The Narconon Drug Abuse Prevention Program

Clark R. N. Carr, CCDC
Gary W. Smith, CCDC
Marie A. Cecchini, M.S.

The Narconon Drug Abuse Prevention Program
Theory and Background

Illicit drug and alcohol use is a fact of life in today's society. To use or not to use such substances is a decision which all young people must address for themselves at some point in their lives, increasingly at an early age. Governments, schools and social programs have attempted to forestall such abusive behavior by young people through school and community based programs as well as broad advertising campaigns, taxation and law enforcement. Yet the continued presence of substance abuse by youth in this country is unquestionable testimony to the fact that we need to do a more effective job for the sake of our young people and the well-being of our society.

Despite the efforts and concerns of many and the varied approaches utilized to address this issue – ranging from abstinence to harm reduction – the fact remains that we need to make our anti-abuse efforts more effective than they generally are today. Narconon's Drug Abuse Prevention program is a supplemental program designed to increase the effectiveness of existing anti-abuse programs by providing substantive information which young people can understand and utilize to make personal, informed decisions regarding their use of such substances.

The Narconon[1] Drug Abuse Prevention (NDAP) program provides a distinctive format for the presentation of information to pre-adolescent and teenage students. Presenters are trained in a flexible approach which engages students at their level of understanding and conceptual ability. The goal is to present factual information which students can and will use to decide for themselves whether or not to use drugs and alcohol.

The Narconon Drug Abuse Prevention program[2] is based on the proposition that when young people are provided with accurate facts about drugs and alcohol and about the potential impact of such substances on their physical, mental and emotional health, the students will reach their own informed decision concerning their use or not of such substances. Starting from this premise, the NDAP program has been refined through the experience of presenters who have spoken with young people through classroom and school presentations for more than three decades. During this time the presentations have been made to more than 2,100,000 students, in the United States, Europe, the CIS, Latin America, Africa and Asia.

The NDAP program is designed as a supplemental presentation to support the substance abuse program that a school is using as its basic drug prevention curriculum. Its

---

[1] Narconon, which means "no narcotics", is well known for its non-traditional, drug-free substance abuse rehabilitation program. While the international Narconon organization runs both the rehabilitation and the drug abuse prevention programs, the two are kept separate. That is, the drug abuse prevention explicitly does not address rehabilitation and does not advocate, promote or recommend the Narconon rehabilitation program.

[2] This paper addresses the in-school presentation of the NDAP program. Narconon's full drug prevention activities include extensive work with community coalitions, police, government agencies, businesses and other socially concerned organizations. These activities complement the NDAP school program.

presentation is designed to provide information which is either lacking or not clearly presented in other alcohol, tobacco and drug prevention formats.

The NDAP program, although it involves lectures, is not a didactic approach. The high degree of interaction which the presenter develops with the young people is, in fact, a key feature of the program. This is a point which is stressed in the training of presenters as it is well recognized that students must be interested and engaged for learning to occur. (Tobler & Stratton, 1997) Fundamental to NDAP is the understanding that the program's effectiveness is dependent first upon engaging the cognitive processes of the students. They must be interested and the delivery process must be sufficiently interactive to ensure their engagement with the materials. Even the most salient materials will lack impact if no one is listening. Thus presenters are trained to establish a very personal rapport with the students and to maintain their interest by focusing the presentation on their experiences, such as what they have observed personally or seen in the drug use of others without in any way glamorizing drug use, but in fact doing the opposite by discussing the actual long term deleterious effects of drug abuse. The presenter overtly or implicitly asks the students to think about people and situations in their environment or experience. The creation of a free and open atmosphere where students can question and get their concerns answered is also a vital part of the NDAP presentation. Through this process, the student is brought forward to an understanding that the material being discussed is relevant and credible.

Information-based programs too often focus on the negative. Scare tactics tend to be ignored by teenagers and rendered null for younger children as their subsequent experience proves the information to be overly simplistic – or even patently false. Information as imparted in the NDAP program is different. The presenter does not tell the student what to do or not to do. The focus is on the actual mental and physiological consequences of the substance use. The presenter ensures that the students relate to the information being discussed, encouraging them to examine it and compare it to their own observations. The thrust of the program is to develop in the student the ability to make his or her own, informed decision. A lasting impact will be achieved only when the student makes such an informed decision and when the facts upon which that decision rests are ones that the student will continue to hold true in the face of his or her subsequent experiences.

