 to 17 year olds (2004 to 2005 difference, p<.05) reducing the rate to 8.5%, the lowest of any region in the US going back to 2002 (the first year of this survey). That translates into a one-year effect of 50,000 less children and youth who ever tried using inhalants in New England.**

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Visit us at www.inhalantprevention.org

Invite all parents to learn about inhalant abuse!

Online training at <http://www.inhalantabusetraining.org>

"I wish I had known about inhalant abuse before my children did."

To join our newsgroup,

<http://health.groups.yahoo.com/group/inhalantprevention/join>