NDAP presenters are trained so that they can cogently present material regarding a wide range of drugs. There is, however, no single presentation which is unvaryingly followed, for three reasons. First, there are very considerable differences in the cognitive skills of pre-teens and those of teenagers. Second, there is likewise a great difference in the awareness and experience of drugs between these two groups. And thirdly, students in classes of the same grade in different schools or areas present very different problems and concerns. Thus, as the presenter interacts with the students, the nature of their questions and the level of their argumentation skill necessitate different approaches for different groups. For example, teenagers may direct the presentation to address the use of ecstasy and its consequences whereas this drug typically is not an issue for pre-adolescents. Similarly, in the earlier years, students may have had little exposure to illicit substances

but be concerned about the drinking or smoking of their parents; while teens are likely to be more familiar with marijuana and other illicit substances. The materials addressed in the presentations, therefore, vary dependent upon the concerns and issues of the students.

The impact of drugs on the body and mind is at the heart of the NDAP program. The program presents that drugs are essentially toxic substances. It helps the student understand that a drug might have both a positive and a negative impact. For example, aspirin not only relieves the headache symptom, it may cause gastro-intestinal irritation. On the other hand, medically valued pain killers such as oxycontin and morphine may be abused by those seeking the high or to self-medicate in response to a physical, mental or emotional difficulty.

Presenters recognize that students have an interest in illicit substances as a source of recreational enjoyment (to "have fun", to "get high") or for a variety of other reasons. The NDAP presenter must be able to help the students understand what they may perceive to be positive effects of drug use and to encourage the students understanding of the costs associated with such short-term benefits.

The Narconon Drug Abuse Prevention presenter helps students to understand the impact of such illegal or illicit, abused substances. The presenter also helps students to become more aware or appreciative of possible long-term consequences of illicit drug use, including possible negative effects from drugs which may remain stored in the body for different periods of time. As the emphasis in all Narconon presentations is on a high degree of interactivity with and among the students, the level of sophistication of the presentation of this information necessarily varies. The concern and effort in regard to such materials is that the student needs to have an understanding of both the short and long term consequences of the use of illicit substances.

From a continued monitoring of satisfaction surveys, it appears that the achievement of this awareness in the students is central to the effectiveness of NDAP presentations. Students who recognize that there are negative costs inherently associated with the apparently positive features of drug use are more able to evaluate for themselves whether or not to use drugs. Moreover, this framework for understanding the cost/benefits of drugs enables them to view drug use in their environment in a different manner. For example, they can see both the high which their friend may obtain from ecstasy and also observe the difficulties that the friend experiences when the drug wears off. From this perspective, they are less likely to consider only the ostensibly attractive side of drug use.

Also fundamental to the NDAP model is its emphasis on providing the student with accurate information to facilitate the student's own decision-making process. The presenters are trained to always answer questions honestly and in a manner that the student understands. As frequently students are interested in the apparent positive effects of drugs, the preliminary desirable physical or emotional effects are often discussed, including what occurs that appears to create that impact. But the presenter will also ensure that the student understands the consequent detrimental effects of the drug. The

presenters never tell the students not to do drugs. Rather they seek to provide the student with the information upon which to make his or her own decision.

The NDAP program understands that single, stand-alone presentations do not produce sufficient "dosage" of information that it will likely be retained as long as it needs to be. Therefore, the presentations are generally repeated at least yearly and with more sophisticated data as the students mature.

Preliminary analyses of after presentation surveys have shown that students do understand this concept and find it and the material presented concerning the effects of drugs to be meaningful information upon which to base their future decisions. (Beckman, S.L. and Chapman, S.L., 1989)

The basic information which NDAP presenters use is neither new nor controversial. It is taken from such sources as the descriptions of illegal substances found on the websites of organizations such as the National Institute of Drug Abuse, SAMHSA, and ONDCP as well as scientific studies of the disposition of drugs and toxins in the body.

NDAP presenters provide students with information on longer-term effects of drug use so that they can think with the consequences of such actions. One such presentation element concerns the retention in the body's adipose tissue of certain drug metabolites and their potential for interaction upon the individual at times after the original use of the substance. This is a widely accepted fact supported by a growing body of evidence from the scientific community. The studies and evidence upon which the NDAP position rests are addressed in more detail in the attached Appendix I. Appendix II presents supporting references from the scientific literature on the subject.

It is the view of the NDAP program that its presentations would poorly serve students if it were to fail to alert them to these dangers, given the evidence of adverse events and potential for long-lasting public health issues. The message that drugs contaminate the body and that this has consequences is essential for students to know. Accordingly, they are given information that there is much evidence that drugs store in the fatty tissues for a period of time and one should thus contemplate that what one puts in his body today may not be gone tomorrow. Satisfaction surveys done after NDAP presentations show consistently that this message is understood and considered by students to be important information which they had not learned elsewhere.

In summary, the Narconon Drug Abuse Prevention program is distinctive in its focus. It places an emphasis upon the presentation of factual material in an interactive manner which takes into account the cognitive abilities and skill levels of the students. It helps students to make their own informed decisions regarding drug and alcohol use. It does not utilize "scare tactics" but rather addresses the issue of drugs and drug use from a rational perspective encouraging students to fully consider the long-term consequences of their decisions, not just apparent momentary benefits. The program seeks to provide students with information and understandings which will enable them to make personal, informed decisions not to use abusive substances.

The role of the Narconon Drug Abuse Prevention program is to supplement a school's alcohol, tobacco and other drug curricula. It provides students with information that they can use in thinking about such substances, which will provide them with a factual understanding that will support their choices through the years. It is our belief, founded in satisfaction survey results, post-presentation discussions with students and teachers and follow-up contacts, including requests for subsequent presentations and referrals to other schools that the Narconon Drug Abuse Prevention presentations provide young people with needed information and strengthen their decisions to avoid future substance abuse.

Respectfully,

Clark R. N. Carr, CCDC[3]
President Narconon International

Gary W. Smith, CCDC
Executive Director Narconon Arrowhead

Marie A. Cecchini, M.S.
Research Director
Foundation for the Advancement of
Science and Education

[3] Clark Carr is the President of Narconon International. He has worked with the Narconon program since 1985. Gary Smith has been with the Narconon program for 29 years. For the last 10 years he has been the Executive Director of the Narconon Arrowhead program in Oklahoma (formerly Narconon Chilocco) and was the organization's President for 5 years prior. They are both Certified Chemical Dependency Specialists. Between them they have a total of 48 years experience in the Narconon Program.

Marie Cecchini is the Research Director of the Foundation for the Advancement of Science and Education (F.A.S.E.). She has worked with F.A.S.E. on matters relating to the storage of drugs and chemicals in adipose tissue.

Appendix I:

Regarding Storage of Toxins in Adipose Tissue

Just as the clinician has ethical and scientific ethics, and is bound to the axiom "*Primum non nocere* – above all do no harm", the NDAP program takes the position that a strong prevention message must make clear possibilities of harm which have significant scientific support even if they are not yet universally agreed upon. NDAP programs take to heart the lesson experienced in the continued production and use of pesticides and other chemicals despite warnings of the potential for harm. The full recognition of the adverse consequences of a number of these chemicals is taking many years of debate and study and the adverse health consequences are turning out to be as severe or more severe than originally predicted. Further, many questionable substances continue to be used and with attendant risks while the scientific issues get resolved to the full satisfaction of that community. In the view of the NDAP program, the health hazards associated with the disposition of synthetic chemicals and drugs into specific organs and fat needs to be made known even while the literature concerning the long-term public health effects of such exposures is still being developed. The NDAP position adopts the emerging literature showing the continued presence of such toxins in fatty tissue after the initial exposure.

Various synthetic chemicals were outlawed in the 1960s and 1970s in the United States on findings of significant cancer-causing potential. The focus on whether or not these compounds could cause cancer completely obscured – for over two decades – the ability these synthetic chemicals have at very low levels to disrupt reproductive function and alter behavior. Unfortunately for many species of birds and mammals – including mankind – these chemicals can now be detected in the fat of all of us (NHANES II, 2003) and data is emerging that demonstrates not only adverse health effects in our generation, but additional adverse effects for at least two additional generations (Colborn T 1996). While this story is most commonly associated with pesticides, two of the most grotesque stories involved medicines. DES (diethylstilbestrol) and thalidomide were prescribed to reduce the discomfort of morning sickness, prevent miscarriage. At one point Grant Chemical Company, boasted in its advertisement that DES produced "bigger and stronger babies." The appalling birth defects of thalidomide babies – lacking arms or legs – were every parent's worst nightmare. The next-generation effect of DES is perhaps more horrible, a story of seemingly normal men and women who can never have their own children due to malformed or other-sex reproductive organs. More recently, data on antidepressants has emerged warranting cautionary drug labels due to documented side effects such as increased suicide tendencies for young people, but only months before the promotional pharmaceutical message prevailed.

The lessons learned from these synthetic chemicals are very relevant to illicit substances – caution should be executed, especially so when it comes to children and use of substances that affect the mind. It is essential that youth know the potential for harm so they can make their own decisions about using illicit drugs. This is the exact philosophy of the Narconon prevention program – and by survey of participating youths, they are

concerned about the possibility of harming their future and appreciate the data (Beckmann et al., 1989).

Just like environmental contaminants, there is wide agreement that many drugs or their metabolites – both pharmaceutical and illicit – can remain in the body for an extended time contributing to the accumulation of complex mixtures of synthetic compounds in the body (Levisky et al., 2000; Hawks and Chiang, 1986; Stoman, 1974). LSD was shown to have this property very early on (Axelrod et al., 1957). Cocaine has been demonstrated to rapidly move into the fat tissues following use (Nayak et al., 1976; Weiss, 1988; Cone and Weddington, 1989). Phencyclidine (PCP) has been shown to persist in fat tissues, an observation thought to account for some of the long-lasting behavioral effects (Misra et al., 1979). PCP levels in fat decline for a few days following injection, but then remain relatively constant for up to three weeks, the longest time the levels were monitored. Further, stress can result in mobilization of PCP and its metabolites from fat into blood (Coveny and Sparber, 1990; Sparber et al., 1977). The widely-prescribed benzodiazapene family of tranquilizers is also well-characterized with respect to its distribution and persistence in fat tissues (Igari et al., 1982; Martin, 1982; Minder et al., 1994). Even certain metabolites of alcohol – itself a water soluble substance – are found in liver and fat following use (Refaai et al., 2002).

Many mechanisms affect whether or not a drug will be available biologically: Disposition into fat acts as a "sink" where the drug is no longer in circulation – this might even be a protective measure when it comes to our body's overall handling of toxins. Other mechanisms include the body's ability to break down and eliminate these compounds via the liver and kidneys, as well as proteins that bind drugs effectively removing them from circulation.

These mechanisms also effect use of drugs with medical value. Studies show that the doses of various barbiturates and the tranquilizer diazepam when given to obese people must be substantially increased due to disposition into adipose resulting in reduced availability (Blouin R 1999). Clearance is also affected, not because the kidneys are processing the drug differently, but because of a release from fat (Abernathy, 1982 and 1983). Finally, a series of very elegant studies comparing the storage and clearance rates of drugs measured in fat people and then re-measured when these people lost their extra fat showed increased distribution and retention that decreased after losing the fat (Caraco, 1992 and 1995). This research demonstrates a two-week retention in fat stores of several common medicines, longer times were not evaluated.

One of the most fat soluble substances of abuse is THC, a compound that is metabolized into over 60 different specific chemicals after ingestion/inhalation – a property that makes detection particularly difficult (Leighty, 1976). THC and its metabolites very rapidly clear from blood to fat (Mason 1985; Huestis M, 1999). While subsequent storage in fat accounts for an apparent 7-day half-life of detectable blood THC levels, this detection is actually due to the re-release from adipose stores (Nahas, 2001). Accumulation in fat of chronic users results in longer re-release and detection than that following single use (DeLaurentis et al., 1982). THC has been detected in blood and

urine up to two months following discontinued use (Harvey 1982; Dackis, 1982) Longer abstinence periods have not been evaluated. Recent evidence shows that rapid sequestration of THC to fat leaves less than 1% of the consumed THC remaining in blood and available to reach the brain, a blood level that actually correlates with the "pleasant sensory phenomenon" described by users (Nahas, 2001). This study proposes the possibility of flashbacks by this mechanism, a phenomenon that has been clinically documented where a spike in blood THC was measured two weeks after last use (Niveau, 2002).

A discussion of the consequences of marijuana use properly should take into account this accumulation and re-release data as well as scientific findings of harm (Grotonhermen, 2003; Hollister LE, 1986; National Task Force, 1993). Research has shown the ability of specific THC metabolites to disrupt cell membranes (Leighty, 1976). More recently a biologic explanation for the long-observed decrease in male sperm count in otherwise healthy marijuana users appears to involve very low levels of THC within the testicular compartment, levels that are of long duration due to re-release from fat stores (Nahas, 2002).

Appendix II:

References

Abernathy DR. Greenblatt DJ, Divolli M and Shader RI. Prolongation of drug half-life due to obesity: Studies of desmethyldiazepam (clorazepate). J Pharmaceutical Sciences 1982 71(8):942-944

Abernathy DR, Greenblatt DJ, Divolli M and Shader RI. Prolonged accumulation of diazepam in obesity. J Clinical Pharmacology 1983 23:369-376.

Axelrod J, Brady RO, Witkop B and Evarts EV. The distribution and metabolism of lysergic acid diethylamide. Annals of the NY Academy of Science. 1957 66:435-444

Beckmann, S. L., and Chapman, S. L. Narconon Drug Education Program Preliminary Analysis. Los Angeles, CA: Foundation for Advancements in Science and Education 1989 (ED 312 602)

Blouin RA and Warren GW. Pharmacokinetic considerations in obesity. J Pharmaceutical Sciences 1999 88(1):1-7

Caraco Y, Zylber-Katz E, Berry E, and Levy M. Significant weight reduction in obese subjects enhances carbamazepine elimination. Clin Pharmacol Ther 1992 51:501-6

Caraco Y, Zylber-Katz E, Berry E and Levy M. Carbamazepine pharmacokinetics in obese and lean subjects. The Annals of Pharmacotherapy 1995 29:843-847

Colborn T, Dumanoski D, Peterson Meyers J. *Our Stolen Future*. Penguin Books 1996

Cone EJ and Weddington Jr. WW Prolonged occurance of cocaine in human saliva and urine after chronic use. J Analytical Toxicology 1989 13:65-68

Coveny JR, Sparber SB. Delayed effects of amphetamine or phencyclidine: interaction of food deprivation. Stress and dose. Pharmacology, Biochemistry and Behavior 1990 Jul;36(3):443-9

Dackis CA, Pottash ALC, Annitto W & Gold MS. Persistence of urinary marijuana levels after supervised abstinence. American J Psychiatry 1982 139:1196-1198

DeLaurentis MJ, McNeil K, Mann AJ, Clark S and Greenwood HM. "An EMIT Assay for cannabinoid metabolites in urine" In: *The Analysis of Cannabinoids in Biological Fluids*. RL Hawkes ed. NIDA Researh Monograph Series 42 DHHS Publication (ADM) 82-1212, Washington DC 1982 pp 69-84

Ellis GM, Mann MA, Judson BA, et al. Excretion Patters of Cannaboid Metabolites After Last Use in a Group of Chronic Users; Clin Parmacol Ther; 1985;38;572-8

Grotenhermen F. Pharmacokinetics and pharmacodynamics of cannabinoids. Clinical Pharmacokinetics 2003 42(4):327-60

Harvey DJ, Leuschner JTA, and Paton WDM. Gas chromatographic and mass spectrometric studies on the metabolism and pharmacokinetics of delta 1 tetrahydrocannabinol in the rabbit. J Chromatography 1982 239:243-250

Hawks RL and Chiang NC. Implications of Drug Levels in Body Fluids: Basic Concepts In: *UrineTesting for Drugs of Abuse*. NIDA Research Monograph 73 1986 pp 71-92

Hollister LE Health aspects of cannabis. Pharmacologic Reviews 1986 38:1-20

Huestis M. Pharmacokinetics of THC in inhaled and oral preparations.In: *Marihuana and Medicine*. Nahas G, et al., eds. Humana Press: Totowa NJ; 1999 105-116

Igari Y, Sugiyama Y, Sawada Y, Iga T, and Hanamo M. Tissue distribution of ^{14}C-Diazepam and its metabolites in rats. Drug Metabolism and Disposition. 1982 10(6):676-679

Leighty EG, Fentiman AF, and Foltz RL. Long-retained metabolites of delta 9 and delta 8 tetrahydrocannabinols identified as novel fatty acid conjugates. Research Communications in Chemical Pathology and Pharmacology 1976 14(1):13-28

Levisky JA, Bowerman DL, Jenkins WW< Karch SB. Drug Deposition in adipose tissue and skin: evidence for an alternative source of positive sweat patch tests. Forensic Science Int. 2000 May 8;110(1):35-46

Mason AP and McBay AJ. Cannabis: Pharmacology and interpretation of effects. Journal of Forensic Sciences 1985 30(3):615-631

Martin BR Long-term disposition of phencyclidine in mice. Drug Metabolism and Disposition. 1982 10:189-193

Minder S, Daniel WA, Clausen J, Bickel MH Adipose tissue storage of drugs as a function of binding competition. In-vitro studies with distribution analysis. J Pharmaceutical Pharmacology 1994 Apr;46(4):313-5

Misra AL, Pontani RB, Bartolemeo J. Persistance of phencyclidine (PCP) and metabolites in brain and adipose tissue and implications for long-lasting behavioural effects. Research Communications in Chemical Pathology and Pharmacology. 1979 June;24(3):431-45

Nahas G, The pharmacokinetics of THC in fat and brain: Resulting functional responses to marijuana smoking. Human Psychopharmacology 2001 16:247-255

Nahas G, Frick HC, Lattimer JK, Latour C and Harvey D. Pharmacokinetics of THC in brain and testis, male gametotoxicity and premature apoptosis of spermatozoa. Human Psychopharmacology 2002 17(2):103-13

National Task Force on Cannabis. The health and psychological consequences of cannabis use. Australian National Drug Strategy Monograph Series No. 25. 1993

Nayak PK, Misra AL and Mule SJ Physiological disposition and biotransformatin of [3H]cocaine in acutely and chronically treated rats. J Pharmacology & Experimental Therapies 1976 196:556-569

NHANES II data from Second National Report on Human Exposure to Environmental Chemicals. US Dept of Health and Human Services NCEH Pub. No. 02-0716 March 2003

Niveau G. [Cannabis-related flash-back, a medico-legal case] Encephale 2002 28(1):77-9

Refaai M, Nguyan PN, Steffensen TS, Evans RJ, Cluette-Brown JE and Laposata M. Liver and adipose tissue fatty acid ethyl esters obtained at autopsy are postmortem markers for premortem ethanol intake. Clinical Chemistry 2002 48(1):77-83

Schwartz RH, Wilette RE, Hayden GF, et. al. Urinary Cannaboids in Monitoring Abstinence in a Drug Abuse Treatment Program; Arch Pathol Lab Med; 1987; 111; 708-711

Sparber SB, Nagasawa S, Burklund KEA. A Mobilized pool of d-amphetamine in adipose after daily administration to rats. Research Communications in Chemical Pathology and Pharmacology. 1977 Nov;18(3):423-431

Stoman A. The absorption, distribution, and excretion of drugs and poisons and their metabolites. Progress in Chemical Toxicology. Academic Press 1974 pp 1-99

Swatek R; Marijuana Use; Persistence and Urinary Elimination; Journal of Substance Abuse Treatment; 1984; 1:265-270

Tobler, N.S. & Stratton, H. Effectiveness of school-based prevention programs: A meta-analysis of the research. 1997 *Journal of Primary Prevention*, 18(1), 71-128

Weiss RD Protracted elimination of cocaine metabolites in long-term high dose cocaine abusers. Amer J Med 1988 85:879-880